

# *MasterFormat* GROUPS, SUBGROUPS, AND DIVISIONS

## **PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP**

Division 00 – Procurement and Contracting Requirements  
 Introductory Information  
 Procurement Requirements  
 Contracting Requirements

## **SPECIFICATIONS GROUP**

### **GENERAL REQUIREMENTS SUBGROUP**

Division 01 – General Requirements

### **FACILITY CONSTRUCTION SUBGROUP**

Division 02 – Existing Conditions  
 Division 03 – Concrete  
 Division 04 – Masonry  
 Division 05 – Metals  
 Division 06 – Wood, Plastics, and Composites  
 Division 07 – Thermal and Moisture Protection  
 Division 08 – Openings  
 Division 09 – Finishes  
 Division 10 – Specialties  
 Division 11 – Equipment  
 Division 12 – Furnishings  
 Division 13 – Special Construction  
 Division 14 – Conveying Equipment  
*Division 15 – Reserved for Future Expansion*  
*Division 16 – Reserved for Future Expansion*  
*Division 17 – Reserved for Future Expansion*  
*Division 18 – Reserved for Future Expansion*  
*Division 19 – Reserved for Future Expansion*

### **FACILITY SERVICES SUBGROUP**

*Division 20 – Reserved for Future Expansion*  
 Division 21 – Fire Suppression  
 Division 22 – Plumbing  
 Division 23 – Heating, Ventilating, and Air Conditioning (HVAC)  
*Division 24 – Reserved for Future Expansion*  
 Division 25 – Integrated Automation  
 Division 26 – Electrical  
 Division 27 – Communications  
 Division 28 – Electronic Safety and Security  
*Division 29 – Reserved for Future Expansion*

### **SITE AND INFRASTRUCTURE SUBGROUP**

*Division 30 – Reserved for Future Expansion*  
 Division 31 – Earthwork  
 Division 32 – Exterior Improvements  
 Division 33 – Utilities  
 Division 34 – Transportation  
 Division 35 – Waterway and Marine Construction  
*Division 36 – Reserved for Future Expansion*  
*Division 37 – Reserved for Future Expansion*  
*Division 38 – Reserved for Future Expansion*  
*Division 39 – Reserved for Future Expansion*

### **PROCESS EQUIPMENT SUBGROUP**

Division 40 – Process Interconnections  
 Division 41 – Material Processing and Handling Equipment  
 Division 42 – Process Heating, Cooling, and Drying Equipment  
 Division 43 – Process Gas and Liquid Handling, Purification, and Storage Equipment  
 Division 44 – Pollution and Waste Control Equipment  
 Division 45 – Industry-Specific Manufacturing Equipment  
 Division 46 – Water and Wastewater Equipment  
*Division 47 – Reserved for Future Expansion*  
 Division 48 – Electrical Power Generation  
*Division 49 – Reserved for Future Expansion*

NUMBER	TITLE	EXPLANATION
<b>DIVISION 01 – GENERAL REQUIREMENTS</b>		
<b>01 00 00</b>	<b>General Requirements</b>	May be used as Division level Section title.

**01 10 00 Summary**

**01 11 00 Summary of Work**

Includes: description of construction delivered under a single contract. Description of provisions for future construction.

May Include: list of products ordered in advance, owner-furnished products, salvaged material and equipment, products delivered to owner, and owner-installed products.

Alternate Terms/Abbreviations: purchase contract: procurement contract: purchase order.

See: 00 24 00 for procurement scopes.

00 54 13 for agreement form supplementary scope statement.

01 31 00 for coordination of work under a single contract.

01 64 00 for owner-supplied products.

01 11 13 Work Covered by Contract Documents

01 11 16 Work by Owner

01 11 19 Purchase Contracts

**01 12 00 Multiple Contract Summary**

Includes: description of construction delivered under more than one construction contract; for example, multiple prime, construction management, and design-build. Summary of contracts, related prior construction, related concurrent construction, contract interface, phasing of construction, and temporary facilities and controls responsibility.

May Include: list of products ordered in advance, owner-furnished products, salvaged material and equipment, products delivered to owner, and owner-installed products, future construction, and provisions for future construction associated with each contract.

See: 00 24 00 for procurement scopes.

00 54 13 for agreement form supplementary scope statement.

01 31 16 for multiple contract coordination.

DIVISION 01

NUMBER	TITLE	EXPLANATION
01 12 13	Summary of Contracts	
01 12 16	Work Sequence	
01 12 19	Contract Interface	

**01 14 00 Work Restrictions**

Includes: restrictions that affect construction operations. Location of construction, occupancy requirements, and use of premises and site.

See: 01 53 00 for temporary construction related to access and use of site.

01 55 00 for temporary vehicular access and parking.

01 56 00 for temporary barriers and enclosures.

01 14 13	Access to Site	
01 14 16	Coordination with Occupants	
01 14 19	Use of Site	
01 14 33	Work in Rights-of-Way	

**01 18 00 Project Utility Sources**

Includes: information concerning utility companies providing permanent services to the project.

See: 01 51 00 for temporary utilities.

01 18 13	Utility Service Connections	Notes: this is the location to specify information necessary for connecting utilities and where connection is made by utility.
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**01 20 00 Price and Payment Procedures**

**01 21 00 Allowances**

Includes: administrative and procedural requirements for cash and quantity allowances for products, installation, testing, and contingencies. Time allowances. In a project manual application, other titles affected by allowances should reference this title.

May Include: allowance amounts and descriptions.

See: 00 70 00 for conditions of the contract for allowance requirements.

See Also: 00 24 00 for procurement scopes for allowance amounts and items.

00 40 00 for allowances included in procurement forms.

00 43 21 for allowances procurement form supplement.

00 54 21 for allowances schedule agreement form supplement.

NUMBER	TITLE	EXPLANATION
01 21 13	Cash Allowances	
01 21 16	Contingency Allowances	
01 21 19	Testing and Inspecting Allowances	
01 21 23	Installation Allowances	
01 21 26	Product Allowances	
01 21 29	Quantity Allowances	
01 21 43	Time Allowances	
<b>01 22 00</b>	<b>Unit Prices</b>	<p>Includes: administrative and procedural requirements for unit prices and measurement and payment.</p> <p>May Include: list and description of unit price items.</p> <p>See Also: 00 24 00 for procurement scopes for unit price descriptions. 00 40 00 for unit prices included in procurement forms. 00 43 22 for unit price procurement form supplement. 00 54 22 for unit prices schedule agreement form supplement.</p>
01 22 13	Unit Price Measurement	
01 22 16	Unit Price Payment	
<b>01 23 00</b>	<b>Alternates</b>	<p>Includes: administrative and procedural requirements for alternate bids or proposals. Includes submission and acceptance procedures.</p> <p>May Include: list and description of each alternate.</p> <p>Alternate Terms/Abbreviations: alternates: alternatives: bid items.</p> <p>See Also: 00 24 00 for procurement scopes for alternate descriptions. 00 40 00 for alternates included in procurement forms. 00 43 23 for alternates procurement form supplement.</p>
<b>01 24 00</b>	<b>Value Analysis</b>	<p>Includes: administrative and procedural requirements for value analysis, application for consideration, and consideration of proposals.</p> <p>May Include: appropriate forms.</p> <p>Alternate Terms/Abbreviations: value analysis: value management: value improvement.</p> <p>See: 00 63 00 for modification forms. 01 26 00 for contract modification procedures.</p>

NUMBER	TITLE	EXPLANATION
01 24 13	Value Engineering	
<b>01 25 00</b>	<b>Substitution Procedures</b>	<p>Includes: administrative and procedural requirements for consideration of requests for substitution during the construction stage.</p> <p>May Include: substitution procedures applicable during both procurement and construction stages. Substitution request form (during construction).</p> <p>Alternate Terms/Abbreviations: accepted substitute: approved equal.</p> <p>See: 00 43 25 for substitution request form (during procurement). 00 70 00 for conditions of the contract for substitution requirements. 01 24 00 for value analysis procedures. 01 62 00 for contractor's options in selecting products.</p> <p>See Also: 00 26 00 for procurement substitution procedures. 00 63 25 for substitution request form (during construction).</p>
01 25 13	Product Substitution Procedures	
01 25 16	Execution Substitution Procedures	
<b>01 26 00</b>	<b>Contract Modification Procedures</b>	<p>Includes: administrative and procedural requirements for making clarifications and proposals for change, and modifications to the contract documents.</p> <p>May Include: request for interpretation form, request for information form. Clarification form. Supplemental instruction form. Field order form. Written amendment form. Construction change directive form. Work change directive form. Request for proposal form. Proposal worksheet summary form. Proposal worksheet detail form. Change order request form. Change order form.</p> <p>Alternate Terms/Abbreviations: RFI: request for interpretation: request for information.</p> <p>See: 00 70 00 for conditions of the contract for contract modification requirements. 00 93 00 for record clarifications and proposals. 00 94 00 for record modifications.</p> <p>See Also: 00 63 00 for modification forms.</p>

NUMBER	TITLE	EXPLANATION
01 26 13	Requests for Information	Alternate Terms/Abbreviations: RFI: request for interpretation: request for information.
01 26 19	Clarification Notices	
01 26 33	Minor Changes in the Work	
01 26 36	Supplemental Instructions	
01 26 39	Field Orders	
01 26 43	Amendments	
01 26 46	Construction Change Directives	
01 26 49	Work Change Directives	
01 26 53	Proposal Requests	
01 26 54	Proposal Worksheet Summaries	
01 26 57	Change Order Requests	
01 26 63	Change Orders	
<b>01 29 00</b>	<b>Payment Procedures</b>	Includes: administrative and procedural requirements for processing of schedules of values, progress payments, and final payment.  May Include: schedule of values form. Application for payment form. Sales tax form. Consent of surety to reduction of retainage form. Stored material form.  See: 00 70 00 for conditions of the contract for payment requirements.  See Also: 00 62 00 for payment procedure forms.
01 29 73	Schedule of Values	
01 29 76	Progress Payment Procedures	
01 29 83	Payment Procedures for Testing Laboratory Services	
<b>01 30 00</b>	<b>Administrative Requirements</b>	
<b>01 31 00</b>	<b>Project Management and Coordination</b>	Includes: administrative and procedural requirements for the management and coordination of subcontractors and coordination with other contractors and owners. Describes coordination of various parts of work under a single contract and under multiple contracts.  Alternate Terms/Abbreviations: meetings: conferences.  See: 01 11 00 for summary of work under a single contract. 01 12 00 for multiple contract summary. 01 71 13 for mobilization requirements. 01 73 00 for execution requirements.

DIVISION 01

NUMBER	TITLE	EXPLANATION
01 31 13	Project Coordination	
01 31 14	Facility Services Coordination	
01 31 16	Multiple Contract Coordination	
01 31 19	Project Meetings	
01 31 19.13	Preconstruction Meetings	
01 31 19.16	Site Mobilization Meetings	
01 31 19.23	Progress Meetings	
01 31 19.33	Preinstallation Meetings	
01 31 23	Project Web Site	
01 31 26	Electronic Communication Protocols	

**01 32 00      Construction Progress Documentation**

Includes: administrative and procedural requirements for scheduling, recording, and reporting progress.

May Include: construction schedule form. Work plan schedule form. Construction equipment form. Other appropriate forms.

Alternate Terms/Abbreviations: CPM: critical path method.

See: 00 31 21 for survey information provided to bidders or proposers.

00 43 83 for proposed construction schedule form.

00 43 86 for proposed work plan schedule form.

01 71 23 for field engineering during construction.

01 78 29 for final site survey.

See Also: 00 62 83 for construction schedule form.

00 62 86 for work plan schedule form.

01 32 13	Scheduling of Work	
01 32 16	Construction Progress Schedule	
01 32 16.13	Network Analysis Schedules	
01 32 19	Submittals Schedule	
01 32 23	Survey and Layout Data	
01 32 26	Construction Progress Reporting	
01 32 29	Periodic Work Observation	
01 32 33	Photographic Documentation	
01 32 36	Video Monitoring and Documentation	Includes: web cameras.
01 32 43	Purchase Order Tracking	

NUMBER	TITLE	EXPLANATION
<b>01 33 00</b>	<b>Submittal Procedures</b>	<p>Includes: administrative and procedural requirements for processing of submittals during the construction stage.</p> <p>May Include: submittal transmittal form. Construction waste diversion form. Recycled content of materials form. Other appropriate forms.</p> <p>See: 01 43 00 for quality assurance procedures. 01 78 00 for closeout submittals.</p> <p>See Also: 00 62 11 for submittal transmittal form. 00 62 23 for construction waste diversion form. 00 62 34 for recycled content of materials form. 01 45 13 for source quality control procedures. 01 45 16 for field quality control procedures. 01 78 53 for sustainable design closeout documentation.</p>
01 33 13	Certificates	
01 33 16	Design Data	
01 33 19	Field Test Reporting	
01 33 23	Shop Drawings, Product Data, and Samples	
01 33 26	Source Quality Control Reporting	
01 33 29	Sustainable Design Reporting	<p>Notes: Level 4 numbers below to be used in conjunction with 01 33 29 Sustainable Design Reporting.</p>
01 33 29.01	Material Cost Summary Form	
01 33 29.02	Wood-Containing Product List	
01 33 29.03	Metal-Containing Product List	
01 33 29.04	Material Content Form	
01 33 29.05	New Product Source Form	
01 33 29.06	Reused Product Form	
01 33 29.07	Prohibited Content Installer Certification	



NUMBER	TITLE	EXPLANATION
<b>01 35 00</b>	<b>Special Procedures</b>	<p>Includes: administrative and procedural requirements for special project situations; for example, relocations, restoration, historic restoration, alteration, renovation, preservation, and hazardous material abatement. Administrative and procedural requirements for specific facility types; for example, airports, detention facilities, ground transportation facilities, hospitals and medical facilities, industrial and process facilities, nuclear facilities, and shopping centers.</p> <p>May Include: infection control form. Other appropriate forms.</p> <p>Alternate Terms/Abbreviations: alteration procedures: rehabilitation procedures: remodeling procedures: renovation procedures: repair procedures.</p> <p>See: 00 31 26 for existing hazardous material information.  00 73 19 for health and safety requirements.  00 73 63 for security requirements.  02 26 00 for hazardous material assessment.  02 50 00 for site remediation.  02 60 00 for contaminated site material removal.  02 80 00 for facility remediation.  XX 01 00 at the beginning of divisions for operation and maintenance titles.  XX 01 00 at the beginning of divisions for specific preservation and restoration requirements.</p> <p>See Also: 00 62 19 for infection control form.</p>
01 35 03	Conservation Treatment Procedures	
01 35 13	Special Project Procedures	
01 35 13.13	Special Project Procedures for Airport Facilities	
01 35 13.16	Special Project Procedures for Detention Facilities	
01 35 13.19	Special Project Procedures for Healthcare Facilities	
01 35 13.26	Special Project Procedures for Clean Rooms	
01 35 13.43	Special Project Procedures for Contaminated Sites	
01 35 16	Alteration Project Procedures	
01 35 23	Owner Safety Requirements	
01 35 26	Governmental Safety Requirements	
01 35 29	Health, Safety, and Emergency Response Procedures	
01 35 29.13	Health, Safety, and Emergency Response Procedures for Contaminated Sites	
01 35 33	Infection Control Procedures	
01 35 43	Environmental Procedures	
01 35 43.13	Environmental Procedures for Hazardous Materials	
01 35 43.16	Environmental Procedures for Toxic Materials	
01 35 46	Indoor Air Quality Procedures	
01 35 53	Security Procedures	
01 35 63	Sustainability Certification Project Requirements	
01 35 66	Sustainability Certification Project Procedures	
01 35 73	Delegated Design Procedures	

NUMBER	TITLE	EXPLANATION
01 35 91	Period Treatment Procedures	
<b>01 40 00</b>	<b>Quality Requirements</b>	
<b>01 41 00</b>	<b>Regulatory Requirements</b>	Includes: information required for conformance to regulatory requirements, such as building codes, mechanical codes, electrical codes, zoning, other regulations, and fees applicable to the project as established by federal, state, and local agencies.  See Also: 00 31 43 for permit application. 00 70 00 for conditions of the contract regulatory requirements. 00 73 73 for statutory requirements.
01 41 13	Codes	
01 41 16	Laws	
01 41 19	Rules	
01 41 23	Fees	
01 41 26	Permit Requirements	
<b>01 42 00</b>	<b>References</b>	Includes: lists of reference standards applicable to the project. Abbreviations, acronyms, and definitions used in the construction documents.  See: 00 23 00 for procurement definitions. 00 71 00 for contracting documents.
01 42 13	Abbreviations and Acronyms	
01 42 16	Definitions	
01 42 19	Reference Standards	

NUMBER	TITLE	EXPLANATION
<b>01 43 00</b>	<b>Quality Assurance</b>	<p>Includes: administrative and procedural requirements for proactive activities to assure the quality of construction before and during the execution of the work. General qualification requirements for participants. Administrative and procedural requirements for field services provided by manufacturer's representatives. General requirements for mockups and field samples constructed, applied, or assembled at the site for review and use as a quality standard.</p> <p>May Include: field services provided by manufacturer's representatives for startup and testing.</p> <p>See: 00 45 13 for bidder's qualifications. 00 45 16 for proposer's qualifications. 01 33 00 for submittal procedures. 01 45 00 for quality control. 01 45 33 for code-required special inspections and procedures.</p> <p>See Also: 01 75 00 for manufacturer's field services during startup and testing.</p>
01 43 13	Manufacturer Qualifications	
01 43 16	Supplier Qualifications	
01 43 19	Fabricator Qualifications	
01 43 23	Installer Qualifications	
01 43 26	Testing and Inspecting Agency Qualifications	
01 43 29	Code-Required Special Inspector Qualifications	
01 43 33	Manufacturer's Field Services	
01 43 36	Field Samples	
01 43 39	Mockups	
<b>01 45 00</b>	<b>Quality Control</b>	<p>Includes: administrative and procedural requirements for reactive activities to evaluate completed activities and elements for conformance with the requirements. Correction of defective construction.</p> <p>See: 01 43 00 for quality assurance. 01 43 26 for testing and inspecting agency qualifications. 01 43 29 for code-required special inspector qualifications.</p>
01 45 13	Source Quality Control Procedures	
01 45 16	Field Quality Control Procedures	
01 45 16.13	Contractor Quality Control	
01 45 23	Testing and Inspecting Services	
01 45 26	Plant Inspection Procedures	
01 45 29	Testing Laboratory Services	
01 45 31	Climate Resiliency Quality Control Procedures	
01 45 33	Code-Required Special Inspections and Procedures	

NUMBER	TITLE	EXPLANATION
<b>01 50 00</b>	<b>Temporary Facilities and Controls</b>	Includes: requirements for installation, maintenance, and removal of temporary utilities, controls, facilities, and construction aids during construction.  See: 01 12 00 for temporary facility and control responsibility under multiple contracts. 01 74 00 for cleaning and waste management.
<b>01 51 00</b>	<b>Temporary Utilities</b>	Includes: procedures and requirements for utilities used on site during construction.  See: 01 18 00 for project utility sources. 33 00 00 for permanent utilities.
01 51 13	Temporary Electricity	
01 51 16	Temporary Fire Protection	
01 51 19	Temporary Fuel-Oil	
01 51 23	Temporary Heating, Cooling, and Ventilating	
01 51 26	Temporary Lighting	
01 51 29	Temporary Natural Gas	
01 51 33	Temporary Telecommunications	
01 51 36	Temporary Water	
<b>01 52 00</b>	<b>Construction Facilities</b>	Includes: procedures and requirements for facilities used on site during construction.  See: 00 70 00 for conditions of the contract safety and sanitation requirements. 10 43 16 for permanent first aid cabinets.
01 52 13	Field Offices and Sheds	
01 52 16	First Aid Facilities	
01 52 19	Sanitary Facilities	
<b>01 53 00</b>	<b>Temporary Construction</b>	Includes: procedures and requirements for temporary access facilities required to accommodate construction or the owner's operations that are removed, reconstructed, or decommissioned upon completion of the construction.
01 53 13	Temporary Bridges	
01 53 16	Temporary Decking	
01 53 19	Temporary Overpasses	
01 53 23	Temporary Ramps	
01 53 26	Temporary Runarounds	

NUMBER	TITLE	EXPLANATION
<b>01 54 00</b>	<b>Construction Aids</b>	<p>Includes: procedures and requirements related to tools and equipment used during construction.</p> <p>May Include: requirements for sharing construction aids for construction delivered under multiple contracts.</p> <p>Does Not Include: safety related procedures or contractor's means and methods.</p> <p>See Also: 01 12 00 for construction aid responsibility under multiple contracts.</p>
01 54 13	Temporary Elevators	
01 54 16	Temporary Hoists	
01 54 19	Temporary Cranes	
01 54 23	Temporary Scaffolding and Platforms	
01 54 26	Temporary Swing Staging	
<b>01 55 00</b>	<b>Vehicular Access and Parking</b>	<p>Includes: procedures and requirements for access and parking facilities required to accommodate construction or the owner's operations that are removed, reconstructed, or decommissioned upon completion of the construction.</p> <p>See: 01 14 13 for access to site restrictions.</p>
01 55 13	Temporary Access Roads	
01 55 16	Haul Routes	
01 55 19	Temporary Parking Areas	
01 55 23	Temporary Roads	
01 55 26	Traffic Control	
01 55 29	Staging Areas	
<b>01 56 00</b>	<b>Temporary Barriers and Enclosures</b>	<p>Includes: procedures and requirements for facilities for protection of public, occupants, and spaces during construction.</p> <p>Does Not Include: safety and health-related procedures for contractor employees and subcontractors.</p> <p>Alternate Terms/Abbreviations: temporary fencing; hoarding.</p>
01 56 13	Temporary Air Barriers	
01 56 16	Temporary Dust Barriers	
01 56 19	Temporary Noise Barriers	
01 56 23	Temporary Barricades	
01 56 26	Temporary Fencing	

NUMBER	TITLE	EXPLANATION
01 56 29	Temporary Protective Walkways	
01 56 33	Temporary Security Barriers	
01 56 36	Temporary Security Enclosures	
01 56 39	Temporary Tree and Plant Protection	
<b>01 57 00</b>	<b>Temporary Controls</b>	Includes: procedures and requirements for environmental controls during construction.  See: 31 10 00 for permanent site clearing. 31 20 00 for permanent earth moving. 31 25 00 for permanent erosion and sedimentation controls.
01 57 13	Temporary Erosion and Sediment Control	
01 57 16	Temporary Pest Control	
01 57 19	Temporary Environmental Controls	
01 57 23	Temporary Storm Water Pollution Control	
01 57 26	Site Watering for Dust Control	
01 57 33	Temporary Security	
<b>01 58 00</b>	<b>Project Identification</b>	Includes: signage used during construction to identify the project and the project team.  Does Not Include: permanent facility signage.
01 58 13	Temporary Project Signage	
01 58 16	Temporary Interior Signage	
<b>01 60 00</b>	<b>Product Requirements</b>	
<b>01 61 00</b>	<b>Common Product Requirements</b>	Includes: general requirements for products used in construction. New, salvaged, and reused products.
01 61 13	Software Licensing Requirements	
<b>01 62 00</b>	<b>Product Options</b>	Includes: procedures and requirements for contractor's options in selecting products, in general. General rules and procedures for determination of acceptable products.  May Include: products form.  See: 00 26 00 for procurement substitution procedures. 01 25 00 for substitution procedures.  See Also: 00 62 33 for products form.

NUMBER	TITLE	EXPLANATION
<b>01 64 00</b>	<b>Owner-Furnished Products</b>	<p>Includes: requirements for products that are furnished by the owner. Procedures and requirements for coordinating, scheduling, handling, and storing products that are furnished by the owner.</p> <p>May Include: list of products ordered by owner and owner-furnished products.</p> <p>Alternate Terms/Abbreviations: owner-furnished products: owner-supplied products.</p> <p>See Also: 01 11 00 for list of products furnished by owner under single contract. 01 12 00 for list of products furnished by owner under multiple contracts.</p>
<b>01 65 00</b>	<b>Product Delivery Requirements</b>	<p>Includes: requirements for packing, shipping, delivery, and acceptance of products, in general.</p> <p>See: 01 64 00 for acceptance of owner-supplied products.</p>
<b>01 66 00</b>	<b>Product Storage and Handling Requirements</b>	<p>Includes: requirements for storage and handling of products, in general.</p> <p>See: 00 62 79 for stored material form.</p>
01 66 13	Product Storage and Handling Requirements for Hazardous Materials	
01 66 16	Product Storage and Handling Requirements for Toxic Materials	
<b>01 70 00</b>	<b>Execution and Closeout Requirements</b>	
<b>01 71 00</b>	<b>Examination and Preparation</b>	<p>Includes: procedures and general requirements for determining acceptable conditions for installation. Procedures and general requirements for preparing to install, erect, or apply products.</p> <p>See: 00 31 19 for existing condition information provided to bidders or proposers. 00 31 21 for survey information provided to bidders or proposers. 01 31 19 for site mobilization meetings. 01 76 00 for protecting installed construction. 01 78 29 for final site survey. 02 21 00 for surveys performed by the contractor before construction begins.</p>

NUMBER	TITLE	EXPLANATION
01 71 13	Mobilization	
01 71 16	Acceptance of Conditions	
01 71 23	Field Engineering	
01 71 23.13	Construction Layout	
01 71 23.16	Construction Surveying	
01 71 33	Protection of Adjacent Construction	
01 71 36	Non-Destructive Concrete Examination	Includes: concrete x-ray, radar, and ultrasound examination.
<b>01 73 00</b>	<b>Execution</b>	Includes: requirements for installing, applying, or erecting products, in general. New, pre-purchased, salvaged for reuse, and owner-supplied products. Provisions for accommodating owner-installed products.  See: 01 31 19 for preinstallation meetings. 02 41 19 for selective structure demolition. 02 42 00 for removal and diversion of construction materials.
01 73 13	Application	
01 73 16	Erection	
01 73 19	Installation	
01 73 23	Bracing and Anchoring	
01 73 26	Existing Products	
01 73 29	Cutting and Patching	
<b>01 74 00</b>	<b>Cleaning and Waste Management</b>	Includes: requirements for maintaining site in clean and neat condition during construction. Final cleaning prior to turning the project over to the owner.  See: 00 45 23 for statement of disposal facility. 00 62 23 for construction waste diversion form.
01 74 13	Progress Cleaning	
01 74 16	Site Maintenance	
01 74 19	Construction Waste Management and Disposal	
01 74 23	Final Cleaning	
<b>01 75 00</b>	<b>Starting and Adjusting</b>	Includes: administrative and procedural requirements for the initial checkout, startup, and adjusting; to ensure safe operation during acceptance testing and commissioning. Acceptance testing.  See: 01 79 00 for demonstration and training. 01 91 00 for system performance evaluation. 01 92 00 for facility operation. 01 93 00 for facility maintenance.



DIVISION 01

NUMBER	TITLE	EXPLANATION
01 75 13	Checkout Procedures	
01 75 16	Startup Procedures	
<b>01 76 00</b>	<b>Protecting Installed Construction</b>	Includes: procedures and requirements for protecting installed construction, in general.  See: 01 71 33 for protecting adjacent construction.
<b>01 77 00</b>	<b>Closeout Procedures</b>	Includes: administrative and procedural requirements for completion of the work.  May Include: substantial and final completion steps.  See: 00 65 00 for closeout forms. 01 50 00 for removal of temporary facilities and controls. 01 74 23 for final cleaning. 01 78 00 for closeout submittals. 01 78 29 for final site survey.
01 77 13	Preliminary Closeout Reviews	
01 77 16	Final Closeout Reviews	
01 77 19	Closeout Requirements	

NUMBER	TITLE	EXPLANATION
<b>01 78 00</b>	<b>Closeout Submittals</b>	<p>Includes: administrative and procedural requirements for the processing of submittals at the completion of the project.</p> <p>May Include: construction waste diversion form. Recycled content of materials form. Closeout forms. Certificate of compliance form. Certificate of substantial completion form. Certificate of completion form. Affidavit of payment of debts and claims form. Affidavit of release of liens form. Consent of surety to final payment form. Acceptance certificate form. Final settlement certificate form. Warranty form. Statutory declaration form.</p> <p>Alternate Terms/Abbreviations: extra stock: attic stock. O and M: operation and maintenance. Project record documents: as-built drawings: as-built specifications. Warranties: guarantees.</p> <p>See: 00 31 21 for survey information provided to bidders or proposers.  00 93 00 for record clarifications and proposals.  00 94 00 for record modifications.  01 33 00 for submittals during construction.  01 33 29 for sustainable design reporting.  01 71 23 for field engineering during construction.  01 77 00 for closeout procedures.  01 92 00 for facility operation.  01 93 00 for facility maintenance.</p> <p>See Also: 00 62 23 for construction waste diversion form.  00 62 34 for recycled content of materials form.  00 65 00 for closeout forms.</p>
01 78 13	Completion and Correction List	
01 78 19	Maintenance Contracts	
01 78 23	Operation and Maintenance Data	
01 78 23.13	Operation Data	
01 78 23.16	Maintenance Data	
01 78 23.19	Preventative Maintenance Instructions	
01 78 29	Final Site Survey	
01 78 33	Bonds	
01 78 36	Warranties	
01 78 39	Project Record Documents	
01 78 43	Spare Parts	
01 78 46	Extra Stock Materials	
01 78 53	Sustainable Design Closeout Documentation	

NUMBER	TITLE	EXPLANATION
<b>01 79 00</b>	<b>Demonstration and Training</b>	Includes: administrative and procedural requirements for demonstration of the products and systems of the facility, and training of the owner's operating and maintenance personnel.  See: 01 78 23 for submittal of operation and maintenance data.
<b>01 80 00</b>	<b>Performance Requirements</b>	
<b>01 81 00</b>	<b>Facility Performance Requirements</b>	Includes: requirements for elements (systems and assemblies) that perform basic fundamental functions. Organized by functional elements in accordance with <i>UniFormat</i> . Performance or other type requirements for systems and assemblies that include elements within multiple titles, in multiple divisions, or both.  Notes: performance and other type requirements that apply to the subject of a single title should be included within the appropriate specification Section.
01 81 13	Sustainable Design Requirements	Notes: to be used with design-build projects.  See: 01 35 63 for sustainability certification project requirements. 01 35 66 for sustainability certification project procedures.
01 81 16	Facility Environmental Requirements	
01 81 19	Indoor Air Quality Requirements	
<b>01 82 00</b>	<b>Facility Substructure Performance Requirements</b>	
01 82 13	Foundation Performance Requirements	
01 82 16	Basement Construction Performance Requirements	
<b>01 83 00</b>	<b>Facility Shell Performance Requirements</b>	
01 83 13	Superstructure Performance Requirements	
01 83 16	Exterior Enclosure Performance Requirements	
01 83 19	Roofing Performance Requirements	
<b>01 84 00</b>	<b>Interiors Performance Requirements</b>	
01 84 13	Interior Construction Performance Requirements	
01 84 16	Stairways Performance Requirements	
01 84 19	Interior Finishes Performance Requirements	
<b>01 85 00</b>	<b>Conveying Equipment Performance Requirements</b>	

NUMBER	TITLE	EXPLANATION
<b>01 86 00</b>	<b>Facility Services Performance Requirements</b>	
01 86 13	Fire-Suppression Performance Requirements	
01 86 16	Plumbing Performance Requirements	
01 86 19	HVAC Performance Requirements	
01 86 23	Integrated Automation Performance Requirements	
01 86 26	Electrical Performance Requirements	
01 86 29	Communications Performance Requirements	
01 86 33	Electronic Safety and Security Performance Requirements	
<b>01 87 00</b>	<b>Equipment and Furnishings Performance Requirements</b>	
01 87 13	Equipment Performance Requirements	
01 87 16	Furnishings Performance Requirements	
<b>01 88 00</b>	<b>Other Facility Construction Performance Requirements</b>	
01 88 13	Special Construction Performance Requirements	
01 88 16	Selective Construction Performance Requirements	
<b>01 89 00</b>	<b>Site Construction Performance Requirements</b>	
01 89 13	Site Preparation Performance Requirements	
01 89 16	Site Improvements Performance Requirements	
01 89 19	Site Plumbing Utilities Performance Requirements	
01 89 23	Site HVAC Utilities Performance Requirements	
01 89 26	Site Electrical Utilities Performance Requirements	
01 89 29	Other Site Construction Performance Requirements	
<b>01 90 00</b>	<b>Life Cycle Activities</b>	
<b>01 91 00</b>	<b>Commissioning</b>	
		Includes: administrative and procedural requirements for commissioning facilities and facility systems.
		See: 00 70 00 for conditions of the contract for relationship of commissioning to participants and other construction activities.
		01 75 00 for starting and adjusting equipment prior to commissioning.
		01 79 00 for demonstration and training of the owner's personnel.
01 91 13	General Commissioning Requirements	
01 91 16	Facility Substructure Commissioning	
		Includes: commission of systems and assemblies which have elements in multiple divisions.
		See: XX 08 00 at the beginning of Divisions for the commissioning of systems and assemblies which are included within one Division.
01 91 16.13	Foundation Commissioning	

DIVISION 01

NUMBER	TITLE	EXPLANATION
01 91 16.53	Basement Construction Commissioning	
01 91 19	Facility Shell Commissioning	
01 91 19.13	Superstructure Commissioning	
01 91 19.43	Exterior Enclosure Commissioning	
01 91 19.73	Roofing Commissioning	
01 91 23	Interiors Commissioning	
01 91 23.13	Interior Construction Commissioning	
01 91 23.43	Stairways Commissioning	
01 91 23.73	Interior Finishes Commissioning	
01 91 26	Integrated System Commissioning	

**01 92 00 Facility Operation**

Includes: administrative and procedural requirements for operating facility, after commissioning.

See: 01 78 23 for submittal of operation and maintenance data. XX 01 00 at the beginning of Divisions for the operation of subjects which are included within one Division.

01 92 13 Facility Operation Procedures

**01 93 00 Facility Maintenance**

Includes: administrative and procedural requirements for maintaining facility, after commissioning.

See: 01 78 19 for submittal of maintenance contracts.  
01 78 23 for submittal of operation and maintenance data.  
XX 01 00 at the beginning of Divisions for the maintenance of subjects which are included within one Division.

01 93 13 Facility Maintenance Procedures

01 93 16 Recycling Programs

**01 94 00 Facility Decommissioning**

Includes: administrative and procedural requirements for deactivating a facility or portion of it from operation.

See: 02 40 00 for demolition and structure moving.  
02 50 00 for site remediation.  
02 60 00 for contaminated site material removal.  
02 70 00 for water remediation.  
02 80 00 for facility remediation.

01 94 13 Facility Decommissioning Procedures

# SPECIFICATIONS GROUP

## FACILITY CONSTRUCTION SUBGROUP

DIVISION 02 – EXISTING CONDITIONS

DIVISION 03 – CONCRETE

DIVISION 04 – MASONRY

DIVISION 05 – METALS

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

DIVISION 08 – OPENINGS

DIVISION 09 – FINISHES

DIVISION 10 – SPECIALTIES

DIVISION 11 – EQUIPMENT

DIVISION 12 – FURNISHINGS

DIVISION 13 – SPECIAL CONSTRUCTION

DIVISION 14 – CONVEYING EQUIPMENT

*Division 15 – Reserved for Future Expansion*

*Division 16 – Reserved for Future Expansion*

*Division 17 – Reserved for Future Expansion*

*Division 18 – Reserved for Future Expansion*

*Division 19 – Reserved for Future Expansion*

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NUMBER	TITLE	EXPLANATION
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## DIVISION 02 – EXISTING CONDITIONS

<b>02 00 00</b>	<b>Existing Conditions</b>	May be used as Division level Section title.
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### 02 01 00 Maintenance of Existing Conditions

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of existing conditions.

Level 4 Numbering Recommendation:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

02 01 50	Maintenance of Site Remediation
02 01 65	Maintenance of Underground Storage Tank Removal
02 01 80	Maintenance of Facility Remediation
02 01 86	Maintenance of Hazardous Waste Drum Handling

### 02 03 00 Conservation Treatment for Existing Period Conditions

02 03 01	Maintenance of Existing Period Conditions
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02 03 01.19	Mothballing Period Structures
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Includes: U.S. Department of the Interior, National Parks Service, Technical Preservation Services, Preservation Brief # 31, Mothballing Historic Buildings, Washington, D.C.: GPO, 1993, <http://www.nps.gov/tps/how-to-preserve/briefs/31-mothballing.htm> (accessed March 20, 2014). "The actual mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success will depend on periodic maintenance and surveillance monitoring."

02 03 41	Selective Demolition for Period Structures
02 03 42	Removal and Salvage of Period Construction Materials
02 03 43	Period Structure Relocating
02 03 44	Shoring and Support of Period Structures



NUMBER	TITLE	EXPLANATION
<b>02 05 00</b>	<b>Common Work Results for Existing Conditions</b>	Includes: subjects common to multiple titles in Division 02.  See: 01 80 00 for performance requirements of subjects common to multiple titles. 31 05 19 for geosynthetics for earthwork. 32 05 19 for geosynthetics for exterior improvements.
02 05 19	Geosynthetics for Existing Conditions	
02 05 19.13	Geotextiles for Existing Conditions	
02 05 19.16	Geomembranes for Existing Conditions	
02 05 19.19	Geogrids for Existing Conditions	
<b>02 06 00</b>	<b>Schedules for Existing Conditions</b>	Includes: schedules of items common to multiple titles in Division 02.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
02 06 13	Geotechnical Baseline Report	
02 06 14	Geotechnical Data Report	
02 06 30	Schedules for Subsurface Investigations	
02 06 30.13	Boring or Test Pit Log Schedule	
02 06 50	Schedules for Site Remediation	
02 06 65	Schedules for Underground Storage Tank Removal	
02 06 80	Schedules for Facility Remediation	
02 06 86	Schedules for Hazardous Waste Drum Handling	
<b>02 08 00</b>	<b>Commissioning of Existing Conditions</b>	Includes: commissioning of items common to multiple titles in Division 02.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>02 20 00</b>	<b>Assessment</b>	Includes: assessments of existing conditions conducted by the contractor before construction begins as a project activity.  See: 00 31 00 for available project information.

NUMBER	TITLE	EXPLANATION
<b>02 21 00</b>	<b>Surveys</b>	<p>Includes: surveys conducted by the contractor before construction begins as a project activity.</p> <p>See: 00 31 21 for site survey information provided to the bidders, proposers, or contractors before construction begins. 00 31 21 for measured drawing information provided to the bidders or proposers before construction begins. 01 71 23 for field engineering during construction. 01 78 29 for final site survey.</p>
02 21 13	Site Surveys	
02 21 13.13	Boundary and Survey Markers	
02 21 13.23	Archaeological and Historic Surveys	
02 21 16	Measured Drawings	
<b>02 22 00</b>	<b>Existing Conditions Assessment</b>	<p>Includes: assessments of existing conditions conducted by the contractor before construction begins as a project activity.</p> <p>See: 00 31 19 for existing conditions information provided to the bidders, proposers, or contractors before construction begins. 01 71 16 for acceptance of conditions. 13 48 00 for sound, vibration, and seismic control. 44 20 00 for noise pollution control.</p>
02 22 13	Movement and Vibration Assessment	
02 22 16	Acoustic Assessment	
02 22 19	Traffic Assessment	
02 22 23	Accessibility Assessment	
<b>02 24 00</b>	<b>Environmental Assessment</b>	<p>Includes: environmental assessments conducted by the contractor before construction begins as a project activity.</p> <p>See: 00 31 24 for environmental assessment information provided to the bidders, proposers, or contractors before construction begins. 01 35 43 for environmental procedures. 44 10 00 for air pollution control. 44 40 00 for water pollution control equipment.</p>
02 24 13	Natural Environment Assessment	
02 24 13.13	Air Assessment	
02 24 13.43	Water Assessment	
02 24 13.73	Land Assessment	
02 24 23	Chemical Sampling and Analysis of Soils	
02 24 43	Transboundary and Global Environmental Aspects Assessment	

NUMBER	TITLE	EXPLANATION
<b>02 25 00</b>	<b>Existing Material Assessment</b>	Includes: assessments of existing materials conducted by the contractor before construction begins as a project activity.  See: 00 31 25 for existing material information provided to the bidders, proposers, or contractors before construction begins. 03 82 00 for concrete boring. 07 10 00 for dampproofing and waterproofing. 07 30 00 for steep slope roofing. 07 50 00 for membrane roofing.
02 25 16	Existing Concrete Assessment	
02 25 16.13	Concrete Assessment Drilling	
02 25 19	Existing Masonry Assessment	
02 25 19.13	Masonry Assessment Drilling	
02 25 23	Existing Metals Assessment	
02 25 23.13	Welding Investigations	
02 25 26	Existing Wood, Plastics, and Composites Assessment	
02 25 29	Existing Thermal and Moisture Protection Assessment	
02 25 29.13	Waterproofing Investigations	
02 25 29.23	Roofing Investigations	
<b>02 26 00</b>	<b>Hazardous Material Assessment</b>	Includes: assessments of existing hazardous materials conducted by the contractor before construction begins as a project activity.  Alternate Terms/Abbreviations: PCB: polychlorinated biphenyl.  See: 00 31 26 for existing hazardous materials information provided to the bidders, proposers, or contractors before construction begins. 01 35 43 for environmental procedures for hazardous materials. 02 80 00 for hazardous material remediation. 02 82 00 for asbestos remediation. 02 83 00 for lead remediation. 02 84 00 for PCB remediation. 02 86 00 for hazardous waste drum handling. 02 87 13 for mold remediation.
02 26 23	Asbestos Assessment	
02 26 26	Lead Assessment	
02 26 29	Polychlorinated Biphenyl Assessment	
02 26 33	Biological Assessment	
02 26 33.13	Mold Assessment	
02 26 36	Hazardous Waste Drum Assessment	

NUMBER	TITLE	EXPLANATION
<b>02 30 00</b>	<b>Subsurface Investigation</b>	<p>Includes: subsurface investigations and monitoring conducted by the contractor before construction begins as a project activity.</p> <p>Notes: other building elements may be used in lightning protection systems in lieu of air terminals.</p> <p>See: 00 31 00 for available project information.</p> <p>See Also: 26 41 00 for facility lightning protection.</p>
<b>02 31 00</b>	<b>Geophysical Investigations</b>	<p>Includes: geophysical investigations and monitoring conducted by the contractor before construction begins as a project activity.</p> <p>See: 00 31 31 for geophysical data provided to the bidders, proposers, or contractors before construction begins.  13 48 00 for seismic control.  13 52 00 for seismic instrumentation.  26 35 23 for electromagnetic-interference filters.  40 91 16 for electromagnetic process measurement devices.  40 91 16 for magnetic field process measurement devices.</p>
02 31 13	Seismic Investigations	
02 31 16	Gravity Investigations	
02 31 19	Magnetic Investigations	
02 31 23	Electromagnetic Investigations	
02 31 26	Electrical Resistivity Investigations	
02 31 29	Magnetotelluric Investigations	
<b>02 32 00</b>	<b>Geotechnical Investigations</b>	<p>Includes: geotechnical investigations and monitoring conducted by the contractor before construction begins as a project activity.</p> <p>See: 00 31 32 for geotechnical data provided to the bidders, proposers, or contractors before construction begins.  02 71 00 for groundwater treatment.  31 09 13 for groundwater monitoring during construction.  33 11 53 for monitoring wells.  41 66 13 for mobile boring and drilling rigs.</p>
02 32 13	Subsurface Drilling and Sampling	
02 32 16	Material Testing	
02 32 19	Exploratory Excavations	
02 32 23	Geotechnical Monitoring Before Construction	
02 32 23.13	Groundwater Monitoring Before Construction	

NUMBER	TITLE	EXPLANATION
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**02 40 00 Demolition and Structure Moving**

Includes: removal and disposal of structures. Moving or raising structures.

See Also: 33 05 61 for concrete manholes.  
 33 05 63 for concrete vaults and chambers.  
 33 05 66 for concrete distribution chambers.  
 33 05 69 for concrete trenchways.  
 33 05 71 for cleanouts.  
 33 05 73 for polyethylene manholes.  
 33 05 76 for fiberglass manholes.

**02 41 00 Demolition**

Includes: partial or complete removal and disposal of structures, at grade, above grade, and below grade. Hydrodemolition and implosion.

May Include: capping and removal of existing utilities.

See: 01 35 91 for historic treatment procedures.  
 01 73 29 for cutting and patching.  
 02 42 00 for removal and diversion of construction materials.  
 02 43 00 for structure moving.  
 02 60 00 for contaminated site material removal.  
 31 10 00 for site clearing.  
 31 23 16 for excavation.

- 02 41 13 Selective Site Demolition
  - 02 41 13.13 Paving Removal
  - 02 41 13.23 Utility Line Removal
  - 02 41 13.33 Railtrack Removal
- 02 41 16 Structure Demolition
  - 02 41 16.13 Building Demolition
  - 02 41 16.23 Tower Demolition
  - 02 41 16.33 Bridge Demolition
  - 02 41 16.43 Dam Demolition
- 02 41 19 Selective Demolition
  - 02 41 19.13 Selective Building Demolition
  - 02 41 19.16 Selective Interior Demolition
  - 02 41 19.19 Selective Facility Services Demolition
  - 02 41 19.33 Selective Bridge Demolition

NUMBER	TITLE	EXPLANATION
<b>02 42 00</b>	<b>Removal and Diversion of Construction Materials</b>	Includes: salvage (removal, repair, storage) of existing materials and equipment, and its disposal by removal from site. Storage, reinstallation, or delivery to owner. Cleaning and other preparatory work on salvaged materials.  See: 01 35 91 for historic treatment procedures. 01 73 26 for existing products. 02 41 00 for demolition and removal. 02 43 00 for structure moving.
02 42 13	Deconstruction of Structures	
02 42 13.13	Deconstruction of Buildings	
02 42 19	Recycling of Construction Materials	Includes: items taken from project location to a recycling facility.
02 42 19.13	Paper Recycling	Includes: corrugated cardboard recycling, aluminum and plastic beverage container recycling.
02 42 19.15	Concrete Recycling	
02 42 19.17	Masonry Recycling	Includes: brick, stone, pavers, clay materials.
02 42 19.19	Metal Recycling	Includes: (nonferrous metals): copper, aluminum, zinc, a/c radiators, electric motors, (ferrous metals): iron, steel, rail, OTM: other track material, rebar, chillers.
02 42 19.23	Wood Recycling	Includes: cabinetry, fixtures, doors, lumber, millwork, pallets, crates.
02 42 19.25	Plastic Recycling	Includes: PET: polyethylene terephthalate, LDPE: low density polyethylene, HDPE: high density polyethylene, PP: polypropylene, PVC: polyvinyl chloride.
02 42 19.29	Solid Surface Recycling	Includes: granite.
02 42 19.31	Insulation Recycling	Includes: batt.
02 42 19.35	Roofing Recycling	Includes: shingles.
02 42 19.39	Window Recycling	
02 42 19.41	Glass Recycling	
02 42 19.43	Gypsum Board Recycling	Includes: acoustical, plaster.

DIVISION 02

NUMBER	TITLE	EXPLANATION
02 42 19.45	Ceiling Tile Recycling	
02 42 19.47	Flooring Recycling	Includes: carpet, underlayment, non-PVC backed tile-carpet, PVC backed tile-carpet, granite tile, vinyl composite tile, ceramic tile, porcelain tile.
02 42 19.49	Paint and Coatings Recycling and Management	Includes: interior/exterior architectural paints, deck coatings, floor paints, elastomeric, primers, sealers, under-coaters, stains, shellacs, lacquers, varnishes, urethanes, waterproofing concrete, roof, wood sealers and repellents. Supplies, thinners, spirits, solvents, additives, tints, field and lawn paints.
02 42 19.51	Paint Remanufacturing	
02 42 19.53	Electronics Recycling	Includes: computers and accessories, data center, office equipment, copiers, audiovisual equipment, entertainment equipment, telecommunications equipment, lab and medical equipment, batteries, UPS: uninterruptible power supplies.
02 42 19.55	Appliance Recycling	
02 42 19.57	Mattress Recycling	
02 42 19.81	Plumbing Fixture Recycling	Includes: sinks, toilets, tubs.
02 42 19.83	HVAC Recycling	Includes: chillers, A/C units, coils.
02 42 19.89	Electrical Recycling	Includes: equipment, wire transformers, boxes, panels, lighting, components, ballasts, bulbs.
02 42 19.91	Yard Waste Recycling	Includes: mulch, bark, compost, stone, tree branches, land clearing debris, stumps, logs.
02 42 19.95	Tire, Rubber Recycling	
02 42 21	Salvage of Construction Materials	Includes: items taken from project location for reuse.
02 42 21.11	Deconstruction Contracting	
02 42 21.15	Concrete Salvage	
02 42 21.17	Masonry Salvage	Includes: brick, stone, pavers.
02 42 21.19	Metal Salvage	
02 42 21.23	Wood Salvage	Includes: cabinetry, fixtures, doors, lumber, millwork, pallets, crates.
02 42 21.29	Solid Surface Salvage	Includes: granite.

NUMBER	TITLE	EXPLANATION
02 42 21.35	Roofing Salvage	Includes: supplies, shingles.
02 42 21.37	Door Salvage	
02 42 21.39	Window Salvage	
02 42 21.41	Glass Salvage	
02 42 21.43	Gypsum Board Salvage	Includes: acoustical, plaster.
02 42 21.45	Ceiling Tile Salvage	
02 42 21.47	Flooring Salvage	Includes: carpet, underlayment, tile-carpet, granite tile, vinyl composite tile, ceramic tile, porcelain tile.
02 42 21.49	Paint and Coatings Salvage	Includes: interior/exterior architectural paints, deck coatings, floor paints, elastomeric, primers, sealers, under-coaters, stains, shellacs, lacquers, varnishes, urethanes, waterproofing concrete, roof, wood sealers and repellents. Supplies, thinners, spirits, solvents, additives, tints, field and lawn paints.
02 42 21.53	Electronics Salvage	Includes: computers and accessories, data center, office equipment, copiers, audiovisual equipment, entertainment equipment, telecommunications equipment, lab and medical equipment, batteries, UPS: uninterruptible power supplies.
02 42 21.55	Appliance Salvage	Includes: washer, dryer, dishwasher, stove, oven, microwave.
02 42 21.57	Restaurant Equipment Salvage	
02 42 21.59	Toilet Room Finishings Salvage	Includes: vanities, shower doors, hardware, partitions.
02 42 21.61	Office Finishings Salvage	Includes: desks, file cabinets, office furniture, cubicles, partitions, systems furniture.
02 42 21.67	Residential Finishings Salvage	Includes: furniture, art, rugs, framed mirrors, décor, lamps.
02 42 21.81	Plumbing Fixture Salvage	Includes: sinks, toilets, tubs, pipe.
02 42 21.83	HVAC Salvage	Includes: working units.
02 42 21.89	Electrical Salvage	Includes: equipment, wire transformers, boxes, panels, lighting, components, ballasts, bulbs.



DIVISION 02

NUMBER	TITLE	EXPLANATION
02 42 21.91	Yard Waste Salvage	Includes: plant materials, trees, stone.
<b>02 43 00</b>	<b>Structure Moving</b>	Includes: preparation and processes of relocating and raising structures.  See: 31 43 00 for concrete raising.
02 43 13	Structure Relocation	
02 43 13.13	Building Relocation	
02 43 16	Structure Raising	
02 43 16.13	Building Raising	
<b>02 50 00</b>	<b>Site Remediation</b>	Includes: remediation technologies for contaminated sites.  See: 02 24 23 for chemical sampling and analysis of soils. 02 60 00 for contaminated site material removal. 02 70 00 for water remediation. 02 80 00 for remediation of materials within structures. 31 21 00 for off-gassing mitigation.
<b>02 51 00</b>	<b>Physical Decontamination</b>	Includes: soil decontamination by physical treatment processes.  See: 02 52 00 for chemical decontamination. 02 53 00 for thermal decontamination. 02 54 00 for biological decontamination. 02 55 00 for remediation soil stabilization. 02 61 00 for removal and disposal of contaminated soils.
02 51 13	Coagulation and Flocculation Decontamination	
02 51 16	Reverse-Osmosis Decontamination	
02 51 19	Solidification and Stabilization Decontamination	
02 51 23	Mechanical Filtration Decontamination	
02 51 26	Radioactive Decontamination	
02 51 29	Surface Cleaning Decontamination	
02 51 29.13	High-Pressure Water Cleaning Decontamination	
02 51 29.16	Vacuum Sweeping Cleaning Decontamination	
02 51 33	Surface Removal Decontamination	
02 51 33.13	Surface Removal Decontamination by Grinding	
02 51 33.16	Surface Removal Decontamination by Sand Blasting	
02 51 33.19	Surface Removal Decontamination by Ultrasound	

NUMBER	TITLE	EXPLANATION
<b>02 52 00</b>	<b>Chemical Decontamination</b>	Includes: soil decontamination by chemical treatment processes.  See: 02 51 00 for physical decontamination. 02 53 00 for thermal decontamination. 02 54 00 for biological decontamination. 02 55 00 for remediation soil stabilization. 02 61 00 for removal and disposal of contaminated soils.
02 52 13	Chemical Precipitation Decontamination	
02 52 16	Ion Change Decontamination	
02 52 19	Neutralization Decontamination	
<b>02 53 00</b>	<b>Thermal Decontamination</b>	Includes: soil decontamination by thermal treatment processes.  See: 02 51 00 for physical decontamination. 02 52 00 for chemical decontamination. 02 54 00 for biological decontamination. 02 55 00 for remediation soil stabilization. 02 61 00 for removal and disposal of contaminated soils.
02 53 13	Incineration Decontamination	
02 53 13.13	Remediation of Contaminated Soils and Sludges by Incineration	
02 53 16	Thermal Desorption Decontamination	
02 53 16.13	Remediation of Contaminated Soils by Thermal Desorption	
02 53 19	Vitrification Decontamination	
<b>02 54 00</b>	<b>Biological Decontamination</b>	Includes: soil decontamination by biological treatment processes.  See: 02 51 00 for physical decontamination. 02 52 00 for chemical decontamination. 02 53 00 for thermal decontamination. 02 55 00 for remediation soil stabilization. 02 61 00 for removal and disposal of contaminated soils. 02 72 16 for biological water decontamination.
02 54 13	Aerobic Processes Decontamination	
02 54 16	Anaerobic Processes Decontamination	
02 54 19	Bioremediation Decontamination	
02 54 19.13	Bioremediation Using Landfarming	
02 54 19.16	Bioremediation of Soils Using Windrow Composting	
02 54 19.19	Bioremediation Using Bacteria Injection	
02 54 23	Soil Washing Through Separation/Solubilization	
02 54 26	Organic Decontamination	

NUMBER	TITLE	EXPLANATION
<b>02 55 00</b>	<b>Remediation Soil Stabilization</b>	Includes: insitu and exsitu soil stabilization for remediation.  See: 02 51 00 for physical decontamination. 02 52 00 for chemical decontamination. 02 53 00 for thermal decontamination. 02 54 00 for biological decontamination. 02 61 00 for removal and disposal of contaminated soils. 31 32 00 for soil stabilization.
<b>02 56 00</b>	<b>Site Containment</b>	Includes: containment of contaminated site materials.  See: 31 21 00 for off-gassing mitigation. 31 35 26 for containment barriers.
02 56 13	Waste Containment	
02 56 13.13	Geomembrane Waste Containment	
02 56 19	Gas Containment	
02 56 19.13	Fluid-Applied Gas Barrier	
<b>02 57 00</b>	<b>Sinkhole Remediation</b>	Includes: remediation of underground voids in soluble rock created by groundwater.  Alternate Terms/Abbreviations: sinkholes: karst.  See Also: 31 23 23 for backfilling. 31 43 13 for pressure grouting. 31 43 16 for compaction grouting.
02 57 13	Sinkhole Remediation by Grouting	
02 57 13.13	Sinkhole Remediation by Compaction Grouting	
02 57 13.16	Sinkhole Remediation by Cap Grouting	
02 57 16	Sinkhole Remediation by Backfilling	
<b>02 58 00</b>	<b>Snow Control</b>	Includes: permanent means to control the movement of snow on the site.  See: 01 56 26 for temporary fencing. 32 31 00 for fences and gates.
02 58 13	Snow Fencing	
02 58 16	Snow Avalanche Control	

NUMBER	TITLE	EXPLANATION
<b>02 60 00</b>	<b>Contaminated Site Material Removal</b>	Includes: removal and disposal of contaminated site materials.  See: 02 24 23 for chemical sampling and analysis of soils. 02 50 00 for site remediation. 02 70 00 for water remediation. 02 80 00 for remediation of materials within structures. 44 50 00 for solid waste control and reuse.
<b>02 61 00</b>	<b>Removal and Disposal of Contaminated Soils</b>	Includes: removal of toxic and hazardous site materials.  Alternate Terms/Abbreviations: PCB: polychlorinate biphenyl.  See: 02 51 00 for physical decontamination. 02 52 00 for chemical decontamination. 02 53 00 for thermal decontamination. 02 54 00 for biological decontamination. 02 55 00 for remediation soil stabilization. 02 81 00 for transportation and disposal of hazardous materials within structures. 02 82 00 for remediation of asbestos materials within structures. 02 84 00 for remediation of PCB materials within structures. 31 23 16 for excavation.
02 61 13	Excavation and Handling of Contaminated Material	
02 61 23	Removal and Disposal of Polychlorinate Biphenyl Contaminated Soils	
02 61 26	Removal and Disposal of Asbestos Contaminated Soils	
02 61 29	Removal and Disposal of Organically Contaminated Soils	
<b>02 62 00</b>	<b>Hazardous Waste Recovery Processes</b>	Includes: removal of hazardous and toxic materials from soil.  May Include: removal of hazardous and toxic materials from air and water.  See: 43 30 00 for gas and liquid purification equipment. 44 10 00 for air pollution control.
02 62 13	Air and Steam Stripping	
02 62 16	Soil Vapor Extraction	
02 62 19	Soil Washing and Flushing	

NUMBER	TITLE	EXPLANATION
<b>02 65 00</b>	<b>Underground Storage Tank Removal</b>	Includes: removal of underground tanks and appurtenances which have been used to store toxic and hazardous materials.  See: 02 86 00 for hazardous waste drum handling. 31 23 16 for excavation.
<b>02 70 00</b>	<b>Water Remediation</b>	Includes: remediation of contaminated water.  See: 02 50 00 for site remediation. 02 60 00 for contaminated site material removal. 02 80 00 for remediation of materials within structures. 44 40 00 for water pollution control equipment.
<b>02 71 00</b>	<b>Groundwater Treatment</b>	Includes: treatment of contaminated groundwater.  See: 02 32 23 for groundwater monitoring before construction. 33 11 53 for monitoring wells.
<b>02 72 00</b>	<b>Water Decontamination</b>	Includes: decontamination technologies for treatment of contaminated water.  See: 02 54 00 for biological soil decontamination. 43 30 00 for gas and liquid purification equipment. 44 40 00 for water pollution control equipment.
02 72 13	Chemical Water Decontamination	
02 72 16	Biological Water Decontamination	
02 72 19	Electrolysis Water Decontamination	
<b>02 80 00</b>	<b>Facility Remediation</b>	Includes: remediation technologies for abatement and removal and disposal of contaminated materials within structures.  Alternate Terms/Abbreviations: hazardous materials: poisonous materials.  See: 00 31 00 for existing hazardous materials information. 02 26 00 for hazardous materials assessment. 02 50 00 for remediation of site materials. 02 60 00 for contaminated site material removal. 02 70 00 for water remediation.

NUMBER	TITLE	EXPLANATION
<b>02 81 00</b>	<b>Transportation and Disposal of Hazardous Materials</b>	Includes: requirements for transporting and disposal of hazardous materials within structures.  See: 01 35 43 for environmental procedures for hazardous materials. 02 61 00 for removal and disposal of contaminated site materials. 44 50 00 for solid waste control and reuse.
<b>02 82 00</b>	<b>Asbestos Remediation</b>	Includes: abatement or removal of asbestos material within structures.  See: 00 31 26 for existing asbestos information provided to bidders or proposers before construction begins. 02 26 23 for asbestos assessments performed under the contract. 02 61 26 for removal and disposal of asbestos site materials.
02 82 13	Asbestos Abatement	Includes: abatement or removal of asbestos material within structures, and removal of piping with coatings of asbestos-containing material (ACM), removal of ACM-contaminated pipeline coatings or coverings, cutting of pipelines containing, covered, or coated with ACM, and monitoring of work area during cutting and cleaning operations.
02 82 13.13	Glovebag Asbestos Abatement	
02 82 13.16	Precautions for Asbestos Abatement	
02 82 13.19	Asbestos Floor Tile and Mastic Abatement	
02 82 13.33	Asbestos Abatement for Utilities	
02 82 16	Engineering Control of Asbestos Containing Materials	
02 82 33	Removal and Disposal of Asbestos Containing Materials	
<b>02 83 00</b>	<b>Lead Remediation</b>	Includes: abatement or removal of lead material within structures.  See: 00 31 26 for existing lead information provided to bidders or proposers before construction begins. 02 26 26 for lead assessments performed under the contract.
02 83 13	Lead Hazard Control Activities	
02 83 19	Lead-Based Paint Remediation	
02 83 19.13	Lead-Based Paint Abatement	
02 83 33	Removal and Disposal of Material Containing Lead	
02 83 33.13	Lead-Based Paint Removal and Disposal	

NUMBER	TITLE	EXPLANATION
<b>02 84 00</b>	<b>Polychlorinate Biphenyl Remediation</b>	Includes: abatement or removal of polychlorinated biphenyl material within structures.  Alternate Terms/Abbreviations: PCB: polychlorinate biphenyl.  See: 00 31 26 for existing PCB information provided to bidders or proposers before construction begins. 02 26 29 for PCB assessments performed under the contract. 02 61 23 for removal and disposal of PCB site materials.
02 84 16	Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury	
02 84 33	Removal and Disposal of Polychlorinate Biphenyls	
<b>02 86 00</b>	<b>Hazardous Waste Drum Handling</b>	Includes: requirements for handling drums containing material contaminated with toxic and hazardous materials.  See: 00 31 26 for hazardous waste drum information provided to the bidders and proposers before construction begins. 02 26 36 for hazardous waste drum assessments performed under the contract. 02 65 00 for removal of underground storage tanks.
<b>02 87 00</b>	<b>Biohazard Remediation</b>	
02 87 13	Mold Remediation	
02 87 13.13	Precautions for Mold Remediation	
02 87 13.16	Mold Remediation Preparation and Containment	
02 87 13.19	Mold Remediation Clearance Air Sampling	
02 87 13.33	Removal and Disposal of Materials with Mold	
02 87 16	Excrement Removal	
02 87 16.13	Bird Excrement Removal	
02 87 16.16	Rodent Excrement Removal	

NUMBER	TITLE	EXPLANATION
<b>DIVISION 03 – CONCRETE</b>		
<b>03 00 00</b>	<b>Concrete</b>	May be used as Division level Section title.

**03 01 00 Maintenance of Concrete**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of concrete. Includes graffiti removal. Includes epoxy-injected crack repair.

Level 4 Numbering Recommendation: Level 4 titles for concrete are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 02 25 16 for existing concrete assessment.

03 30 00 for cleaning new cast-in-place concrete.

03 40 00 for cleaning new precast concrete.

09 96 23 for graffiti-resistant coatings.

32 01 26 for rigid pavement surface treatment.

32 01 29 for rigid pavement rehabilitation.

03 01 10	Maintenance of Concrete Forming and Accessories
03 01 20	Maintenance of Concrete Reinforcing
03 01 23	Maintenance of Stressing Tendons
03 01 30	Maintenance of Cast-in-Place Concrete
03 01 30.51	Cleaning of Cast-in-Place Concrete
03 01 30.61	Resurfacing of Cast-in-Place Concrete
03 01 30.71	Rehabilitation of Cast-in-Place Concrete
03 01 30.72	Strengthening of Cast-in-Place Concrete
03 01 40	Maintenance of Precast Concrete
03 01 40.51	Cleaning of Precast Concrete
03 01 40.61	Resurfacing of Precast Concrete
03 01 40.71	Rehabilitation of Precast Concrete
03 01 40.72	Strengthening of Precast Concrete
03 01 50	Maintenance of Cast Decks and Underlayment
03 01 50.51	Cleaning Cast Decks and Underlayment
03 01 50.61	Resurfacing of Cast Decks and Underlayment
03 01 50.71	Rehabilitation of Cast Decks and Underlayment
03 01 50.72	Strengthening of Cast Decks and Underlayment
03 01 60	Maintenance of Grouting
03 01 70	Maintenance of Mass Concrete
03 01 80	Maintenance of Concrete Cutting and Boring

**03 03 00 Conservation Treatment for Period Concrete**



DIVISION 03

NUMBER	TITLE	EXPLANATION
03 03 30	Conservation Treatment for Period Cast-in-Place Concrete	
03 03 31	Conservation Treatment for Period Structural Concrete	
03 03 33	Conservation Treatment for Period Architectural Concrete	

**03 05 00 Common Work Results for Concrete**

Includes: subjects common to multiple titles in Division 03.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

03 05 05 Selective Demolition for Concrete

See: 02 41 19 for selective demolition for whole structure demolition.

**03 06 00 Schedules for Concrete**

Includes: schedules of items common to multiple titles in Division 03.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

03 06 10 Schedules for Concrete Forming and Accessories

03 06 20 Schedules for Concrete Reinforcing

03 06 20.13 Concrete Beam Reinforcing Schedule

03 06 20.16 Concrete Slab Reinforcing Schedule

03 06 30 Schedules for Cast-in-Place Concrete

03 06 30.13 Concrete Footing Schedule

03 06 30.16 Concrete Column Schedule

03 06 30.19 Concrete Slab Schedule

03 06 30.23 Concrete Shaft Schedule

03 06 30.26 Concrete Beam Schedule

03 06 40 Schedules for Precast Concrete

03 06 40.13 Precast Concrete Panel Schedule

03 06 50 Schedules for Cast Decks and Underlayment

03 06 60 Schedules for Grouting

03 06 70 Schedules for Mass Concrete

03 06 80 Schedules for Concrete Cutting and Boring

**03 08 00 Commissioning of Concrete**

Includes: commissioning of items common to multiple titles in Division 03.

See: 01 91 00 for commissioning of subjects common to multiple Divisions.

**03 10 00 Concrete Forming and Accessories**

NUMBER	TITLE	EXPLANATION
<b>03 11 00</b>	<b>Concrete Forming</b>	<p>Includes: permanent and temporary forms for structural and architectural cast-in-place concrete. Metal pan forms, wood forms, plastic forms, slip forms, and corrugated paper forms for placing concrete. Form liners, void forms.</p> <p>May Include: manufactured joints, anchors, inserts, and waterstops.</p> <p>See: 03 40 00 for precast concrete formwork. 03 51 00 for cast roof deck form boards. 05 30 00 for metal deck forms. 07 95 13 for expansion joint cover assemblies.</p> <p>See Also: 03 15 13 for manufactured joints, anchors, inserts, and waterstops. 03 30 00 for cast-in-place concrete forming.</p> <p>Products: form coatings, form ties.</p>
03 11 13	Structural Cast-in-Place Concrete Forming	
03 11 13.13	Concrete Slip Forming	
03 11 13.16	Concrete Shoring	
03 11 13.19	Falsework	
03 11 16	Architectural Cast-in-Place Concrete Forming	
03 11 16.13	Concrete Form Liners	
03 11 19	Insulating Concrete Forming	
03 11 23	Permanent Stair Forming	Includes: forms specifically designed for the forming of stairways that remain in place permanently.
03 11 26	Permanent Tier Forming	
<b>03 15 00</b>	<b>Concrete Accessories</b>	<p>Includes: anchors, cast-in anchors, inserts, expansion and contraction joints, and waterstops.</p> <p>See: 07 95 13 for expansion joint cover assemblies.</p> <p>See Also: 03 11 00 for manufactured joints, anchors, inserts, and waterstops. 05 05 19 for post-installed concrete anchors.</p>
03 15 13	Waterstops	
03 15 13.13	Non-Expanding Waterstops	
03 15 13.16	Expanding Waterstops	
03 15 13.19	Combination Expanding and Injection Hose Waterstops	
03 15 13.21	Injection Hose Waterstops	
03 15 16	Concrete Construction Joints	
03 15 19	Cast-In Concrete Anchors	

NUMBER	TITLE	EXPLANATION
03 15 21	Termite Barrier	See Also: 10 81 00 for pest control devices.
<b>03 20 00</b>	<b>Concrete Reinforcing</b>	Includes: reinforcement of all types to increase the structural capabilities of concrete.  See: 03 38 00 for post-tensioned concrete. 04 05 19 for masonry reinforcing.  See Also: 03 30 00 for cast-in-place concrete reinforcement. 03 40 00 for precast concrete reinforcement.
<b>03 21 00</b>	<b>Reinforcement Bars</b>	Includes: tension, compression, and temperature-reinforcing steel for concrete. Coated reinforcing steel.  Alternate Terms/Abbreviations: reinforcing steel: steel rebar: reinforcing bars.  Products: bar supports, bar chairs, bar spacers.
03 21 11	Plain Steel Reinforcement Bars	
03 21 13	Galvanized Reinforcement Steel Bars	
03 21 16	Epoxy-Coated Reinforcement Steel Bars	
03 21 19	Stainless Steel Reinforcement Bars	Includes: corrosion-resistant steel reinforcing bars.
03 21 21	Composite Reinforcement Bars	
03 21 21.11	Glass Fiber-Reinforced Polymer Reinforcement Bars	
03 21 21.13	Organic Fiber-Reinforced Polymer Reinforcement Bars	
03 21 21.16	Carbon Fiber-Reinforced Polymer Reinforcement Bars	
<b>03 22 00</b>	<b>Fabric and Grid Reinforcing</b>	Includes: welded wire fabric used as reinforcement for concrete. Coated welded wire fabric.  Alternate Terms/Abbreviations: WWF: welded wire fabric: welded wire mesh: welded wire reinforcement.
03 22 13	Galvanized Welded Wire Fabric Reinforcing	
03 22 16	Epoxy-Coated Welded Wire Fabric Reinforcing	
03 22 19	Composite Grid Reinforcing	
<b>03 23 00</b>	<b>Stressed Tendon Reinforcing</b>	Includes: stressing tendons for reinforcement of concrete.  Products: seven-wire stress-relieved strand, stress-relieved wire, tendon ducts.

NUMBER	TITLE	EXPLANATION
<b>03 24 00</b>	<b>Fibrous Reinforcing</b>	Includes: fibrous reinforcing for reinforcement of concrete. Steel fibers, synthetic fibers.  Products: steel fibers, synthetic fibers.
<b>03 25 00</b>	<b>Composite Reinforcing</b>	
03 25 13	Glass Fiber-Reinforced Polymer Reinforcing	
03 25 16	Organic Fiber-Reinforced Polymer Reinforcing	
03 25 19	Carbon Fiber-Reinforced Polymer Reinforcing	
<b>03 30 00</b>	<b>Cast-in-Place Concrete</b>	Includes: aggregate, cement, additives, and pigmented mix.  May Include: concrete forming, accessories, and reinforcing. Granular subbase and vapor retarders for concrete slabs-on-grade. CIP concrete tunnel lining. CIP concrete shaft lining. CIP concrete retaining walls.  Alternate Terms/Abbreviations: CIP: cast-in-place. Cast-in-place: poured-in-place.  See: 03 50 00 for cast decks and underlayment. 32 13 00 for rigid pavement. 41 62 13 for cement mixer trucks.  See Also: 03 10 00 for CIP concrete forming and accessories. 03 20 00 for CIP concrete reinforcing. 07 26 00 for vapor retarders for concrete slabs-on-grade. 13 47 13 for cathodic protection. 31 23 00 for granular subbase for concrete slabs-on-grade. 31 35 23 for slope protection with CIP concrete slope paving. 31 74 13 for CIP concrete tunnel lining. 31 75 13 for CIP concrete shaft lining. 32 32 13 for CIP concrete retaining walls.
03 30 53	Miscellaneous Cast-in-Place Concrete	Includes: may be used for projects with small amounts of CIP concrete.
<b>03 31 00</b>	<b>Structural Concrete</b>	Includes: cast-in-place concrete for structural purposes where appearance is not a prime consideration. Cast-in-place concrete beams, columns, girders, joists, slabs, and other concrete framing members.  Alternate Terms/Abbreviations: self-compacting concrete: self-consolidating concrete: self-placing concrete: self-leveling concrete.

DIVISION 03

NUMBER	TITLE	EXPLANATION
03 31 13	Heavyweight Structural Concrete	
03 31 16	Lightweight Structural Concrete	
03 31 19	Shrinkage-Compensating Structural Concrete	
03 31 23	High-Performance Structural Concrete	
03 31 24	Ultra High-Performance Structural Concrete	
03 31 26	Self-Compacting Concrete	

**03 33 00 Architectural Concrete**

Includes: cast-in-place concrete where appearance is a prime consideration.

03 33 13	Heavyweight Architectural Concrete	
03 33 16	Lightweight Architectural Concrete	

**03 34 00 Low Density Concrete**

Includes: concrete of low density serving as structural concrete.

Alternate Terms/Abbreviations: low density concrete: lightweight concrete.

See: 03 52 00 for lightweight concrete roof insulation.

**03 35 00 Concrete Finishing**

Includes: leveling, floating, troweling, and other treatments of flat concrete, including sealing and hardening. Treatment of formed concrete surfaces to achieve certain surface characteristics.

See: 03 53 00 for concrete topping.

03 54 00 for cast underlayment.

09 61 00 for floor treatments.

32 13 13 for exposed aggregate concrete paving.

32 13 16 for stamped concrete paving.

Products: admixtures, additives, aggregate, cement, coloring agents, fly ash, accelerators, bonding agents, air entrainment, curing agents, densifiers, hardeners, plasticizers, retarders, sealers.

03 35 13	High-Tolerance Concrete Floor Finishing	
03 35 16	Heavy-Duty Concrete Floor Finishing	

Includes: finishes to reinforce high weight bearing, high traffic, high usage areas.

03 35 19	Colored Concrete Finishing	
03 35 23	Exposed Aggregate Concrete Finishing	
03 35 26	Grooved Concrete Surface Finishing	
03 35 29	Tooled Concrete Finishing	
03 35 33	Stamped Concrete Finishing	

NUMBER	TITLE	EXPLANATION
03 35 43	Polished Concrete Finishing	
03 35 43.13	Polished and Dyed Concrete Finishing	
03 35 43.16	Polished and Stained Concrete Finishing	
03 35 46	Concrete Topical Treatments	Includes: concrete treatments such as sealers, hardeners, densifiers, and repellants, applied after curing.
<b>03 37 00</b>	<b>Specialty Placed Concrete</b>	Includes: various methods of specially placing concrete. Concrete placed as dry mix.  Alternate Terms/Abbreviations: shotcrete: gunite.  See: 03 53 00 for concrete topping. 31 32 33 for shotcrete soil slope stabilization. 31 33 33 for shotcrete rock slope stabilization. 31 52 00 for cofferdams. 31 74 19 for shotcrete tunnel lining. 32 13 16 for roller-compacted concrete paving. 35 53 00 for underwater construction.
03 37 13	Shotcrete	
03 37 16	Pumped Concrete	
03 37 19	Pneumatically Placed Concrete	
03 37 23	Roller-Compacted Concrete	
03 37 26	Underwater Placed Concrete	
<b>03 38 00</b>	<b>Post-Tensioned Concrete</b>	Includes: cast-in-place concrete with stressing tendons and jacking to apply load on tendons.  May Include: unstressed concrete reinforcing.  See: 03 20 00 for concrete reinforcing. 03 23 00 for stressed tendon reinforcing.
03 38 13	Post-Tensioned Concrete Preparation	
03 38 16	Unbonded Post-Tensioned Concrete	
03 38 19	Bonded Post-Tensioned Concrete	
<b>03 39 00</b>	<b>Concrete Curing</b>	Includes: any method of curing concrete.
03 39 13	Water Concrete Curing	
03 39 16	Sand Concrete Curing	
03 39 23	Membrane Concrete Curing	
03 39 23.13	Chemical Compound Membrane Concrete Curing	
03 39 23.23	Sheet Membrane Concrete Curing	

NUMBER	TITLE	EXPLANATION
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## 03 40 00    **Precast Concrete**

Includes: concrete cast in forms, either on or off site, before final placement. Forming, reinforcing, inserts, and accessories.

May Include: precast concrete tunnel lining. Precast concrete shaft lining. Precast concrete retaining walls.

See: 31 35 23 for slope protection with precast concrete slope paving.

31 62 13 for precast concrete driven piles.

See Also: 31 74 16 for precast concrete tunnel lining.

31 75 16 for precast concrete shaft lining.

32 32 16 for precast concrete retaining walls.

## 03 41 00    **Precast Structural Concrete**

Includes: precast concrete for structural purposes where appearance is not a prime consideration. Precast concrete beams, columns, girders, joists, slabs, and other concrete framing members.

Alternate Terms/Abbreviations: precast: prestressed.

See: 03 45 00 for precast architectural concrete.

03 47 00 for site-cast concrete.

03 48 00 for precast concrete specialties.

05 55 16 for metal stair nosings.

03 41 13	Precast Concrete Hollow Core Planks
03 41 16	Precast Concrete Slabs
03 41 23	Precast Concrete Stairs
03 41 33	Precast Structural Pretensioned Concrete
03 41 36	Precast Structural Post-Tensioned Concrete

NUMBER	TITLE	EXPLANATION
<b>03 45 00</b>	<b>Precast Architectural Concrete</b>	<p>Includes: precast concrete where appearance is a prime consideration.</p> <p>May Include: unit masonry, stone veneer, and tile used as facings for architectural precast concrete panels.</p> <p>Alternate Terms/Abbreviations: precast: plant-precast: prestressed.</p> <p>See: 03 41 00 for precast structural concrete.  03 47 00 for site-cast concrete.  03 48 00 for precast concrete specialties.  04 72 00 for cast stone masonry.  07 44 00 for faced roof and wall panels.</p> <p>See Also: 04 20 00 for unit masonry facing.  04 40 00 for stone facing.  09 30 00 for tile facing.</p>
03 45 13	Faced Architectural Precast Concrete	
03 45 33	Precast Architectural Pretensioned Concrete	
03 45 36	Precast Architectural Post-Tensioned Concrete	
<b>03 47 00</b>	<b>Site-Cast Concrete</b>	<p>Includes: concrete cast in forms on site before final placement.</p> <p>Alternate Terms/Abbreviations: site-cast: site-precast.</p> <p>See: 03 41 00 for precast structural concrete.  03 45 00 for precast architectural concrete.  03 48 00 for precast concrete specialties.</p>
03 47 13	Tilt-Up Concrete	
03 47 16	Lift-Slab Concrete	



NUMBER	TITLE	EXPLANATION
<b>03 48 00</b>	<b>Precast Concrete Specialties</b>	Includes: miscellaneous precast concrete items.  See: 03 41 00 for precast structural concrete. 03 45 00 for precast architectural concrete. 03 47 00 for site-cast concrete. 04 72 00 for cast stone masonry. 07 76 00 for precast concrete roof pavers. 32 14 13 for precast concrete unit paving. 32 16 13 for precast concrete curbs and gutters. 33 05 61 for concrete manholes. 33 05 63 for concrete vaults and chambers. 33 05 66 for concrete distribution chambers. 33 05 69 for concrete trenchways. 33 05 71 for cleanouts. 33 05 73 for polyethylene manholes. 33 05 76 for fiberglass manholes. 33 42 13 for stormwater culverts. 33 71 16 for precast concrete electrical utility poles. 34 71 13 for precast concrete vehicle barriers.  See Also: 32 17 13 for parking bumpers.
03 48 13	Precast Concrete Bollards	
03 48 13.11	Precast Concrete Security Bollards	
03 48 16	Precast Concrete Splash Blocks	
03 48 19	Precast Concrete Stair Treads	
03 48 26	Precast Concrete Parking Bumpers	See Also: 32 17 13 for parking bumpers.
03 48 33	Precast Pre-Framed Concrete Panels	Alternate Terms/Abbreviations: studcast concrete: thinshell concrete.
03 48 43	Precast Concrete Trim	
<b>03 49 00</b>	<b>Glass-Fiber-Reinforced Concrete</b>	Includes: products using a cement/aggregate slurry reinforced with glass fibers.  Alternate Terms/Abbreviations: GFRC: glass-fiber-reinforced concrete.  See: 06 82 00 for glass-fiber-reinforced plastic. 07 44 53 for glass-fiber-reinforced wall cementitious panels. 09 27 13 for glass-fiber-reinforced plaster fabrications.
03 49 13	Glass-Fiber-Reinforced Concrete Column Covers	
03 49 16	Glass-Fiber-Reinforced Concrete Spandrels	

NUMBER	TITLE	EXPLANATION
03 49 43	Glass-Fiber-Reinforced Concrete Trim	
<b>03 50 00</b>	<b>Cast Decks and Underlayment</b>	Includes: poured and prefabricated cast floor and roof decks and fill. Includes form boards, reinforcement, and support members when part of a system.  See: 03 34 00 for low density concrete. 03 41 00 for precast concrete decks. 07 22 13 for asphaltic perlite concrete deck.
<b>03 51 00</b>	<b>Cast Roof Decks</b>	Includes: unitized panels of gypsum and cementitious wood fiber roof decking.
03 51 13	Cementitious Wood Fiber Decks	
03 51 16	Gypsum Concrete Roof Decks	
<b>03 52 00</b>	<b>Lightweight Concrete Roof Insulation</b>	Includes: insulating concrete used in roofing assemblies.  May Include: corrugated permanent metal forms when part of the cast deck system.  See: 03 34 00 for low density concrete. 07 22 13 for asphaltic perlite concrete deck. 07 22 16 for roof board insulation.  See Also: 03 11 00 for concrete forming. 05 30 00 for metal deck forms.
03 52 13	Composite Concrete Roof Insulation	
03 52 16	Lightweight Insulating Concrete	
03 52 16.13	Lightweight Cellular Insulating Concrete	
03 52 16.16	Lightweight Aggregate Insulating Concrete	
<b>03 53 00</b>	<b>Concrete Topping</b>	Includes: cellular concrete for floor construction and concrete topping for slabs.  See: 03 35 00 for concrete floor finishing. 03 52 00 for lightweight concrete roof insulation. 03 54 00 for cast underlayment.
03 53 13	Emery-Aggregate Concrete Topping	
03 53 16	Iron-Aggregate Concrete Topping	
03 53 19	Concrete Overlayment	Includes: pedestrian or vehicular traffic wearing surface treatments.

NUMBER	TITLE	EXPLANATION
<b>03 54 00</b>	<b>Cast Underlayment</b>	Includes: self-leveling and troweled concrete leveler and underlayment.  See: 03 53 00 for concrete topping. 06 16 26 for underlayment.
03 54 13	Gypsum Cement Underlayment	
03 54 16	Hydraulic Cement Underlayment	
<b>03 60 00</b>	<b>Grouting</b>	Includes: shrink-resistant, mortar and fluid-like materials used for filling joints and cavities and setting and anchoring items in masonry and concrete.  May Include: grouting of items included elsewhere, such as structural metal, metal fabrications, decorative metals, and equipment.  See: 04 05 16 for masonry grouting. 09 30 00 for tile joint grouting. 09 63 00 for masonry flooring joint grouting. 31 73 00 for tunnel grouting. 32 14 00 for unit paving joint grouting.  See Also: 05 10 00 for grouting to set structural metal framing. 05 20 00 for grouting to set metal joists. 05 50 00 for grouting to set metal fabrications. 05 70 00 for grouting to set decorative metals. Individual equipment titles for grouting to set equipment.
<b>03 61 00</b>	<b>Cementitious Grouting</b>	Includes: cementitious mixture of low slump for setting and anchoring.  See: 03 62 00 for non-shrink grouting. 03 63 00 for epoxy grouting.
03 61 13	Dry-Pack Grouting	
<b>03 62 00</b>	<b>Non-Shrink Grouting</b>	Includes: cementitious mixture with additives to compensate for shrinkage for setting and anchoring.  See: 03 61 00 for cementitious grouting. 03 63 00 for epoxy grouting.
03 62 13	Non-Metallic Non-Shrink Grouting	

NUMBER	TITLE	EXPLANATION
03 62 16	Metallic Non-Shrink Grouting	
<b>03 63 00</b>	<b>Epoxy Grouting</b>	Includes: epoxy mixture with stable volume characteristics for setting and anchoring.  See: 03 61 00 for cementitious grouting. 03 62 00 for non-shrink grouting. 03 64 23 for epoxy injection grouting.
<b>03 64 00</b>	<b>Injection Grouting</b>	Includes: grouting cracks and other defects in concrete construction.  Alternate Terms/Abbreviations: injection grouting: pressure grouting.  See: 03 01 00 for concrete rehabilitation and repair. 31 32 23 for pressure grouting soil stabilization. 31 43 13 for pressure grouting for concrete raising. 31 43 16 for compaction grouting for concrete raising.
03 64 23	Epoxy Injection Grouting	
<b>03 70 00</b>	<b>Mass Concrete</b>	Includes: large volume placement of cast-in-place concrete with dimensions large enough to require special construction techniques and procedures to compensate for the generation of heat, volume change, and to minimize cracks.  Alternate Terms/Abbreviations: raft foundations: mat foundations.  See: 35 71 13 for concrete gravity dams. 35 72 13 for concrete arch dams. 35 74 13 for concrete buttress dams.
<b>03 71 00</b>	<b>Mass Concrete for Raft Foundations</b>	
<b>03 72 00</b>	<b>Mass Concrete for Dams</b>	
<b>03 80 00</b>	<b>Concrete Cutting and Boring</b>	
<b>03 81 00</b>	<b>Concrete Cutting</b>	Includes: cutting or sawing through concrete.  See: 03 82 00 for concrete boring.

DIVISION 03

NUMBER	TITLE	EXPLANATION
03 81 13	Flat Concrete Sawing	
03 81 16	Track Mounted Concrete Wall Sawing	
03 81 19	Wire Concrete Wall Sawing	
03 81 23	Hand Concrete Wall Sawing	
03 81 26	Chain Concrete Wall Sawing	
<b>03 82 00</b>	<b>Concrete Boring</b>	Includes: creating circular hole through concrete with an auger or drill.  See: 02 25 16 for assessment drilling of existing concrete. 03 81 00 for concrete cutting.
03 82 13	Concrete Core Drilling	

NUMBER	TITLE	EXPLANATION
<b>DIVISION 04 – MASONRY</b>		
<b>04 00 00</b>	<b>Masonry</b>	May be used as Division level Section title.

**04 01 00 Maintenance of Masonry**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of masonry.

Level 4 Numbering Recommendation: Level 4 titles for masonry are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 02 25 19 for existing masonry assessment.

04 20 00 for cleaning new unit masonry.

04 40 00 for cleaning new stone assemblies.

04 50 00 for cleaning new refractory masonry.

04 60 00 for cleaning new corrosion-resistant masonry.

04 70 00 for cleaning new manufactured masonry.

04 01 20	Maintenance of Unit Masonry
04 01 20.41	Unit Masonry Stabilization
04 01 20.51	Unit Masonry Maintenance
04 01 20.52	Unit Masonry Cleaning
04 01 20.91	Unit Masonry Restoration
04 01 20.93	Testing and Sampling Brick Units for Restoration
04 01 40	Maintenance of Stone Assemblies
04 01 40.51	Stone Maintenance
04 01 40.52	Stone Cleaning
04 01 40.91	Stone Restoration
04 01 50	Maintenance of Refractory Masonry
04 01 60	Maintenance of Corrosion-Resistant Masonry
04 01 70	Maintenance of Manufactured Masonry

**04 03 00 Conservation Treatment for Period Masonry**

Includes: testing and sampling, dismantling, repairing, replacing, repointing.

May Include: limestone, granite, sandstone.

04 03 01	Maintenance for Period Masonry
04 03 01.13	Period Masonry Cleaning
04 03 05	Common Work Results for Period Masonry
04 03 05.13	Period Masonry Mortaring

DIVISION 04

NUMBER	TITLE	EXPLANATION
04 03 05.16	Period Masonry Grouting	
04 03 05.19	Period Masonry Anchorage and Reinforcing	
04 03 21	Conservation Treatment for Period Clay Unit Masonry	
04 03 21.19	Clay Brick Conservation Treatment	
04 03 21.21	Terra Cotta Conservation Treatment	
04 03 21.23	Faience Block Conservation Treatment	
04 03 22	Conservation Treatment for Period Concrete Unit Masonry	
04 03 24	Conservation Treatment for Period Adobe Unit Masonry	
04 03 43	Conservation Treatment for Period Stone Masonry	

**04 05 00 Common Work Results for Masonry**

Includes: subjects common to multiple titles in Division 04.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

04 05 05	Selective Demolition for Masonry	See: 02 41 19 for selective demolition for whole structure demolition.
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04 05 13	Masonry Mortaring	Includes: masonry mortaring for other titles in Division 04.
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Products: premixed and colored mortar.

04 05 13.16	Chemical-Resistant Masonry Mortaring	
04 05 13.19	Epoxy Masonry Mortaring	
04 05 13.23	Surface Bonding Masonry Mortaring	
04 05 13.26	Engineered Masonry Mortaring	
04 05 13.29	Refractory Masonry Mortaring	
04 05 13.91	Masonry Restoration Mortaring	
04 05 16	Masonry Grouting	Includes: masonry grouting for other titles in Division 04.

04 05 16.16	Chemical-Resistant Masonry Grouting	
04 05 16.26	Engineered Masonry Grouting	
04 05 19	Masonry Anchorage and Reinforcing	Includes: masonry anchorage and reinforcing for other titles in Division 04.

Alternate Terms/Abbreviations: masonry anchors: masonry ties.

04 05 19.13	Continuous Joint Reinforcing	
04 05 19.16	Masonry Anchors	
04 05 19.26	Masonry Reinforcing Bars	
04 05 19.29	Stone Anchors	
04 05 21	Masonry Strengthening	

NUMBER	TITLE	EXPLANATION
04 05 23	Masonry Accessories	Includes: masonry accessories other than those intended to anchor or reinforce for other titles in Division 04.  See: 07 62 00 for sheet metal flashing. 07 65 00 for flexible flashing.
04 05 23.13	Masonry Control and Expansion Joints	
04 05 23.16	Masonry Embedded Flashing	
04 05 23.19	Masonry Cavity Drainage, Weepholes, and Vents	
<b>04 06 00</b>	<b>Schedules for Masonry</b>	Includes: schedules of items common to multiple titles in Division 04.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
04 06 20	Schedules for Unit Masonry	
04 06 20.13	Masonry Unit Schedule	
04 06 40	Schedules for Stone Assemblies	
04 06 50	Schedules for Refractory Masonry	
04 06 60	Schedules for Corrosion-Resistant Masonry	
04 06 70	Schedules for Manufactured Masonry	
<b>04 08 00</b>	<b>Commissioning of Masonry</b>	Includes: commissioning of items common to multiple titles in Division 04.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>04 20 00</b>	<b>Unit Masonry</b>	Includes: masonry unit construction, load-bearing and non-load-bearing, grouted and non-grouted, reinforced and non-reinforced.  May Include: masonry mortaring, masonry grouting, masonry anchorage and reinforcing, and masonry accessories. Unit masonry retaining walls.  See: 04 05 13 for masonry mortaring. 04 05 16 for masonry grouting. 04 05 19 for masonry anchorage and reinforcing. 04 05 23 for masonry accessories. 32 32 19 for unit masonry retaining walls.



NUMBER	TITLE	EXPLANATION
<b>04 21 00</b>	<b>Clay Unit Masonry</b>	Includes: load-bearing and non-load-bearing clay masonry.  See: 04 27 00 for multi-wythe unit masonry. 04 54 00 for refractory brick masonry. 04 61 00 for chemical-resistant brick masonry. 04 71 00 for manufactured brick masonry. 09 63 13 for brick flooring. 12 11 00 for sculptured brick panels and brick murals. 13 49 16 for lead bricks. 32 14 16 for brick unit paving.  Products: face brick, building brick.
04 21 13	Brick Masonry	
04 21 13.13	Brick Veneer Masonry	
04 21 13.23	Surface-Bonded Brick Masonry	
04 21 16	Ceramic Glazed Clay Masonry	
04 21 19	Clay Tile Masonry	
04 21 23	Structural Clay Tile Masonry	
04 21 26	Glazed Structural Clay Tile Masonry	
04 21 29	Terra Cotta Masonry	
<b>04 22 00</b>	<b>Concrete Unit Masonry</b>	Includes: load-bearing and non-load-bearing concrete unit masonry.  May Include: integral water repellent.  Alternate Terms/Abbreviations: CMU: concrete masonry unit, concrete block: cinder blocks.  See: 04 27 00 for multi-wythe unit masonry. 07 19 00 for water repellents. 07 76 00 for precast concrete roof pavers. 31 35 23 for CMU slope protection paving. 31 37 16 for CMU riprap. 32 14 13 for precast concrete unit paving. 32 32 23 for segmental CMU retaining walls. 35 31 29 for CMU revetments, jetties, and groins. 35 42 53 for CMU wall waterway bank protection. 35 43 53 for CMU wall waterway scour protection.  Products: concrete brick, pumice block.
04 22 00.13	Concrete Unit Veneer Masonry	
04 22 00.16	Surface-Bonded Concrete Unit Masonry	
04 22 19	Insulated Concrete Unit Masonry	
04 22 23	Architectural Concrete Unit Masonry	
04 22 23.13	Exposed Aggregate Concrete Unit Masonry	

NUMBER	TITLE	EXPLANATION
04 22 23.16	Fluted Concrete Unit Masonry	
04 22 23.19	Molded-Face Concrete Unit Masonry	
04 22 23.23	Prefaced Concrete Unit Masonry	
04 22 23.26	Sound-Absorbing Concrete Unit Masonry	
04 22 23.29	Split-Face Concrete Unit Masonry	
04 22 26	Autoclaved Aerated Concrete Unit Masonry	
04 22 33	Interlocking Concrete Unit Masonry	
<b>04 23 00</b>	<b>Glass Unit Masonry</b>	Includes: glass masonry unit construction.  See: 08 60 00 for skylights. 09 76 00 for plastic blocks.  See Also: 08 55 13 for tornado-resistant windows. 08 55 23 for blast-resistant windows.
04 23 13	Vertical Glass Unit Masonry	
04 23 16	Glass Unit Masonry Floors	
04 23 19	Glass Unit Masonry Skylights	
<b>04 24 00</b>	<b>Adobe Unit Masonry</b>	Includes: adobe masonry unit construction.  See: 04 70 00 for manufactured masonry. 09 25 26 for natural clay plastering.
04 24 13	Site-Cast Adobe Unit Masonry	
04 24 16	Manufactured Adobe Unit Masonry	
<b>04 25 00</b>	<b>Unit Masonry Panels</b>	Includes: masonry assemblies erected as panels.  May Include: sculptured brick panels and brick murals.  See: 04 42 00 for panelized exterior stone cladding. 07 42 63 for fabricated wall panel assemblies. 12 11 16 for sculptured brick panels and brick murals.
04 25 13	Metal-Supported Unit Masonry Panels	
<b>04 26 00</b>	<b>Single-Wythe Unit Masonry</b>	
04 26 13	Masonry Veneer	

NUMBER	TITLE	EXPLANATION
<b>04 27 00</b>	<b>Multiple-Wythe Unit Masonry</b>	Includes: masonry composed of various masonry units.  May Include: non-masonry components such as insulation and flashing.  See: 07 21 00 for thermal insulation. 07 60 00 for flashing and sheet metal.
04 27 13	Composite Unit Masonry	
04 27 23	Cavity Wall Unit Masonry	
<b>04 28 00</b>	<b>Concrete Form Masonry Units</b>	Includes: masonry units used as a permanent form for cast-in-place concrete.  May Include: non-masonry components such as insulation and flashing.  See: 07 21 00 for thermal insulation. 07 60 00 for flashing and sheet metal.
04 28 13	Dry-Stacked, Concrete-Filled Masonry Units	
04 28 23	Mortar-Set, Concrete-Filled Masonry Units	
<b>04 29 00</b>	<b>Engineered Unit Masonry</b>	Includes: unit masonry assemblies with engineered reinforcing members.  Alternate Terms/Abbreviations: reinforced unit masonry.

NUMBER	TITLE	EXPLANATION
<b>04 40 00</b>	<b>Stone Assemblies</b>	<p>Includes: natural and cut stone assembly construction.</p> <p>May Include: masonry mortaring, masonry grouting, masonry anchorage and reinforcing, and masonry accessories.</p> <p>See: 09 30 33 for stone tiling.            09 63 40 for stone flooring.            09 75 00 for interior wall stone facing.            10 21 13 for stone toilet compartments.            12 36 40 for stone countertops.            31 37 16 for stone riprap.            32 14 40 for stone paving.            32 15 40 for crushed stone surfacing.            32 16 13 for stone curbs.            35 31 29 for stone seawalls, revetments, jetties, and groins.            35 42 53 for stone wall waterway bank protection.            35 43 53 for stone wall waterway scour protection.</p> <p>See Also: 04 05 13 for masonry mortaring.            04 05 16 for masonry grouting.            04 05 19 for masonry anchorage and reinforcing.            04 05 23 for masonry accessories.</p> <p>Products: stone materials: bluestone, granite, limestone, marble, quartzite, sandstone, serpentine, travertine, and slate.            Collected natural stone: excavated stone, field stone, and riverbed stone. Quarried cut stone: cleft-face stone and dimension stone.</p>
<b>04 41 00</b>	<b>Dry-Placed Stone</b>	<p>Includes: stone laid without mortar.</p> <p>See: 35 31 29 for stone revetments, jetties, and groins.</p>
<b>04 42 00</b>	<b>Exterior Stone Cladding</b>	<p>Includes: fabricated stone panels mechanically attached to supporting backup or installed within a supporting system.</p> <p>See: 04 25 00 for unit masonry panels.            04 25 13 for metal-supported unit masonry panels.            07 44 00 for faced roof and wall panels.            09 75 00 for interior stone facing.</p>
04 42 13	Masonry-Supported Stone Cladding	
04 42 16	Steel-Stud-Supported Stone Cladding	
04 42 19	Strongback-Frame-Supported Stone Cladding	
04 42 23	Truss-Supported Stone Cladding	
04 42 26	Grid-System-Supported Stone Cladding	

DIVISION 04

NUMBER	TITLE	EXPLANATION
04 42 43	Stone Panels for Curtain Walls	
<b>04 43 00</b>	<b>Stone Masonry</b>	Includes: stone set with masonry mortar.  See: 09 75 00 for interior stone facing.
04 43 13	Stone Masonry Veneer	
04 43 13.13	Anchored Stone Masonry Veneer	
04 43 13.16	Adhered Stone Masonry Veneer	
04 43 16	Stone Fabrications	
<b>04 50 00</b>	<b>Refractory Masonry</b>	Includes: refractory masonry unit construction used in chimneys and combustion chambers.  May Include: masonry mortaring, masonry grouting, masonry anchorage and reinforcing, and masonry accessories.  See: 04 05 13 for refractory masonry mortaring. 10 31 00 for manufactured fireplaces. 10 32 00 for fireplace specialties. 23 51 00 for breechings, chimneys, and stacks. 40 47 00 for refractories.  See Also: 04 05 13 for masonry mortaring. 04 05 16 for masonry grouting. 04 05 19 for masonry anchorage and reinforcing. 04 05 23 for masonry accessories.
<b>04 51 00</b>	<b>Flue Liner Masonry</b>	
<b>04 52 00</b>	<b>Combustion Chamber Masonry</b>	
<b>04 53 00</b>	<b>Castable Refractory Masonry</b>	
<b>04 54 00</b>	<b>Refractory Brick Masonry</b>	
<b>04 57 00</b>	<b>Masonry Fireplaces</b>	
04 57 33	Modular Masonry Fireplaces	

NUMBER	TITLE	EXPLANATION
<b>04 60 00</b>	<b>Corrosion-Resistant Masonry</b>	<p>Includes: masonry construction resistant to corrosion from chemicals and other elements.</p> <p>May Include: masonry mortaring, masonry grouting, masonry anchorage and reinforcing, and masonry accessories.</p> <p>See: 04 05 13 for chemical-resistant masonry mortaring.  04 05 16 for chemical-resistant masonry grouting.  09 35 00 for chemical-resistant tiling.  09 63 13 for chemical-resistant brick flooring.  09 96 35 for chemical-resistant coatings.</p> <p>See Also: 04 05 13 for masonry mortaring.  04 05 16 for masonry grouting.  04 05 19 for masonry anchorage and reinforcing.  04 05 23 for masonry accessories.</p>
<b>04 61 00</b>	<b>Chemical-Resistant Brick Masonry</b>	
<b>04 62 00</b>	<b>Vitrified Clay Liner Plate</b>	
<b>04 70 00</b>	<b>Manufactured Masonry</b>	<p>Includes: hydraulically compressed veneer masonry units and artificial stone products. Various types of manufactured masonry.</p> <p>Alternate Terms/Abbreviations: manufactured masonry: simulated masonry. Manufactured stone: artificial stone: simulated stone.</p> <p>See: 03 49 00 for glass-fiber-reinforced concrete.  04 24 16 for manufactured adobe unit masonry.  06 61 13 for plastic simulated stone fabrications.  06 82 00 for glass-fiber-reinforced plastic fabrications.</p>
<b>04 71 00</b> 04 71 13	<b>Manufactured Brick Masonry</b> Calcium Silicate Manufactured Brick Masonry	
<b>04 72 00</b>	<b>Cast Stone Masonry</b>	
<b>04 73 00</b> 04 73 13	<b>Manufactured Stone Masonry</b> Calcium Silicate Manufactured Stone Masonry	

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NUMBER	TITLE	EXPLANATION
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# DIVISION 05 – METALS

## 05 00 00 Metals

May be used as Division level  
Section title.

### 05 01 00 Maintenance of Metals

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of metals.

Level 4 Numbering Recommendation: one Level 4 title for metals is provided as an example for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 02 25 23 for existing metals assessment.

05 01 10	Maintenance of Structural Metal Framing
05 01 20	Maintenance of Metal Joists
05 01 30	Maintenance of Metal Decking
05 01 40	Maintenance of Cold-Formed Metal Framing
05 01 50	Maintenance of Metal Fabrications
05 01 70	Maintenance of Decorative Metal
05 01 70.91	Historic Treatment of Decorative Metal

### 05 03 00 Conservation Treatment for Period Metals

05 03 12	Conservation Treatment for Period Structural Steel
05 03 12.13	Conservation Treatment for Period Architecturally Exposed Steel
05 03 12.23	Conservation Treatment for Period Structural Steel for Buildings
05 03 51	Conservation Treatment for Period Metal Stairs
05 03 58	Conservation Treatment for Period Column Covers
05 03 70	Conservation Treatment for Period Decorative Metal
05 03 71	Conservation Treatment for Period Decorative Metal Stairs
05 03 73	Conservation Treatment for Period Decorative Metal Railings
05 03 75	Conservation Treatment for Period Decorative Formed Metal
05 03 76	Conservation Treatment for Period Decorative Forged Metal

### 05 05 00 Common Work Results for Metals

Includes: subjects common to multiple titles in Division 05.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

05 05 05	Selective Demolition for Metals
	See: 02 41 19 for selective demolition for whole structure demolition.



DIVISION 05

NUMBER	TITLE	EXPLANATION
05 05 13	Shop-Applied Coatings for Metal	Includes: coatings applied in the shop or factory. Anodic coatings, fluoropolymer coatings, galvanic coatings, metallic coatings, paint coatings, porcelain enamel coatings, and powdered coatings. Metalizing.  See: 06 05 83 for shop-applied wood coatings. 09 90 00 for field-applied coatings. 41 34 13 for anodizing equipment. 41 34 23 for coating equipment. 41 34 36 for electroplating equipment.
05 05 19	Post-Installed Concrete Anchors	See: 03 15 19 for cast-in concrete anchors.
05 05 23	Metal Fastenings	Includes: methods for fastening metals together and for joining metals to other metals, including bolting, brazing, chemical bonding, riveting, soldering, mechanical fasteners, and welding.  See: 06 05 23 for wood, plastic, and composite fastenings. 41 36 19 for joining equipment.  Products: anchor rods, anchor bolts, carriage bolts.
05 05 53	Security Metal Fastenings	
<b>05 06 00</b>	<b>Schedules for Metals</b>	Includes: schedules of items common to multiple titles in Division 05.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
05 06 10	Schedules for Structural Metal Framing	
05 06 10.13	Steel Column Schedule	
05 06 10.16	Steel Beam Schedule	
05 06 20	Schedules for Metal Joists	
05 06 20.13	Steel Joist Schedule	
05 06 30	Schedules for Metal Decking	
05 06 40	Schedules for Cold-Formed Metal Framing	
05 06 50	Schedules for Metal Fabrications	
05 06 70	Schedules for Decorative Metal	
<b>05 08 00</b>	<b>Commissioning of Metals</b>	Includes: commissioning of items common to multiple titles in Division 05.  See: 01 91 00 for commissioning of subjects common to multiple divisions.

NUMBER	TITLE	EXPLANATION
<b>05 10 00</b>	<b>Structural Metal Framing</b>	<p>Includes: structural metal elements. Permanent bracing and bridge members. Metal columns, beams, girders, joists, purlins, studs, trusses, and other metal framing.</p> <p>Usually Includes: related fastenings and shop-applied coatings.</p> <p>See: 07 95 53 for joint slide bearings. 13 32 00 for space frames. 13 33 00 for geodesic structures.</p> <p>See Also: 05 05 13 for shop-applied coatings for metal. 05 05 23 for metal fastenings.</p>
<b>05 12 00</b>	<b>Structural Steel Framing</b>	<p>Includes: structural metal framing fabricated from structural steel.</p> <p>Alternate Terms/Abbreviations: BRB: buckling restrained braces.</p> <p>See: 05 16 33 for bridge cabling. 05 40 00 for cold-formed metal framing. 07 95 63 for bridge expansion joint cover assemblies. 09 21 00 for non-structural framing in plaster and gypsum board assemblies. 09 22 16 for non-structural framing. 09 22 26 for suspension systems. 09 53 00 for acoustical ceiling suspension assemblies. 13 34 00 for fabricated engineered structures. 32 34 00 for fabricated bridges. 34 81 00 for bridge machinery. 34 82 00 for bridge specialties.</p>
05 12 13	Architecturally-Exposed Structural Steel Framing	
05 12 16	Fabricated Fire Protected Steel Columns	
05 12 19	Buckling Restrained Braces	Alternate Terms/Abbreviations: BRB: buckling restrained braces.
05 12 23	Structural Steel for Buildings	
05 12 33	Structural Steel for Bridges	
<b>05 13 00</b>	<b>Structural Stainless-Steel Framing</b>	<p>Includes: structural metal framing fabricated from stainless steel.</p>

NUMBER	TITLE	EXPLANATION
<b>05 14 00</b>	<b>Structural Aluminum Framing</b>	Includes: structural metal framing fabricated from aluminum.
05 14 13	Architecturally-Exposed Structural Aluminum Framing	
<b>05 15 00</b>	<b>Wire Rope Assemblies</b>	Includes: non-structural assemblies composed of wire rope.  Alternate Terms/Abbreviations: wire rope: wire cable.  See: 05 16 00 for structural cabling. 05 73 16 for wire rope decorative metal railings. 34 14 00 for cable transportation.
05 15 13	Aluminum Wire Rope Assemblies	
05 15 16	Steel Wire Rope Assemblies	
05 15 19	Stainless-Steel Wire Rope Assemblies	
<b>05 16 00</b>	<b>Structural Cabling</b>	See: 05 12 33 for structural steel for bridges. 05 15 00 for non-structural wire rope assemblies. 08 88 23 for cable suspended glazing. 13 31 23 for tensioned fabric structures. 32 34 00 for fabricated bridges. 34 14 00 for cable transportation.
05 16 13	Cable Bow Truss Assemblies	
05 16 33	Bridge Cabling	
<b>05 17 00</b>	<b>Structural Rod Assemblies</b>	
<b>05 19 00</b>	<b>Tension Rod and Cable Truss Assemblies</b>	
05 19 13	Façade Support Truss Assemblies	
05 19 19	Canopy Support Truss Assemblies	
<b>05 20 00</b>	<b>Metal Joists</b>	Includes: metal joists, bridging, anchors, and accessories.  Usually Includes: related fastenings and shop-applied coatings.  Alternate Terms/Abbreviations: metal joists: bar joists.  See: 05 05 13 for shop-applied coatings for metal. 05 05 23 for metal fastenings.

NUMBER	TITLE	EXPLANATION
<b>05 21 00</b>	<b>Steel Joist Framing</b>	<p>Includes: metal joists fabricated from structural steel.</p> <p>Alternate Terms/Abbreviations: steel joists: steel bar joists.</p> <p>See: 05 25 00 for aluminum joist framing. 05 42 00 for cold-formed metal joist framing. 06 17 36 for metal-web wood joists.</p>
05 21 13	Deep Longspan Steel Joist Framing	
05 21 16	Longspan Steel Joist Framing	
05 21 19	Open Web Steel Joist Framing	
05 21 23	Steel Joist Girder Framing	
<b>05 25 00</b>	<b>Aluminum Joist Framing</b>	<p>Includes: metal joists fabricated from aluminum.</p> <p>Alternate Terms/Abbreviations: aluminum joists: aluminum bar joists.</p> <p>See: 05 21 00 for steel joist framing. 05 42 00 for cold-formed metal joist framing. 06 17 36 for metal-web wood joists.</p>
<b>05 30 00</b>	<b>Metal Decking</b>	<p>Includes: metal floor and roof deck of fluted, ribbed, and cellular configurations; composite decks; anchors, closures, and related accessories. Metal decking used as form for concrete or lightweight insulating concrete fill.</p> <p>Usually Includes: related fastenings and shop-applied coatings.</p> <p>See: 07 40 00 for roofing and siding panels.</p> <p>See Also: 03 11 00 for concrete forming. 03 52 00 for metal deck used to support lightweight concrete roof insulation. 05 05 13 for shop-applied coatings for metal. 05 05 23 for metal fastenings.</p>
<b>05 31 00</b>	<b>Steel Decking</b>	<p>Includes: metal deck fabricated from steel.</p> <p>May Include: steel decking used as form for concrete or lightweight insulating concrete fill.</p> <p>See Also: 03 52 00 for corrugated permanent metal forms used to support lightweight concrete roof insulation.</p>

DIVISION 05

NUMBER	TITLE	EXPLANATION
05 31 13	Steel Floor Decking	
05 31 23	Steel Roof Decking	
05 31 33	Steel Form Decking	
<b>05 33 00</b>	<b>Aluminum Decking</b>	Includes: metal deck fabricated from aluminum.  May Include: aluminum decking used as form for concrete or lightweight insulating concrete fill.  See: 03 52 00 for corrugated permanent metal forms used to support lightweight concrete roof insulation.
05 33 13	Aluminum Floor Decking	
05 33 23	Aluminum Roof Decking	
<b>05 34 00</b>	<b>Acoustical Metal Decking</b>	Includes: metal deck fabricated to include acoustical insulation.  See: 09 51 00 for acoustical ceilings.
<b>05 35 00</b>	<b>Raceway Decking Assemblies</b>	Includes: metal deck fabricated to provide raceway for power and communications wiring.  Alternate Terms/Abbreviations: raceway decking: electrified floors: cellular decking.  See: 26 05 19 for undercarpet electrical power cables. 26 05 39 for underfloor raceways for electrical systems.
<b>05 36 00</b>	<b>Composite Metal Decking</b>	Includes: decks fabricated from a composite of materials.  See: 03 52 00 for corrugated permanent metal forms used to support lightweight concrete roof insulation.
05 36 13	Composite Steel Plate and Elastomer Decking	

NUMBER	TITLE	EXPLANATION
<b>05 40 00</b>	<b>Cold-Formed Metal Framing</b>	<p>Includes: bracing, fasteners, and related accessories for light-gage, load-bearing metal elements.</p> <p>Usually Includes: shop-applied coatings.</p> <p>May Include: framing for plaster and gypsum board systems.</p> <p>See: 05 10 00 for structural metal framing. 09 22 26 for suspension systems. 09 53 00 for acoustical ceiling suspension assemblies.</p> <p>See Also: 05 05 13 for shop-applied coatings for metal. 05 05 23 for metal fastenings. 09 21 00 for non-structural framing in plaster and gypsum board assemblies. 09 22 16 for non-structural metal framing.</p>
<b>05 41 00</b>	<b>Structural Metal Stud Framing</b>	<p>Includes: cold-formed metal framing intended for structural applications.</p> <p>Alternate Terms/Abbreviations: structural: loadbearing.</p> <p>See: 09 21 00 for non-structural metal framing in plaster and gypsum board assemblies. 09 22 16 for non-structural metal framing.</p>
<b>05 42 00</b>	<b>Cold-Formed Metal Joist Framing</b>	<p>Includes: cold-formed metal framing intended for floor, roof, and ceiling joist applications.</p> <p>See: 05 20 00 for metal joists. 05 44 00 for cold-formed metal trusses.</p>
05 42 13	Cold-Formed Metal Floor Joist Framing	
05 42 23	Cold-Formed Metal Roof Joist Framing	
<b>05 43 00</b>	<b>Slotted Channel Framing</b>	<p>Includes: cold-formed metal framing fabricated as slotted channel framing.</p>
<b>05 44 00</b>	<b>Cold-Formed Metal Trusses</b>	<p>Includes: cold-formed metal framing fabricated as trusses.</p> <p>See: 05 42 00 for cold-formed metal joist framing.</p>
05 44 13	Cold-Formed Metal Roof Trusses	

NUMBER	TITLE	EXPLANATION
<b>05 45 00</b>	<b>Metal Support Assemblies</b>	<p>Includes: cold-formed metal support framing for electrical, communications, mechanical, healthcare, and other items.</p> <p>See: 21 05 29 for hangers and supports for fire-suppression piping and equipment.  22 05 29 for hangers and supports for plumbing piping and equipment.  23 05 29 for hangers and supports for HVAC piping and equipment.  25 05 28 for hangers and supports for integrated automation.  26 05 29 for hangers and supports for electrical systems.  27 05 28 for hangers and supports for communications systems.  27 05 28 for pathways for communications systems.</p>
05 45 13	Mechanical Metal Supports	
05 45 16	Electrical Metal Supports	
05 45 19	Communications Metal Supports	
05 45 23	Healthcare Metal Supports	

## **05 50 00 Metal Fabrications**

Includes: metal items fabricated from standard metal shapes and plates that are not classified in other locations.

Usually Includes: related fastenings and shop-applied coatings.

See: 05 70 00 for decorative metals.  
07 60 00 for flashing and sheet metal.  
10 26 13 for manufactured corner guards.  
11 98 12 for detention doors and frames.  
12 48 13 for entrance floor mats frames.  
32 31 00 for fences and gates.

See Also: 05 05 13 for shop-applied coatings for metal.  
05 05 23 for metal fastenings.

NUMBER	TITLE	EXPLANATION
<b>05 51 00</b>	<b>Metal Stairs</b>	Includes: fabricated stairs, catwalks, ladders, and fire escapes of various types of a utilitarian nature.  Alternate Terms/Abbreviations: inclined ladders: ships ladders.  See: 03 11 23 for permanent stair forming. 03 41 23 for precast concrete stairs. 05 53 00 for metal gratings. 05 54 00 for metal floor plates. 05 55 00 for metal stair treads and nosings. 05 71 00 for decorative metal stairs. 05 71 13 for prefabricated spiral stairs. 06 43 00 for wood stairs and railings. 13 44 00 for modular mezzanines. 14 91 23 for escape chutes.
05 51 13	Metal Pan Stairs	
05 51 16	Metal Floor Plate Stairs	
05 51 17	Alternating Tread Stairs	
05 51 19	Metal Grating Stairs	
05 51 23	Metal Fire Escapes	
05 51 33	Metal Ladders	
05 51 33.13	Vertical Metal Ladders	
05 51 33.16	Inclined Metal Ladders	
05 51 33.23	Alternating Tread Ladders	
05 51 36	Metal Walkways	Includes: walkways and ramps.
05 51 36.13	Metal Catwalks	
05 51 36.16	Metal Ramps	
05 51 36.19	Metal Platforms	Includes: walkways, ramps, and fixed platforms.
<b>05 52 00</b>	<b>Metal Railings</b>	Includes: metal handrails and railings of various types of a utilitarian nature.  Alternate Terms/Abbreviations: railings: balustrades.  See: 05 73 00 for decorative metal railings. 10 26 16 for protective corridor handrails.
05 52 13	Pipe and Tube Railings	



NUMBER	TITLE	EXPLANATION
<b>05 53 00</b>	<b>Metal Gratings</b>	Includes: metal floor and traffic gratings.  See: 05 51 19 for metal grating stairs. 12 48 19 for entrance floor gratings. 32 94 43 for tree grates. 33 44 00 for storm utility water drains.
05 53 13	Bar Gratings	
05 53 16	Plank Gratings	
05 53 19	Expanded Metal Gratings	Includes: expanded metal gratings, metal frames, fasteners, and supports.
<b>05 54 00</b>	<b>Metal Floor Plates</b>	Includes: metal floor plates and plates in paving.  See: 05 51 16 for metal floor plate stairs.
<b>05 55 00</b>	<b>Metal Stair Treads and Nosings</b>	Includes: metal stair treads and nosings.  See: 03 30 00 for CIP concrete stairs. 03 41 23 for precast concrete stairs. 05 51 00 for metal stairs.
05 55 13	Metal Stair Treads	
05 55 16	Metal Stair Nosings	
<b>05 56 00</b>	<b>Metal Castings</b>	Includes: metal castings of a utilitarian nature not associated with site utilities.  See: 05 74 00 for decorative metal castings. 32 94 43 for tree grates. 33 40 00 for storm drainage utilities.
<b>05 58 00</b>	<b>Formed Metal Fabrications</b>	Includes: custom formed metal items for special purposes other than roofing and flashing applications. Custom enclosures for columns and heating and cooling units and piping.  See: 05 75 00 for decorative formed metal. 07 60 00 for flashing and sheet metal. 12 36 16 for metal countertops. 23 82 00 for standard enclosures for convection heating and cooling units.

NUMBER	TITLE	EXPLANATION
05 58 13	Column Covers	
05 58 16	Formed Metal Enclosures	
05 58 19	Heating/Cooling Unit Covers	
05 58 23	Formed Metal Guards	

## 05 59 00 Metal Specialties

Includes: specialties fabricated of standard metal shapes for specific purposes.

Alternate Terms/Abbreviations: detention enclosures: jail cells: penitentiary cells: prison cells.

See: 10 00 00 for specialties.  
 11 98 12 for detention doors and frames.  
 11 98 14 for detention door hardware.  
 11 98 21 for detention windows.  
 13 42 63 for detention cell modules.  
 28 52 00 for detention security systems.  
 28 52 11 for detention security system requirements.  
 32 34 00 for fabricated bridges.

05 59 13	Metal Balconies	
05 59 63	Detention Enclosures	

## 05 70 00 Decorative Metal

Includes: metal items and metal work of a decorative nature. Wrought iron, muntz metal. Anchors and related accessories.

Usually Includes: related fastenings and shop-applied coatings.

Alternate Terms/Abbreviations: decorative metal: ornamental metal. Muntz metal: yellow metal.

See: 05 50 00 for metal fabrications of a utilitarian nature.  
 12 14 00 for sculptures.  
 32 31 19 for decorative metal fences and gates.

See Also: 05 05 13 for shop-applied coatings for metal.  
 05 05 23 for metal fastenings.

## 05 71 00 Decorative Metal Stairs

Includes: fabricated stairs of various types of a decorative nature.

See: 03 11 23 for permanent stair forming.  
 03 41 23 for precast concrete stairs.  
 05 51 00 for metal stairs of a utilitarian nature.  
 06 43 00 for wood stairs and railings.

DIVISION 05

NUMBER	TITLE	EXPLANATION
05 71 13	Fabricated Metal Spiral Stairs	
<b>05 73 00</b>	<b>Decorative Metal Railings</b>	Includes: metal handrails and railings of various types of a decorative nature.  See: 05 15 00 for wire rope assemblies. 05 52 00 for metal railings of a utilitarian nature. 10 26 16 for protective corridor handrails.
05 73 13	Glazed Decorative Metal Railings	
05 73 16	Wire Rope Decorative Metal Railings	
<b>05 74 00</b>	<b>Decorative Metal Castings</b>	Includes: metal castings of a decorative nature not associated with site utilities.  See: 05 56 00 for metal castings of a utilitarian nature. 32 94 43 for tree grates. 33 40 00 for storm drainage utilities.
<b>05 75 00</b>	<b>Decorative Formed Metal</b>	Includes: custom formed metal items of a decorative nature for special purposes other than roofing and flashing applications.  See: 05 58 00 for formed metal fabrications. 07 60 00 for flashing and sheet metal. 12 36 16 for metal countertops.
<b>05 76 00</b>	<b>Decorative Forged Metal</b>	Includes: forged metal items of a decorative nature for any purpose.
<b>05 77 00</b>	<b>Decorative Extruded Metal</b>	

NUMBER	TITLE	EXPLANATION
<b>DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES</b>		
<b>06 00 00</b>	<b>Wood, Plastics, and Composites</b>	May be used as Division level Section title.

<b>06 01 00</b>	<b>Maintenance of Wood, Plastics, and Composites</b>	Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of wood, plastics, and composites.
		Level 4 Numbering Recommendation: Level 4 titles for wood, plastics, and composites are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.
		See: 02 25 26 for existing wood, plastics, and composites assessment.
06 01 10	Maintenance of Rough Carpentry	
06 01 10.71	Rough Carpentry Rehabilitation	
06 01 10.91	Rough Carpentry Restoration	
06 01 10.92	Rough Carpentry Preservation	
06 01 20	Maintenance of Finish Carpentry	
06 01 20.71	Finish Carpentry Rehabilitation	
06 01 20.91	Finish Carpentry Restoration	
06 01 20.92	Finish Carpentry Preservation	
06 01 40	Maintenance of Architectural Woodwork	
06 01 40.51	Architectural Woodwork Cleaning	
06 01 40.61	Architectural Woodwork Refinishing	
06 01 40.91	Architectural Woodwork Restoration	
06 01 50	Maintenance of Structural Plastics	
06 01 60	Maintenance of Plastic Fabrications	
06 01 60.51	Plastic Cleaning	
06 01 60.71	Plastic Rehabilitation	
06 01 60.91	Plastic Restoration	
06 01 60.92	Plastic Preservation	
06 01 70	Maintenance of Structural Composites	
06 01 80	Maintenance of Composite Assemblies	
06 01 80.51	Composite Cleaning	
06 01 80.71	Composite Rehabilitation	
06 01 80.91	Composite Restoration	
06 01 80.92	Composite Preservation	

DIVISION 06

NUMBER	TITLE	EXPLANATION
<b>06 03 00</b>	<b>Conservation Treatment for Period Wood</b>	
06 03 01	Maintenance for Period Wood	
06 03 01.31	Period Wood Storage and Protection	
06 03 05	Common Work Results for Period Wood	
06 03 05.73	Long-term Period Wood Treatment	
06 03 05.74	Eradication of Insects in Period Wood	
06 03 05.75	Antiseptic Treatment of Period Wood	
06 03 13	Conservation Treatment of Period Log Construction	
06 03 13.23	Conservation Treatment for Period Heavy Timber	
06 03 20	Conservation Treatment for Period Finish Carpentry	
06 03 20.13	Period Exterior Finish Carpentry	
06 03 20.23	Period Interior Finish Carpentry	
06 03 40	Conservation Treatment for Period Architectural Woodwork	
06 03 40.13	Period Exterior Architectural Woodwork	
06 03 40.23	Period Interior Architectural Woodwork	
<b>06 05 00</b>	<b>Common Work Results for Wood, Plastics, and Composites</b>	
		Includes: subjects common to multiple titles in Division 06.
		See: 01 80 00 for performance requirements of subjects common to multiple titles.
06 05 05	Selective Demolition for Wood, Plastics, and Composites	See: 02 41 19 for selective demolition for whole structure demolition.
06 05 23	Wood, Plastic, and Composite Fastenings	Includes: methods for fastening wood, plastic, and composites together, including nailing, screwing, bolting, metal connectors, and adhesives.
		See: 05 05 23 for metal fastenings.
06 05 73	Wood Treatment	Includes: fire-retardant and preservative wood treatments.
		Alternate Terms/Abbreviations: wood treatment: pressure treatment.
		See: 09 96 43 for fire-retardant coatings.
06 05 73.13	Fire-Retardant Wood Treatment	
06 05 73.33	Preservative Wood Treatment	
06 05 73.91	Long-Term Wood Treatment	
06 05 73.93	Eradication of Insects in Wood	
06 05 73.96	Antiseptic Treatment of Wood	

NUMBER	TITLE	EXPLANATION
06 05 83	Shop-Applied Wood Coatings	Includes: coatings applied in the shop or factory.  See: 05 05 13 for shop-applied coatings for metal. 09 90 00 for field-applied coatings.
<b>06 06 00</b>	<b>Schedules for Wood, Plastics, and Composites</b>	Includes: schedules of items common to multiple titles in Division 06.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
06 06 10	Schedules for Rough Carpentry	
06 06 10.13	Nailing Schedule	
06 06 10.16	Wood Beam Schedule	
06 06 10.19	Plywood Shear Wall Schedule	
06 06 10.23	Plywood Web Joist Schedule	
06 06 10.26	Wood Truss Schedule	
06 06 20	Schedules for Finish Carpentry	
06 06 40	Schedules for Architectural Woodwork	
06 06 50	Schedules for Structural Plastics	
06 06 60	Schedules for Plastic Fabrications	
06 06 70	Schedules for Structural Composites	
06 06 80	Schedules for Composite Assemblies	
<b>06 08 00</b>	<b>Commissioning of Wood, Plastics, and Composites</b>	Includes: commissioning of items common to multiple titles in Division 06.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>06 10 00</b>	<b>Rough Carpentry</b>	Includes: wood foundations, framing, sheathing, and decking using lumber, timber, and engineered wood products. Blocking and supports to join the members and anchor the framework to other construction. Erection of the units and incorporation of connectors and supports to join the units and anchor the units to other construction.  Usually Includes: related fasteners, adhesives, and wood treatment.  See: 06 05 23 for wood, plastic, and composite fastenings. 06 05 73 for wood treatment.
06 10 53	Miscellaneous Rough Carpentry	Includes: may be used for projects with a small amount of rough carpentry.

DIVISION 06

NUMBER	TITLE	EXPLANATION
06 10 63	Exterior Rough Carpentry	
<b>06 11 00</b>	<b>Wood Framing</b>	Includes: mechanically-graded lumber for framing and those engineered lumber products that are available at lumber yards and that are intended to be cut to length in the field. Wood columns, beams, girders, joists, purlins, rafters, studs, bracing, and other wood framing.  See: 06 17 00 for shop-fabricated structural wood. 13 32 00 for space frames. 13 33 00 for geodesic structures.
06 11 13	Engineered Wood Products	
06 11 16	Mechanically Graded Lumber	
<b>06 12 00</b>	<b>Structural Panels</b>	Includes: reinforced and unreinforced wood-based structural panels. Structural insulated panels.  See: 06 16 00 for sheathing. 07 44 53 for glass-fiber-reinforced cementitious panels. 07 44 56 for mineral-fiber-reinforced cementitious panels.
06 12 13	Cementitious Reinforced Panels	
06 12 16	Stressed Skin Panels	
<b>06 13 00</b>	<b>Heavy Timber Construction</b>	Includes: framing using timber with a minimum dimension of five inches.  Alternate Terms/Abbreviations: heavy timber: mill-framed structures.  See: 06 15 19 for timber decking. 06 17 00 for shop-fabricated structural wood. 06 18 00 for glue-laminated construction. 31 62 19 for timber piles. 32 32 29 for timber retaining walls. 32 34 00 for fabricated bridges. 32 94 16 for landscape timbers. 34 11 33 for track cross ties. 35 51 13 for floating wood piers.
06 13 13	Log Construction	
06 13 13.91	Period Horizontal Log Work	
06 13 16	Pole Construction	
06 13 23	Heavy Timber Framing	
06 13 26	Heavy Timber Trusses	

NUMBER	TITLE	EXPLANATION
06 13 33	Heavy Timber Pier Construction	
<b>06 14 00</b>	<b>Treated Wood Foundations</b>	Includes: treated wood support structures installed as foundations.  See: 31 62 19 for timber piles.
<b>06 15 00</b>	<b>Wood Decking</b>	Includes: flooring and decking using lumber and timber.  See: 06 13 00 for heavy timber. 06 18 00 for glue-laminated construction. 06 53 00 for plastic decking. 06 73 00 for composite decking. 09 64 00 for wood flooring.
06 15 13	Wood Floor Decking	
06 15 13.91	Carvel Planking	
06 15 16	Wood Roof Decking	
06 15 19	Timber Decking	
06 15 23	Laminated Wood Decking	
06 15 33	Wood Patio Decking	
<b>06 16 00</b>	<b>Sheathing</b>	Includes: sheathing, subflooring, and underlayment.  Alternate Terms/Abbreviations: OSB: oriented strand board; chipboard: flake board. Plywood: sturd-i-floor. Structural-use panels: structural wood panel.  See: 03 54 00 for cast underlayment. 06 12 00 for structural panels. 07 25 00 for weather barriers. 09 60 00 for flooring. 09 62 48 for acoustic flooring.  See Also: 09 29 00 for gypsum sheathing.  Products: boards, structural-use panels, oriented strand board, particleboard, hardboard, fiberboard, and other wood-based construction panels.
06 16 13	Insulating Sheathing	
06 16 23	Subflooring	
06 16 26	Underlayment	
06 16 33	Wood Board Sheathing	
06 16 36	Wood Panel Product Sheathing	
06 16 43	Gypsum Sheathing	



DIVISION 06

NUMBER	TITLE	EXPLANATION
06 16 53	Moisture-Resistant Sheathing Board	
06 16 63	Cementitious Sheathing	

**06 17 00 Shop-Fabricated Structural Wood**

Includes: columns, beams, joists, trusses, and other structural units fabricated from wood or wood in combination with metal elements.

Alternate Terms/Abbreviations: LVL: laminated veneer lumber.  
PSL: parallel strand lumber.

See: 05 20 00 for metal joists.  
06 18 00 for glued-laminated construction.  
13 32 00 for space frames.  
13 33 00 for geodesic structures.

06 17 13	Laminated Veneer Lumber	
06 17 19	Cross-Laminated Timber	
06 17 23	Parallel Strand Lumber	
06 17 33	Wood I-Joists	
06 17 36	Metal-Web Wood Joists	
06 17 43	Rim Boards	
06 17 53	Shop-Fabricated Wood Trusses	

**06 18 00 Glued-Laminated Construction**

Includes: columns, beams, decking, and other structural units fabricated glue-laminated construction.

Alternate Terms/Abbreviations: GLULAM: glued-laminated construction.

See: 06 15 23 for laminated wood decking.  
06 17 13 for laminated veneer lumber.  
06 17 23 for parallel strand lumber.

06 18 13	Glued-Laminated Beams	
06 18 16	Glued-Laminated Columns	

NUMBER	TITLE	EXPLANATION
<b>06 20 00</b>	<b>Finish Carpentry</b>	<p>Includes: finish wood construction that can be purchased ready-made and installed by a finish carpenter, not requiring the specialized skills of architectural woodwork fabrication.</p> <p>Usually Includes: related fasteners, adhesives, and wood treatment.</p> <p>See: 06 40 00 for architectural woodwork. 07 40 00 for wood roofing and siding panels. 10 57 23 for manufactured wood closet and utility shelving. 12 36 19 for wood countertops.</p> <p>See Also: 06 05 23 for wood, plastic, and composite fastenings. 06 05 73 for wood treatment. 06 05 83 for shop-applied wood coatings.</p>
06 20 13	Exterior Finish Carpentry	
06 20 23	Interior Finish Carpentry	
<b>06 22 00</b>	<b>Millwork</b>	<p>Includes: standard pattern wood trim and moldings.</p> <p>See: 06 44 00 for ornamental woodwork. 06 46 00 for shop-fabricated wood trim. 06 48 00 for wood frames.</p>
06 22 13	Standard Pattern Wood Trim	
<b>06 25 00</b>	<b>Prefinished Paneling</b>	<p>Includes: prefinished standard hardboard paneling and other ready-made wood product paneling.</p> <p>See: 06 26 00 for board paneling. 06 42 00 for shop-fabricated wood paneling. 09 74 00 for flexible wood sheets.</p> <p>See Also: 09 78 00 for interior wall paneling. 09 78 13 for metal interior wall paneling.</p>
06 25 13	Prefinished Hardboard Paneling	
06 25 16	Prefinished Plywood Paneling	

NUMBER	TITLE	EXPLANATION
<b>06 26 00</b>	<b>Board Paneling</b>	<p>Includes: standard profile board paneling.</p> <p>See: 06 25 00 for prefinished paneling. 06 42 00 for shop-fabricated wood paneling. 09 74 00 for flexible wood sheets.</p> <p>See Also: 09 78 00 for interior wall paneling. 09 78 13 for metal interior wall paneling.</p>
06 26 13	Profile Board Paneling	
<b>06 40 00</b>	<b>Architectural Woodwork</b>	<p>Includes: shop-fabricated wood, laminate-clad, and simulated wood fabrications. Veneers and flitches.</p> <p>Usually Includes: related fasteners, adhesives, wood treatment, and shop-applied finishes.</p> <p>See: 09 54 26 for suspended wood ceilings. 09 64 00 for wood flooring. 09 90 00 for field-applied coatings. 09 96 43 for fire-retardant coatings. 10 21 00 for laminate-clad compartments and cubicles. 10 51 00 for wood and laminate-clad lockers. 10 82 00 for manufactured wood grilles and screens.</p> <p>See Also: 06 05 23 for wood, plastic, and composite fastenings. 06 05 73 for wood treatment. 06 05 83 for shop-applied wood coatings.</p>
06 40 13	Exterior Architectural Woodwork	
06 40 23	Interior Architectural Woodwork	
<b>06 41 00</b>	<b>Architectural Wood Casework</b>	<p>Includes: shop-fabricated cabinets, cases, and fixtures. Cabinet hardware.</p> <p>May Include: countertops and sinks integral with countertops.</p> <p>Alternate Terms/Abbreviations: PLAM: plastic laminate.</p> <p>See: 06 61 13 for cultured marble fabrications. 06 61 16 for solid surfacing fabrications. 12 30 00 for manufactured casework.</p> <p>See Also: 12 36 00 for countertops.</p>

NUMBER	TITLE	EXPLANATION
06 41 13	Wood-Veneer-Faced Architectural Cabinets	
06 41 16	Plastic-Laminate-Clad Architectural Cabinets	
06 41 93	Cabinet and Drawer Hardware	
<b>06 42 00</b>	<b>Wood Paneling</b>	Includes: shop-fabricated wall paneling fabricated with solid lumber, wood-veneer panel products, flush wood paneling, and plastic laminate. Veneers and flitches.  See: 06 25 00 for prefinished paneling. 06 26 00 for standard profile board paneling. 09 74 00 for flexible wood sheets.
06 42 13	Wood Board Paneling	
06 42 14	Stile and Rail Wood Paneling	
06 42 16	Flush Wood Paneling	
06 42 19	Plastic-Laminate-Faced Wood Paneling	
<b>06 43 00</b>	<b>Wood Stairs and Railings</b>	Includes: stairs, stringers, treads, nosings, risers, handrails, railings, and related items.  See: 03 41 23 for precast concrete stairs. 05 51 00 for metal stairs. 05 71 00 for decorative metal stairs. 10 26 16 for protective corridor handrails.
06 43 13	Wood Stairs	
06 43 16	Wood Railings	
<b>06 44 00</b>	<b>Ornamental Woodwork</b>	Includes: shop-fabricated ornamental woodwork items of unique design fabricated for specific application.  See: 10 74 23 for manufactured cupolas.
06 44 13	Wood Turnings	
06 44 16	Wood Pilasters	
06 44 19	Wood Grilles	
06 44 23	Wood Corbels	
06 44 26	Wood Cupolas	
06 44 29	Wood Finials	
06 44 33	Wood Mantels	
06 44 36	Wood Pediment Heads	
06 44 39	Wood Posts and Columns	

NUMBER	TITLE	EXPLANATION
<b>06 46 00</b>	<b>Wood Trim</b>	Includes: shop-fabricated standing and running trim.  See: 06 22 13 for standard pattern wood trim. 10 26 16 for protective corridor handrails.
06 46 13	Wood Door and Window Casings	
06 46 16	Wood Aprons	
06 46 19	Wood Base and Shoe Moldings	
06 46 23	Wood Chair Rails	
06 46 26	Wood Cornices	
06 46 29	Wood Fasciae and Soffits	
06 46 33	Wood Stops, Stools, and Sills	
06 46 91	Splicing of Wooden Components	
<b>06 48 00</b>	<b>Wood Frames</b>	Includes: interior and exterior wood frames for doors, sidelights, transoms, and borrowed lights. Wood veneer frames and stick-built windows.  See: 08 14 00 for wood doors. 08 52 00 for manufactured wood windows.
06 48 13	Exterior Wood Door Frames	
06 48 16	Interior Wood Door Frames	
06 48 19	Ornamental Wood Frames	
06 48 23	Stick-Built Wood Windows	
06 48 26	Wood-Veneer Frames	
<b>06 49 00</b>	<b>Wood Screens and Shutters</b>	Includes: shop-fabricated wood framed screens, blinds, and shutters.  See: 08 91 00 for wood louvers. 10 82 00 for manufactured wood grilles and screens. 32 35 13 for self-supporting exterior screens and louvers.
06 49 13	Wood Screens	
06 49 16	Wood Blinds	See: 12 21 13 for horizontal louver blinds.
06 49 19	Wood Shutters	See: 12 23 00 for interior shutters.

NUMBER	TITLE	EXPLANATION
<b>06 50 00</b>	<b>Structural Plastics</b>	<p>Includes: plastic lumber and other structural plastics.</p> <p>Usually Includes: related fasteners and adhesives.</p> <p>See: 06 40 00 for plastic laminate.  06 60 00 for plastic fabrications.  06 70 00 for structural composites.  06 80 00 for composite fabrications.</p> <p>See Also: 06 05 23 for wood, plastic, and composite fastenings.</p>
<b>06 51 00</b>	<b>Structural Plastic Shapes and Plates</b>	<p>Includes: plastics in form of framing members intended for structural purposes.</p>
06 51 13	Plastic Lumber	
<b>06 52 00</b>	<b>Plastic Structural Assemblies</b>	<p>Includes: plastics other than framing members intended for structural purposes.</p> <p>See: 07 40 00 for plastic roofing and siding panels.</p>
<b>06 53 00</b>	<b>Plastic Decking</b>	<p>Includes: flooring and decking fabricated of plastic.</p> <p>See: 06 15 00 for wood decking.  06 73 00 for composite decking.</p>
06 53 13	Solid Plastic Decking	

NUMBER	TITLE	EXPLANATION
<b>06 60 00</b>	<b>Plastic Fabrications</b>	Includes: non-structural plastic fabrications formed to various profiles for a variety of purposes.  See: 04 73 00 for manufactured stone masonry. 06 50 00 for structural plastics. 06 80 00 for composite fabrications. 07 31 53 for plastic shakes. 07 40 00 for plastic roofing and siding panels. 08 15 00 for plastic doors. 08 53 00 for plastic windows. 08 84 00 for plastic glazing. 09 30 26 for plastic tiling. 09 76 00 for plastic blocks. 10 21 00 for plastic compartments and cubicles. 10 51 26 for plastic lockers. 12 34 00 for manufactured plastic casework. 12 36 23 for plastic countertops. 12 36 61 for simulated stone countertops.
<b>06 61 00</b>	<b>Cast Polymer Fabrications</b>	
06 61 13	Simulated Stone Fabrications	Includes: cultured marble fabrications, quartz surfacing fabrications, simulated granite.
06 61 16	Solid Surfacing Fabrications	
<b>06 62 00</b>	<b>Plastic Foam Fabrications</b>	
<b>06 63 00</b>	<b>Plastic Railings</b>	
<b>06 64 00</b>	<b>Plastic Paneling</b>	
06 64 13	Plastic Lattice Paneling	
<b>06 65 00</b>	<b>Plastic Trim</b>	
<b>06 66 00</b>	<b>Custom Ornamental Simulated Woodwork</b>	

NUMBER	TITLE	EXPLANATION
<b>06 70 00</b>	<b>Structural Composites</b>	<p>Includes: materials composed of various plastics with wood, glass, or carbon fibers formed into a composite material. Composite lumber and other structural composites.</p> <p>Usually Includes: related fasteners and adhesives.</p> <p>See: 06 40 00 for plastic laminate. 06 50 00 for structural plastics. 06 60 00 for plastic fabrications. 06 80 00 for composite fabrications.</p> <p>See Also: 06 05 23 for wood, plastic, and composite fastenings.</p>
<b>06 71 00</b>	<b>Structural Composite Shapes and Plates</b>	<p>Includes: composites in form of framing members for structural purposes. Fiberglass structural shapes.</p> <p>Products: fiberglass structural shapes.</p>
06 71 13	Composite Lumber	
<b>06 72 00</b>	<b>Composite Structural Assemblies</b>	<p>Includes: composites other than framing members intended for structural purposes.</p> <p>See: 07 40 00 for composite roofing and siding panels.</p>
06 72 13	Composite Joist Assemblies	
06 72 23	Composite Stair Assemblies	
<b>06 73 00</b>	<b>Composite Decking</b>	<p>Includes: decking fabricated of composites.</p> <p>See: 06 15 00 for wood decking. 06 53 00 for plastic decking.</p>
06 73 13	Composite Structural Decking	06 73 00 Composite Decking
<b>06 74 00</b>	<b>Composite Gratings</b>	
06 74 13	Fiberglass Reinforced Gratings	



NUMBER	TITLE	EXPLANATION
<b>06 80 00</b>	<b>Composite Fabrications</b>	Includes: materials composed of various plastics with wood, glass, or carbon fibers formed into a composite material. Non-structural composite fabrications formed to various profiles for a variety of purposes.  See: 03 49 00 for glass-fiber-reinforced concrete. 06 40 00 for plastic laminate. 06 50 00 for structural plastics. 06 60 00 for plastic fabrications. 06 70 00 for structural composites. 07 31 33 for composite rubber shingles. 07 40 00 for composite roofing and siding panels. 07 44 53 for glass-fiber-reinforced wall cementitious panels. 08 16 00 for composite doors. 08 54 00 for composite windows. 09 27 13 for glass-fiber-reinforced plaster fabrications.
<b>06 81 00</b>	<b>Composite Railings</b>	
06 81 13	Glass-Fiber-Reinforced Plastic Railings	
<b>06 82 00</b>	<b>Composite Trim</b>	
<b>06 83 00</b>	<b>Composite Paneling</b>	
06 83 13	Resin Composite Paneling	
06 83 16	Fiberglass Reinforced Paneling	

NUMBER	TITLE	EXPLANATION
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# DIVISION 07 – THERMAL AND MOISTURE PROTECTION

**07 00 00 Thermal and Moisture Protection** May be used as Division level Section title.

**07 01 00 Operation and Maintenance of Thermal and Moisture Protection**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of thermal and moisture protection.

Level 4 Numbering Recommendation: Level 4 titles for wood, plastics, and composites are provided as examples for user's creation of more detailed titles for other subjects as required.

Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 02 25 29 for existing thermal and moisture protection assessment.

07 01 10	Maintenance of Dampproofing and Waterproofing
07 01 10.81	Waterproofing Replacement
07 01 20	Maintenance of Thermal Protection
07 01 30	Maintenance of Steep Slope Roofing
07 01 40	Maintenance of Roofing and Siding Panels
07 01 50	Maintenance of Membrane Roofing
07 01 50.13	Roof Moisture Survey
07 01 50.16	Roof Maintenance Program
07 01 50.19	Preparation for Re-Roofing
07 01 50.23	Roof Removal
07 01 50.61	Roof Re-Coating
07 01 50.81	Roof Replacement
07 01 50.91	Roofing Restoration
07 01 60	Maintenance of Flashing and Sheet Metal
07 01 60.71	Flashing and Sheet Metal Rehabilitation
07 01 60.91	Flashing and Sheet Metal Restoration
07 01 60.92	Flashing and Sheet Metal Preservation
07 01 70	Operation and Maintenance of Roof Specialties and Accessories
07 01 80	Maintenance of Fire and Smoke Protection
07 01 90	Maintenance of Joint Protection
07 01 90.71	Joint Sealant Rehabilitation
07 01 90.81	Joint Sealant Replacement

NUMBER	TITLE	EXPLANATION
<b>07 03 00</b>	<b>Conservation Treatment for Period Roofing</b>	
07 03 30	Conservation Treatment for Period Steep Slope Roofing	
07 03 30.13	Conservation Treatment for Period Canvas Roofing	
07 03 30.16	Conservation Treatment for Period Board Roofing	
07 03 31	Conservation Treatment for Period Shingles and Shakes	
07 03 31.16	Conservation Treatment for Period Metal Shingles	
07 03 31.26	Conservation Treatment for Period Slate Shingles	
07 03 31.29	Conservation Treatment for Period Wood Shingles and Shakes	
07 03 32	Conservation Treatment for Period Roof Tiles	
07 03 32.13	Conservation Treatment for Period Clay Roof Tiles	
07 03 32.16	Conservation Treatment for Period Concrete Roof Tiles	
07 03 32.19	Conservation Treatment for Period Metal Roof Tiles	
07 03 33	Conservation Treatment for Period Natural Roof Coverings	
07 03 33.13	Conservation Treatment for Period Sod Roofing	
07 03 40	Conservation Treatment for Period Roofing and Siding Panels	
07 03 41	Conservative Treatment for Period Roof Panels	
07 03 41.13	Conservation Treatment for Period Metal Roof Panels	
07 03 41.23	Conservation Treatment for Period Wood Roof Panels	
07 03 46	Conservation Treatment for Period Wood Siding	
07 03 60	Conservation Treatment of Period Flashing and Sheet Metal	May Include: materials such as tern-plate, lead, etc.
07 03 61	Conservation Treatment for Period Sheet Metal Roofing	
07 03 61.13	Conservation Treatment for Period Standing Seam Sheet Metal Roofing	
07 03 61.16	Conservation Treatment for Period Batten Seam Sheet Metal Roofing	
07 03 61.19	Conservation Treatment for Period Flat Seam Sheet Metal Roofing	
<b>07 05 00</b>	<b>Common Work Results for Thermal and Moisture Protection</b>	
		Includes: subjects common to multiple titles in Division 07.
		See: 01 80 00 for performance requirements of subjects common to multiple titles.
07 05 05	Selective Demolition for Thermal and Moisture Protection	See: 02 41 19 for selective demolition for whole structure demolition.
07 05 43	Cladding Support Systems	
07 05 53	Fire and Smoke Assembly Identification	
<b>07 06 00</b>	<b>Schedules for Thermal and Moisture Protection</b>	
		Includes: schedules of items common to multiple titles in Division 07.
		Notes: a schedule may be included on drawings, in the project manual, or a project book.
07 06 10	Schedules for Dampproofing and Waterproofing	
07 06 20	Schedules for Thermal Protection	

NUMBER	TITLE	EXPLANATION
07 06 30	Schedules for Steep Slope Roofing	
07 06 40	Schedules for Roofing and Siding Panels	
07 06 50	Schedules for Membrane Roofing	
07 06 60	Schedules for Flashing and Sheet Metal	
07 06 70	Schedules for Roof Specialties and Accessories	
07 06 80	Schedules for Fire and Smoke Protection	
07 06 80.13	Fire Protection Schedule	
07 06 80.16	Firestopping Schedule	
07 06 90	Schedules for Joint Protection	
07 06 90.13	Joint Sealant Schedule	

## **07 08 00 Commissioning of Thermal and Moisture Protection**

Includes: commissioning of items common to multiple titles in Division 07.

See: 01 91 00 for commissioning of subjects common to multiple Divisions.

## **07 10 00 Dampproofing and Waterproofing**

Includes: dampproofing materials used to resist moisture penetration through foundation walls and similar surfaces subject to high humidity, dampness, or direct water contact, but not subject to hydraulic pressures. Impervious waterproofing membranes, coatings, and other materials applied to walls, slabs, decks, and other surfaces subject to hydrostatic pressure or water immersion. Boards and coatings, and drainage media integral to dampproofing and waterproofing.

See: 03 15 13 for waterstops.

07 20 00 for vapor retarders integral with insulation.

07 50 00 for membrane waterproofing.

31 05 16 for drainage aggregate.

## **07 11 00 Dampproofing**

Includes: bituminous and cementitious dampproofing applied in a viscous state or in sheets.

See: 07 13 00 for sheet waterproofing.

07 16 00 for cementitious waterproofing.

07 26 00 for vapor retarders.

07 27 00 for air barriers.

07 11 13	Bituminous Dampproofing
07 11 16	Cementitious Dampproofing
07 11 19	Sheet Dampproofing

NUMBER	TITLE	EXPLANATION
<b>07 12 00</b>	<b>Built-Up Bituminous Waterproofing</b>	Includes: waterproofing systems composed of alternating layers of bituminous sheets and viscous bituminous coatings.  See: 02 25 29 for waterproofing investigations. 07 11 13 for bituminous dampproofing. 07 51 00 for built-up bituminous roofing. 07 55 51 for built-up bituminous protected membrane roofing.
07 12 13	Built-Up Asphalt Waterproofing	
07 12 16	Built-Up Coal Tar Waterproofing	
<b>07 13 00</b>	<b>Sheet Waterproofing</b>	Includes: waterproofing formed with sheets of elastomeric, bituminous, modified bituminous, or thermoplastic materials, and depending on properties other than layered application for effectiveness.  See: 02 25 29 for waterproofing investigations. 07 52 00 for modified bituminous membrane roofing. 07 53 00 for elastomeric membrane roofing. 07 54 00 for thermoplastic membrane roofing. 07 55 52 for modified bituminous protected membrane roofing. 07 55 53 for elastomeric protected membrane roofing. 07 55 54 for thermoplastic protected membrane roofing.
07 13 13	Bituminous Sheet Waterproofing	
07 13 26	Self-Adhering Sheet Waterproofing	
07 13 52	Modified Bituminous Sheet Waterproofing	
07 13 53	Elastomeric Sheet Waterproofing	
07 13 54	Thermoplastic Sheet Waterproofing	
<b>07 14 00</b>	<b>Fluid-Applied Waterproofing</b>	Includes: waterproofing applied in a viscous state.  Alternate Terms/Abbreviations: fluid-applied: liquid-applied.  See: 02 25 29 for waterproofing investigations. 07 18 00 for traffic coatings. 07 55 56 for fluid-applied protected membrane roofing. 07 55 56 for hot-applied rubberized asphalt protected membrane roofing. 07 56 00 for fluid-applied roofing.
07 14 13	Hot Fluid-Applied Rubberized Asphalt Waterproofing	
07 14 14	Hot Fluid-Applied Polyurea Waterproofing	
07 14 16	Cold Fluid-Applied Waterproofing	

NUMBER	TITLE	EXPLANATION
<b>07 15 00</b>	<b>Sheet Metal Waterproofing</b>	Includes: waterproofing formed of sheet metal.  See: 02 25 29 for waterproofing investigations. 07 11 19 for sheet dampproofing. 07 62 00 for sheet metal flashing and trim.
07 15 13	Sheet Lead Waterproofing	
<b>07 16 00</b>	<b>Cementitious and Reactive Waterproofing</b>	Includes: waterproofing that achieves utility through chemical action. Hydrolithic waterproofing and acrylic-modified cement waterproofing. Exterior insulation cement plaster assemblies.  See: 02 25 29 for waterproofing investigations. 07 11 16 for cementitious dampproofing. 07 24 16 for polymer-modified EIFS. 09 97 26 for cementitious coatings.
07 16 13	Polymer Modified Cement Waterproofing	
07 16 16	Crystalline Waterproofing	
07 16 19	Metal Oxide Waterproofing	
<b>07 17 00</b>	<b>Bentonite Waterproofing</b>	Includes: waterproofing formed of bentonite clay.  See: 02 25 29 for waterproofing investigations. 31 35 26 for bentonite slurry trenches. 31 56 13 for bentonite slurry walls.
07 17 13	Bentonite Panel Waterproofing	
07 17 16	Bentonite Composite Sheet Waterproofing	
<b>07 18 00</b>	<b>Traffic Coatings</b>	Includes: surface applied waterproofing exposed to weather and suitable for pedestrian or vehicular traffic. Elastomeric, non-slip, polyurethane, silicone rubber, urethane traffic coatings.  Alternate Terms/Abbreviations: traffic coatings: traffic-bearing waterproofing.  See: 07 14 00 for fluid-applied waterproofing. 07 19 00 for water repellents. 09 61 00 for flooring treatments. 09 67 00 for fluid-applied flooring.
07 18 13	Pedestrian Traffic Coatings	
07 18 16	Vehicular Traffic Coatings	

NUMBER	TITLE	EXPLANATION
<b>07 19 00</b>	<b>Water Repellents</b>	<p>Includes: transparent fluid-applied dampproofing applied to exposed surfaces of masonry, concrete, stucco, and similar materials to resist moisture penetration.</p> <p>Alternate Terms/Abbreviations: fluid-applied: liquid-applied.</p> <p>See: 04 22 00 for CMU with integral water repellent. 07 18 00 for traffic coatings. 09 90 00 for vapor-resistant primers.</p>
07 19 13	Acrylic Water Repellents	
07 19 16	Silane Water Repellents	
07 19 19	Silicone Water Repellents	
07 19 23	Siloxane Water Repellents	
07 19 26	Stearate Water Repellents	
07 19 29	Penetrating Polyester Water Repellents	

## **07 20 00 Thermal Protection**

Includes: insulation applied for thermal protection, elastomeric finish systems, vapor retarders, and air barriers. Cellulose, expanded polystyrene, extruded polystyrene, fiberglass, foamed glass, mineral fiber, perlite, polyisocyanurate, polyurethane, reflective, rock wool, vermiculite insulations.

See: 03 11 19 for insulating concrete forming.  
03 52 16 for lightweight insulating concrete.  
04 22 19 for insulated concrete unit masonry.  
06 16 13 for insulating sheathing.  
22 07 00 for plumbing insulation.  
23 07 00 for HVAC insulation.  
40 42 00 for process piping and equipment insulation.

NUMBER	TITLE	EXPLANATION
<b>07 21 00</b>	<b>Thermal Insulation</b>	Includes: organic and inorganic insulation applied for thermal protection in walls, ceilings, attics, and crawl spaces; under concrete slabs on grade; and at perimeter of foundations. Vapor retarders integral with insulation.  Alternate Terms/Abbreviations: blanket insulation: batt insulation. Board insulation: rigid insulation: semi-rigid insulation. Loose fill insulation: fill insulation: granular insulation. Sprayed insulation: spray-on insulation.  See: 06 16 13 for insulating sheathing. 07 22 16 for roof board insulation. 09 81 00 for acoustic insulation.  See Also: 04 27 00 for insulation integral to multi-wythe unit masonry. 07 26 00 for vapor retarders. 07 27 00 for air barriers.
07 21 13	Board Insulation	
07 21 13.13	Foam Board Insulation	
07 21 13.16	Fibrous Board Insulation	
07 21 13.19	Mineral Board Insulation	
07 21 16	Blanket Insulation	
07 21 19	Foamed-In-Place Insulation	May Include: various insulation materials that require mixing multiple components to create a stable matrix that is different from the original components to contain air or other insulating gas, and is foamed or poured in place.  See Also: 07 21 29 sprayed insulation.
07 21 23	Loose-Fill Insulation	
07 21 26	Blown Insulation	
07 21 29	Sprayed Insulation	May Include: various insulation materials such as cellulose or other fibrous products that are mixed with adhesives and sprayed onto surfaces.  See Also: 07 21 19 for foamed-in-place insulation.
07 21 53	Reflective Insulation	
07 21 63	Fluid-Applied Insulative Coating	



NUMBER	TITLE	EXPLANATION
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**07 22 00****Roof and Deck Insulation**

Includes: organic or inorganic insulation applied for thermal protection as a part of roofing assemblies and under decks. Tapered roof insulation.

Alternate Terms/Abbreviations: board insulation: rigid insulation: semi-rigid insulation.

See: 03 52 00 for lightweight concrete roof insulation.  
07 50 00 for roof and deck insulation in membrane roofing.

07 22 13

Asphaltic Perlite Concrete Deck

07 22 16

Roof Board Insulation

**07 24 00****Exterior Insulation and Finish Systems**

Includes: both polymer-based and polymer-modified coating and finish applied directly to foam insulation base or directly to other compatible substrate.

Alternate Terms/Abbreviations: EIFS: exterior insulation and finish system. Board insulation: rigid insulation: semi-rigid insulation.

See: 09 24 23 for cement stucco.

07 24 13

Polymer-Based Exterior Insulation and Finish System

07 24 16

Polymer-Modified Exterior Insulation and Finish System

Includes: exterior insulation cement plaster assemblies.

07 24 19

Water-Drainage Exterior Insulation and Finish System

07 24 23

Direct-Applied Finish Systems

See Also: 09 97 00 for special coatings.

**07 25 00****Weather Barriers**

Includes: materials applied separately in wall, roof, and floor assemblies to resist vapor penetration, primarily to mitigate the consequences of thermal variation. Materials installed at walls, roof-wall connections, perimeter of door and window openings, and similar locations to provide a continuous, impermeable barrier to air infiltration or loss.

NUMBER	TITLE	EXPLANATION
<b>07 26 00</b>	<b>Vapor Retarders</b>	<p>Includes: bituminous, laminated, and plastic vapor retarders.</p> <p>May Include: vapor retarder under concrete slabs on grade.</p> <p>See: 07 21 00 for thermal insulation with integral vapor retarders. 09 29 00 for gypsum board with integral vapor retarders.</p> <p>See Also: 03 30 00 for vapor retarders under concrete slabs on grade.</p>
07 26 13	Above-Grade Vapor Retarders	
07 26 16	Below-Grade Vapor Retarders	
07 26 23	Below-Grade Gas Retarders	Includes: methane, radon, and hydrocarbon retarders.
<b>07 27 00</b>	<b>Air Barriers</b>	<p>Includes: reinforced rubber and sheet metal membranes, plastic sheet, board products with sealed joints, cement parging, and similar products.</p> <p>Alternate Terms/Abbreviations: air barrier: housewrap. Fluid-applied: liquid-applied.</p> <p>Notes: gypsum board, concrete, metal decking, and similar building elements normally located under other titles may also serve as air barriers.</p> <p>See Also: 07 26 00 for vapor barriers that also serve as air barriers.</p>
07 27 13	Modified Bituminous Sheet Air Barriers	
07 27 16	Sheet Metal Membrane Air Barriers	
07 27 19	Plastic Sheet Air Barriers	
07 27 23	Board Product Air Barriers	
07 27 26	Fluid-Applied Membrane Air Barriers	
07 27 36	Sprayed Foam Air Barrier	
<b>07 30 00</b>	<b>Steep Slope Roofing</b>	<p>Includes: roof shingles, shakes, and roof tiles. Underlayment and fastening products and methods.</p> <p>See: 02 25 29 for roofing investigations. 07 62 00 for sheet metal flashing and trim. 07 65 00 for flexible flashing. 07 70 00 for roofing specialties and accessories.</p>
07 30 91	Canvas Roofing	Includes: sloped roofing made of canvas.

NUMBER	TITLE	EXPLANATION
<b>07 31 00</b>	<b>Shingles and Shakes</b>	Includes: lapped roof shingles and shakes. Solar collector shingles.  See: 07 32 00 for roof tiles. 07 41 00 for roof panels. 07 46 00 for siding. 26 31 00 for photovoltaic collectors.
07 31 13	Asphalt Shingles	
07 31 13.13	Fiberglass-Reinforced Asphalt Shingles	
07 31 16	Metal Shingles	
07 31 19	Mineral-Fiber Cement Shingles	
07 31 23	Porcelain Enamel Shingles	
07 31 26	Slate Shingles	
07 31 29	Wood Shingles and Shakes	
07 31 29.13	Wood Shingles	
07 31 29.16	Wood Shakes	
07 31 33	Composite Rubber Shingles	
07 31 53	Plastic Shakes	
<b>07 32 00</b>	<b>Roof Tiles</b>	Includes: lapped roof tiles.  See: 07 31 00 for shingles and shakes.
07 32 13	Clay Roof Tiles	
07 32 14	Ceramic and Porcelain Roof Tiles	
07 32 16	Concrete Roof Tiles	
07 32 19	Metal Roof Tiles	
07 32 23	Mineral-Fiber Cement Roof Tiles	
07 32 26	Plastic Roof Tiles	
07 32 29	Rubber Tiles/Panels	
<b>07 33 00</b>	<b>Natural Roof Coverings</b>	Includes: organic and special roof coverings.  See: 07 55 63 for vegetated protected membrane roofing.
07 33 13	Sod Roofing	
07 33 16	Thatched Roofing	
07 33 63	Vegetated Steep-Slope Roofing	

NUMBER	TITLE	EXPLANATION
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## 07 40 00 Roofing and Siding Panels

Includes: siding, wall panels, and roof panels, with or without integral interior panels or insulation. Fabricated panel assemblies, which may include framing, sheathing, insulation, substrates, interior finish, and exterior finish.

May Include: roof and wall panels that are used with a fabricated engineered structure.

See: 03 40 00 for precast concrete panels.  
 04 25 00 for fabricated masonry panels.  
 07 21 00 for wall insulation.  
 08 44 00 for glazed curtain wall spandrel and infill panels.  
 08 90 00 for louvers and vents.  
 09 21 16 for gypsum board assemblies.

See Also: 13 34 00 for roof and wall panels that are part of a fabricated engineered structure.

## 07 41 00 Roof Panels

Includes: manufactured roof panels and fabricated panel assemblies. Fabricated roof panel assemblies, including other components such as structural framing, insulation, flashing, and interior finish. Aluminum, copper, steel, stainless steel, and terne metal roof panels. Batten seam, flat seam, and standing seam metal roof panels.

See: 07 31 00 for shingles and shakes.  
 07 61 00 for custom fabricated sheet metal roofing.

07 41 13	Metal Roof Panels
07 41 16	Insulated Metal Roof Panels
07 41 23	Wood Roof Panels
07 41 33	Plastic Roof Panels
07 41 43	Composite Roof Panels
07 41 63	Fabricated Roof Panel Assemblies

## 07 42 00 Wall Panels

Includes: manufactured wall panels and fabricated panel assemblies. Fabricated wall panel assemblies, including other components such as structural framing, insulation, flashing, and interior finish.

See: 04 25 00 for fabricated masonry panels.  
 07 24 00 for exterior insulation and finish systems.

07 42 13	Metal Wall Panels
07 42 13.13	Formed Metal Wall Panels
07 42 13.16	Metal Plate Wall Panels

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NUMBER	TITLE	EXPLANATION
07 42 13.19	Insulated Metal Wall Panels	
07 42 13.23	Metal Composite Material Wall Panels	
07 42 23	Wood Wall Panels	
07 42 26	Tile Wall Panels	Includes: tile panels used as a cladding assembly without mortar and grout.
07 42 29	Terra Cotta Wall Panels	Alternate Terms/Abbreviations: terra cotta
07 42 33	Plastic Wall Panels	
07 42 43	Composite Wall Panels	
07 42 46	Cementitious Wall Panels	Includes: panels manufactured from high modulus concrete and fiber-reinforced cement.
07 42 63	Fabricated Wall Panel Assemblies	
07 42 93	Soffit Panels	

**07 44 00 Faced Panels**

Includes: roof and wall panels coated on the exterior surface with aggregate, porcelain enamel, ceramic tile, or quarry tile. Fabricated panel assemblies with faced-panel exterior finish. Roof and wall panels composed of fiber-reinforced cementitious material. Fabricated-faced panel assemblies, including other components such as structural framing, insulation, flashing, and interior finish.

See: 03 45 13 for faced architectural precast concrete.  
06 12 13 for cementitious reinforced panels.

07 44 13	Aggregate Coated Panels	
07 44 16	Porcelain Enameled Faced Panels	
07 44 19	Tile-Faced Panels	
07 44 23	Ceramic-Tile-Faced Panels	
07 44 33	Metal Faced Panels	
07 44 53	Glass-Fiber-Reinforced Cementitious Panels	
07 44 56	Mineral-Fiber-Reinforced Cementitious Panels	
07 44 63	Fabricated Faced Panel Assemblies	

**07 46 00 Siding**

Includes: shaped or unshaped boards or panels used as exterior surface of a wall or soffit. Fabricated panel assemblies with exterior siding and other components such as structural framing, insulation, flashing, and interior.

See: 06 16 00 for sheathing.  
07 26 00 for vapor retarders.  
07 27 00 for air barriers.  
07 31 00 for shingles and shakes.

NUMBER	TITLE	EXPLANATION
07 46 16	Aluminum Siding	
07 46 19	Steel Siding	
07 46 21	Zinc Siding	
07 46 23	Wood Siding	
07 46 24	Wood Shingle and Shake Siding	Includes: wood shingle and shake siding, weather-resistive barriers, and flexible flashing.
07 46 24.13	Wood Shingle Siding	
07 46 24.16	Wood Shake Siding	
07 46 26	Hardboard Siding	
07 46 29	Plywood Siding	
07 46 33	Plastic Siding	
07 46 43	Composition Siding	Alternate Terms/Abbreviations: composition siding: wood-fiber-reinforced resin siding.
07 46 46	Fiber-Cement Siding	
07 46 63	Fabricated Panel Assemblies with Siding	

## 07 50 00 Membrane Roofing

Includes: roofing assemblies applied to the structural substrate, over insulation, or protected with insulation as appropriate to the particular assembly. Composition and elastomeric flashing. Surfacing materials, coatings, and ballast.

May Include: roof insulation, vapor retarders, and air barriers. Walkways, roof drains, and other items integral with roofing assembly. Roof pavers.

Alternate Terms/Abbreviations: membrane roofing: sheet roofing.

See: 02 25 29 for roofing investigations.

07 10 00 for waterproofing.

07 62 00 for sheet metal flashing and trim.

See Also: 07 22 16 for roof board insulation.

07 26 00 for vapor retarders.

07 27 00 for air barriers.

07 72 43 for roof walk boards and walkways.

07 76 00 for roof pavers.

22 14 26 for roof drains.

NUMBER	TITLE	EXPLANATION
<b>07 51 00</b>	<b>Built-Up Bituminous Roofing</b>	Includes: roofing assemblies composed of alternating layers of bituminous sheets and viscous bituminous coatings.  See: 07 11 13 for bituminous dampproofing. 07 12 00 for built-up bituminous waterproofing. 07 55 51 for built-up bituminous protected membrane roofing.
07 51 13	Built-Up Asphalt Roofing	
07 51 13.13	Cold-Applied Built-Up Asphalt Roofing	
07 51 16	Built-Up Coal Tar Roofing	
07 51 23	Glass-Fiber-Reinforced Asphalt Emulsion Roofing	
<b>07 52 00</b>	<b>Modified Bituminous Membrane Roofing</b>	Includes: roofing assemblies formed with modified bituminous membranes.  Alternate Terms/Abbreviations: APP: atactic polypropylene. SBS: styrene-butadiene-styrene.  See: 07 11 13 for bituminous dampproofing. 07 13 52 for modified bituminous sheet waterproofing. 07 55 52 for modified bituminous protected membrane roofing.
07 52 13	Atactic-Polypropylene-Modified Bituminous Membrane Roofing	
07 52 13.11	Cold Adhesive Applied Atactic-Polypropylene-Modified Bituminous Membrane Roofing	
07 52 13.13	Torch-Applied Atactic-Polypropylene-Modified Bituminous Membrane Roofing	
07 52 13.14	Mechanically Fastened Atactic-Polypropylene-Modified Bituminous Membrane Roofing	
07 52 16	Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing	
07 52 16.11	Cold Adhesive Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing	
07 52 16.12	Hot-Mopped Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing	
07 52 16.13	Torch-Applied Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing	
07 52 16.14	Mechanically Fastened Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing	
<b>07 53 00</b>	<b>Elastomeric Membrane Roofing</b>	Includes: roofing assemblies formed with non-vulcanized and vulcanized elastomeric membranes. Ballasted, fully-adhered, and mechanically attached installations.  Alternate Terms/Abbreviations: CPE: chlorinated polyethylene. CSPE: chlorosulfonate polyethylene. EPDM: ethylene propylene diene monomer. PIB: polyisobutylene.  See: 07 13 53 for elastomeric sheet waterproofing. 07 55 53 for elastomeric protected membrane roofing.
07 53 13	Chlorinated-Polyethylene Roofing	
07 53 16	Chlorosulfonate-Polyethylene Roofing	
07 53 23	Ethylene-Propylene-Diene-Monomer Roofing	

NUMBER	TITLE	EXPLANATION
07 53 29	Polyisobutylene Roofing	
<b>07 54 00</b>	<b>Thermoplastic Membrane Roofing</b>	Includes: roofing assemblies formed with reinforced and unreinforced thermoplastic membranes. Ballasted, fully-adhered, and mechanically attached installations.  Alternate Terms/Abbreviations: CPA: copolymer alloy. EIP: ethylene interpolymer. PVC: polyvinyl chloride. TPO: thermoplastic polyolefin. NBP: nitrile butadiene polymer.  See: 07 13 54 for thermoplastic sheet waterproofing. 07 55 54 for thermoplastic protected membrane roofing.
07 54 13	Copolymer-Alloy Roofing	
07 54 16	Ketone Ethylene Ester Roofing	
07 54 19	Polyvinyl-Chloride Roofing	
07 54 23	Thermoplastic-Polyolefin Roofing	
07 54 26	Nitrile-Butadiene-Polymer Roofing	
<b>07 55 00</b>	<b>Protected Membrane Roofing</b>	Includes: roofing assemblies with protective insulation and other surfacing materials covering membranes applied directly to the structural substrate.  Alternate Terms/Abbreviations: fluid-applied: liquid-applied. IRMA: insulated roof membrane assembly; inverted roof membrane assembly. PRM: protected roof membrane. Vegetated protected membrane roofing: landscaped protected membrane roofing; green roof: sustainable design roof.  See: 07 12 00 for built-up bituminous waterproofing. 07 13 52 for modified bituminous sheet waterproofing. 07 13 53 for elastomeric sheet waterproofing. 07 13 54 for thermoplastic sheet waterproofing. 07 14 00 for fluid-applied waterproofing. 07 33 63 for vegetated roofing. 07 51 00 for built-up bituminous roofing. 07 52 00 for modified bituminous membrane roofing. 07 53 00 for elastomeric membrane roofing. 07 54 00 for thermoplastic membrane roofing. 07 56 00 for fluid-applied roofing.
07 55 51	Built-Up Bituminous Protected Membrane Roofing	
07 55 52	Modified Bituminous Protected Membrane Roofing	
07 55 53	Elastomeric Protected Membrane Roofing	
07 55 54	Thermoplastic Protected Membrane Roofing	
07 55 56	Fluid-Applied Protected Membrane Roofing	
07 55 56.13	Hot-Applied Rubberized Asphalt Protected Membrane Roofing	
07 55 63	Vegetated Protected Membrane Roofing	



NUMBER	TITLE	EXPLANATION
<b>07 56 00</b>	<b>Fluid-Applied Roofing</b>	<p>Includes: roofing applied in a viscous state. Chlorosulfonated polyethylene (CSPE) and methyl methacrylate (MMA) roofing.</p> <p>Alternate Terms/Abbreviations: fluid-applied: liquid-applied.</p> <p>See: 07 14 00 for fluid-applied waterproofing. 07 55 56 for fluid-applied protected membrane roofing.</p>
<b>07 57 00</b>	<b>Coated Foamed Roofing</b>	<p>Includes: roofing assemblies consisting of spray-applied materials which expand through chemical reaction and an elastomeric coating.</p>
07 57 13	Sprayed Polyurethane Foam Roofing	
<b>07 58 00</b>	<b>Roll Roofing</b>	<p>Includes: roofing formed of surfaced, prepared bituminous sheets.</p>
<b>07 60 00</b>	<b>Flashing and Sheet Metal</b>	<p>Includes: sheet metal roofing, accessories, and trim, and specialties associated with roofing, and metal and other flexible flashings for roofing and wall construction.</p> <p>See: 07 15 00 for sheet metal waterproofing.</p>
<b>07 61 00</b>	<b>Sheet Metal Roofing</b>	<p>Includes: custom fabricated or field-formed roofing composed of a single layer of metal sheets installed over structural substrate. Aluminum, copper, lead, steel, stainless steel, monel, and terne sheet metal roofing.</p> <p>See: 07 41 13 for manufactured metal roof panels.</p>
07 61 13	Standing Seam Sheet Metal Roofing	
07 61 16	Batten Seam Sheet Metal Roofing	
07 61 19	Flat Seam Sheet Metal Roofing	

NUMBER	TITLE	EXPLANATION
<b>07 62 00</b>	<b>Sheet Metal Flashing and Trim</b>	Includes: shop and field-formed accessories and trim.  May Include: metal flashing for masonry.  See: 07 71 00 for manufactured gutters, downspouts, counterflashing, gravel stops, copings, roof expansion joint covers, and fasciae.  See Also: 04 27 13 for metal flashing integral with composite unit masonry.  Products: formed gutters, downspouts, counterflashing, scuppers, gravel stops, copings, roof expansion joint covers, pitch pans, plumbing drain flashing, and diverters.
07 62 13	Fabricated Copings	
07 62 16	Fabricated Counterflashing Systems	
07 62 19	Fabricated Gravel Stops and Fasciae	
07 62 23	Fabricated Gutters and Downspouts	
07 62 29	Fabricated Roof Expansion Joints	
07 62 33	Fabricated Scuppers	
<b>07 63 00</b>	<b>Sheet Metal Roofing Specialties</b>	Includes: roof-related protective and ornamental items and roof-related sheet metal items.  See: 07 71 00 for manufactured roof specialties.
<b>07 64 00</b>	<b>Sheet Metal Wall Cladding</b>	
07 64 13	Standing Seam Sheet Metal Wall Cladding	
07 64 16	Batten Seam Sheet Metal Wall Cladding	
07 64 19	Flat Seam Sheet Metal Wall Cladding	
<b>07 65 00</b>	<b>Flexible Flashing</b>	Includes: flexible flashings for roof and wall construction.  May Include: flexible flashing for masonry.  See: 04 27 00 for flexible flashing integral with multi-wythe unit masonry. 07 50 00 for flexible flashing integral with membrane roofing.
07 65 13	Laminated Sheet Flashing	
07 65 16	Modified Bituminous Sheet Flashing	
07 65 19	Plastic Sheet Flashing	
07 65 23	Rubber Sheet Flashing	
07 65 26	Self-Adhering Sheet Flashing	

NUMBER	TITLE	EXPLANATION
<b>07 70 00</b>	<b>Roof and Wall Specialties and Accessories</b>	Includes: standard manufactured components, both formed and extruded.  See: 08 60 00 for skylights. 10 74 00 for manufactured exterior specialties.
<b>07 71 00</b>	<b>Roof Specialties</b>	Includes: manufactured specialties serving as roofing perimeter facing, drainage, and expansion control.  May Include: manufactured flashing for penetrations.  See: 07 62 00 for shop- and field-formed sheet metal accessories and trim. 07 63 00 for sheet metal roofing specialties. 07 77 00 for wall specialties. 07 95 13 for expansion joint cover assemblies. 22 14 26 for roof drains.
07 71 13	Manufactured Copings	
07 71 16	Manufactured Counterflashing Systems	
07 71 19	Manufactured Gravel Stops and Fasciae	
07 71 23	Manufactured Gutters and Downspouts	
07 71 23.13	Gutter Debris Guards	
07 71 26	Reglets	
07 71 29	Manufactured Roof Expansion Joints	
07 71 33	Manufactured Scuppers	
<b>07 72 00</b>	<b>Roof Accessories</b>	Includes: accessories installed on or in roofing other than mechanical or structural items.  May Include: roof curbs for mechanical equipment.  Alternate Terms/Abbreviations: roof hatch: scuttle.  See: 06 10 00 for field-fabricated wood curbs. 07 76 00 for roof pavers. 08 62 00 for unit skylights. 08 91 13 for motorized wall louvers. 08 91 16 for wall installations of motorized large-scale operable ventilation panels. 08 95 13 for soffit vents. 08 95 16 for wall vents. 23 70 00 for roof curbs for rooftop-mounted HVAC equipment.
07 72 13	Manufactured Curbs	
07 72 23	Relief Vents	

NUMBER	TITLE	EXPLANATION
07 72 26	Ridge Vents	
07 72 33	Roof Hatches	
07 72 36	Smoke Vents	
07 72 39	Operable Roof Vents	Includes: motorized large-scale operable ventilation panels.
07 72 43	Roof Walk Boards	
07 72 46	Roof Walkways	
07 72 53	Snow Guards	
07 72 63	Waste Containment Assemblies	
07 72 73	Vegetated Roof Systems	Includes: continuous vegetated roof assemblies, tray-type vegetated roof assemblies, walkway pavers, vegetated mats, and geofoam fill.
<b>07 76 00</b>	<b>Roof Pavers</b>	Includes: pavers and decking over roofing, including pedestal-mounted pavers.  May Include: pavers for ballasting of membrane roofing.  See: 07 50 00 for stone ballast for membrane roofing. 07 72 46 for roof walkways.  See Also: 07 50 00 for pavers for membrane roofing.
07 76 13	Roof Ballast Pavers	
07 76 16	Roof Decking Pavers	
<b>07 77 00</b>	<b>Wall Specialties</b>	Includes: manufactured specialties for wall construction.  See: 07 71 00 for roof specialties.
<b>07 80 00</b>	<b>Fire and Smoke Protection</b>	
<b>07 81 00</b>	<b>Applied Fire Protection</b>	Includes: specialized coatings, mineral fiber, and cementitious coverings to provide fire resistance to building components. Fireproof duct wrap.  See: 06 05 73 for fire-retardant wood treatment of wood products. 07 82 00 for board fire protection. 09 23 82 for fire protected gypsum plastering. 09 96 43 for fire-retardant coatings. 09 96 46 for intumescent painting.

DIVISION 07

NUMBER	TITLE	EXPLANATION
07 81 13	Cement Aggregate Fire Protection	
07 81 16	Cementitious Fire Protection	
07 81 19	Foamed Magnesium-Oxychloride Fire Protection	
07 81 23	Intumescent Fire Protection	
07 81 26	Magnesium Cement Fire Protection	
07 81 29	Mineral-Fiber Cementitious Fire Protection	
07 81 33	Mineral-Fiber Fire Protection	

**07 82 00 Board Fire Protection**

Includes: board materials that provide fire resistance to building components.

Does Not Include: fire barriers of gypsum board, plaster, and similar construction for prevention of the spread of fire.

See: 07 81 00 for applied fire protection.  
09 23 82 for fire protected gypsum plastering.  
09 29 82 for gypsum board fire protection.

07 82 13	Calcium-Silicate Board Fire Protection
07 82 16	Slag-Fiber Board Fire Protection

**07 84 00 Firestopping**

Includes: materials installed in cavities, around penetrations, and openings in floors, walls, partitions, and other building components to prevent the spread of fire and smoke. Firestopping for mechanical, electrical, and communications penetrations of fire-resistant rated assemblies.

See: 07 21 00 for thermal insulation.  
07 92 00 for joint sealants.  
07 95 13 for fire-resistant rated expansion joint cover assemblies.

07 84 13	Penetration Firestopping
07 84 13.13	Penetration Firestopping Mortars
07 84 13.16	Penetration Firestopping Devices
07 84 43	Joint Firestopping
07 84 53	Building Perimeter Firestopping

Alternate Terms/Abbreviations: fire safing.

**07 86 00 Smoke Seals**

Includes: material installed at the perimeter of openings to prevent the spread of smoke.

NUMBER	TITLE	EXPLANATION
<b>07 87 00</b>	<b>Smoke Containment Barriers</b>	Includes: draftstopping panels suspended from the ceiling or placed in plenum cavities to prevent or to inhibit the spread of smoke.  See: 06 10 00 for wood draftstopping. 09 29 00 for gypsum board draftstopping.
<b>07 90 00</b>	<b>Joint Protection</b>	
<b>07 91 00</b>	<b>Preformed Joint Seals</b>	Includes: preformed compression seals and gaskets.  See: 07 92 00 for joint sealants. 07 95 13 for expansion joint cover assemblies.
07 91 13	Compression Seals	
07 91 16	Joint Gaskets	
07 91 23	Backer Rods	
07 91 26	Joint Fillers	
<b>07 92 00</b>	<b>Joint Sealants</b>	Includes: elastomeric and rigid joint sealants, and related accessories such as joint fillers and backer rod. Joint sealant to provide acoustical isolation. Nonsag, pourable, mildew-resistant, sanitary, acrylic, bituminous, latex, polysulfide, polyurethane, PVC, rubber, silicone, synthetic, urethane joint sealants.  Alternate Terms/Abbreviations: joint sealants: calking: caulking: joint sealers.  See: 07 84 43 for fire-resistant joint sealants. 08 85 00 for glazing sealants. 32 13 73 for concrete paving joint sealants.  See Also: 09 20 00 for acoustic joint sealants in plaster and gypsum board assemblies.
07 92 13	Elastomeric Joint Sealants	
07 92 16	Rigid Joint Sealants	
07 92 19	Acoustical Joint Sealants	

DIVISION 07

NUMBER	TITLE	EXPLANATION
<b>07 95 00</b>	<b>Expansion Control</b>	Includes: manufactured expansion joint assemblies, including frames, covers, and gaskets. Fire-resistant barriers for fire-resistant rated expansion control assemblies.  See: 03 15 00 for concrete expansion and contraction joints. 05 12 33 for structural steel for bridges. 07 71 29 for roof expansion joints. 07 84 43 for fire-resistant joint sealants. 07 91 00 for preformed joint seals. 07 92 00 for joint sealants. 34 82 00 for bridge specialties.
07 95 13	Expansion Joint Cover Assemblies	
07 95 13.13	Interior Expansion Joint Cover Assemblies	Includes: expansion joint cover assemblies for interior floors, walls, and ceilings. Moisture barriers and attachment devices.
07 95 13.16	Exterior Expansion Joint Cover Assemblies	Includes: expansion joint cover assemblies for exterior walls, soffits, and parapets. Moisture barriers and attachment devices.
07 95 13.19	Parking Deck Expansion Joint Cover Assemblies	Includes: expansion joint cover assemblies for use in exterior slabs subject to vehicular traffic. Moisture barriers and attachment devices.
07 95 53	Joint Slide Bearings	
07 95 63	Bridge Expansion Joint Cover Assemblies	

NUMBER	TITLE	EXPLANATION
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# DIVISION 08 – OPENINGS

## 08 00 00 Openings

May be used as Division level  
Section title.

### 08 01 00 Operation and Maintenance of Openings

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of openings.

Level 4 Numbering Recommendation: Level 4 titles for wood windows are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

08 01 10	Operation and Maintenance of Doors and Frames
08 01 11	Operation and Maintenance of Metal Doors and Frames
08 01 14	Operation and Maintenance of Wood Doors
08 01 15	Operation and Maintenance of Plastic Doors
08 01 16	Operation and Maintenance of Composite Doors
08 01 17	Operation and Maintenance of Integrated Door Opening Assemblies
08 01 30	Operation and Maintenance of Specialty Doors and Frames
08 01 32	Operation and Maintenance of Sliding Glass Doors
08 01 33	Operation and Maintenance of Coiling Doors and Grilles
08 01 34	Operation and Maintenance of Special Function Doors
08 01 35	Operation and Maintenance of Folding Doors and Grilles
08 01 36	Operation and Maintenance of Panel Doors
08 01 39	Operation and Maintenance of Traffic Doors
08 01 40	Operation and Maintenance of Entrances, Storefronts, and Curtain Walls
08 01 41	Operation and Maintenance of Entrances
08 01 42	Operation and Maintenance of Storefronts
08 01 44	Operation and Maintenance of Curtain Walls
08 01 50	Operation and Maintenance of Windows
08 01 51	Operation and Maintenance of Metal Windows
08 01 52	Operation and Maintenance of Wood Windows
08 01 52.61	Wood Window Repairs
08 01 52.71	Wood Window Rehabilitation
08 01 52.81	Wood Window Replacement
08 01 52.91	Wood Window Restoration
08 01 52.93	Historic Treatment of Wood Windows
08 01 53	Operation and Maintenance of Plastic Windows
08 01 54	Operation and Maintenance of Composite Windows
08 01 56	Operation and Maintenance of Special Function Windows
08 01 60	Operation and Maintenance of Skylights and Roof Windows
08 01 61	Operation and Maintenance of Roof Windows
08 01 62	Operation and Maintenance of Unit Skylights



DIVISION 08

NUMBER	TITLE	EXPLANATION
08 01 63		Operation and Maintenance of Metal-Framed Skylights
08 01 64		Operation and Maintenance of Plastic-Framed Skylights
08 01 70		Operation and Maintenance of Hardware
08 01 71		Operation and Maintenance of Door Hardware
08 01 74		Operation and Maintenance of Access Control Hardware
08 01 75		Operation and Maintenance of Window Hardware
08 01 80		Maintenance of Glazing
08 01 81		Maintenance of Glass Glazing
08 01 84		Maintenance of Plastic Glazing
08 01 88		Maintenance of Special Function Glazing
08 01 90		Operation and Maintenance of Louvers and Vents
08 01 91		Operation and Maintenance of Louvers
08 01 92		Operation and Maintenance of Louvered Equipment Enclosures
08 01 95		Operation and Maintenance of Vents
<b>08 03 00</b>		<b>Conservation Treatment for Period Openings</b>
08 03 11		Conservation Treatment for Period Metal Doors and Frames
08 03 11.23		Conservation Treatment for Period Bronze Doors and Frames
08 03 14		Conservation Treatment for Period Wood Doors
08 03 14.23		Conservation Treatment for Period Metal-Faced Wood Doors Alternate Terms/Abbreviations: Kalamein doors.
08 03 14.33		Conservation Treatment for Period Stile and Rail Wood Doors
08 03 30		Conservation Treatment for Period Specialty Doors and Frames
08 03 34		Conservation Treatment for Period Special Function Doors
08 03 34.59		Conservation Treatment for Period Vault Doors
08 03 50		Conservation Treatment for Period Windows
08 03 51		Conservation Treatment for Period Metal Windows
08 03 51.16		Conservation Treatment for Period Bronze Windows
08 03 51.23		Conservation Treatment for Period Steel Windows
08 03 52		Conservation Treatment for Period Wood Windows
08 03 70		Conservation Treatment for Period Hardware
08 03 71		Conservation Treatment for Period Door Hardware
08 03 75		Conservation Treatment for Period Window Hardware
08 03 90		Conservation Treatment for Period Louvers and Vents
08 03 91		Conservation Treatment for Period Louvers
08 03 95		Conservation Treatment for Period Vents
<b>08 05 00</b>		<b>Common Work Results for Openings</b> Includes: subjects common to multiple Sections in Division 08.  See: 01 80 00 for performance requirements of subjects common to multiple titles.
08 05 05		Selective Demolition for Openings See: 02 41 19 for selective demolition for whole structure demolition.

NUMBER	TITLE	EXPLANATION
<b>08 06 00</b>	<b>Schedules for Openings</b>	Includes: schedules of items common to multiple Sections in Division 08.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
08 06 10	Door Schedule	
08 06 10.13	Door Type Schedule	
08 06 10.16	Frame Type Schedule	
08 06 40	Schedules for Entrances, Storefronts, and Curtain Walls	
08 06 41	Entrance Schedule	
08 06 42	Storefront Schedule	
08 06 50	Window Schedule	
08 06 60	Skylight Schedule	
08 06 70	Hardware Schedule	
08 06 71	Door Hardware Schedule	See Also: 28 06 10 for schedules for access control
08 06 80	Glazing Schedule	
08 06 90	Louver and Vent Schedule	
<b>08 08 00</b>	<b>Commissioning of Openings</b>	Includes: commissioning of items common to multiple Sections in Division 08.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>08 10 00</b>	<b>Doors and Frames</b>	Includes: doors and door assemblies for a variety of purposes and types of operation. Fire-resistant rated doors and frames.  Usually Includes: glazing accessories in doors, louvers integral to door construction, and louvers in fire-resistant rated doors.  See: 08 30 00 for specialty doors. 08 42 00 for entrances.  See Also: 08 80 00 for glazing. 08 91 26 for door louvers.

NUMBER	TITLE	EXPLANATION
<b>08 11 00</b>	<b>Metal Doors and Frames</b>	Includes: hinged or pivoting doors, fixed panels within frames, and frames manufactured of metal. Muntz metal. Formed and extruded metal frames for doors, sidelights, transoms, borrowed lights, and other openings.  Alternate Terms/Abbreviations: hollow metal doors and frames: steel doors and frames. Muntz metal: yellow metal.  See: 08 12 00 for metal frames only. 08 13 00 for metal doors only. 08 32 13 for sliding aluminum-framed glass doors. 08 41 00 for metal-framed entrances and storefronts. 08 71 00 for door hardware.
08 11 13	Hollow Metal Doors and Frames	
08 11 13.13	Standard Hollow Metal Doors and Frames	
08 11 13.16	Custom Hollow Metal Doors and Frames	
08 11 16	Aluminum Doors and Frames	
08 11 19	Stainless-Steel Doors and Frames	
08 11 23	Bronze Doors and Frames	
08 11 63	Metal Screen and Storm Doors and Frames	Includes: doors and screens manufactured of metal used for storm or thermal protection or for screening, usually as adjuncts to other doors.  See: 08 14 66 for wood screen doors and frames. 08 14 69 for wood storm doors and frames. 08 15 66 for plastic screen doors and frames. 08 15 69 for plastic storm doors and frames.
08 11 63.13	Steel Screen and Storm Doors and Frames	
08 11 63.23	Aluminum Screen and Storm Doors and Frames	
08 11 66	Metal Screen Doors and Frames	
08 11 66.13	Steel Screen Doors and Frames	
08 11 66.23	Aluminum Screen Doors and Frames	
08 11 69	Metal Storm Doors and Frames	
08 11 69.13	Steel Storm Doors and Frames	
08 11 69.23	Aluminum Storm Doors and Frames	
08 11 73	Sliding Metal Fire Doors	Includes: fire-resistant rated doors manufactured of metal that operate by sliding.  See: 08 13 73 for non-fire-rated sliding metal doors. 08 32 00 for sliding glass doors. 08 35 13 for folding fire doors. 08 42 29 for sliding automatic entrances.

NUMBER	TITLE	EXPLANATION
08 11 74	Sliding Metal Grilles	Includes: grilles manufactured or formed of metal that operate by sliding.  See: 08 33 00 for coiling doors and grilles. 08 35 16 for folding grilles.
<b>08 12 00</b>	<b>Metal Frames</b>	Includes: formed and extruded metal frames for doors, sidelights, transoms, borrowed lights, and other openings.  Alternate Terms/Abbreviations: hollow metal frames: steel frames.  See: 08 11 00 for metal doors and frames. 08 13 00 for metal doors. 08 41 00 for metal-framed entrances and storefronts.
08 12 13	Hollow Metal Frames	
08 12 13.13	Standard Hollow Metal Frames	
08 12 13.53	Custom Hollow Metal Frames	
08 12 16	Aluminum Frames	
08 12 16.13	Fire-Rated Aluminum Frames	
08 12 19	Stainless-Steel Frames	
08 12 23	Bronze Frames	
<b>08 13 00</b>	<b>Metal Doors</b>	Includes: hinged or pivoting doors and fixed panels manufactured of metal.  Alternate Terms/Abbreviations: hollow metal doors: steel doors.  See: 08 11 00 for metal doors and frames. 08 11 63 for metal storm and screen doors and frames. 08 11 73 for sliding metal firedoors. 08 12 00 for metal frames. 08 32 00 for sliding metal-framed glass doors. 08 42 00 for metal-framed entrances.
08 13 13	Hollow Metal Doors	
08 13 13.13	Standard Hollow Metal Doors	
08 13 13.53	Custom Hollow Metal Doors	
08 13 16	Aluminum Doors	
08 13 16.13	Aluminum Terrace Doors	
08 13 19	Stainless-Steel Doors	
08 13 23	Bronze Doors	
08 13 73	Sliding Metal Doors	
08 13 76	Bifolding Metal Doors	

NUMBER	TITLE	EXPLANATION
<b>08 14 00</b>	<b>Wood Doors</b>	Includes: hinged, sliding, or pivoting doors manufactured of wood with solid or hollow cores, flush panel or stile and rail, with wood, plastic laminate, and metal veneers.  Alternate Terms/Abbreviations: metal-faced doors: kalamein doors. Stile and rail wood doors: paneled wood doors.  See: 06 48 00 for wood door frames. 08 12 00 for metal frames for wood doors. 08 15 00 for plastic doors. 08 16 00 for composite doors. 08 32 19 for sliding wood-framed glass doors.
08 14 13	Carved Wood Doors	
08 14 16	Flush Wood Doors	
08 14 23	Clad Wood Doors	
08 14 23.13	Metal-Faced Wood Doors	
08 14 23.16	Plastic-Laminate-Faced Wood Doors	
08 14 23.17	Plastic-Faced Wood Doors	
08 14 23.19	Molded-Hardboard-Faced Wood Doors	
08 14 29	Prefinished Wood Doors	
08 14 33	Stile and Rail Wood Doors	
08 14 33.13	Wood Terrace Doors	
08 14 66	Wood Screen Doors	Includes: doors and screens manufactured of wood used for storm or thermal protection or for screening, usually as adjuncts to other doors.  See: 08 11 63 for metal storm and screen doors and frames. 08 15 66 for plastic screen doors and frames. 08 15 69 for plastic storm doors and frames. 08 32 19 for sliding wood-framed glass doors.
08 14 69	Wood Storm Doors	
08 14 73	Sliding Wood Doors	
08 14 76	Bifolding Wood Doors	
<b>08 15 00</b>	<b>Plastic Doors</b>	Includes: hinged, sliding, or pivoting doors manufactured of plastic.  See: 08 11 63 for metal storm and screen doors and frames. 08 12 00 for metal frames for plastic doors. 08 14 00 for wood doors. 08 16 00 for composite doors. 08 32 16 for sliding plastic-framed glass doors.
08 15 13	Laminated Plastic Doors	
08 15 16	Solid Plastic Doors	

NUMBER	TITLE	EXPLANATION
08 15 66	Plastic Screen Doors	Includes: doors and screens manufactured of plastic used for storm or thermal protection or for screening, usually as adjuncts to other doors.  See: 08 11 63 for metal storm and screen doors and frames. 08 14 66 for wood screen doors and frames. 08 14 69 for wood storm doors and frames.
08 15 69	Plastic Storm Doors	
08 15 73	Sliding Plastic Doors	
08 15 76	Bifolding Plastic Doors	
<b>08 16 00</b>	<b>Composite Doors</b>	Includes: hinged, sliding, or pivoting doors manufactured of composite materials.  See: 08 12 00 for metal frames for composite doors. 08 14 00 for wood doors. 08 14 23 for clad wood doors. 08 15 00 for plastic doors.
08 16 13	Fiberglass Doors	
08 16 73	Sliding Composite Doors	
08 16 76	Bifolding Composite Doors	
<b>08 17 00</b>	<b>Integrated Door Opening Assemblies</b>	Includes: assemblies, manufactured of a variety of materials, complete with doors, frames, and hardware.  Alternate Terms/Abbreviations: integrated door opening assemblies: preassembled door assemblies: packaged door assemblies: pre-hung doors.  See: 08 34 00 for special function doors. 08 34 73 for sound control door assemblies. 08 39 00 for pressure-resistant doors.
08 17 13	Integrated Metal Door Opening Assemblies	
08 17 23	Integrated Wood Door Opening Assemblies	
08 17 33	Integrated Plastic Door Opening Assemblies	
08 17 43	Integrated Composite Door Opening Assemblies	
<b>08 30 00</b>	<b>Specialty Doors and Frames</b>	Includes: doors and door assemblies for a variety of special functions and applications involving a variety of operating methods. Fire-resistant rated doors and frames. Hardware, controls, operators, and drive mechanisms.

NUMBER	TITLE	EXPLANATION
<b>08 31 00</b>	<b>Access Doors and Panels</b>	Includes: interior and exterior doors and panels in walls, ceilings and floors to provide access to concealed spaces.  See: 07 72 33 for roof hatches. 23 33 33 for duct-mounted access doors.
08 31 13	Access Doors and Frames	
08 31 13.53	Security Access Doors and Frames	
08 31 16	Access Panels and Frames	
<b>08 32 00</b>	<b>Sliding Glass Doors</b>	Includes: fully glazed doors and frames of any material with sliding operation.  See: 08 13 73 for sliding metal doors. 08 14 73 for sliding wood doors. 08 15 73 for sliding plastic doors. 08 42 29 for sliding automatic entrance doors. 08 43 29 for sliding storefronts.
08 32 13	Sliding Aluminum-Framed Glass Doors	
08 32 16	Sliding Plastic-Framed Glass Doors	
08 32 19	Sliding Wood-Framed Glass Doors	
<b>08 33 00</b>	<b>Coiling Doors and Grilles</b>	Includes: doors and grilles of any material that open by coiling. Rolling fire-resistant rated doors and shutters.  Alternate Terms/Abbreviations: coiling doors and grilles: roll-up doors and grilles: rolling doors and grilles.  See: 08 11 74 for sliding metal grilles. 08 35 16 for folding grilles.
08 33 13	Coiling Counter Doors	
08 33 16	Coiling Counter Grilles	
08 33 23	Overhead Coiling Doors	
08 33 23.13	Overhead Rapid Coiling Doors	
08 33 26	Overhead Coiling Grilles	
08 33 33	Side Coiling Doors	
08 33 36	Side Coiling Grilles	
08 33 43	Overhead Coiling Smoke Curtains	
08 33 44	Overhead Coiling Fire Curtains	

NUMBER	TITLE	EXPLANATION
<b>08 34 00</b>	<b>Special Function Doors</b>	Includes: doors, gates, and frames of any material with specific characteristics for a special function.  See: 08 17 00 for packaged door assemblies. 08 38 00 for traffic doors. 08 39 00 for pressure-resistant doors. 13 21 00 for controlled environment rooms for doors integral part of manufactured room construction.
08 34 13	Cold Storage Doors	
08 34 16	Hangar Doors	
08 34 19	Industrial Doors	
08 34 33	Lightproof Doors	Includes: doors with specific characteristics to exclude light when closed. Doors intended to allow use without light penetration for film developing or similar operations.
08 34 36	Darkroom Doors	
08 34 46	Radio-Frequency-Interference Shielding Doors	Includes: doors with specific characteristics to exclude radio-frequency-interference when closed.  Alternate Terms/Abbreviations: RFI: radio-frequency-interference.  See: 08 56 46 for radio-frequency-interference shielding windows.
08 34 49	Radiation Shielding Doors and Frames	Includes: doors with specific characteristics to exclude radiation when closed.  See: 08 56 49 for radiation shielding windows. 08 88 49 for radiation-resistant glazing. 13 49 00 for radiation protection.
08 34 49.13	Neutron Shielding Doors and Frames	
08 34 53	Security Doors and Frames	Includes: doors, frames, and gates with specific characteristics for high security applications.  See: 08 31 13 for security access doors and frames. 08 39 53 for blast-resistant doors. 08 42 33 for security revolving door entrances. 08 56 53 for security windows. 08 56 56 for security window screens. 08 71 53 for security door hardware. 08 88 53 for security glazing. 28 10 00 for access control



DIVISION 08

NUMBER	TITLE	EXPLANATION
08 34 56	Security Gates	
08 34 58	File Room Doors and Frames	
08 34 59	Vault Doors and Day Gates	Includes: doors and gates with specific characteristics to provide security for a vault.  See: 13 27 00 for factory assembled vaults.
08 34 73	Sound Control Door Assemblies	Includes: door and frame assemblies with specific characteristics to exclude sound when closed.  Alternate Terms/Abbreviations: sound control door assemblies: sound retardant door assemblies.  See: 08 17 00 for integrated door opening assemblies. 08 56 73 for sound control windows.
08 34 73.13	Metal Sound Control Door Assemblies	Includes: metal sound-control doors and frames, sound-control seals, thresholds, hardware, and accessories.
08 34 73.16	Wood Sound Control Door Assemblies	Includes: wood sound-control doors and frames, sound-control seals, thresholds, hardware, and accessories.
<b>08 35 00</b>	<b>Folding Doors and Grilles</b>	Includes: doors and grilles that open by folding as an accordion or as a set of panels. May be fire-resistant rated.  See: 08 10 00 for bifolding doors. 08 11 73 for sliding metal fire doors. 08 11 74 for sliding metal grilles. 08 33 00 for coiling doors and grilles. 08 36 00 for panel doors. 10 22 16 for folding gates. 10 22 23 for portable partitions, screens, and panels.
08 35 13	Folding Doors	
08 35 13.13	Accordion Folding Doors	
08 35 13.23	Accordion Folding Fire Doors	
08 35 13.33	Panel Folding Doors	
08 35 16	Folding Grilles	
08 35 16.13	Accordion Folding Grilles	

NUMBER	TITLE	EXPLANATION
<b>08 36 00</b>	<b>Panel Doors</b>	Includes: panelized doors that open guided by movement of panels in sections or single panel.  Alternate Terms/Abbreviations: panel doors: garage doors.  See: 08 35 13 for panel folding doors. 10 22 23 for portable partitions, screens, and panels.
08 36 13	Sectional Doors	
08 36 16	Single-Panel Doors	
08 36 19	Multi-Leaf Vertical Lift Doors	
08 36 23	Telescoping Vertical Lift Doors	
<b>08 38 00</b>	<b>Traffic Doors</b>	Includes: doors with specific characteristics for heavy traffic, including vehicular traffic.  See: 08 42 29 for automatic entrances. 08 42 33 for revolving door entrances. 11 13 00 for loading dock equipment.
08 38 13	Flexible Strip Doors	
08 38 16	Flexible Traffic Doors	
08 38 19	Rigid Traffic Doors	
<b>08 39 00</b>	<b>Pressure-Resistant Doors</b>	Includes: doors with specific characteristics to withstand and maintain differential pressure.  See: 08 17 00 for packaged door assemblies. 08 34 00 for special function doors. 08 42 39 for pressure-resistance entrances. 08 55 00 for pressure-resistant windows. 08 88 39 for pressure-resistant glazing. 13 21 00 for controlled environment rooms for doors integral part of manufactured room construction.
08 39 13	Airtight Doors	
08 39 19	Watertight Doors	
08 39 53	Blast-Resistant Doors	

NUMBER	TITLE	EXPLANATION
<b>08 40 00</b>	<b>Entrances, Storefronts, and Curtain Walls</b>	<p>Includes: entrances, storefronts, and curtain walls fabricated from formed and extruded metals and glass components for exterior and interior applications. Doors of various operating methods, framing for doors, sidelights, panels, and transoms. Shop glazing and shop applied hardware.</p> <p>May Include: perimeter joint sealant.</p> <p>See: 06 48 00 for wood frames. 08 11 00 for metal doors and frames. 08 32 00 for sliding metal-framed glass doors. 08 70 00 for field installed hardware. 08 80 00 for field installed glazing.</p> <p>See Also: 07 92 00 for joint sealants.</p>
<b>08 41 00</b>	<b>Entrances and Storefronts</b>	<p>Includes: entrances and storefronts of various materials for exterior and interior applications.</p> <p>See: 08 42 00 for entrances. 08 43 00 for storefronts.</p>
08 41 13	Aluminum-Framed Entrances and Storefronts	<p>Includes: entrances and storefronts of metal-framed glass construction for exterior and interior applications. Muntz metal.</p> <p>Alternate Terms/Abbreviations: muntz metal: yellow metal.</p> <p>See: 08 43 13 for aluminum-framed storefronts. 08 43 16 for bronze-framed storefronts. 08 43 19 for stainless steel-framed storefronts. 08 44 13 for glazed aluminum curtain walls. 08 44 16 for glazed bronze curtain walls. 08 44 19 for glazed stainless steel curtain walls.</p>
08 41 13.13	Fire-Rated Aluminum-Framed Entrances and Storefronts	
08 41 16	Bronze-Framed Entrances and Storefronts	
08 41 19	Stainless-Steel-Framed Entrances and Storefronts	
08 41 23	Steel-Framed Entrances and Storefronts	
08 41 26	All-Glass Entrances and Storefronts	<p>Includes: entrances and storefronts formed of glass panels without metal framing.</p> <p>See: 08 44 26 for structural glass curtain walls.</p>
08 41 26.13	Point Supported All-Glass Storefronts	

NUMBER	TITLE	EXPLANATION
<b>08 42 00</b>	<b>Entrances</b>	Includes: entrances of various operating methods for exterior and interior applications.  See: 08 41 00 for entrances and storefronts. 08 43 00 for storefronts.
08 42 13	Aluminum-Framed Entrances	Includes: exterior and interior manual-swing aluminum entrance door and frame units, thresholds, hardware, glazing, and accessories for doors.
08 42 26	All-Glass Entrances	Includes: entrances formed of glass panels without metal framing.
08 42 29	Automatic Entrances	Includes: entrances of any material with integral opening and closing operators and actuating devices, other than revolving doors.  Alternate Terms/Abbreviations: automatic entrances: biparting entrances.  See: 08 71 13 for automatic door operators for use with doors other than automatic entrances.
08 42 29.13	Folding Automatic Entrances	
08 42 29.23	Sliding Automatic Entrances	
08 42 29.33	Swinging Automatic Entrances	
08 42 33	Revolving Door Entrances	Includes: entrances of any material that are operated by revolving action.  See: 08 71 53 for security door hardware. 08 88 53 for security glazing. 28 10 00 for access control.
08 42 33.13	Security Revolving Door Entrances	
08 42 36	Balanced Door Entrances	Includes: entrances of any material that employ pivots to allow operation with minimum force.
08 42 39	Pressure-Resistant Entrances	Includes: entrances intended to withstand and maintain differential pressure.  See: 08 39 00 for pressure-resistance doors. 08 55 00 for pressure-resistant windows. 08 88 39 for pressure-resistant glazing.

NUMBER	TITLE	EXPLANATION
08 42 43	Intensive Care Unit/Critical Care Unit Entrances	Includes: entrances with specific characteristics for intensive care or critical care applications.  Alternate Terms/Abbreviations: ICU/CCU: intensive care unit/critical care unit.
<b>08 43 00</b>	<b>Storefronts</b>	Includes: one- or two-story openings infilled with glass and other materials for exterior and interior applications.  Alternate Terms/Abbreviations: storefronts: mallfronts.  See: 08 41 00 for entrances and storefronts. 08 42 00 for entrances.
08 43 11	Timber-Framed Storefronts	
08 43 13	Aluminum-Framed Storefronts	Includes: storefronts of metal-framed glass construction for exterior and interior applications.  See: 08 44 13 for glazed aluminum curtain walls. 08 44 16 for glazed bronze curtain walls. 08 44 19 for glazed stainless steel curtain walls.
08 43 13.13	Fire-Rated Aluminum Storefronts	
08 43 16	Bronze-Framed Storefronts	
08 43 19	Stainless-Steel-Framed Storefronts	
08 43 23	Steel-Framed Storefronts	
08 43 26	All-Glass Storefronts	Includes: storefronts formed of glass panels without metal framing.  See: 08 44 26 for structural glass curtain walls.
08 43 27	Channel Glass Storefronts	
08 43 29	Sliding Storefronts	Includes: storefronts of any material that open through sliding action of the panels.
<b>08 44 00</b>	<b>Curtain Wall and Glazed Assemblies</b>	Includes: multi-story cladding fabricated from glass and other materials for exterior applications. Framing members, sash, glazing, and sealants for complete enclosure. Insulated and non-insulated spandrel and infill panels. Louvers integral to curtain wall. Fixed sun screens integral to curtain wall.  See: 04 42 43 for stone panels for curtain walls. 14 84 13 for window washing scaffolding. 14 84 23 for window washing hoists.

NUMBER	TITLE	EXPLANATION
08 44 11	Glazed Timber Curtain Walls	
08 44 12	Glazed Composite Curtain Wall	
08 44 12.13	Glazed Fiberglass Curtain Wall	
08 44 13	Glazed Aluminum Curtain Walls	Includes: multi-story cladding of metal-framed glass construction for exterior applications.  See: 08 41 13 for aluminum-framed entrances and storefronts. 08 41 16 for bronze-framed entrances and storefronts. 08 41 19 for stainless steel-framed entrances and storefronts.
08 44 16	Glazed Bronze Curtain Walls	
08 44 18	Glazed Steel Curtain Walls	
08 44 19	Glazed Stainless-Steel Curtain Walls	
08 44 23	Structural Sealant Glazed Curtain Walls	
08 44 26	Structural Glass Curtain Walls	Includes: structural glass walls and tensile curtain walls.  See: 08 41 26 for all-glass entrances and storefronts.
08 44 26.13	Glass Framed Point Supported Glass Curtain Walls	
08 44 26.16	Metal Framed Point Supported Glass Curtain Walls	
08 44 26.23	Cable Framed Point Supported Glass Curtain Walls	
08 44 33	Sloped Glazing Assemblies	Includes: glazed curtain walls in which the glazed panels are primarily on a sloped plane.  See: 08 43 26 for all glass storefronts. 13 34 13 for glazed structures.
<b>08 45 00</b>	<b>Translucent Wall and Roof Assemblies</b>	Includes: translucent panel assemblies.
08 45 13	Structured-Polycarbonate-Panel Assemblies	
08 45 23	Fiberglass-Sandwich-Panel Assemblies	
<b>08 46 00</b>	<b>Window Wall Assemblies</b>	

NUMBER	TITLE	EXPLANATION
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## 08 50 00 Windows

Includes: windows of any material, both operating and non-operating. Fixed, single-hung, double-hung, sliding, projected, hopper, awning, casement, and jalousie windows. Operating hardware, screens, and other accessories. Factory glazing. Louver blinds integral to window construction.

May Include: window sills and stools. Perimeter joint sealant.

See: 08 01 50 for replacement windows.  
 08 12 00 for metal sidelight, transom, and borrowed light frames.  
 08 40 00 for entrances, storefronts, and curtain walls.  
 08 61 00 for roof windows.  
 08 80 00 for field-installed glazing.  
 10 74 43 for below-grade egress assemblies.  
 10 74 46 for window wells.  
 13 34 13 for glazed structures.

See Also: 05 58 00 for formed metal sills and stools.  
 06 46 00 for wood sills, stools, and casings.  
 07 92 00 for joint sealants.

## 08 51 00 Metal Windows

Includes: windows framed with any metal.

See: 08 43 00 for metal-framed storefronts.

08 51 13	Aluminum Windows
08 51 16	Bronze Windows
08 51 19	Stainless-Steel Windows
08 51 23	Steel Windows
08 51 23.13	Hot-Rolled Steel Windows

Includes: hot-rolled steel windows, glazing, and hardware.

08 51 23.23	Cold-Rolled Steel Windows
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Includes: cold-rolled steel windows, glazing, and hardware.

08 51 66	Metal Window Screens
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Includes: windows and screens framed with metal used for storm or thermal protection or for screening, usually as adjuncts to other windows.

See: 08 52 66 for wood window screens.  
 08 52 69 for wood storm windows.  
 08 53 66 for vinyl window screens.  
 08 53 69 for vinyl storm windows.  
 08 54 66 for fiberglass window screens.  
 08 54 69 for fiberglass storm windows.

NUMBER	TITLE	EXPLANATION
08 51 69	Metal Storm Windows	
<b>08 52 00</b>	<b>Wood Windows</b>	Includes: windows framed with wood.  See: 06 48 00 for custom wood framed windows.
08 52 13	Metal-Clad Wood Windows	
08 52 16	Plastic-Clad Wood Windows	
08 52 66	Wood Window Screens	Includes: windows and screens framed with wood used for storm or thermal protection or for screening, usually as adjuncts to other windows.  See: 08 51 66 for metal window screens. 08 51 69 for metal storm windows. 08 53 66 for vinyl window screens. 08 53 69 for vinyl storm windows. 08 54 66 for fiberglass window screens. 08 54 69 for fiberglass storm windows.
08 52 69	Wood Storm Windows	
<b>08 53 00</b>	<b>Plastic Windows</b>	Includes: windows framed with plastic.  See: 08 51 66 for metal window screens. 08 51 69 for metal storm windows. 08 52 66 for wood window screens. 08 52 69 for wood storm windows. 08 54 66 for fiberglass window screens. 08 54 69 for fiberglass storm windows.
08 53 13	Vinyl Windows	
08 53 66	Vinyl Window Screens	Includes: windows and screens framed with vinyl used for storm or thermal protection or for screening, usually as adjuncts to other windows.
08 53 69	Vinyl Storm Windows	
<b>08 54 00</b>	<b>Composite Windows</b>	Includes: windows framed with composite materials.  See: 08 52 13 for metal-clad wood windows. 08 52 16 for plastic-clad wood windows.
08 54 13	Fiberglass Windows	



NUMBER	TITLE	EXPLANATION
08 54 66	Fiberglass Window Screens	Includes: windows and screens framed with fiberglass used for storm or thermal protection or for screening, usually as adjuncts to other windows.  See: 08 51 66 for metal window screens. 08 51 69 for metal storm windows. 08 52 66 for wood window screens. 08 52 69 for wood storm windows. 08 53 66 for vinyl window screens. 08 53 69 for vinyl storm windows.
08 54 69	Fiberglass Storm Windows	
08 54 73	Vinyl-Wood Composite Windows	
<b>08 55 00</b>	<b>Pressure-Resistant Windows</b>	Includes: windows with special characteristics to withstand and maintain differential pressure.  See: 08 39 00 for pressure-resistant doors. 08 42 39 for pressure-resistant entrances. 08 88 39 for pressure-resistant glazing.
08 55 13	Tornado-Resistant Windows	See Also: 04 23 00 for glass unit masonry.
08 55 23	Blast-Resistant Windows	See Also: 04 23 00 for glass unit masonry.
<b>08 56 00</b>	<b>Special Function Windows</b>	Includes: windows with special characteristics for a special function.  May Include: accessories such as pivoting turntables, voice transmitters, and deal trays.
08 56 19	Pass Windows	May Include: accessories such as pivoting turntables, voice transmitters, and deal trays.
08 56 46	Radio-Frequency-Interference Shielding Windows	Includes: windows with special characteristics to exclude radio-frequency interference.  Alternate Terms/Abbreviations: RFI: radio frequency interference.  See: 08 34 46 for radio-frequency-interference shielding doors.

NUMBER	TITLE	EXPLANATION
08 56 49	Radiation Shielding Windows	Includes: windows with special characteristics to exclude radiation.  See: 08 34 49 for radiation shielding doors. 08 88 49 for radiation-resistant glazing. 13 49 00 for radiation protection.
08 56 53	Security Windows	Includes: windows and window screens with special characteristics for high security applications.  Alternate Terms/Abbreviations: service and teller windows: cashier windows.  See: 08 88 53 for security glazing. 28 20 00 for video surveillance.
08 56 56	Security Window Screens	
08 56 59	Service and Teller Window Units	
08 56 73	Sound Control Windows	Includes: windows with specific characteristics to exclude sound.  Alternate Terms/Abbreviations: sound control windows: sound retardant windows.  See: 08 34 73 for sound control doors.
08 56 88	Interior Insulating Windows	
<b>08 60 00</b>	<b>Roof Windows and Skylights</b>	Includes: glazed openings located above the interior space, fixed or operating. Shop glazing, operating hardware, screens, and other accessories.  See: 04 23 19 for glass unit masonry skylights. 08 44 33 for sloped glazed assemblies. 08 80 00 for field-installed glazing. 13 34 13 for glazed structures.
<b>08 61 00</b>	<b>Roof Windows</b>	Includes: operable and non-operable roof windows framed of any material.
08 61 13	Metal Roof Windows	
08 61 16	Wood Roof Windows	

NUMBER	TITLE	EXPLANATION
<b>08 62 00</b>	<b>Unit Skylights</b>	Includes: skylights without framing except at the perimeter of the glazing.  Alternate Terms/Abbreviations: skylight: ceiling domes.
08 62 13	Domed Unit Skylights	
08 62 16	Pyramidal Unit Skylights	
08 62 19	Vaulted Unit Skylights	
08 62 23	Tubular Skylights	
<b>08 63 00</b>	<b>Metal-Framed Skylights</b>	Includes: skylights with any metal framing.
08 63 13	Domed Metal-Framed Skylights	
08 63 16	Pyramidal Metal-Framed Skylights	
08 63 19	Vaulted Metal-Framed Skylights	
08 63 23	Ridge Metal-Framed Skylights	
08 63 53	Motorized Metal-Framed Skylights	
<b>08 64 00</b>	<b>Plastic-Framed Skylights</b>	Includes: skylights with plastic framing.
<b>08 65 00</b>	<b>Glazed Canopies</b>	
08 65 13	Suspended Glazed Canopies	Includes: custom constructed canopy assemblies.  See Also: 10 73 00 for protective covers.
<b>08 67 00</b>	<b>Skylight Protection and Screens</b>	Includes: screens and other protection for skylights.
<b>08 70 00</b>	<b>Hardware</b>	Includes: hardware and gaskets for doors and windows not supplied as part of the manufactured item. Electronic, magnetic, hydraulic, and pneumatic components for operating, controlling, and monitoring doors and windows.
<b>08 71 00</b>	<b>Door Hardware</b>	Includes: hardware for the operation of doors, including hanging, latching, locking, controlling, and automatic operation. Hinges, pivots, sliding and folding door hardware, latches, locks, cylinders, exit devices, closers, holders, self-closing hinges, push plates, kick plates, other door trim, weatherstripping, seals, gaskets, and thresholds.  Alternate Terms/Abbreviations: door hardware: finish hardware, builder's hardware. Exit devices: panic devices.

NUMBER	TITLE	EXPLANATION
08 71 13	Automatic Door Operators	
08 71 53	Security Door Hardware	Includes: hardware with specific characteristics for high security applications.
<b>08 74 00</b>	<b>Non-Integrated Access Control Hardware</b>	
08 74 13	Non-Integrated Card Key Access Control Hardware	
08 74 16	Non-Integrated Keypad Access Control Hardware	
08 74 19	Non-Integrated Biometric Identity Access Control Hardware	
<b>08 75 00</b>	<b>Window Hardware</b>	Includes: hardware for the operation of windows. Weatherstripping, seals, and gaskets for windows.
08 75 13	Automatic Window Equipment	
08 75 16	Window Operators	
<b>08 78 00</b>	<b>Special Function Hardware</b>	Includes: mechanical and electro-mechanical hardware intended for a specialized purpose, which establishes a determining characteristic.
<b>08 79 00</b>	<b>Hardware Accessories</b>	Includes: accessories for doors and windows not included in other titles.
08 79 13	Key Storage Equipment	
<b>08 80 00</b>	<b>Glazing</b>	Includes: glass and plastic glazing for doors, sidelights, transoms, borrowed lights, entrances, storefronts, curtain walls, windows, skylights, and glazed structures.  Does Not Include: glazing integral with manufactured items such as casework, food service equipment, and telephone enclosures.  See: 08 10 00 for doors and frames. 08 30 00 for shop glazing of entrances, storefronts, and curtain walls. 08 50 00 for factory glazing of windows. 08 60 00 for shop glazing of roof windows and skylights. 13 34 13 for glazed structures.

NUMBER	TITLE	EXPLANATION
<b>08 81 00</b>	<b>Glass Glazing</b>	<p>Includes: transparent and translucent glass glazing for general and special purpose applications.</p> <p>Alternate Terms/Abbreviations: low-e: low emissivity.</p> <p>See: 04 23 00 for glass unit masonry. 05 73 13 for glazed decorative metal railings. 12 17 00 for etched and stained art glass.</p> <p>Products: bent glass, chemically strengthened glass, coated glass, composite glass, fire-resistant rated glass, float glass, heat-strengthened glass, impact resistant glass, insulating glass, low emissivity glass, laminated glass, rolled glass, spandrel glass, tempered glass, and wired glass.</p>
08 81 13	Decorative Glass Glazing	
08 81 23	Exterior Glass Glazing	
08 81 26	Interior Glass Glazing	
<b>08 83 00</b>	<b>Mirrors</b>	<p>Includes: unframed mirrors of any material.</p> <p>See: 08 88 33 for transparent mirrored glazing. 10 28 00 for metal-framed mirrors as toilet or bath accessory. 10 86 00 for security domes and mirrors. 12 40 00 for mirrors as part of furnishings.</p>
08 83 13	Mirrored Glass Glazing	
08 83 16	Mirrored Plastic Glazing	
<b>08 84 00</b>	<b>Plastic Glazing</b>	<p>Includes: transparent and translucent plastic glazing for general and special purpose applications. Insulating, acrylic, polycarbonate plastic glazing.</p> <p>See: 08 88 00 for special function glazing. 09 76 00 for plastic blocks. 12 17 00 for etched and stained art glass.</p> <p>Products: insulating, acrylic, polycarbonate plastic glazing.</p>
08 84 13	Decorative Plastic Glazing	

NUMBER	TITLE	EXPLANATION
<b>08 85 00</b>	<b>Glazing Accessories</b>	Includes: accessories to install glazing.  See: 08 87 00 for glazing surface films.  Products: glazing compounds, setting blocks, shims, tape, splines, clips, glazing sealant, and other accessories.
<b>08 87 00</b>	<b>Glazing Surface Films</b>	Includes: films applied to surface of glazing to change performance or appearance of glazing.  See: 08 56 53 for security windows. 08 88 53 for security glazing. 10 71 13 for exterior sun control devices.
08 87 13	Solar Control Films	
08 87 23	Safety and Security Films	
08 87 23.13	Safety Films	
08 87 23.16	Security Films	
08 87 26	Bird Control Film	
08 87 33	Decorative Films	
<b>08 88 00</b>	<b>Special Function Glazing</b>	Includes: glazing with specific characteristics for a special function or application.  See: 05 16 00 for structural cabling. 13 31 23 for tensioned fabric structures with cable supports.
08 88 13	Fire-Rated Glazing	
08 88 19	Hurricane-Resistant Glazing	
08 88 23	Cable Suspended Glazing	
08 88 33	Transparent Mirrored Glazing	
08 88 36	Switchable Glass	
08 88 36.16	Electronically Controlled Switchable Glass	
08 88 39	Pressure-Resistant Glazing	Includes: glazing with specific characteristics to withstand and maintain differential pressure.  See: 08 39 00 for pressure-resistant doors. 08 42 39 for pressure-resistant entrances. 08 55 00 for pressure-resistant windows.

NUMBER	TITLE	EXPLANATION
08 88 49	Radiation-Resistant Glazing	Includes: glazing with specific characteristics to exclude radiation.  See: 08 34 49 for radiation shielding doors. 08 56 49 for radiation shielding windows. 13 49 00 for radiation protection.
08 88 53	Security Glazing	Includes: glazing with specific characteristics for high security applications.  Alternate Terms/Abbreviations: ballistics-resistant; bullet-resistant.  See: 08 34 53 for security doors and frames. 08 39 53 for blast-resistant doors. 08 42 33 for security revolving door entrances. 08 56 53 for security windows. 28 10 00 for access control.
08 88 56	Ballistics-Resistant Glazing	
<b>08 90 00</b>	<b>Louvers and Vents</b>	Includes: items and enclosures for ventilation that are not an integral part of mechanical equipment.  See: 10 82 00 for grilles and screens.
<b>08 91 00</b>	<b>Louvers</b>	Includes: louvers of any material.  See: 07 42 00 for louvers integral with wall panels. 08 44 00 for louvers integral with curtain walls. 23 37 00 for louvers integral with HVAC ducts.
08 91 13	Motorized Wall Louvers	
08 91 16	Operable Wall Louvers	
08 91 19	Fixed Louvers	
08 91 26	Door Louvers	Includes: louvers in doors which are not integral to door construction.  May Include: louvers in fire-resistant rated doors.  See: 08 10 00 for louvers integral with door construction.  See Also: 08 10 00 for louvers in fire-resistant rated doors.

NUMBER	TITLE	EXPLANATION
<b>08 92 00</b>	<b>Louvered Equipment Enclosures</b>	Includes: louvers used as visual screening of equipment.  See: 10 82 13 for exterior grilles and screens. 23 37 23 for penthouse ventilators.
<b>08 95 00</b>	<b>Vents</b>	Includes: vents of any material.  Alternate Terms/Abbreviations: wall vents: brick vents.  See: 07 72 00 for roof vents.
08 95 13	Soffit Vents	
08 95 16	Wall Vents	Alternate Terms/Abbreviations: block and brick vents.
08 95 33	Explosion Vents	
08 95 43	Flood Vents	



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NUMBER	TITLE	EXPLANATION
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# DIVISION 09 – FINISHES

## 09 00 00 Finishes

May be used as Division level  
Section title.

### 09 01 00 Maintenance of Finishes

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of finishes.

Level 4 Numbering Recommendation: Level 4 titles for finishes are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 02 83 33 for lead-based paint removal and disposal.

09 01 20 Maintenance of Plaster and Gypsum Board

09 01 20.91 Plaster Restoration

09 01 30 Maintenance of Tiling

09 01 30.91 Tile Restoration

09 01 50 Maintenance of Ceilings

09 01 50.91 Ceiling Restoration

09 01 60 Maintenance of Flooring

09 01 60.91 Flooring Restoration

09 01 70 Maintenance of Wall Finishes

09 01 70.91 Wall Finish Restoration

09 01 80 Maintenance of Acoustic Treatment

09 01 90 Maintenance of Painting and Coating

09 01 90.51 Paint Cleaning

09 01 90.52 Maintenance Repainting

09 01 90.53 Maintenance Coatings

09 01 90.61 Repainting

09 01 90.91 Paint Restoration

09 01 90.92 Coating Restoration

09 01 90.93 Paint Preservation

### 09 03 00 Conservation Treatment of Period Finishes

09 03 21 Conservation Treatment for Period Plaster Assemblies

May Include: requirements for gypsum plastering, Portland cement plastering, veneer plastering, and plaster fabrications and details.

09 03 25 Conservation Treatment for Period Plastering

09 03 25.23 Conservation Treatment for Period Lime-Based Plaster

09 03 30 Conservation Treatment for Period Tile

DIVISION 09

NUMBER	TITLE	EXPLANATION
09 03 50	Conservation Treatment for Period Ceilings	
09 03 51	Conservation Treatment for Period Suspended Ceilings	
09 03 56	Conservation Treatment for Textured Ceilings	
09 03 56.16	Conservation Treatment for Period Metal-Panel Textured Ceilings	
09 03 60	Conservation Treatment for Period Flooring	
09 03 63	Conservation Treatment for Period Masonry Flooring	
09 03 63.13	Conservation Treatment for Period Brick Flooring	
09 03 63.40	Conservation Treatment for Period Stone Flooring	
09 03 64	Conservation Treatment for Period Wood Flooring	
09 03 64.29	Conservation Treatment for Period Wood Strip and Plank Flooring	
09 03 65	Conservation Treatment for Period Resilient Flooring	
09 03 65.16	Conservation Treatment for Period Resilient Sheet Flooring	
09 03 66	Conservation Treatment for Period Terrazzo Flooring	
09 03 70	Conservation Treatment for Period Wall Finishes	
09 03 72	Conservation Treatment for Period Wall Coverings	
09 03 90	Conservation Treatment for Period Painting and Coating	
09 03 91	Conservation Treatment for Period Painted Surfaces	May Include: repainting of existing interior and exterior surfaces, analysis of historic coating components, and matching faux finishes.
09 03 91.13	Conservation Treatment for Period Exterior Painting	
09 03 91.23	Conservation Treatment for Period Interior Painting	

**09 05 00 Common Work Results for Finishes**

Includes: subjects common to multiple titles in Division 09.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

09 05 05	Selective Demolition for Finishes	See: 02 41 19 for selective demolition for whole structure demolition.
09 05 13	Common Finishes	
09 05 61	Common Work Results for Flooring Preparation	
09 05 61.13	Moisture Vapor Emission Control	
09 05 71	Acoustic Underlayment	

**09 06 00 Schedules for Finishes**

Includes: schedules of items common to multiple titles in Division 09.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

09 06 00.13	Room Finish Schedule	
09 06 20	Schedules for Plaster and Gypsum Board	
09 06 30	Schedules for Tiling	
09 06 50	Schedules for Ceilings	

NUMBER	TITLE	EXPLANATION
09 06 60	Schedules for Flooring	
09 06 70	Schedules for Wall Finishes	
09 06 80	Schedules for Acoustical Treatment	
09 06 90	Schedules for Painting and Coating	
09 06 90.13	Paint Schedule	
<b>09 08 00</b>	<b>Commissioning of Finishes</b>	Includes: commissioning of items common to multiple titles in Division 09.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>09 20 00</b>	<b>Plaster and Gypsum Board</b>	Includes: non-structural metal support assemblies for plaster and gypsum board. Exterior and interior veneer plaster, acoustical plaster, plaster partitions, and plaster fireproofing. Exterior and interior gypsum board, gypsum board assemblies, accessories, and trim.  May Include: acoustical insulation and sealants.  See: 05 40 00 for structural cold-formed metal framing. 06 11 00 for wood framing. 07 24 00 for exterior insulation and finish systems.  See Also: 07 92 19 for acoustic sealants. 09 81 00 for acoustic insulation.
<b>09 21 00</b>	<b>Plaster and Gypsum Board Assemblies</b>	Includes: plaster, lath, board, non-structural framing, accessories, and trim for plaster and gypsum board assemblies.
09 21 13	Plaster Assemblies	
09 21 16	Gypsum Board Assemblies	
09 21 16.23	Gypsum Board Shaft Wall Assemblies	
09 21 16.33	Gypsum Board Area Separation Wall Assemblies	

NUMBER	TITLE	EXPLANATION
<b>09 22 00</b>	<b>Supports for Plaster and Gypsum Board</b>	<p>Includes: non-structural framing systems, ceiling suspension systems, and furring systems for plaster and gypsum board. Lathing, accessories, and trim for plaster. Base for veneer plaster.</p> <p>See: 05 10 00 for structural metal framing.  05 40 00 for cold-formed structural metal framing.  06 11 00 for wood framing.  07 40 00 for metal framing with roofing and siding panels.  08 44 00 for metal framing for curtain walls.  09 21 00 for metal framing for plaster and gypsum board assemblies.  09 53 00 for acoustical ceiling suspension assemblies.  13 34 00 for metal supports for fabricated engineered structures.  23 32 00 for air plenums and chases.</p>
09 22 13	Metal Furring	
09 22 13.13	Metal Channel Furring	
09 22 13.23	Resilient Channel Furring	
09 22 16	Non-Structural Metal Framing	
09 22 16.13	Non-Structural Metal Stud Framing	
09 22 26	Suspension Systems	
09 22 26.23	Metal Suspension Systems	
09 22 26.33	Plastic Suspension Systems	
09 22 36	Lath	
09 22 36.13	Gypsum Lath	
09 22 36.23	Metal Lath	
09 22 39	Veneer Plaster Base	
<b>09 23 00</b>	<b>Gypsum Plastering</b>	<p>Includes: gypsum plaster fireproofing.</p> <p>May Include: non-structural metal framing, ceiling suspension, and furring systems.</p> <p>See: 07 82 00 for board fire protection.</p> <p>See Also: 09 22 00 for metal supports for plaster.</p>
09 23 13	Acoustical Gypsum Plastering	
09 23 82	Fire Protected Gypsum Plastering	

NUMBER	TITLE	EXPLANATION
<b>09 24 00</b>	<b>Cement Plastering</b>	Includes: interior and exterior plaster (stucco) finishes.  May Include: non-structural metal framing, ceiling suspension, and furring systems.  See: 07 24 00 for exterior insulation and finish systems.  See Also: 09 22 00 for non-structural metal supports for plaster.
09 24 13	Acoustical Cement Plastering	
09 24 23	Cement Stucco	
09 24 33	Cement Parging	
<b>09 25 00</b>	<b>Other Plastering</b>	Includes: acrylic and lime-based plastering. Venetian plastering.  May Include: non-structural metal framing, ceiling suspension, and furring systems.  See Also: 09 22 00 for non-structural metal supports for plaster.
09 25 13	Acrylic Plastering	
09 25 13.13	Acrylic Plaster Finish	
09 25 23	Lime Based Plastering	
09 25 26	Natural Clay Plastering	Includes: adobe finishes.
<b>09 26 00</b>	<b>Veneer Plastering</b>	Includes: gypsum plaster capable of thin application over veneer plaster base.  May Include: non-structural metal framing, ceiling suspension, and furring systems.  See Also: 09 22 00 for non-structural metal supports for plaster.
09 26 13	Gypsum Veneer Plastering	
<b>09 27 00</b>	<b>Plaster Fabrications</b>	Includes: glass-fiber-reinforced plaster and simulated plaster fabrications.  Alternate Terms/Abbreviations: GFRP: glass-fiber-reinforced plaster.  See: 06 82 00 for glass-fiber-reinforced plastic.

DIVISION 09

NUMBER	TITLE	EXPLANATION
09 27 13	Glass-Fiber-Reinforced Gypsum Fabrications	
09 27 23	Simulated Plaster Fabrications	

**09 28 00 Backing Boards and Underlayments**

Includes: gypsum and cementitious backing board for other finishes.

See: 09 30 00 for tiling.

09 28 13	Cementitious Backing Boards	
09 28 16	Glass-Mat Faced Gypsum Backing Boards	
09 28 19	Fibered Gypsum Backing Boards	

**09 29 00 Gypsum Board**

Includes: unfinished and prefinished gypsum board over metal and wood framing; accessories and trim; joint taping and finishing.

May Include: non-structural metal framing, ceiling suspension, and furring systems. Gypsum and cementitious backing board for other finishes.

Alternate Terms/Abbreviations: gypsum board: gypsum wallboard: drywall.

See: 05 40 00 for cold-formed structural metal framing.  
 06 11 00 for wood framing.  
 07 82 00 for board fire protection.  
 09 56 13 for gypsum-panel textured ceilings.  
 10 22 19 for demountable gypsum board partitions.

See Also: 06 16 43 for gypsum sheathing.  
 09 22 00 for metal supports for gypsum board.  
 09 28 00 for backing boards and underlayments.

09 29 82	Gypsum Board Fire Protection	
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NUMBER	TITLE	EXPLANATION
<b>09 30 00</b>	<b>Tiling</b>	<p>Includes: manufactured surfacing units of impervious, vitreous, semi-vitreous, and non-vitreous materials; glazed, unglazed, conductive, abrasive, and textured surfaces. Related mortar, adhesives, grout, trim, and accessories. Related antifracture membranes. Tile towel bar holders, toilet paper holders, soap dishes, and other tile accessories. Tiling by tile material.</p> <p>May Include: tile murals.</p> <p>See: 03 45 13 for tile faced architectural precast concrete.  07 32 00 for roof tiles.  07 44 19 for tile faced panels.  09 28 00 for tile backing boards.  09 51 23 for acoustical tile ceilings.  09 63 40 for stone flooring.  09 66 16 for terrazzo floor tile.  09 75 00 for stone facing.</p> <p>See Also: 12 11 00 for tile murals.</p> <p>Products: ceramic tile: porcelain mosaic tile, glazed wall tile, monocuttura tile, and bicottura tile. Paver tile: glazed and unglazed porcelain paver ceramic tile and natural clay paver ceramic tile. Stone tile: natural cut agglomerate tile.</p>
09 30 13	Ceramic Tiling	Includes: ceramic tile: porcelain mosaic tile, glazed wall tile, monocuttura tile, and bicottura tile.
09 30 16 09 30 19	Quarry Tiling Paver Tiling	Includes: paver tile: glazed and unglazed porcelain paver ceramic tile and natural clay paver ceramic tile.
09 30 23 09 30 26 09 30 29 09 30 33	Glass Mosaic Tiling Plastic Tiling Metal Tiling Stone Tiling	Includes: stone tile: natural cut agglomerate tile.
09 30 36 09 30 39	Concrete Tiling Brick Tiling	



NUMBER	TITLE	EXPLANATION
<b>09 31 00</b>	<b>Thin-Set Tiling</b>	Includes: installation of tile without a thick mortar bed by use of dry-set mortars, latex-modified mortars, epoxy mortars, furan resin mortars, and adhesives.  See: 09 32 00 for mortar-bed tiling. 09 33 00 for conductive tiling. 09 34 00 for waterproofing-membrane tiling. 09 35 00 for chemical-resistant tiling.
09 31 13	Thin-Set Ceramic Tiling	
09 31 16	Thin-Set Quarry Tiling	
09 31 19	Thin-Set Paver Tiling	
09 31 23	Thin-Set Glass Mosaic Tiling	
09 31 26	Thin-Set Plastic Tiling	
09 31 29	Thin-Set Metal Tiling	
09 31 33	Thin-Set Stone Tiling	
09 31 36	Thin-Set Concrete Tiling	
<b>09 32 00</b>	<b>Mortar-Bed Tiling</b>	Includes: installation of tile with thick mortar bed. Welded wire fabric reinforcing.  Alternate Terms/Abbreviations: WWF: welded wire fabric, welded wire mesh: welded wire reinforcement.  See: 03 22 00 for fabric and grid reinforcing. 09 31 00 for thin-set tiling. 09 33 00 for conductive tiling. 09 34 00 for waterproofing-membrane tiling. 09 63 00 for masonry flooring with thick mortar bed.
09 32 13	Mortar-Bed Ceramic Tiling	
09 32 16	Mortar-Bed Quarry Tiling	
09 32 19	Mortar-Bed Paver Tiling	
09 32 23	Mortar-Bed Glass Mosaic Tiling	
09 32 26	Mortar-Bed Plastic Tiling	
09 32 29	Mortar-Bed Metal Tiling	
09 32 33	Mortar-Bed Stone Tiling	
09 32 36	Mortar-Bed Concrete Tiling	

NUMBER	TITLE	EXPLANATION
<b>09 33 00</b>	<b>Conductive Tiling</b>	Includes: installation of electrically conductive tiles, which are static conductive to prevent spark discharge.  See: 09 31 00 for thin-set tiling. 09 32 00 for mortar-bed tiling. 09 34 00 for waterproofing-membrane tiling. 09 35 00 for chemical-resistant tiling. 09 61 36 for static-resistant flooring treatment. 09 65 33 for conductive resilient flooring. 09 65 36 for static-control resilient flooring. 09 66 33 for conductive terrazzo flooring. 09 67 13 for conductive elastomeric liquid flooring.
09 33 13	Conductive Ceramic Tiling	
09 33 16	Conductive Quarry Tiling	
09 33 19	Conductive Paver Tiling	
09 33 23	Conductive Glass Mosaic Tiling	
09 33 26	Conductive Plastic Tiling	
09 33 29	Conductive Metal Tiling	
09 33 33	Conductive Stone Tiling	
09 33 36	Conductive Concrete Tiling	
<b>09 34 00</b>	<b>Waterproofing-Membrane Tiling</b>	Includes: tiling with integral waterproofing.  See: 07 10 00 for separate waterproofing membrane. 09 31 00 for thin-set tiling. 09 32 00 for mortar-bed tiling. 09 33 00 for conductive tiling. 09 35 00 for chemical-resistant tiling.
09 34 13	Waterproofing-Membrane Ceramic Tiling	
09 34 16	Waterproofing-Membrane Quarry Tiling	
09 34 19	Waterproofing-Membrane Paver Tiling	
09 34 23	Waterproofing-Membrane Glass Mosaic Tiling	
09 34 26	Waterproofing-Membrane Plastic Tiling	
09 34 29	Waterproofing-Membrane Metal Tiling	
09 34 33	Waterproofing-Membrane Stone Tiling	
09 34 36	Waterproofing-Membrane Concrete Tiling	

NUMBER	TITLE	EXPLANATION
<b>09 35 00</b>	<b>Chemical-Resistant Tiling</b>	Includes: tiling with chemical-resistant tile, mortar, and grout.  See: 04 61 00 for chemical-resistant brick masonry. 09 31 00 for thin-set tiling. 09 32 00 for mortar-bed tiling. 09 33 00 for conductive tiling. 09 34 00 for waterproofing-membrane tiling. 09 62 35 for acid-resistant flooring. 09 63 13 for chemical-resistant brick flooring. 09 96 35 for chemical-resistant coatings.
09 35 13	Chemical-Resistant Ceramic Tiling	
09 35 16	Chemical-Resistant Quarry Tiling	
09 35 19	Chemical-Resistant Paver Tiling	
09 35 23	Chemical-Resistant Glass Mosaic Tiling	
09 35 26	Chemical-Resistant Plastic Tiling	
09 35 29	Chemical-Resistant Metal Tiling	
09 35 33	Chemical-Resistant Stone Tiling	
09 35 36	Chemical-Resistant Concrete Tiling	
<b>09 50 00</b>	<b>Ceilings</b>	Includes: ceiling panels, units, and materials manufactured as finished ceiling surfaces. Ceiling suspension assemblies.  See: 23 32 33 for air-distribution ceiling plenums.
<b>09 51 00</b>	<b>Acoustical Ceilings</b>	Includes: suspended and directly applied tiles and panels with specific characteristics for acoustical purposes.  May Include: ceiling suspension assemblies.  See: 05 34 00 for acoustical metal decking. 09 23 13 for acoustical gypsum plastering. 09 58 00 for integrated ceiling assemblies. 09 62 48 for acoustic flooring. 09 80 00 for acoustic treatment. 09 83 16 for acoustic ceiling coating. 13 21 48 for sound-conditioned rooms. 13 48 00 for sound, vibration, and seismic control.  See Also: 09 53 00 for acoustical ceiling suspension assemblies.
09 51 13	Acoustical Panel Ceilings	
09 51 14	Acoustical Fabric-Faced Panel Ceilings	See: 09 54 46 for fabric-wrapped ceiling panels.

NUMBER	TITLE	EXPLANATION
09 51 23	Acoustical Tile Ceilings	
09 51 26	Acoustical Wood Ceilings	
09 51 33	Acoustical Metal Pan Ceilings	
09 51 33.13	Acoustical Snap-in Metal Pan Ceilings	
09 51 53	Direct-Applied Acoustical Ceilings	
<b>09 53 00</b>	<b>Acoustical Ceiling Suspension Assemblies</b>	Includes: suspension systems for acoustical ceilings.  See: 09 22 26 for suspension systems. 09 51 00 for acoustical ceilings.
09 53 13	Curved Profile Ceiling Suspension Assemblies	
09 53 23	Metal Acoustical Ceiling Suspension Assemblies	
09 53 33	Plastic Acoustical Ceiling Suspension Assemblies	
<b>09 54 00</b>	<b>Specialty Ceilings</b>	Includes: specialty ceiling panels, units, and materials manufactured as finished ceiling surfaces. Acoustical provisions are of secondary consideration. Ceiling suspension assemblies.  May Include: acoustical provisions.  See: 05 34 00 for acoustical metal decking. 08 83 00 for mirrors. 09 51 00 for acoustical ceilings. 09 56 00 for textured ceilings. 09 57 00 for special function ceilings. 09 58 00 for integrated ceiling assemblies. 09 77 00 for special wall surfacing. 12 05 13 for fabrics. 26 51 00 for interior lighting.
09 54 13	Open Metal Mesh Ceilings	
09 54 16	Luminous Ceilings	
09 54 19	Mirror Panel Ceilings	
09 54 21	Metal Pan Ceilings	
09 54 23	Linear Metal Ceilings	
09 54 26	Suspended Wood Ceilings	
09 54 29	Suspended Plastic Ceilings	
09 54 33	Decorative Panel Ceilings	
09 54 36	Suspended Decorative Grids	
09 54 43	Stretched-Fabric Ceiling Systems	
09 54 46	Fabric-Wrapped Ceiling Panels	
09 54 53	Fiberglass Reinforced Panel Ceilings	Alternate Terms/Abbreviations: FRP.

NUMBER	TITLE	EXPLANATION
<b>09 56 00</b>	<b>Textured Ceilings</b>	Includes: specialty ceilings characterized by a textured surface.  See: 09 29 00 for gypsum board. 09 54 00 for specialty ceilings. 09 94 13 for textured finishing.
09 56 13	Gypsum-Panel Textured Ceilings	
09 56 16	Metal-Panel Textured Ceilings	
09 56 19	Plastic-Panel Textured Ceilings	
<b>09 57 00</b>	<b>Special Function Ceilings</b>	Includes: ceiling assemblies with an additional special function.  See: 08 34 53 for security doors and frames. 09 54 00 for specialty ceilings.
09 57 53	Security Ceiling Assemblies	
<b>09 58 00</b>	<b>Integrated Ceiling Assemblies</b>	Includes: ceiling assemblies with integrated lighting, HVAC, and plumbing provisions.  Alternate Terms/Abbreviations: integrated ceiling: ventilating ceiling.  See: 09 51 00 for acoustical ceilings. 09 54 00 for specialty ceilings. 23 30 00 for HVAC air distribution. 26 51 00 for interior lighting.
<b>09 60 00</b>	<b>Flooring</b>	Includes: finished floor coverings primarily intended for interior locations, set over structural support.
<b>09 61 00</b>	<b>Flooring Treatment</b>	Includes: coatings and surfacings for finished flooring, applied to provide a specific performance characteristic.  See: 03 35 13 for high-tolerance concrete floor finishing. 03 35 16 for heavy-duty concrete floor finishing. 03 54 00 for cast underlayment. 07 18 00 for traffic coatings. 09 33 00 for conductive tiling. 09 65 33 for conductive resilient flooring. 09 65 36 for static-control resilient flooring. 09 66 33 for conductive terrazzo flooring. 09 67 13 for conductive elastomeric liquid flooring.

NUMBER	TITLE	EXPLANATION
09 61 13	Slip-Resistant Flooring Treatment	
09 61 19	Concrete Floor Staining	
09 61 36	Static-Resistant Flooring Treatment	
<b>09 62 00</b>	<b>Specialty Flooring</b>	Includes: heavy-duty and other specialty flooring.  See: 09 35 00 for chemical-resistant tiling. 09 51 00 for acoustical ceilings. 09 63 13 for chemical-resistant brick flooring. 09 64 00 for wood flooring. 09 64 66 for wood athletic flooring. 09 65 66 for resilient athletic flooring. 09 67 66 for fluid-applied athletic flooring. 09 72 13 for cork wall coverings. 09 80 00 for acoustic treatment. 09 96 35 for chemical-resistant coatings. 13 28 66 for demountable athletic surfaces.
09 62 13	Asphaltic Plank Flooring	
09 62 16	Concrete Plank Flooring	
09 62 19	Laminate Flooring	
09 62 26	Leather Flooring	
09 62 29	Cork Flooring	
09 62 35	Acid-Resistant Flooring	
09 62 48	Acoustic Flooring	
09 62 53	Synthetic Turf Flooring	See: 32 18 13 for synthetic grass surfacing.
09 62 63	Metal Flooring	
09 62 63.13	Aluminum Flooring	
09 62 63.16	Stainless Steel Flooring	
09 62 83	Structural Glass Flooring	
<b>09 63 00</b>	<b>Masonry Flooring</b>	Includes: fired clay unit masonry and natural, simulated, and cast stone flooring. Flagstone, granite, marble, and slate stone flooring.  See: 04 20 00 for unit masonry. 04 40 00 for stone assemblies. 04 73 00 for manufactured stone masonry. 09 30 33 for cut natural stone tiling. 09 35 00 for chemical-resistant tiling. 09 62 35 for acid-resistant flooring. 09 75 00 for stone facing. 09 96 35 for chemical-resistant coatings. 32 14 00 for unit paving.
09 63 13	Brick Flooring	

DIVISION 09

NUMBER	TITLE	EXPLANATION
09 63 13.35	Chemical-Resistant Brick Flooring	
09 63 40	Stone Flooring	
09 63 43	Composition Stone Flooring	

**09 64 00 Wood Flooring**

Includes: flooring composed of wood with various types of backing. Wood sleeper and subfloor installation, adhesive installation.

Alternate Terms/Abbreviations: athletic flooring: gymnasium flooring: sports flooring.

See: 06 15 00 for wood decking.  
 09 64 36 for bamboo flooring.  
 09 65 66 for resilient athletic flooring.  
 09 67 66 for fluid-applied athletic flooring.  
 11 66 00 for athletic equipment.  
 13 28 66 for demountable athletic surfaces.

09 64 16	Wood Block Flooring	
09 64 19	Wood Composition Flooring	
09 64 23	Wood Parquet Flooring	
09 64 23.13	Acrylic-Impregnated Wood Parquet Flooring	
09 64 29	Wood Strip and Plank Flooring	
09 64 33	Laminated Wood Flooring	
09 64 36	Bamboo Flooring	
09 64 53	Resilient Wood Flooring Assemblies	
09 64 66	Wood Athletic Flooring	

**09 65 00 Resilient Flooring**

Includes: resilient tile and sheet flooring. Resilient base, resilient stair treads and risers, resilient stair nosings, resilient edging, and transitions for carpet.

Alternate Terms/Abbreviations: athletic flooring: gymnasium flooring: sports flooring. VCT: vinyl composition tile.

See: 09 33 00 for conductive tiling.  
 09 61 36 for static-resistant flooring treatment.  
 09 64 66 for wood athletic flooring.  
 09 66 33 for conductive terrazzo flooring.  
 09 67 13 for conductive elastomeric liquid flooring.  
 09 67 66 for fluid-applied athletic flooring.  
 13 28 66 for demountable athletic surfaces.

Products: linoleum, rubber, vinyl, vinyl composition floor coverings.

09 65 13	Resilient Base and Accessories	
09 65 13.13	Resilient Base	

NUMBER	TITLE	EXPLANATION
09 65 13.23	Resilient Stair Treads and Risers	
09 65 13.26	Resilient Stair Nosings	
09 65 13.33	Resilient Accessories	
09 65 13.36	Resilient Carpet Transitions	
09 65 16	Resilient Sheet Flooring	
09 65 16.23	Vinyl Sheet Flooring	
09 65 16.33	Rubber Sheet Flooring	
09 65 16.43	PVC-Free Sheet Flooring	
09 65 19	Resilient Tile Flooring	
09 65 19.19	Vinyl Composition Tile Flooring	
09 65 19.23	Vinyl Tile Flooring	
09 65 19.33	Rubber Tile Flooring	
09 65 19.43	Polyester Composition Tile Flooring	
09 65 33	Conductive Resilient Flooring	
09 65 36	Static-Control Resilient Flooring	
09 65 36.13	Static-Dissipative Resilient Flooring	
09 65 36.16	Static-Resistant Resilient Flooring	
09 65 43	Linoleum Flooring	
09 65 66	Resilient Athletic Flooring	
<b>09 66 00</b>	<b>Terrazzo Flooring</b>	Includes: cast-in-place, sand-cushion, monolithic, bonded, and adhesively bonded portland cement terrazzo; poured-in-place epoxy, polyester, and conductive plastic matrix terrazzo; and precast terrazzo. Accessories and finish sealers.
09 66 13	Portland Cement Terrazzo Flooring	
09 66 13.13	Sand Cushion Terrazzo Flooring	
09 66 13.16	Monolithic Terrazzo Flooring	
09 66 13.19	Bonded Terrazzo Flooring	
09 66 13.23	Palladina Terrazzo Flooring	
09 66 13.26	Rustic Terrazzo Flooring	
09 66 13.33	Structural Terrazzo Flooring	
09 66 16	Terrazzo Floor Tile	Includes: precast terrazzo.
09 66 16.13	Portland Cement Terrazzo Floor Tile	
09 66 16.16	Plastic-Matrix Terrazzo Floor Tile	
09 66 23	Resinous Matrix Terrazzo Flooring	Includes: thin-set terrazzo.  See: 09 67 00 for fluid-applied flooring.
09 66 23.13	Polyacrylate Modified Cementitious Terrazzo Flooring	
09 66 23.16	Epoxy-Resin Terrazzo Flooring	
09 66 23.19	Polyester-Resin Terrazzo Flooring	
09 66 33	Conductive Terrazzo Flooring	See: 09 33 00 for conductive tiling. 09 61 36 for static-resistant flooring treatment. 09 65 33 for conductive resilient flooring. 09 67 13 for conductive elastomeric liquid flooring.



NUMBER	TITLE	EXPLANATION
09 66 33.13	Conductive Epoxy-Resin Terrazzo	
09 66 33.16	Conductive Polyester-Resin Terrazzo Flooring	
09 66 33.19	Conductive Plastic-Matrix Terrazzo Flooring	

## 09 67 00 Fluid-Applied Flooring

Includes: flooring applied in a viscous state.

Alternate Terms/Abbreviations: fluid-applied: liquid-applied.  
Fluid-applied flooring: seamless flooring. Athletic flooring:  
gymnasium flooring: sports flooring.

See: 07 18 00 for traffic coatings.  
09 33 00 for conductive tiling.  
09 61 36 for static-resistant flooring treatment.  
09 64 66 for wood athletic flooring.  
09 65 00 for resilient flooring.  
09 65 33 for conductive resilient flooring.  
09 65 66 for resilient athletic flooring.  
09 66 23 for resinous matrix terrazzo flooring.  
09 66 33 for conductive terrazzo flooring.  
09 96 53 for elastomeric coatings.  
13 28 66 for demountable athletic surfaces.

Products: epoxy, epoxy novolac, latex mastic, methacrylate acrylic, polyester, polyurethane, urethane, vinyl ester fluid-applied flooring.

09 67 13	Elastomeric Liquid Flooring
09 67 13.33	Conductive Elastomeric Liquid Flooring
09 67 16	Epoxy-Marble Chip Flooring
09 67 19	Magnesium-Oxychloride Flooring
09 67 23	Resinous Flooring
09 67 26	Quartz Flooring
09 67 66	Fluid-Applied Athletic Flooring

## 09 68 00 Carpeting

Includes: carpet, carpet cushions, and accessories. Direct-glue-down installation, double-glue-down installation, carpet with attached-cushion installation, preapplied adhesive installation, hook-and-loop installation, stretch-in installation.

May Include: wall carpeting.

Alternate Terms/Abbreviations: sheet carpeting: roll carpeting: broadloom.

See: 12 48 00 for rugs and mats.

See Also: 09 69 00 for carpet tile with access flooring.  
09 73 00 for wall carpeting.

NUMBER	TITLE	EXPLANATION
09 68 13	Tile Carpeting	
09 68 16	Sheet Carpeting	
<b>09 69 00</b>	<b>Access Flooring</b>	<p>Includes: free-standing, elevated accessible floor assembly forming an underfloor cavity that may be used for utility services. Accessories and floor panel finish.</p> <p>May Include: air outlets and inlets integral with floor panels. Loose-laid or glued-down carpet tile.</p> <p>Alternate Terms/Abbreviations: access flooring: computer floor: elevated floor: raised floor: free access floors: pedestal floors.</p> <p>See: 23 30 00 for HVAC air distribution. 23 32 36 for air-distribution floor plenums.</p> <p>See Also: 09 68 13 for loose-laid or glued-down carpet tile. 23 37 00 for air outlets and inlets.</p>
09 69 13	Rigid-Grid Access Flooring	
09 69 16	Snap-on Stringer Access Flooring	
09 69 19	Stringerless Access Flooring	
09 69 33	Low-Profile Fixed Height Access Flooring	
09 69 53	Access Flooring Accessories	
09 69 56	Access Flooring Stairs and Stringers	

## **09 70 00 Wall Finishes**

Includes: wall finishes applied over solid substrates.

See: 09 23 00 for gypsum plastering.  
09 24 00 for cement plastering.  
09 29 00 for gypsum board.  
09 30 00 for tiling.  
09 83 13 for acoustic wall coating.  
09 84 00 for acoustic room components.  
09 90 00 for painting and coating.

NUMBER	TITLE	EXPLANATION
<b>09 72 00</b>	<b>Wall Coverings</b>	Includes: vinyl-coated fabrics, cork, wallpaper, and textile wall coverings.  See: 06 25 00 for prefinished paneling. 06 26 00 for board paneling. 06 42 00 for custom wood paneling. 09 62 29 for cork flooring. 09 73 00 for wall carpeting. 09 74 00 for flexible wood sheets. 10 11 43 for visual display wall panels. 10 11 46 for visual display fabrics. 12 05 13 for fabrics.
09 72 13	Cork Wall Coverings	
09 72 16	Vinyl-Coated Fabric Wall Coverings	
09 72 16.13	Flexible Vinyl Wall Coverings	
09 72 16.16	Rigid-Sheet Vinyl Wall Coverings	
09 72 19	Textile Wall Coverings	
09 72 23	Wallpapering	
<b>09 73 00</b>	<b>Wall Carpeting</b>	Includes: carpet for use on walls.  See: 09 68 00 for carpeting. 10 11 46 for visual display fabrics.
<b>09 74 00</b>	<b>Flexible Wood Sheets</b>	Includes: wood wall covering and flexible wood veneers.  See: 06 25 00 for prefinished paneling. 06 26 00 for board paneling. 06 42 00 for custom wood paneling.
09 74 13	Wood Wall Coverings	
09 74 16	Flexible Wood Veneers	
<b>09 75 00</b>	<b>Stone Facing</b>	Includes: dimension stone facing for interior walls.  See: 04 40 00 for exterior stone assemblies. 09 63 40 for stone flooring.
09 75 13	Stone Wall Facing	
09 75 19	Stone Trim	
09 75 19.13	Stone Base	
09 75 19.23	Stone Window Stools	
09 75 23	Simulated Stone Wall Facing	

NUMBER	TITLE	EXPLANATION
<b>09 76 00</b>	<b>Plastic Blocks</b>	Includes: plastic blocks intended to simulate glass block, for interior partitions.  See: 04 23 00 for glass unit masonry.
<b>09 77 00</b>	<b>Special Wall Surfacing</b>	Includes: manufactured interior and exterior decorative wall surface products.  See: 09 54 00 for specialty ceilings. 12 05 13 for fabrics.
09 77 13	Stretched-Fabric Wall Systems	
09 77 23	Fabric-Wrapped Panels	
09 77 26	Surfacing Films	
09 77 33	Terrazzo Wall Finish	Includes: tile and cast-in-place terrazzo.
09 77 53	Vegetated Wall Systems	
<b>09 78 00</b>	<b>Interior Wall Paneling</b>	See: 06 25 00 for prefinished paneling. 06 26 00 for board paneling. 06 42 00 for custom wood paneling.  See Also: 06 25 00 for prefinished paneling. 06 26 00 for board paneling.
09 78 13	Metal Interior Wall Paneling	See: 06 25 00 for prefinished paneling. 06 26 00 for board paneling. 06 42 00 for custom wood paneling.
09 78 16	Stone-Faced Interior Wall Paneling	
09 78 19	Cementitious Interior Wall Paneling	
09 78 23	Phenolic Interior Wall Paneling	
09 78 26	Plastic Interior Wall Paneling	

NUMBER	TITLE	EXPLANATION
<b>09 80 00</b>	<b>Acoustic Treatment</b>	<p>Includes: acoustical sound-absorbing units, acoustical barriers, acoustic insulation.</p> <p>See: 04 22 23 for sound-absorbing concrete unit masonry.  05 34 00 for acoustical metal decking.  07 92 19 for acoustical joint sealant.  09 23 13 for acoustical gypsum plastering.  09 51 00 for acoustical ceilings.  09 62 48 for acoustic flooring.  13 21 48 for sound-conditioned rooms.  13 48 00 for sound, vibration, and seismic control.  44 20 00 for noise pollution control.</p>
<b>09 81 00</b>	<b>Acoustic Insulation</b>	<p>Includes: insulation to provide acoustical isolation.</p> <p>May Include: acoustic insulation for plaster and gypsum board assemblies.</p> <p>Alternate Terms/Abbreviations: blanket insulation: batt insulation. Board insulation: rigid insulation: semi-rigid insulation. Sprayed insulation: spray-on insulation.</p> <p>See: 07 21 00 for thermal insulation.</p> <p>See Also: 09 20 00 for acoustic insulation for plaster and gypsum board.</p>
09 81 13	Acoustic Board Insulation	
09 81 16	Acoustic Blanket Insulation	
09 81 29	Sprayed Acoustic Insulation	
<b>09 83 00</b>	<b>Acoustic Finishes</b>	<p>Includes: coatings and coverings in which the primary function is acoustical absorption.</p> <p>See: 09 23 13 for acoustical gypsum plastering.  12 22 00 for window curtains and drapes.</p>
09 83 13	Acoustic Wall Coating	
09 83 16	Acoustic Ceiling Coating	
09 83 22	Acoustic Drapery	

NUMBER	TITLE	EXPLANATION
<b>09 84 00</b>	<b>Acoustic Room Components</b>	Includes: sound absorbing, reflecting, and diffusing wall and ceiling units and accessories.  Usually Includes: suspension systems for hanging acoustical units.  See: 09 23 13 for acoustical gypsum plastering. 09 83 00 for acoustic finishes.
09 84 13	Fixed Sound-Absorptive Panels	
09 84 14	Acoustic Stretched-Fabric Wall Systems	See: 09 77 13 for stretched-fabric wall systems.
09 84 16	Fixed Sound-Reflective Panels	
09 84 23	Moveable Sound-Absorptive Panels	
09 84 26	Moveable Sound-Reflective Panels	
09 84 33	Sound-Absorbing Wall Units	
09 84 36	Sound-Absorbing Ceiling Units	
<b>09 90 00</b>	<b>Painting and Coating</b>	Includes: stains, transparent finishes, special coatings, varnishes, lacquers, primers, fillers, paint removers, waxes, and preparation of surfaces. Painting of mechanical, electrical, and communications equipment other than for identification.  See: 10 14 00 for signage. 21 05 53 for identification for fire-suppression piping and equipment. 22 05 53 for identification for plumbing piping and equipment. 23 05 53 for identification for HVAC piping and equipment. 25 05 53 for identification for integrated automation. 26 05 53 for identification for electrical systems. 27 05 53 for identifications for communications systems. 28 05 53 for identification for electronic safety and security.
<b>09 91 00</b>	<b>Painting</b>	Includes: painting with opaque finishes. Priming, sealing, and finish painting.  May Include: pavement marking painting.  See Also: 32 17 23 for pavement markings.  Products: acrylic latex, alkyd, aluminum, latex, enamel paints. Block fillers.
09 91 13	Exterior Painting	
09 91 23	Interior Painting	

NUMBER	TITLE	EXPLANATION
<b>09 93 00</b>	<b>Staining and Transparent Finishing</b>	Includes: coating with transparent and semi-transparent finishes.
09 93 13	Exterior Staining and Finishing	Includes: coating of surfaces such as wood, composites, concrete, and masonry.
09 93 13.13	Exterior Staining	
09 93 13.53	Exterior Finishing	
09 93 23	Interior Staining and Finishing	Includes: coating of surfaces such as wood, composites, concrete, and masonry.
09 93 23.13	Interior Staining	
09 93 23.53	Interior Finishing	
<b>09 94 00</b>	<b>Decorative Finishing</b>	Includes: textured and other applied finishes other than paint or high-performance coatings.  See: 09 56 00 for textured specialty ceilings. 09 91 00 for painting. 09 96 00 for high-performance coatings. 09 96 63 for textured plastic coatings. 12 11 00 for murals. 12 12 00 for wall decorations.
09 94 13	Textured Finishing	
09 94 16	Faux Finishing	
09 94 19	Multicolor Interior Finishing	
09 94 23	Gilding	Includes: application of metallic leaf onto a surface.

NUMBER	TITLE	EXPLANATION
<b>09 96 00</b>	<b>High-Performance Coatings</b>	Includes: high-performance, heavy industrial, glazed resinous, epoxy polyester, polyurethane, polyvinyl fluoride, chlorinated rubber, heat-resistant, and corrosion-resistant coatings. Zinc-rich primers. Fire-retardant paint.  See: 04 61 00 for chemical-resistant brick masonry. 06 05 73 for fire-retardant wood treatment. 07 18 00 for traffic coatings. 07 19 00 for water repellents. 07 81 00 for applied fire protection. 07 81 23 for intumescent fire protection. 09 35 00 for chemical-resistant tiling. 09 62 35 for acid-resistant flooring. 09 63 13 for chemical-resistant brick flooring. 09 67 00 for fluid-applied flooring. 09 67 13 for elastomeric liquid flooring. 09 94 13 for textured finishing. 32 17 23 for pavement markings. 33 01 30 for relining sewers.
09 96 13	Abrasion-Resistant Coatings	
09 96 23	Graffiti-Resistant Coatings	
09 96 26	Marine Coatings	
09 96 33	High-Temperature-Resistant Coatings	
09 96 35	Chemical-Resistant Coatings	
09 96 43	Fire-Retardant Coatings	
09 96 46	Intumescent Painting	
09 96 53	Elastomeric Coatings	
09 96 56	Epoxy Coatings	
09 96 59	High-Build Glazed Coatings	
09 96 63	Textured Plastic Coatings	
09 96 66	Aggregate Wall Coatings	
<b>09 97 00</b>	<b>Special Coatings</b>	Includes: special field-applied coatings for steel, concrete, masonry, and on other materials. Storage tank coatings. Cementitious coatings.  See: 07 19 00 for water repellents. 07 24 23 for direct-applied finish systems. 21 41 00 for storage tanks for fire-suppression water. 22 12 00 for facility potable-water storage tanks. 23 13 00 for facility fuel-storage tanks. 33 16 00 for water utility storage tanks. 33 56 00 for fuel storage tanks. 41 52 19 for material storage tanks.
09 97 13	Steel Coatings	
09 97 13.13	Interior Steel Coatings	



DIVISION 09

NUMBER	TITLE	EXPLANATION
09 97 13.23	Exterior Steel Coatings	
09 97 13.24	Steel Water Storage Tank Painting	Includes: preparing, priming, and painting of steel elevated water storage tank for potable water use.
09 97 23	Concrete and Masonry Coatings	
09 97 23.24	Concrete Water Storage Tank Painting	Includes: preparing and painting of concrete water storage tanks for potable water use.
09 97 26	Cementitious Coatings	
09 97 26.13	Interior Cementitious Coatings	
09 97 26.23	Exterior Cementitious Coatings	
09 97 35	Dry Erase Coatings	Includes: special coatings on other materials.
		See Also: 10 11 00 for visual display units.

NUMBER	TITLE	EXPLANATION
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# DIVISION 10 – SPECIALTIES

## 10 00 00 Specialties

May be used as Division level  
Section title.

### 10 01 00 Operation and Maintenance of Specialties

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of specialties.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

10 01 10	Operation and Maintenance of Information Specialties
10 01 20	Operation and Maintenance of Interior Specialties
10 01 30	Operation and Maintenance of Fireplaces and Stoves
10 01 40	Operation and Maintenance of Safety Specialties
10 01 50	Operation and Maintenance of Storage Specialties
10 01 70	Operation and Maintenance of Exterior Specialties
10 01 80	Operation and Maintenance of Other Specialties

### 10 05 00 Common Work Results for Specialties

Includes: subjects common to multiple titles in Division 10.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

#### 10 05 05 Selective Demolition for Specialties

See: 02 41 19 for selective demolition for whole structure demolition.

### 10 06 00 Schedules for Specialties

Includes: schedules of items common to multiple titles in Division 10.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

10 06 10	Schedules for Information Specialties
10 06 10.13	Exterior Signage Schedule
10 06 10.16	Interior Signage Schedule
10 06 20	Schedules for Interior Specialties
10 06 20.13	Toilet, Bath, and Laundry Accessory Schedule
10 06 30	Schedules for Fireplaces and Stoves
10 06 40	Schedules for Safety Specialties

DIVISION 10

NUMBER	TITLE	EXPLANATION
10 06 50	Schedules for Storage Specialties	
10 06 70	Schedules for Exterior Specialties	
10 06 80	Schedules for Other Specialties	
<b>10 08 00</b>	<b>Commissioning of Specialties</b>	Includes: commissioning of items common to multiple titles in Division 10.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>10 10 00</b>	<b>Information Specialties</b>	
<b>10 11 00</b>	<b>Visual Display Units</b>	Includes: chalkboards, markerboards, tackboards, and other visual display systems; framing systems and accessories.  See: 10 13 00 for directories. 11 52 13 for projection screens. 12 35 59 for display casework.  See Also: 09 97 35 for dry erase coatings.
10 11 13	Chalkboards	Includes: chalkboards made from slate, composition board, painted material, porcelain-enameled steel, and aluminum.  Alternate Terms/Abbreviations: chalkboards: blackboards.
10 11 13.13	Fixed Chalkboards	
10 11 13.23	Modular-Support-Mounted Chalkboards	
10 11 13.33	Rail-Mounted Chalkboards	
10 11 13.43	Portable Chalkboards	
10 11 16	Markerboards	Includes: markerboards make from painted material, porcelain-enameled steel, and aluminum. Markerboards with integral photocopy units and electronic interface with computers.  Alternate Terms/Abbreviations: markerboards: whiteboards.
10 11 16.13	Fixed Markerboards	
10 11 16.23	Modular-Support-Mounted Markerboards	
10 11 16.33	Rail-Mounted Markerboards	
10 11 16.43	Portable Markerboards	
10 11 16.53	Electronic Markerboards	

NUMBER	TITLE	EXPLANATION
10 11 23	Tackboards	Includes: display boards with mounting surfaces of cork, composition board, and fabric-covered material.  Alternate Terms/Abbreviations: tackboards: bulletin boards: cork boards.
10 11 23.13	Fixed Tackboards	
10 11 23.23	Modular-Support-Mounted Tackboards	
10 11 23.33	Rail-Mounted Tackboards	
10 11 23.43	Portable Tackboards	
10 11 33	Sliding Visual Display Units	Includes: manual and motor-operated units with fixed rear display panel and multiple sliding display panels in front.
10 11 33.13	Horizontal-Sliding Visual Display Units	
10 11 33.23	Vertical-Sliding Visual Display Units	
10 11 36	Visual Display Conference Units	Includes: cabinet units with integral display surfaces, projection screens, and flip charts.  See: 11 52 13 for projection screens.
10 11 39	Visual Display Rails	Includes: rail assemblies with mounting surfaces.
10 11 43	Visual Display Wall Panels	Includes: custom-fabricated chalkboard, markerboard, and tackboard panels for full-height and wall applications.  See: 09 72 00 for wall coverings.
10 11 46	Visual Display Fabrics	Includes: plastic-film-covered fabrics for use with markers and magnets.  See: 09 72 00 for wall coverings. 09 73 00 or wall carpeting.
<b>10 12 00</b>	<b>Display Cases</b>	Includes: manufactured cases for display of items.  See: 11 22 00 for refrigerated display equipment. 11 59 00 for exhibit equipment. 12 35 59 for display casework. 14 73 59 for display turntables. 26 55 59 for display lighting.

NUMBER	TITLE	EXPLANATION
<b>10 13 00</b>	<b>Directories</b>	Includes: directories for buildings and facilities. Self-contained computerized directories, which are not part of an integrated system.  See: 27 42 00 for electronic digital systems.
10 13 13	Electronic Directories	
10 13 23	Illuminated Directories	
<b>10 14 00</b>	<b>Signage</b>	Includes: directional items, letters, signage, and plaques used in establishing identity or communication. Integral lighted units, neon signage, and other types of illuminated signage. Self-contained electronic message signage, which is not part of an integrated system.  See: 01 58 00 for temporary project identification. 10 11 43 for visual display wall panels. 10 11 46 for visual display fabrics. 10 18 00 for informational kiosks. 10 83 00 for flags and banners. 21 05 53 for identification for fire-suppression piping and equipment. 22 05 53 for identification for plumbing piping and equipment. 23 05 53 for identification for HVAC piping and equipment. 25 05 53 for identification for integrated automation. 26 05 53 for identification for electrical systems. 26 52 13 for exit signs. 27 05 53 for identification for communication systems. 27 42 00 for electronic digital systems. 28 05 53 for identification for electronic safety and security. 32 17 26 for tactile warning surfaces. 34 41 13 for traffic signals. 34 42 13 for railway signals. 34 43 13 for airfield signals. 35 10 00 for waterway and marine signals. 35 59 23 for buoys.  See Also: 26 52 13 for emergency and exit lighting.
10 14 16	Plaques	
10 14 19	Dimensional Letter Signage	
10 14 23	Panel Signage	
10 14 23.13	Engraved Panel Signage	
10 14 26	Post and Panel/Pylon Signage	
10 14 33	Illuminated Panel Signage	
10 14 43	Photoluminescent Signage	
10 14 53	Traffic Signage	
10 14 53.13	Transportation Reference Markers	

NUMBER	TITLE	EXPLANATION
10 14 63	Electronic Message Signage	
10 14 64	Audible Signage	
10 14 66	Floating Signage	
10 14 67	Tactile Signage	
<b>10 17 00</b>	<b>Telephone Specialties</b>	
		Includes: manufactured telephone enclosures, stalls, booths, and alcoves for installation of telephones and telephone directories.
		See: 10 25 16 for modular service walls. 27 20 00 for data communications. 27 30 00 for voice communications. 27 32 13 for telephone sets. 27 40 00 for audio-video communications.
10 17 13	Telephone Directory Units	
10 17 16	Telephone Enclosures	
10 17 16.13	Telephone Stalls	
10 17 16.16	Telephone Alcoves	
10 17 19	Telephone Shelving	
<b>10 18 00</b>	<b>Informational Kiosks</b>	
		Includes: open air shelter directories, signage, or other information devices.
		See: 10 13 00 for directories. 10 14 00 for signage. 10 73 00 for protective covers. 10 74 23 for cupolas.
<b>10 20 00</b>	<b>Interior Specialties</b>	
<b>10 21 00</b>	<b>Compartments and Cubicles</b>	
		Includes: manufactured compartments and cubicles that are enclosures, dividers, screens, and curtains for toilets, urinals, showers, dressing compartments, and hospital cubicles, including hardware and accessories. Ceiling-hung, floor-supported, overhead-braced, and wall-supported.
10 21 13	Toilet Compartments	
		Includes: compartments appropriate for toilet rooms.
		See: 10 21 16 for shower and dressing compartments. 10 28 13 for toilet accessories. 22 40 00 for plumbing fixtures.
10 21 13.13	Metal Toilet Compartments	

DIVISION 10

NUMBER	TITLE	EXPLANATION
10 21 13.14	Stainless-Steel Toilet Compartments	Includes: stainless-steel toilet enclosures, entrance screens, urinal screens, anchors, hardware, and accessories.
10 21 13.16	Plastic-Laminate-Clad Toilet Compartments	
10 21 13.17	Phenolic-Core Toilet Compartments	Includes: phenolic-core toilet enclosures, entrance screens, urinal screens. Anchors, hardware, and accessories.
10 21 13.19	Plastic Toilet Compartments	
10 21 13.23	Particleboard Toilet Compartments	
10 21 13.40	Stone Toilet Compartments	
10 21 16	Shower and Dressing Compartments	Includes: compartments appropriate for shower and dressing purposes.  See: 10 21 13 for toilet compartments. 10 28 13 for toilet accessories. 10 28 19 for residential tub and shower doors. 22 40 00 for plumbing fixtures.
10 21 16.13	Metal Shower and Dressing Compartments	
10 21 16.14	Stainless-Steel Shower and Dressing Compartments	Includes: stainless-steel shower and dressing compartments and shower receptors, anchors, hardware, and accessories.
10 21 16.16	Plastic-Laminate-Clad Shower and Dressing Compartments	
10 21 16.17	Phenolic-Core Shower and Dressing Compartments	Includes: phenolic-core shower and dressing compartments and shower receptors, anchors, hardware, and accessories.
10 21 16.19	Plastic Shower and Dressing Compartments	
10 21 16.23	Particleboard Shower and Dressing Compartments	
10 21 16.40	Stone Shower and Dressing Compartments	
10 21 23	Cubicle Curtains and Track	Includes: healthcare treatment, dressing room, welding, workshop curtains, tracks, and other hardware.  See: 10 25 13 for patient bed service walls. 11 57 00 for vocational shop equipment. 11 70 00 for healthcare equipment.
10 21 23.13	Cubicle Curtains	
10 21 23.16	Cubicle Track and Hardware	
10 21 26	Room Darkening Curtains and Tracks	Alternate Terms/Abbreviations: blackout curtains.  See: 12 22 13 for window draperies.
<b>10 22 00</b>	<b>Partitions</b>	Includes: fixed, demountable, and operable fabricated partitions used as enclosures, dividers, and partitions.

NUMBER	TITLE	EXPLANATION
10 22 13	Wire Mesh Partitions	Includes: chain link partitions, and partitions fabricated of wire mesh.  Alternate Terms/Abbreviations: wire mesh: woven wire.
10 22 14	Expanded Metal Partitions	
10 22 16	Folding Gates	Includes: folding gates serving as a security or traffic directing partition when closed.  See: 08 34 56 for security gates. 08 35 16 for folding grilles.
10 22 19	Demountable Partitions	Includes: partition systems that are connected to permanent construction and are designed to be relocated without damage.  Alternate Terms/Abbreviations: demountable partitions: relocatable partitions.
10 22 19.13	Demountable Metal Partitions	
10 22 19.23	Demountable Wood Partitions	
10 22 19.33	Demountable Plastic Partitions	
10 22 19.43	Demountable Composite Partitions	
10 22 19.53	Demountable Gypsum Partitions	
10 22 19.63	Demountable Glass Partitions	
10 22 23	Portable Partitions, Screens, and Panels	Includes: wall screens, movable panel systems, and partitions that are not connected to permanent construction.  See: 10 82 23 for interior grilles and screens connected to permanent construction. 12 46 26 for decorative screens.
10 22 23.13	Wall Screens	
10 22 23.23	Movable Panel Systems	
10 22 33	Accordion Folding Partitions	
10 22 36	Coiling Partitions	
10 22 39	Folding Panel Partitions	
10 22 39.13	Folding Glass-Panel Partitions	Includes: manually operated, glass-panel partitions, closures, hardware, seals, suspension systems, tracks, carriers, and accessories.
10 22 43	Sliding Partitions	



DIVISION 10

NUMBER	TITLE	EXPLANATION
<b>10 25 00</b>	<b>Service Walls</b>	Includes: wall assemblies and wall-mounted units incorporating services such as medical services, drinking fountains, clocks, fire hose and extinguishing cabinets, telephones, and waste receptacles.  See: 10 17 00 for telephone specialties. 10 44 00 for fire protection specialties. 11 73 00 for patient care equipment. 22 47 00 for drinking fountains and water coolers.
10 25 13	Patient Bed Service Walls	
10 25 16	Modular Service Walls	
<b>10 26 00</b>	<b>Wall and Door Protection</b>	Includes: manufactured protective devices for walls and doors made of metal, plastic, rubber, and other finish materials.  See: 05 50 00 for corner guards fabricated from rolled metal sections or bent plate. 05 52 00 for metal railings. 05 73 00 for decorative metal railings. 06 43 16 for wood railings. 06 46 23 for wood chair rails.  Products: crash rails, rub strips, wall guards, door guards, column guards.
10 26 13	Corner Guards	
10 26 16	Bumper Guards	
10 26 16.13	Bumper Rails	
10 26 16.16	Protective Corridor Handrails	
10 26 23	Protective Wall Covering	Products: crash rails, rub strips, wall guards, door guards, column guards.
10 26 23.13	Impact Resistant Wall Protection	
10 26 23.16	Fiberglass Reinforced Protective Wall Covering	
10 26 33	Door and Frame Protection	
10 26 41	Ballistics Resistant Panels	

NUMBER	TITLE	EXPLANATION
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>	<p>Includes: manufactured items for use in conjunction with toilets, baths, and laundries.</p> <p>See: 08 83 00 for mirrors other than framed mirrors. 09 30 00 for tile accessories. 12 30 00 for manufactured casework.</p> <p>Products: grab bars, towel dispensers, soap dispensers, deodorizers, napkin/tampon dispensers and disposal units, toilet paper dispensers, waste disposal units, robe hooks, framed mirrors, air hand and hair dryers, and other similar public toilet room accessories.</p>
10 28 13	Toilet Accessories	<p>Includes: accessories associated with public toilet rooms. Accessories mounted on or recessed in partitions and compartments.</p> <p>Usually Includes: janitor's closet and other similar accessories.</p> <p>Alternate Terms/Abbreviations: toilet accessories: rest room accessories.</p> <p>See: 10 21 13 for toilet compartments. 10 21 16 for shower and dressing compartments.</p> <p>Products: grab bars, towel dispensers, soap dispensers, deodorizers, napkin/tampon dispensers and disposal units, toilet paper dispensers, waste disposal units, robe hooks, framed mirrors, air hand and hair dryers, and other similar public toilet room accessories.</p>
10 28 13.13	Commercial Toilet Accessories	
10 28 13.19	Healthcare Toilet Accessories	
10 28 13.53	Security Toilet Accessories	
10 28 13.63	Detention Toilet Accessories	
10 28 16	Bath Accessories	<p>Includes: accessories associated with residential bathroom use.</p> <p>May Include: shower and tub doors for residential bathroom use.</p> <p>See: 10 43 16 for first aid cabinets. 12 44 16 for shower curtains.</p> <p>See Also: 10 28 19 for tub and shower doors.</p> <p>Products: towel bars and rings, robe hooks, shower curtain rods, medicine cabinets, framed mirrors, toilet paper dispensers and other similar residential bath accessories.</p>

DIVISION 10

NUMBER	TITLE	EXPLANATION
10 28 16.13	Residential Bath Accessories	
10 28 19	Tub and Shower Enclosures	Includes: shower and tub doors for residential bathroom use.  See: 10 21 16 for shower and dressing compartments. 12 44 16 for shower curtains.
10 28 19.16	Shower Doors	
10 28 19.19	Tub Doors	
10 28 23	Laundry Accessories	Includes: laundry room accessories for residential use.
10 28 23.13	Built-In Ironing Boards	
10 28 23.16	Clothes Drying Racks and Lines	
10 28 26	Hygiene and Custodial Accessories	Includes: items such as hand sanitizers and other non-toilet accessories.  See: 10 28 13 for toilet accessories.

## 10 30 00 Fireplaces and Stoves

Includes: manufactured fireplaces, stoves, chimneys, dampers, and specialties required for fireplaces and stoves.

See: 04 50 00 for refractory masonry.

## 10 31 00 Manufactured Fireplaces

Includes: stand-alone fireplace units regardless of heat source.

Usually Includes: fireplace accessories.

See: 04 57 00 for field-fabricated masonry fireplaces.  
23 51 00 for breechings, chimneys, and stacks.

See Also: 10 32 00 for fireplace specialties.

10 31 13	Manufactured Fireplace Chimneys
10 31 16	Manufactured Fireplace Forms

## 10 32 00 Fireplace Specialties

Includes: components and accessories for fireplaces.

See: 04 57 00 for masonry fireplaces.  
10 31 00 for manufactured fireplaces.

Products: andirons, ash dumps, fireplace bellows, fire log baskets, fireplace tools.

10 32 13	Fireplace Dampers
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NUMBER	TITLE	EXPLANATION
10 32 16	Fireplace Inserts	
10 32 19	Fireplace Screens	
10 32 23	Fireplace Doors	
10 32 26	Fireplace Water Heaters	
<b>10 35 00</b>	<b>Stoves</b>	Includes: wood, pellet, corn, and coal stoves. Stove pipe. Franklin stoves.
10 35 13	Heating Stoves	
10 35 23	Cooking Stoves	
<b>10 40 00</b>	<b>Safety Specialties</b>	
<b>10 41 00</b>	<b>Emergency Access and Information Cabinets</b>	Includes: accessories to aid emergency access and firefighting.  Alternate Terms/Abbreviations: emergency key cabinet: lock box.  See: 08 79 00 for hardware accessories.
10 41 13	Fire Department Plan Cabinets	
10 41 16	Emergency Key Cabinets	
<b>10 43 00</b>	<b>Emergency Aid Specialties</b>	Includes: accessories for emergency aid, including automatic external defibrillators and emergency medical oxygen units.  Alternate Terms/Abbreviations: AED: automated external defibrillator. EMO: emergency medical oxygen.  See: 10 28 16 for medicine cabinets. 28 49 17 for electronic personal safety emergency aid devices.
10 43 13	Defibrillator Cabinets	
10 43 16	First Aid Cabinets	
10 43 21	Accessibility Evacuation Chairs	
10 43 31	Respiration Equipment	
10 43 33	Breathing Air Replenishment Systems	Alternate Terms/Abbreviations: BARS. FFAS: firefighter air systems.

NUMBER	TITLE	EXPLANATION
<b>10 44 00</b>	<b>Fire Protection Specialties</b>	Includes: firefighting devices and storage cabinets, except items or devices connected to a fire-suppression system.  See: 10 25 16 for modular service walls. 21 12 00 for fire-suppression standpipes. 21 12 16 for fire-suppression hose reels. 21 12 19 for fire-suppression hose racks. 21 12 23 for fire-suppression hose valves.
10 44 13	Fire Protection Cabinets	See: 21 12 00 for fire-suppression standpipes.
10 44 13.53	Security Fire Extinguisher Cabinets	
10 44 16	Fire Extinguishers	See: 21 12 00 for fire-suppression standpipes.
10 44 16.13	Portable Fire Extinguishers	
10 44 16.16	Wheeled Fire Extinguisher Units	
10 44 19	Fire Blankets	
10 44 43	Fire Extinguisher Accessories	
<b>10 45 00</b>	<b>Photoluminescent Exit Specialties</b>	
<b>10 50 00</b>	<b>Storage Specialties</b>	
<b>10 51 00</b>	<b>Lockers</b>	Includes: manufactured storage facilities providing temporary security of contents; related hardware and locking devices.  See: 06 41 00 for custom-fabricated wood lockers. 10 22 13 for wire mesh partitions. 10 57 00 for wardrobe and closet specialties. 12 30 00 for manufactured casework. 12 50 00 for furniture.  Products: athletic lockers, school lockers.
10 51 13	Metal Lockers	
10 51 13.13	Coin-Operated Metal Lockers	
10 51 16	Wood Lockers	
10 51 23	Plastic-Laminate-Clad Lockers	
10 51 26	Plastic Lockers	
10 51 26.13	Recycled Plastic Lockers	
10 51 29	Phenolic Lockers	
10 51 33	Glass Lockers	
10 51 43	Wire Mesh Storage Lockers	
10 51 53	Locker Room Benches	

NUMBER	TITLE	EXPLANATION
<b>10 55 00</b>	<b>Postal Specialties</b>	Includes: manufactured items associated with the collection and distribution of mail that is physically sent and delivered.  See: 11 29 00 for postal, packaging, and shipping equipment. 41 21 23 for postal conveyors. 41 24 46 for postal sorting machines.
10 55 13	Central Mail Delivery Boxes	
10 55 13.13	Cluster Box Units	
10 55 16	Mail Collection Boxes	
10 55 19	Receiving Boxes	
10 55 23	Mail Boxes	
10 55 23.13	Apartment Mail Boxes	
10 55 23.16	Mail Box Directories	
10 55 23.19	Mail Box Key Keepers	
10 55 26	Parcel Lockers	
10 55 33	Data Distribution Boxes	
10 55 36	Package Depositories	
10 55 91	Mail Chutes	
<b>10 56 00</b>	<b>Storage Assemblies</b>	Includes: manufactured storage assemblies for general storage. Manual and motorized mobile and compact storage systems.  See: 10 57 23 for closet and utility shelving. 11 51 23 for library stack systems. 12 35 50 for educational/library casework. 12 56 51 for library furniture. 12 59 00 for shelving integral with systems furniture. 41 53 00 for industrial storage equipment and systems.
10 56 13	Metal Storage Shelving	
10 56 13.13	End-Panel-Support Metal Storage Shelving	
10 56 13.16	Post-and-Shelf Metal Storage Shelving	
10 56 13.19	Post-and-Beam Metal Storage Shelving	
10 56 13.23	Cantilever Metal Storage Shelving	
10 56 16	Fabricated Wood Storage Shelving	
10 56 17	Wall-Mounted Standards and Shelving	
10 56 19	Plastic Storage Shelving	
10 56 19.13	Recycled Plastic Storage Shelving	
10 56 23	Wire Storage Shelving	
10 56 26	Mobile Storage Shelving	
10 56 26.13	Manual Mobile Storage Shelving	
10 56 26.23	Motorized Mobile Storage Shelving	
10 56 29	Storage Racks	
10 56 29.13	Flow Storage Racks	
10 56 29.16	Pallet Storage Racks	
10 56 29.19	Movable-Shelf Storage Racks	
10 56 29.23	Stacker Storage Racks	

DIVISION 10

NUMBER	TITLE	EXPLANATION
10 56 29.26	Cantilever Storage Racks	
10 56 29.29	Drive-In Storage Racks	
10 56 29.33	Drive-Through Storage Racks	
10 56 29.43	Wine Storage Racks	
10 56 33	Mercantile Storage Assemblies	

**10 57 00 Wardrobe and Closet Specialties**

Includes: manufactured hat and coat racks, and other specialties for storage of clothing. Manufactured shelving for closets and utility rooms.

See: 06 20 00 for finish carpentry shelving.  
 10 51 00 for lockers.  
 10 56 00 for general storage assemblies.  
 11 21 33 for checkroom equipment.

10 57 13	Hat and Coat Racks	
10 57 16	Boot Racks	
10 57 23	Closet and Utility Shelving	
10 57 23.13	Wire Closet and Utility Shelving	
10 57 23.16	Plastic-Laminate-Clad Closet and Utility Shelving	
10 57 23.19	Wood Closet and Utility Shelving	
10 57 33	Closet and Utility Shelving Hardware	
10 57 36	Closet Doors	
10 57 36.13	Sliding Closet Doors	
10 57 36.16	Bifold Closet Doors	

**10 70 00 Exterior Specialties**

**10 71 00 Exterior Protection**

Includes: manufactured items to provide sun control, privacy, security, insulation, and storm protection on exterior of openings; fixed, movable, manually and electrically operated, and automatically controlled devices.

See: 06 49 19 for wood screens and exterior wood shutters.  
 10 73 13 for awnings.  
 10 73 16 for canopies.  
 10 82 13 for exterior grilles and screens.  
 12 20 00 for interior window treatments.  
 12 23 00 for interior shutters.

10 71 13	Exterior Sun Control Devices	See: 08 44 00 for fixed sun screens integral with curtain walls. 12 26 00 for interior daylighting devices.
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10 71 13.13	Exterior Shutters	
10 71 13.19	Rolling Exterior Shutters	
10 71 13.23	Coiling Exterior Shutters	
10 71 13.26	Decorative Exterior Shutters	

NUMBER	TITLE	EXPLANATION
10 71 13.29	Side-Hinged Exterior Shutters	
10 71 13.43	Fixed Sun Screens	
10 71 13.53	Exterior Daylighting Devices	
10 71 16	Storm Panels	
10 71 16.13	Demountable Storm Panels	
10 71 16.16	Movable Storm Panels	
10 71 19	Flood Barriers	
10 71 19.16	Removable Flood Barriers	

## 10 73 00 Protective Covers

Includes: manufactured items to provide weather protection or shelter. Gazebos.

Alternate Terms/Abbreviations: transportation stop shelters: bus stop shelters. Car shelters: carports.

See: 10 18 00 for informational kiosks.

10 71 13 for exterior sun control devices.

10 71 16 for storm panels.

13 34 00 for fabricated engineered structures.

34 70 00 for transportation construction and equipment.

34 77 00 for transportation equipment.

See Also: 08 65 13 for suspended glazed canopies.

10 73 13	Awnings	
10 73 13.13	Metal Awnings	
10 73 13.23	Fabric Awnings	
10 73 13.36	Point Supported Glass Awnings	
10 73 16	Canopies	
10 73 16.13	Metal Canopies	
10 73 16.23	Fabric Canopies	
10 73 16.33	Glazed Canopies	
10 73 16.36	Point Supported Glass Canopies	
10 73 23	Car Shelters	
10 73 26	Walkway Coverings	
10 73 26.13	Metal Walkway Coverings	
10 73 26.23	Fabric Walkway Coverings	
10 73 26.33	Glazed Walkway Coverings	
10 73 26.36	Point Supported Glass Walkway Coverings	
10 73 29	Smoking Shelters	
10 73 33	Marquees	
10 73 43	Transportation Stop Shelters	



NUMBER	TITLE	EXPLANATION
<b>10 74 00</b>	<b>Manufactured Exterior Specialties</b>	<p>Includes: complete fabrications of metal, wood, and fiberglass, including all accessories and appurtenances.</p> <p>Alternate Terms/Abbreviations: below-grade egress assemblies: basement window egress assemblies: basement window emergency escape. Window wells: areaways.</p> <p>See: 06 44 26 for custom wood cupolas. 08 50 00 for windows. 10 18 00 for informational kiosks. 11 91 00 for religious equipment. 26 41 00 for lightning protection.</p>
10 74 13	Exterior Clocks	
10 74 23	Cupolas	
10 74 26	Spires	
10 74 29	Steeples	
10 74 33	Weathervanes	
10 74 43	Below-Grade Egress Assemblies	
10 74 46	Window Wells	
10 74 49	Modular Landing and Ramp Systems	
<b>10 75 00</b>	<b>Flagpoles</b>	<p>Includes: complete flagpole fabrications of metal, wood, and fiberglass, including all accessories and appurtenances.</p> <p>May Include: flags and banners.</p> <p>See: 10 83 00 for flags and banners.</p>
10 75 13	Automatic Flagpoles	
10 75 16	Ground-Set Flagpoles	
10 75 19	Nautical Flagpoles	
10 75 23	Wall-Mounted Flagpoles	
10 75 26	Roof-Mounted Flagpoles	<p>Includes: roof-mounted flagpoles made from aluminum, copper alloy (bronze), stainless steel, and fiberglass, and bases and fittings.</p>
10 75 29	Plaza-Mounted Flagpoles	

NUMBER	TITLE	EXPLANATION
<b>10 80 00</b>	<b>Other Specialties</b>	<p>See: 03 48 00 for precast concrete specialties.  05 59 00 for metal specialties.  07 71 00 for roof specialties.  07 77 00 for wall specialties.  32 17 00 for paving specialties.  34 82 00 for bridge specialties.  35 59 00 for marine specialties.</p>
<b>10 81 00</b>	<b>Pest Control Devices</b>	<p>Includes: mechanical, electrical, physical, and chemical repellent systems, and protective devices.</p> <p>See: 31 31 00 for soil treatment.  31 31 13 for rodent control soil treatment.  31 31 16 for termite control soil treatment.</p> <p>See Also: 03 15 21 for termite barrier.</p>
10 81 13	Bird Control Devices	
10 81 16	Insect Control Devices	
10 81 19	Rodent Control Devices	
<b>10 82 00</b>	<b>Grilles and Screens</b>	<p>Includes: grilles and screens of wood, metal, plastic, and other materials used for a variety of purposes.</p> <p>See: 06 49 19 for wood screens and exterior wood shutters.  08 92 00 for louvered equipment enclosures.  10 22 23 for portable partitions, screens, and panels not connected to permanent construction.  10 71 13 for exterior sun control devices.  12 46 26 for decorative screens.  32 35 13 for self-supporting exterior screens and louvers.</p>
10 82 13	Exterior Grilles and Screens	
10 82 19	Exterior Sound Screens	
10 82 23	Interior Grilles and Screens	
<b>10 83 00</b>	<b>Flags and Banners</b>	<p>See: 10 14 00 for signage.  10 75 00 for flagpoles.</p> <p>See Also: 10 75 00 for flags and banners.</p>
10 83 13	Flags	
10 83 16	Banners	

DIVISION 10

NUMBER	TITLE	EXPLANATION
<b>10 84 00</b>	<b>Gas Lighting</b>	See: 26 50 00 for lighting.
10 84 13	Exterior Gas Lighting	See: 26 50 00 for lighting.
10 84 16	Interior Gas Lighting	See: 26 50 00 for lighting.
<b>10 86 00</b>	<b>Security Mirrors and Domes</b>	Includes: physical accessories for security surveillance.  See: 28 10 00 for access control. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring.
<b>10 88 00</b>	<b>Scales</b>	Includes: fixed scales.  See: 11 21 43 for weighing and wrapping equipment. 34 77 36 for baggage scales. 41 14 36 for weigh scales.

NUMBER	TITLE	EXPLANATION
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## DIVISION 11 – EQUIPMENT

### 11 00 00 Equipment

May be used as Division level Section title.

See: 25 31 00 for integrated automation instrumentation and terminal devices for facility equipment.

25 51 00 for integrated automation control of facility equipment.

25 91 00 for integrated automation control sequences for facility equipment.

34 75 00 for roadway equipment.

34 76 00 for railway equipment.

34 77 00 for transportation equipment.

41 00 00 for material processing and handling equipment.

42 00 00 for process heating, cooling, and drying equipment.

43 00 00 for process gas and liquid handling, purification, and storage equipment.

44 00 00 for pollution and waste control equipment.

45 00 00 for industry-specific manufacturing equipment.

46 00 00 for water and wastewater equipment.

48 00 00 for electrical power generation equipment.

### 11 01 00 Operation and Maintenance of Equipment

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of equipment.

Level 4 Numbering Recommendation: one Level 4 title for equipment is provided as an example for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

DIVISION 11

NUMBER	TITLE	EXPLANATION
11 01 10	Operation and Maintenance of Vehicle and Pedestrian Equipment	
11 01 20	Operation and Maintenance of Commercial Equipment	
11 01 30	Operation and Maintenance of Residential Equipment	
11 01 40	Operation and Maintenance of Foodservice Equipment	
11 01 50	Operation and Maintenance of Educational and Scientific Equipment	
11 01 56	Operation and Maintenance of Observatory Equipment	
11 01 60	Operation and Maintenance of Entertainment and Recreation Equipment	
11 01 70	Operation and Maintenance of Healthcare Equipment	
11 01 80	Operation and Maintenance of Facility Maintenance and Operation Equipment	
11 01 90	Operation and Maintenance of Other Equipment	

**11 05 00 Common Work Results for Equipment**

Includes: subjects common to multiple titles in Division 11.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

11 05 05	Selective Demolition for Equipment	See: 02 41 19 for selective demolition for whole structure demolition.
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11 05 13	Common Motor Requirements for Equipment	
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**11 06 00 Schedules for Equipment**

Includes: schedules of items common to multiple titles in Division 11.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

11 06 10	Schedules for Vehicle and Pedestrian Equipment	
11 06 20	Schedules for Commercial Equipment	
11 06 30	Schedules for Residential Equipment	
11 06 40	Schedules for Foodservice Equipment	
11 06 40.13	Foodservice Equipment Schedule	
11 06 50	Schedules for Educational and Scientific Equipment	
11 06 60	Schedules for Entertainment and Recreation Equipment	
11 06 70	Schedules for Healthcare Equipment	
11 06 70.13	Healthcare Equipment Schedule	
11 06 80	Schedules for Facility Maintenance and Operation Equipment	
11 06 90	Schedules for Other Equipment	
11 06 90.11	Schedules for Detention Equipment	

**11 08 00 Commissioning of Equipment**

Includes: commissioning of items common to multiple titles in Division 11.

See: 01 91 00 for commissioning of subjects common to multiple Divisions.

NUMBER	TITLE	EXPLANATION
<b>11 10 00</b>	<b>Vehicle and Pedestrian Equipment</b>	Includes: equipment associated with vehicles and pedestrians.
<b>11 11 00</b>	<b>Vehicle Service Equipment</b>	Includes: equipment associated with vehicular service.  Alternate Terms/Abbreviations: vehicle service equipment: garage equipment: service station equipment.  See: 14 45 00 for vehicle lifts. 14 71 11 for vehicle turntables. 23 10 00 for facility fuel systems. 23 35 16 for engine exhaust systems. 33 50 00 for fuel distribution utilities. 41 22 00 for cranes and hoists.
11 11 13	Compressed-Air Vehicle Service Equipment	
11 11 19	Vehicle Lubrication Equipment	
11 11 23	Tire-Changing Equipment	
11 11 26	Vehicle-Washing Equipment	
11 11 36	Vehicle Charging Equipment	
11 11 36.13	Commercial Electric Vehicle Charging Unit	
11 11 36.16	Residential Electric Vehicle Charging Unit	
<b>11 12 00</b>	<b>Parking Control Equipment</b>	Includes: equipment associated with the control of movement of vehicle parking. Self-contained equipment to collect fares for vehicles that is not part of a centralized transportation ticketing and fare collection system.  See: 13 34 23 for fabricated control booths. 28 30 00 for security detection, alarm, and monitoring. 28 31 00 for intrusion detection. 28 31 11 for building intrusion detection. 34 41 00 for roadway signaling and control equipment. 34 52 16 for transportation vehicle ticketing equipment. 34 52 26 for transportation vehicle fare collection equipment. 34 52 33 for transportation vehicle fare gates. 34 71 13 for vehicle barriers. 34 71 19 for vehicle delineators.
11 12 13	Parking Key and Card Control Units	
11 12 16	Parking Ticket Dispensers	
11 12 23	Parking Meters	
11 12 26	Parking Fee Collection Equipment	
11 12 26.13	Parking Fee Coin Collection Equipment	
11 12 33	Parking Gates	
11 12 33.13	Lift Arm Parking Gates	
11 12 33.16	Sliding Parking Gates	

NUMBER	TITLE	EXPLANATION
11 12 33.19	Swinging Parking Gates	
<b>11 13 00</b>	<b>Loading Dock Equipment</b>	Includes: equipment associated with service docks and for the loading and unloading of vehicles.  May Include: signals for truck restraints.  See: 08 38 00 for traffic doors. 14 45 00 for vehicle lifts. 26 50 00 for lighting. 41 22 00 for cranes and hoists.
11 13 13	Loading Dock Bumpers	
11 13 16	Loading Dock Seals and Shelters	
11 13 16.13	Loading Dock Seals	
11 13 16.23	Loading Dock Shelters	
11 13 16.33	Loading Dock Rail Shelters	
11 13 19	Stationary Loading Dock Equipment	
11 13 19.13	Loading Dock Levelers	
11 13 19.23	Stationary Loading Dock Lifts	
11 13 19.26	Loading Dock Truck Lifts	
11 13 19.33	Loading Dock Truck Restraints	
11 13 23	Portable Dock Equipment	
11 13 23.13	Portable Dock Lifts	
11 13 23.16	Portable Dock Ramps	
11 13 23.19	Portable Dock Bridges	
11 13 23.23	Portable Dock Platforms	
11 13 26	Loading Dock Lights	
<b>11 14 00</b>	<b>Pedestrian Control Equipment</b>	Includes: equipment associated with the control of movement of pedestrians. Self-contained equipment to collect fares for pedestrians that is not part of a centralized transportation ticketing and fare collection system. Pedestrian access control.  See: 28 10 00 for access control. 28 20 00 for video surveillance. 34 41 00 for roadway signaling and control equipment. 34 54 00 for transportation passenger fare collection. 34 54 16 for transportation passenger ticketing equipment. 34 54 26 for transportation passenger fare collection equipment. 34 54 33 for transportation passenger fare gates.
11 14 13	Pedestrian Gates	
11 14 13.16	Rotary Gates	
11 14 13.19	Turnstiles	
11 14 16	Pedestrian Control Devices	Includes: permanent and portable retractable belt barriers, stanchions, and other queuing, pedestrian flow, and crowd control devices.

NUMBER	TITLE	EXPLANATION
11 14 19	Portable Posts and Railings	
11 14 26	Pedestrian Fare Collection Equipment	
11 14 26.13	Pedestrian Coin Fare Collection Equipment	
11 14 43	Pedestrian Detection Equipment	
11 14 43.13	Electronic Detection and Counting Systems	
11 14 53	Pedestrian Security Equipment	
<b>11 15 00</b>	<b>Security Control Equipment</b>	
		Includes: security kiosks and guard shacks.
		See Also: 28 10 00 for access control. 28 30 00 for security detection, alarm, and monitoring.
<b>11 20 00</b>	<b>Commercial Equipment</b>	
		Includes: equipment associated with commercial facilities.
		See: 27 51 23 for commercial intercommunications and program systems.
<b>11 21 00</b>	<b>Retail and Service Equipment</b>	
		Includes: fabricated, built-in, or free-standing equipment used in retail and service facilities. Coin-operated equipment for dispensing various foods, drinks, stamps, money, tickets, and other items. Fabricated manual or automated equipment used where wearing apparel and luggage are checked or stored on a temporary basis. Display cases that include equipment.
		See: 06 41 00 for architectural wood casework. 10 12 00 for display cases. 11 22 00 for refrigerated display equipment. 11 29 00 for postal, packaging, and shipping equipment. 11 46 00 for food dispensing equipment. 12 35 59 for display casework. 14 92 00 for pneumatic tube systems.
11 21 13	Cash Registers and Checking Equipment	
11 21 23	Vending Equipment	
11 21 23.13	Merchandise Vending Machines	
11 21 23.16	Reverse Vending Machines	
		Includes: bottle and can return machines.
11 21 23.19	Video Rental Vending Machines	
11 21 23.36	Token Vending Machines	
11 21 24	Money Changing Machines	
11 21 33	Checkroom Equipment	
11 21 43	Weighing and Wrapping Equipment	
11 21 53	Barber and Beauty Shop Equipment	



DIVISION 11

NUMBER	TITLE	EXPLANATION
11 21 63	Refrigerated Display Equipment	Includes: display cases that include refrigeration.  See: 10 12 00 for display cases. 12 35 59 for display cases.  See Also: 11 41 00 for food storage equipment.
11 21 73	Commercial Laundry and Dry Cleaning Equipment	Includes: equipment for commercial laundry and dry cleaning operations, including coin-operated equipment.  See: 10 28 23 for residential laundry accessories. 14 91 33 for laundry and linen chutes. 41 21 23 for piece material conveyors. 42 32 00 for industrial material dryers.
11 21 73.13	Dry Cleaning Equipment	
11 21 73.16	Drying and Conditioning Equipment	
11 21 73.19	Finishing Equipment	
11 21 73.23	Commercial Ironing Equipment	
11 21 73.26	Commercial Washers and Extractors	
11 21 73.33	Coin-Operated Laundry Equipment	
11 21 73.43	Hanging Garment Conveyors	
11 21 83	Photo Processing Equipment	Includes: photographic-film-processing equipment and other products for darkroom use.  See: 08 34 33 for lightproof doors. 08 34 36 for darkroom doors. 12 35 00 for specialty casework.
<b>11 22 00</b>	<b>Banking Equipment</b>	
11 22 13	Vault Equipment	Includes: fabricated, built-in, or free-standing equipment specifically designed for money or valuables.  See: 08 34 59 for vault doors and day gates. 13 27 00 for vaults. 23 30 00 for HVAC air distribution.
11 22 13.13	Safe Deposit Boxes	
11 22 13.16	Safes	
11 22 13.23	Vault Ventilators	
11 22 13.26	Time Capsules	

NUMBER	TITLE	EXPLANATION
11 22 16	<b>Teller and Service Equipment</b>	Includes: fabricated, built-in, or free-standing equipment specifically designed for handling and transfer of money and other high-security items.  Alternate Terms/Abbreviations: ATM: automatic teller machine.  See: 08 34 53 for security doors and frames. 08 56 53 for security windows. 12 35 17 for bank casework. 13 27 00 for vaults. 14 92 00 for pneumatic tube systems.
11 22 16.13	Teller Equipment Systems	
11 22 16.16	Automatic Banking Systems	
11 22 16.19	Money Handling Equipment	
11 22 16.23	Money Depositories	
11 22 16.26	Money Cart Pass-Through	
11 22 16.29	Package Transfer Units	
11 22 16.33	Deal Trays	
<b>11 25 00</b>	<b>Hospitality Equipment</b>	Includes: specialized equipment for the purpose of registering, admitting, and controlling rooms and other information at hotels, motels, hospitals, and other similar facilities.  See: 06 41 00 for architectural wood casework. 12 30 00 for manufactured casework. 12 54 00 for hospitality furniture. 13 42 25 for hospitality unit modules. 14 72 00 for hospitality turntables. 27 41 16 for integrated audio-video systems and equipment for restaurants and bars.
11 25 13	Registration Equipment	
<b>11 28 00</b>	<b>Office Equipment</b>	Includes: data and paper processing equipment. Drafting machines, plotters, carto-stereographs.  Alternate Terms/Abbreviations: facsimiles: fax machines.  See: 12 51 00 for office furniture. 12 59 00 for open office systems furniture. 14 92 00 for pneumatic tube systems. 25 11 19 for integrated automation operator workstations. 27 22 00 for data communications hardware. 27 24 00 for data communications peripheral data equipment. 27 32 29 for facsimiles and modems. 27 33 26 for facsimile servers. 27 41 16 for integrated audio-video systems and equipment for conference rooms and board rooms.

NUMBER	TITLE	EXPLANATION
11 28 13	Computers	
11 28 16	Printers	
11 28 23	Copiers	

## 11 29 00 Postal, Packaging, and Shipping Equipment

Includes: equipment for normal mailing, packaging, shipping, and delivery operations for professional, commercial, and institutional applications.

Does Not Include: equipment for mailing, packaging, shipping, and delivery operations of post office or products of process engineering operations.

See: 10 55 00 for postal specialties.

11 21 43 for weighing and wrapping equipment.

41 21 23 for postal conveyors.

41 24 46 for postal sorting machines.

41 40 00 for container processing and packaging for processing operations.

41 43 00 for shipping packaging for process operations.

11 29 23	Packaging Equipment	
11 29 33	Shipping Equipment	
11 29 55	Postal Equipment	

## 11 30 00 Residential Equipment

Includes: built-in or free-standing residential appliances and other components specifically for residential use.

May Include: residential food waste disposers. Residential ceiling fans.

See Also: 11 82 26 for facility waste compactors and destructors.

22 41 26 for residential disposers.

23 34 00 for ceiling fans.

Products: refrigerators, cooktops, ranges, exhaust hoods, ovens, microwave ovens, dishwashers, trash compactors, clothes washers, clothes dryers, ironing boards, and other kitchen and laundry appliances and equipment.

11 30 13	Residential Appliances	
11 30 13.13	Residential Kitchen Appliances	
11 30 13.23	Residential Laundry Appliances	
11 30 33	Retractable Stairs	
11 30 34	Residential Ceiling Fans	

NUMBER	TITLE	EXPLANATION
<b>11 32 00</b>	<b>Unit Kitchens</b>	Includes: manufactured units incorporating kitchen plumbing fixtures, appliances, casework, and countertops.  See: 11 30 13 for residential appliances. 12 35 30 for residential casework.
11 32 13	Metal Unit Kitchens	
11 32 16	Wood Unit Kitchens	
11 32 19	Plastic-Laminate-Clad Unit Kitchens	
<b>11 40 00</b>	<b>Foodservice Equipment</b>	Includes: equipment used for food storage, preparation, delivery and serving, cooking, dispensing, and clean-up in commercial and institutional kitchens, bars, and back bars.  Alternate Terms/Abbreviations: foodservice equipment: kitchen equipment.  See: 12 30 00 for foodservice casework. 12 36 00 for foodservice countertops. 22 10 00 for plumbing piping and pumps. 22 42 00 for commercial plumbing fixtures. 23 38 13 for commercial-kitchen hoods.
<b>11 41 00</b>	<b>Foodservice Storage Equipment</b>	Includes: refrigerated cases. Fabricated walk-in coolers and freezers.  May Include: refrigerated display equipment.  See: 11 53 23 for laboratory refrigerators. 13 21 26 for cold storage rooms.  See Also: 11 22 00 for refrigerated display equipment.
11 41 13	Refrigerated Food Storage Cases	
11 41 23	Walk-In Coolers	
11 41 26	Walk-In Freezers	
11 41 33	Foodservice Shelving	
<b>11 42 00</b>	<b>Food Preparation Equipment</b>	Includes: equipment used for food preparation other than cooking and baking. Food blenders, chopping blocks, butcher's blocks, food grinders, juicers, knife sharpeners, food mixers, peelers, meat saws, food slicers.
11 42 13	Food Preparation Appliances	

NUMBER	TITLE	EXPLANATION
11 42 16	Food Preparation Surfaces	
<b>11 43 00</b>	<b>Food Delivery Carts and Conveyors</b>	<p>May Include: carts, conveyors and material handling units dedicated to transporting food.</p> <p>See Also: 14 10 00 for cart lifts. 41 21 23 for piece material conveyors.</p>
11 43 13	Food Delivery Carts	
11 43 16	Food Delivery Conveyors	
<b>11 44 00</b>	<b>Food Cooking Equipment</b>	<p>Includes: equipment used to cook and bake food. Barbeque grilles, broilers, deep well cookers, French fryers, griddles, grilles, kettles, microwave ovens, rotisseries.</p> <p>May Include: ventilation hoods with fire-suppression systems.</p> <p>See: 42 15 00 for industrial ovens.</p> <p>See Also: 23 38 13 for commercial-kitchen hoods.</p>
11 44 13	Commercial Ranges	
11 44 16	Commercial Ovens	
<b>11 46 00</b>	<b>Food Dispensing Equipment</b>	<p>Includes: equipment used to dispense food. Bread toasters, warming cabinets, coffee urns, cold dish tables, food warmers, glass fillers, salad tables. Food, dish, and beverage dispensers.</p> <p>See: 11 21 23 for vending equipment.</p>
11 46 13	Bar Equipment	
11 46 16	Service Line Equipment	
11 46 19	Soda Fountain Equipment	
11 46 23	Coffee and Espresso Equipment	
11 46 83	Ice Machines	Includes: equipment used to produce, store, and dispense ice.
<b>11 48 00</b>	<b>Foodservice Cleaning and Disposal Equipment</b>	<p>Includes: equipment used to clean foodservice equipment, utensils, and tableware. Food waste disposers, drain boards, garbage scuppers, pot sinks.</p> <p>See Also: 22 42 26 for commercial disposers.</p>
11 48 13	Commercial Dishwashers	

NUMBER	TITLE	EXPLANATION
<b>11 50 00</b>	<b>Educational and Scientific Equipment</b>	Includes: equipment associated with libraries, educational facilities, laboratories, planetariums, observatories, and museums.  Alternate Terms/Abbreviations: educational equipment: school equipment.  See: 27 41 16 for integrated audio-video systems and equipment for classrooms. 27 51 23 for education intercommunication and program systems.
<b>11 51 00</b>	<b>Library Equipment</b>	Includes: equipment associated with libraries.  See: 12 35 50 for educational/library casework. 12 56 51 for library furniture. 13 44 00 for modular mezzanines. 14 10 00 for book lifts.
11 51 13	Automated Book Storage and Retrieval Systems	
11 51 16	Book Depositories	
11 51 19	Book Theft Protection Equipment	
11 51 23	Library Stack Systems	
11 51 23.13	Metal Library Shelving	
<b>11 52 00</b>	<b>Audio-Visual Equipment</b>	Includes: projection screens, projectors, players, recorders and other audio-visual equipment.  See: 10 11 36 for visual display conference units. 11 28 00 for office equipment. 12 56 52 for audio-visual furniture. 27 40 00 for audio-video communications. 27 51 23 for education intercommunication and program systems.
11 52 13	Projection Screens	
11 52 13.13	Fixed Projection Screens	
11 52 13.16	Portable Projection Screens	
11 52 13.19	Rear Projection Screens	
11 52 16	Projectors	
11 52 16.13	Movie Projectors	
11 52 16.16	Slide Projectors	
11 52 16.19	Overhead Projectors	
11 52 16.23	Opaque Projectors	
11 52 16.26	Video Projectors	
11 52 19	Players and Recorders	

DIVISION 11

NUMBER	TITLE	EXPLANATION
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11 52 23 Audio-Visual Equipment Supports  
Includes: operable and fixed a/v equipment support.

**11 53 00 Laboratory Equipment**

Includes: equipment for scientific use. Laboratory fume hoods.

See: 12 35 53 for laboratory casework, tops and sinks, and service fixtures mounted on laboratory tops.  
12 36 53 for laboratory countertops.  
12 56 53 for laboratory furniture.  
13 21 00 for controlled environment rooms.  
22 45 00 for emergency plumbing fixtures.  
22 61 00 for compressed-air systems for laboratory facilities.  
22 62 00 for vacuum systems for laboratory facilities.  
22 63 00 for gas systems for laboratory facilities.  
22 66 53 for laboratory chemical waste and vent piping.  
22 67 00 for processed water systems for laboratory facilities.  
23 30 00 for fume hood exhaust ducts.

See Also: 23 38 16 for fume hoods connected to HVAC systems.

Products: glove boxes.

- 11 53 13 Laboratory Fume Hoods
- 11 53 13.13 Recirculating Laboratory Fume Hoods
- 11 53 16 Laboratory Incubators
- 11 53 17 Laboratory Equipment Washers
- 11 53 19 Laboratory Sterilizers
- 11 53 23 Laboratory Refrigerators
- 11 53 26 Laboratory Freezers
- 11 53 29 Laboratory Controlled-Environment Cabinets
- 11 53 33 Emergency Safety Appliances
- 11 53 43 Service Fittings and Accessories
- 11 53 53 Biological Safety Cabinets

**11 55 00 Planetarium Equipment**

Includes: projectors and related equipment unique to planetariums.

See: 13 23 00 for planetariums.

- 11 55 13 Planetarium Projectors
- 11 55 16 Planetarium Pendulums

**11 56 00 Observatory Equipment**

Includes: telescopes and related equipment unique to observatories.

See: 13 34 56 for observatories.

NUMBER	TITLE	EXPLANATION
11 56 13	Telescopes	
11 56 16	Telescope Mounts	
11 56 19	Telescope Drive Mechanisms	
11 56 23	Telescope Domes	
<b>11 57 00</b>	<b>Vocational Shop Equipment</b>	Includes: equipment related to vocational shops.  See: 10 21 23 for shop cubicles and cubicle curtains and track. 12 57 00 for industrial furniture. 23 35 13 for sawdust collection systems. 23 35 16 for engine exhaust systems. 40 17 00 for welding and cutting gases piping. 41 22 00 for cranes and hoists. 41 34 23 for spray painting booths.
<b>11 59 00</b>	<b>Exhibit Equipment</b>	Includes: equipment for exhibits and displays.  See: 10 12 00 for display cases. 11 22 00 for refrigerated display equipment. 12 35 59 for display casework. 14 73 00 for exhibit turntables. 14 73 59 for display turntables. 26 55 59 for display lighting.
<b>11 60 00</b>	<b>Entertainment and Recreation Equipment</b>	
<b>11 61 00</b>	<b>Broadcast, Theater, and Stage Equipment</b>	Includes: equipment for support of broadcast, theatrical, instrumental, or voice programs. Cycloramas, entertainment ticket dispensers, scenery and flats, tormentors.  May Include: stage lighting systems and controls.  Alternate Terms/Abbreviations: theater equipment: auditorium equipment.  See: 05 51 36 for catwalks. 12 61 00 for fixed audience seating for theaters. 14 43 13 for stage and orchestra lifts. 14 74 61 for stage turntables. 27 41 16 for integrated audio-video systems and equipment for theaters.  See Also: 26 09 61 for theatrical lighting controls. 26 55 61 for theatrical lighting. 26 55 83 for broadcast lighting.



DIVISION 11

NUMBER	TITLE	EXPLANATION
11 61 13	Acoustical Shells	
11 61 23	Folding and Portable Stages	
11 61 33	Rigging Systems and Controls	
11 61 33.11	Lighting Rigging Systems	
11 61 33.16	Scenery Rigging Systems	
11 61 33.19	Curtain Systems	
11 61 43	Stage Curtains	
<b>11 62 00</b>	<b>Musical Equipment</b>	Includes: musical instruments, including fabricated and field-assembled instruments.
		See: 11 61 00 for theater and stage equipment. 11 91 00 for religious equipment.
11 62 13	Bells	
11 62 16	Carillons	
11 62 19	Organs	
<b>11 66 00</b>	<b>Athletic Equipment</b>	Includes: manufactured equipment intended for use in interior athletic and exercise activities.
		Alternate Terms/Abbreviations: athletic equipment: sports equipment. Gymnasium: fieldhouse.
		See: 09 64 66 for wood athletic flooring. 09 65 66 for resilient athletic flooring. 09 67 66 for fluid-applied athletic flooring. 11 67 00 for recreational equipment. 11 67 33 for recreational climbing walls. 11 68 23 for exterior court athletic equipment. 11 68 33 for athletic field equipment. 11 68 43 for exterior scoreboards. 12 63 00 for arena seating. 13 24 66 for athletic rooms. 13 28 00 for athletic and recreational special construction. 13 28 66 for demountable athletic surfaces.
11 66 13	Exercise Equipment	
11 66 23	Gymnasium Equipment	
11 66 23.13	Basketball Equipment	
11 66 23.23	Volleyball Equipment	
11 66 23.33	Interior Tennis Equipment	
11 66 23.43	Interior Track and Field Equipment	
11 66 23.53	Wall Padding	
11 66 23.56	Mat Storage	
11 66 43	Interior Scoreboards	
11 66 53	Gymnasium Dividers	
11 66 53.13	Batting/Golf Cages	

NUMBER	TITLE	EXPLANATION
<b>11 67 00</b>	<b>Recreational Equipment</b>	Includes: manufactured equipment intended for use in recreational activities. Curling rinks, pistol and rifle range equipment.  Alternate Terms/Abbreviations: pool tables: billiard tables.  See: 11 66 00 for athletic equipment.
11 67 13	Bowling Alley Equipment	
11 67 23	Shooting Range Equipment	
11 67 33	Climbing Walls	
11 67 43	Table Games Equipment	
11 67 43.13	Pool Tables	
11 67 43.23	Ping-Pong Tables	
11 67 53	Game Room Equipment	
11 67 53.13	Video Games	
11 67 53.23	Pinball Machines	
<b>11 68 00</b>	<b>Play Field Equipment and Structures</b>	Includes: manufactured equipment intended for use in exterior athletic and recreational activities.  See: 11 66 00 for interior athletic equipment. 11 66 43 for interior scoreboards. 11 67 00 for recreational equipment. 12 63 00 for stadium seating. 13 11 00 for swimming pools. 13 14 00 for aquatic park structures. 13 31 13 for air-supported fabric structures. 13 34 16 for fabricated engineered grandstands and bleachers. 26 55 68 for athletic field lighting. 32 18 00 for exterior athletic and recreational surfacing. 32 31 13 for recreational and tennis court fences and gates. 32 31 13 for chain link backstops for softball and baseball.
11 68 13	Playground Equipment	
11 68 16	Play Structures	
11 68 23	Exterior Court Athletic Equipment	
11 68 23.13	Exterior Basketball Equipment	
11 68 23.23	Exterior Volleyball Equipment	
11 68 23.33	Tennis Equipment	
11 68 33	Athletic Field Equipment	
11 68 33.13	Football Field Equipment	
11 68 33.23	Soccer and Field Hockey Equipment	
11 68 33.33	Baseball Field Equipment	
11 68 33.43	Track and Field Equipment	
11 68 43	Exterior Scoreboards	
<b>11 70 00</b>	<b>Healthcare Equipment</b>	

NUMBER	TITLE	EXPLANATION
<b>11 71 00</b>	<b>Medical Sterilizing Equipment</b>	Includes: specialized equipment for healthcare facilities. Film illuminators, fluoroscopes, Hubbard tubs, radioisotopic equipment, surgical equipment.  Alternate Terms/Abbreviations: healthcare equipment: medical equipment: hospital equipment.  See: 05 45 23 for healthcare metal supports. 10 25 13 for patient bed service walls. 12 35 70 for healthcare casework. 13 19 00 for kennels and animal shelters. 13 49 00 for radiation protection. 14 92 00 for pneumatic tube systems. 22 43 00 for healthcare plumbing fixtures. 22 61 00 for compressed-air systems for healthcare facilities. 22 62 00 for vacuum systems for healthcare facilities. 22 63 00 for gas systems for healthcare facilities. 22 66 70 for healthcare chemical waste and vent piping. 22 67 00 for processed water systems for healthcare facilities. 26 55 70 for healthcare lighting. 27 52 00 for healthcare communications and monitoring systems. 28 41 00 for radiation detection and alarm.
<b>11 72 00</b>	<b>Examination and Treatment Equipment</b>	
11 72 13	Examination Equipment	
11 72 53	Treatment Equipment	
<b>11 73 00</b>	<b>Patient Care Equipment</b>	
11 73 13	Psychiatric Seclusion Room Padding	
<b>11 74 00</b>	<b>Dental Equipment</b>	
<b>11 75 00</b>	<b>Optical Equipment</b>	
<b>11 76 00</b>	<b>Operating Room Equipment</b>	
<b>11 77 00</b>	<b>Radiology Equipment</b>	
<b>11 78 00</b>	<b>Mortuary Equipment</b>	Includes: specialized equipment for the handling and preparation of cadavers. Autopsy equipment, dissecting equipment, embalming tables.  See: 12 35 00 for specialty casework. 13 21 26 for cold storage rooms.

NUMBER	TITLE	EXPLANATION
11 78 13	Mortuary Refrigerators	
11 78 16	Crematorium Equipment	
11 78 19	Mortuary Lifts	
<b>11 79 00</b>	<b>Therapy Equipment</b>	Includes: equipment intended for therapeutic activities. Hydrotherapy equipment, teletherapy equipment.  See: 11 66 00 for athletic equipment. 11 67 00 for recreational equipment. 13 17 23 for therapeutic pools.
<b>11 80 00</b>	<b>Facility Maintenance and Operation Equipment</b>	Includes: equipment for the collection, handling, and disposal of materials at a single facility.  See: 23 35 13 for sawdust collection systems. 44 11 16 for dust collectors.
<b>11 81 00</b>	<b>Facility Maintenance Equipment</b>	Includes: fabricated, built-in, and field-assembled equipment for maintenance operations.  See: 14 84 13 for window washing scaffolding. 14 84 23 for window washing hoists. 41 66 23 for mobile sweepers/vacuums. 41 67 00 for plant maintenance equipment.
11 81 13	Floor and Wall Cleaning Equipment	
11 81 16	Housekeeping Carts	
11 81 19	Vacuum Cleaning Systems	
11 81 23	Façade Access Equipment	
11 81 23.13	Window Washing Systems	
11 81 29	Facility Fall Protection	Includes: anchorage and tie off for fall protection.
<b>11 82 00</b>	<b>Facility Solid Waste Handling Equipment</b>	Includes: packaged equipment involving the collection, shredding, compaction, and removal or incineration of trash and other solid waste at a facility.  Alternate Terms/Abbreviations: waste compactors: refuse compactors: trash compactors.  See: 14 91 82 for trash chutes. 44 50 00 for site-constructed solid waste control and reuse for multiple facilities.

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NUMBER	TITLE	EXPLANATION
11 82 13	Solid Waste Bins	
11 82 19	Packaged Incinerators	
11 82 23	Recycling Equipment	
11 82 26	Facility Waste Compactors	
11 82 29	Composting Equipment	
11 82 33	Facility Waste Shredders	See: 44 51 00 for solid waste control equipment.
11 82 36	Facility Waste Balers	See: 44 51 00 for solid waste control equipment.

## 11 90 00 Other Equipment

### 11 91 00 Religious Equipment

Includes: fabricated, built-in, or free-standing religious related equipment.

Alternate Terms/Abbreviations: religious equipment: ecclesiastical equipment.

See Also: 10 74 29 for spires and steeples.  
 11 62 00 for musical equipment.  
 12 19 00 for religious artwork.  
 12 35 91 for religious casework.  
 12 67 00 for pews and benches.

11 91 13 Baptisteries

### 11 92 00 Agricultural Equipment

Includes: equipment related to land cultivating, raising crops, and feeding, breeding, and raising of livestock.

See: 11 93 00 for horticultural equipment.  
 13 19 00 for kennels and animal shelters.  
 32 31 00 for fences and gates.  
 32 86 00 for agricultural irrigation.  
 45 15 00 for food manufacturing equipment.

11 92 13 Milkers  
 11 92 16 Stock Feeders  
 11 92 19 Stock Waterers  
 11 92 23 Agricultural Waste Clean-Up Equipment

NUMBER	TITLE	EXPLANATION
<b>11 93 00</b>	<b>Horticultural Equipment</b>	Includes: equipment related to cultivating flowers, fruits, vegetables, or ornamental plants.  See: 11 92 00 for agricultural equipment. 13 34 13 for greenhouses. 32 86 00 for agricultural irrigation. 32 90 00 for planting. 32 91 13 for soil preparation. 32 96 00 for transplanting. 45 15 00 for food manufacturing equipment.
11 93 13	Hydroponic Growing Systems	
11 93 16	Seeders	
11 93 19	Transplanters	
11 93 23	Potting Machines	
11 93 26	Flat Fillers	
11 93 29	Baggers	
11 93 33	Soil Mixers	
<b>11 94 00</b>	<b>Veterinary Equipment</b>	
<b>11 95 00</b>	<b>Arts and Crafts Equipment</b>	
11 95 13	Kilns	
<b>11 97 00</b>	<b>Security Equipment</b>	Includes: fabricated, built-in, or free-standing equipment specifically designed for secure operations.  See: 08 34 53 for security doors and frames. 08 56 53 for security windows. 08 71 53 for security door hardware. 10 28 13 for security toilet accessories. 10 44 13 for security fire extinguisher cabinets. 10 86 00 for security mirrors and domes. 26 55 53 for security lighting. 28 10 00 for access control.
11 97 13	Deal Drawers	
11 97 16	Gun Ports	
11 97 23	Valuable Material Storage	

NUMBER	TITLE	EXPLANATION
<b>11 98 00</b>	<b>Detention Equipment</b>	<p>Includes: fabricated, built-in, or free-standing equipment specifically designed for detention facilities.</p> <p>Alternate Terms/Abbreviations: detention equipment: jail equipment: penitentiary equipment: prison equipment.</p> <p>See: 05 59 63 for detention enclosures.  10 28 13 for detention toilet accessories.  11 98 12 for detention doors and frames.  11 98 14 for detention door hardware.  11 98 21 for detention windows.  12 55 00 for detention furniture.  13 42 63 for detention cell modules.  26 55 63 for detention lighting.  27 51 23 for detention intercommunications and program systems.  28 52 00 for detention security systems.  28 52 11 for detention security system requirements.</p>
11 98 11	Detention Equipment Requirements	Notes: this Section is not intended to duplicate or supplant Division 01 General Requirements content.
11 98 12	Detention Doors and Frames	Includes: doors and frames with specific characteristics for detention applications.
11 98 13	Detention Pass-Through Doors	
11 98 14	Detention Door Hardware	
11 98 16	Detention Equipment Fasteners	
11 98 19	Detention Room Padding	
11 98 21	Detention Windows	
11 98 23	Detention Window Screens	

NUMBER	TITLE	EXPLANATION
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## DIVISION 12 – FURNISHINGS

### 12 00 00 Furnishings

May be used as Division level  
Section title.

#### 12 01 00 Operation and Maintenance of Furnishings

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of furnishings.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

12 01 10	Operation and Maintenance of Art
12 01 20	Operation and Maintenance of Window Treatments
12 01 30	Operation and Maintenance of Casework
12 01 40	Operation and Maintenance of Furnishings and Accessories
12 01 50	Operation and Maintenance of Furniture
12 01 60	Operation and Maintenance of Multiple Seating
12 01 90	Operation and Maintenance of Other Furnishings

#### 12 05 00 Common Work Results for Furnishings

Includes: subjects common to multiple titles in Division 12.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

12 05 05	Selective Demolition for Furnishings
	See: 02 41 19 for selective demolition for whole structure demolition.

12 05 13	Fabrics
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#### 12 06 00 Schedules for Furnishings

Includes: schedules of items common to multiple titles in Division 12.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

12 06 10	Schedules for Art
12 06 20	Schedules for Window Treatments
12 06 20.13	Window Treatment Schedule
12 06 30	Schedules for Casework



DIVISION 12

NUMBER	TITLE	EXPLANATION
12 06 30.13	Manufactured Casework Schedule	
12 06 40	Schedules for Furnishings and Accessories	
12 06 40.13	Furnishings Schedule	
12 06 50	Schedules for Furniture	
12 06 60	Schedules for Multiple Seating	
12 06 90	Schedules for Other Furnishings	

**12 08 00 Commissioning of Furnishings**

Includes: commissioning of items common to multiple titles in Division 12.

See: 01 91 00 for commissioning of subjects common to multiple divisions.

**12 10 00 Art**

Includes: interior and exterior art objects.

See: 05 70 00 for decorative metals.  
 06 44 00 for ornamental woodwork.  
 06 66 00 for custom ornamental simulated woodwork.  
 09 27 00 for plaster fabrications.

**12 11 00 Murals**

Includes: murals produced with media other than building products.

See Also: 04 25 00 for sculptured brick panels and brick murals.  
 09 30 00 for tile murals.  
 12 14 00 for sculptures.  
 12 14 23 for relief art.

12 11 13	Photo Murals
12 11 16	Sculptured Brick Panels
12 11 23	Brick Murals
12 11 26	Ceramic Tile Murals
12 11 33	Trompe L'Oeil

**12 12 00 Wall Decorations**

Includes: flat artwork attached to walls.

See: 09 72 00 for wall coverings.  
 09 77 00 for special wall surfacing.  
 09 94 00 for decorative finishing.

12 12 13	Commissioned Paintings
12 12 16	Framed Paintings
12 12 19	Framed Prints
12 12 23	Tapestries

NUMBER	TITLE	EXPLANATION
12 12 26	Wall Hangings	
<b>12 14 00</b>	<b>Sculptures</b>	Includes: free-standing sculptures.  See: 12 11 16 for sculptured brick panels.
12 14 13	Carved Sculptures	
12 14 16	Cast Sculptures	
12 14 19	Constructed Sculptures	
12 14 23	Relief Art	
<b>12 17 00</b>	<b>Art Glass</b>	Includes: artistically designed glass windows and glass screens.  See: 08 81 13 for decorative glass glazing. 08 84 13 for decorative plastic glazing.
12 17 13	Etched Glass	
12 17 16	Stained Glass	
<b>12 19 00</b>	<b>Religious Art</b>	Includes: artwork with a religious theme.  See: 11 91 00 for religious equipment. 12 35 91 for religious casework.
<b>12 20 00</b>	<b>Window Treatments</b>	
<b>12 21 00</b>	<b>Window Blinds</b>	Includes: interior window coverings, associated, hardware, and controls.  Alternate Terms/Abbreviations: horizontal louver blinds: venetian blinds: mini-blinds. Roll-down blinds: roller blinds. Roller window shades: roll-up window shades.  See: 06 49 19 for wood screens and exterior wood shutters. 08 50 00 for windows with integral louver blinds. 08 87 13 for solar control films. 09 83 22 for acoustic drapery. 10 71 00 for exterior protection. 10 71 13 for exterior shutters.
12 21 13	Horizontal Louver Blinds	See: 06 49 16 for wood blinds.

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NUMBER	TITLE	EXPLANATION
12 21 13.13	Metal Horizontal Louver Blinds	
12 21 13.23	Wood Horizontal Louver Blinds	
12 21 13.33	Plastic Horizontal Louver Blinds	
12 21 16	Vertical Louver Blinds	
12 21 16.13	Metal Vertical Louver Blinds	
12 21 16.23	Wood Vertical Louver Blinds	
12 21 16.33	Plastic Vertical Louver Blinds	
12 21 23	Roll-Down Blinds	
12 21 26	Black-Out Blinds	
<b>12 22 00</b>	<b>Curtains and Drapes</b>	
12 22 13	Draperies	
12 22 16	Drapery Track and Accessories	
<b>12 23 00</b>	<b>Interior Shutters</b>	
		Includes: manufactured shutters
		See: 06 49 19 for wood shutters.
12 23 13	Wood Interior Shutters	
<b>12 24 00</b>	<b>Window Shades</b>	
12 24 13	Roller Window Shades	
12 24 16	Pleated Window Shades	
12 24 16.13	Z-Pleated Window Shades	
12 24 16.16	Cellular Shades	
12 24 16.19	Roman Shades	
<b>12 25 00</b>	<b>Window Treatment Operating Hardware</b>	
12 25 09	Window Treatment Control System	
12 25 13	Motorized Drapery Rods	
<b>12 26 00</b>	<b>Interior Daylighting Devices</b>	
		See: 10 71 13 for exterior sun control devices.
<b>12 30 00</b>	<b>Casework</b>	
		Includes: stock modular cabinets and other casework units of any material. Countertops. Sinks integral with countertops. Laboratory countertops with integral sinks and fixtures and accessories mounted on countertops.
		Alternate Terms/Abbreviations: casework: cabinets: cabinetry.
		See: 06 41 00 for architectural wood casework.
		10 51 00 for lockers.
		10 56 00 for storage assemblies.
		10 57 23 for closet and utility shelving.
		11 51 23 for library stack systems.
		12 50 00 for movable furniture.

NUMBER	TITLE	EXPLANATION
<b>12 31 00</b>	<b>Manufactured Metal Casework</b>	Includes: casework manufactured of metal or surfaced in metal.  May Include: countertops and sinks and lavatories integral with countertops.  See Also: 12 36 00 for countertops.
12 31 16	Manufactured Metal Sandwich Panel Casework	
<b>12 32 00</b>	<b>Manufactured Wood Casework</b>	Includes: casework manufactured of wood or faced with wood veneer or plastic laminate.  May Include: countertops and sinks and lavatories integral with countertops.  Alternate Terms/Abbreviations: PLAM: plastic laminate.  See: 12 34 16 for solid plastic casework.  See Also: 12 36 00 for countertops.
12 32 13	Manufactured Wood-Veneer-Faced Casework	
12 32 16	Manufactured Plastic-Laminate-Clad Casework	
<b>12 34 00</b>	<b>Manufactured Plastic Casework</b>	Includes: casework manufactured of plastic.  May Include: countertops and sinks and lavatories integral with countertops.  See: 12 32 16 for plastic-laminate-clad manufactured casework.  See Also: 12 36 00 for countertops.
12 34 16	Manufactured Solid-Plastic Casework	
12 34 19	Manufactured Solid Surface Casework	

NUMBER	TITLE	EXPLANATION
<b>12 35 00</b>	<b>Specialty Casework</b>	<p>Includes: manufactured casework characterized by application or use. Laboratory countertops with integral sinks and fixtures and accessories mounted on countertops.</p> <p>May Include: countertops and sinks and lavatories integral with countertops.</p> <p>Alternate Terms/Abbreviations: healthcare casework: medical casework.</p> <p>See: 10 12 00 for display cases.  11 50 00 for educational and scientific equipment.  11 51 00 for library equipment.  11 53 00 for laboratory equipment.  11 59 00 for exhibit equipment.  11 70 00 for healthcare equipment.  11 91 00 for religious equipment.  12 50 00 for movable furniture.  12 56 51 for movable study carrels.  12 59 00 for open office systems furniture.  13 42 43 for dormitory unit modules.  22 43 00 for healthcare plumbing fixtures.  22 60 00 for healthcare and laboratory systems.</p> <p>See Also: 12 36 00 for countertops.</p>
12 35 17	Bank Casework	
12 35 25	Hospitality Casework	
12 35 30	Residential Casework	
12 35 30.13	Kitchen Casework	
12 35 30.23	Bathroom Casework	
12 35 30.43	Dormitory Casework	
12 35 33	Utility Room Casework	
12 35 36	Mailroom Casework	
12 35 39	Commercial Kitchen Casework	
12 35 50	Educational/Library Casework	
12 35 50.13	Educational Casework	
12 35 50.53	Library Casework	
12 35 50.56	Built-In Study Carrels	
12 35 53	Laboratory Casework	
12 35 53.13	Metal Laboratory Casework	
12 35 53.16	Plastic-Laminate-Clad Laboratory Casework	
12 35 53.19	Wood Laboratory Casework	
12 35 53.23	Solid-Plastic Laboratory Casework	
12 35 59	Display Casework	
12 35 70	Healthcare Casework	
12 35 70.13	Hospital Casework	
12 35 70.16	Nurse Station Casework	
12 35 70.19	Exam Room Casework	
12 35 70.74	Dental Casework	

NUMBER	TITLE	EXPLANATION
12 35 83	Performing Arts Casework	
12 35 91	Religious Casework	
<b>12 36 00</b>	<b>Countertops</b>	Includes: countertops of any material.  Alternate Terms/Abbreviations: PLAM: plastic laminate.  See: 06 61 13 for simulated stone fabrications. 09 30 00 for tile countertops. 11 53 00 for laboratory equipment. 12 56 53 for laboratory furniture.  See Also: 06 41 00 for countertops with architectural wood casework. 06 60 00 for plastic fabrications. 12 31 00 for countertops with manufactured metal casework. 12 32 00 for countertops with manufactured wood casework. 12 34 00 for countertops with manufactured plastic casework. 12 35 00 for countertops with manufactured specialty casework. 12 35 53 for countertops with laboratory casework. 22 40 00 for sinks and lavatories. 22 60 00 for laboratory systems.
12 36 13	Concrete Countertops	
12 36 16	Metal Countertops	
12 36 19	Wood Countertops	
12 36 23	Plastic Countertops	
12 36 23.13	Plastic-Laminate-Clad Countertops	
12 36 26	Glass Countertops	
12 36 40	Stone Countertops	
12 36 53	Laboratory Countertops	
12 36 61	Simulated Stone Countertops	
12 36 61.13	Cultured Marble Countertops	
12 36 61.16	Solid Surfacing Countertops	
12 36 61.19	Quartz Agglomerate Countertops	
12 36 71	Paper-Composite Countertops	

## **12 40 00**      **Furnishings and Accessories**

Includes: interior furnishings and accessories not connected to permanent construction.

Alternate Terms/Abbreviations: ceramics: chinaware.

See: 10 28 16 for shower curtain rods.  
10 28 19 for tub and shower doors.  
12 93 00 for site furnishings.

NUMBER	TITLE	EXPLANATION
<b>12 41 00</b>	<b>Office Accessories</b>	
12 41 13	Desk Accessories	
<b>12 42 00</b>	<b>Table Accessories</b>	
12 42 13	Ceramics	
12 42 16	Flatware	
12 42 16.13	Silverware	
12 42 19	Hollowware	
12 42 23	Glassware	
12 42 26	Table Linens	
12 42 26.13	Napery	
<b>12 43 00</b>	<b>Portable Lamps</b>	
12 43 13	Lamps	
12 43 13.13	Desk Lamps	
12 43 13.16	Table Lamps	
12 43 13.19	Floor Lamps	
<b>12 44 00</b>	<b>Bath Furnishings</b>	
12 44 13	Bath Linens	
12 44 13.13	Bath Mats	
12 44 13.16	Bath Towels	
12 44 16	Shower Curtains	
<b>12 45 00</b>	<b>Bedroom Furnishings</b>	
12 45 13	Bed Linens	
12 45 13.13	Blankets	
12 45 13.16	Comforters	
12 45 16	Pillows	
<b>12 46 00</b>	<b>Furnishing Accessories</b>	
		Includes: interior furnishing accessories not attached to permanent construction.
		See: 10 22 23 for portable partitions, screens, and panels.
		10 28 13 for built-in toilet room waste disposal units.
		12 93 23 for site trash and litter receptacles.
		27 53 13 for clock systems.
12 46 13	Ash Receptacles	
12 46 16	Bowls	
12 46 19	Clocks	
12 46 23	Decorative Crafts	
12 46 26	Decorative Screens	
12 46 29	Vases	
12 46 33	Waste Receptacles	

NUMBER	TITLE	EXPLANATION
<b>12 48 00</b>	<b>Rugs and Mats</b>	Includes: special floor surfaces at entrances and other loose mats and rugs.  Alternate Terms/Abbreviations: entrance mats: vestibule mats.  See: 05 53 00 for metal gratings. 09 60 00 for flooring. 09 65 00 for resilient flooring. 09 68 00 for carpeting.
12 48 13	Entrance Floor Mats and Frames	
12 48 13.13	Entrance Floor Mats	
12 48 13.16	Entrance Floor Mat Frames	
12 48 16	Entrance Floor Grilles	
12 48 19	Entrance Floor Gratings	
12 48 23	Entrance Floor Grids	
12 48 26	Entrance Tile	
12 48 43	Floor Mats	
12 48 43.13	Chair Mats	
12 48 43.23	Anti-Fatigue Floor Mats	
12 48 43.26	Fall-Cushioning Floor Mats	
12 48 53	Rugs	
12 48 53.13	Runners	
12 48 53.16	Oriental Rugs	
<b>12 50 00</b>	<b>Furniture</b>	
<b>12 51 00</b>	<b>Office Furniture</b>	Includes: movable interior furniture for office applications.  See: 10 22 23 for portable partitions, screens, and panels. 10 56 00 for storage assemblies. 11 28 00 for office equipment. 12 30 00 for manufactured casework. 12 52 23 for office seating. 12 59 00 for systems furniture. 13 22 00 for office shelters and booths. 27 41 23 for audio-video furniture and accessories. 41 53 00 for industrial storage equipment and systems.
12 51 16	Case Goods	
12 51 16.13	Metal Case Goods	
12 51 16.16	Wood Case Goods	
12 51 16.19	Plastic-Laminate-Clad Case Goods	
12 51 19	Filing Cabinets	
12 51 19.13	Lateral Filing Cabinets	
12 51 19.16	Vertical Filing Cabinets	
12 51 23	Office Tables	
12 51 83	Custom Office Furniture	



NUMBER	TITLE	EXPLANATION
<b>12 52 00</b>	<b>Seating</b>	See: 11 70 00 for healthcare equipment. 12 35 70 for healthcare casework. 12 51 00 for office furniture. 12 58 16 for residential chairs. 12 59 00 for systems furniture. 12 60 00 for multiple seating. 12 62 00 for portable audience seating.
12 52 13	Chairs	
12 52 19	Upholstered Seating	
12 52 23	Office Seating	
12 52 70	Healthcare Seating	
12 52 83	Custom Seating	
<b>12 53 00</b>	<b>Retail Furniture</b>	Includes: movable furniture used for retail applications.  See: 10 12 00 for display cases. 11 21 00 for mercantile and service equipment.
12 53 83	Custom Retail Furniture	
<b>12 54 00</b>	<b>Hospitality Furniture</b>	Includes: movable furniture used for hospitality applications.  See: 11 25 00 for hospitality equipment. 12 35 25 for hospitality casework. 12 64 00 for booths and tables for restaurants. 13 42 25 for hospitality unit modules.
12 54 13	Hotel and Motel Furniture	
12 54 16	Restaurant Furniture	
12 54 83	Custom Hospitality Furniture	
<b>12 55 00</b>	<b>Detention Furniture</b>	Includes: movable furniture used for detention applications.  Alternate Terms/Abbreviations: detention furniture: jail furniture: penitentiary furniture: prison furniture.  See: 05 59 63 for detention enclosures. 10 28 13 for detention toilet accessories. 11 98 12 for detention doors and frames. 11 98 14 for detention door hardware. 11 98 21 for detention windows. 13 42 63 for detention cell modules. 26 55 63 for detention lighting.

NUMBER	TITLE	EXPLANATION
12 55 13	Detention Bunks	
12 55 16	Detention Desks	
12 55 19	Detention Stools	
12 55 23	Detention Tables	
12 55 26	Detention Safety Clothes Hooks	
12 55 83	Custom Detention Furniture	
12 55 86	Detention Control Room Furniture	

## 12 56 00 Institutional Furniture

Includes: movable furniture used for institutional applications.

Alternate Terms/Abbreviations: classroom furniture:  
educational furniture: school furniture. Healthcare furniture:  
medical furniture: hospital furniture.

See: 11 50 00 for educational and scientific equipment.  
11 51 00 for library equipment.  
11 52 00 for audio-visual equipment.  
11 53 00 for laboratory equipment.  
11 70 00 for healthcare equipment.  
12 35 50 for educational/library casework.  
12 35 53 for laboratory casework.  
12 35 70 for healthcare casework.  
12 36 53 for laboratory countertops.  
12 68 13 for pedestal tablet arm chairs.  
13 42 43 for dormitory unit modules.  
27 41 23 for audio-video furniture and accessories.

12 56 23	Religious Furniture	
12 56 33	Classroom Furniture	
12 56 33.13	Fixed Classroom Tables	
12 56 33.23	Classroom Computer Furniture	
12 56 39	Lecterns	
12 56 43	Dormitory Furniture	
12 56 51	Library Furniture	
12 56 51.13	Book Shelves	
12 56 51.16	Study Carrels	
12 56 51.19	Index Card File Cabinets	
12 56 52	Audio-Visual Furniture	
12 56 53	Laboratory Furniture	
12 56 70	Healthcare Furniture	
12 56 83	Custom Institutional Furniture	
12 56 86	Institutional Control Room Furniture	

## 12 57 00 Industrial Furniture

Includes: movable furniture used for industrial applications.

See: 10 21 23 for shop cubicle curtains and track.  
11 57 00 for vocational shop equipment.

DIVISION 12

NUMBER	TITLE	EXPLANATION
12 57 13	Welding Benches	
12 57 16	Welding Screens	
12 57 19	Laser Containment Screens	
12 57 83	Custom Industrial Furniture	
12 57 86	Industrial Control Room Furniture	

**12 58 00 Residential Furniture**

Includes: movable furniture used for residential applications.

See: 11 30 00 for residential equipment.  
 12 35 30 for residential casework.  
 12 40 00 for furnishings and accessories.  
 12 52 13 for chairs.  
 12 62 00 for portable audience seating.  
 13 42 33 for apartment unit modules.

12 58 13	Couches and Loveseats	
12 58 13.13	Futons	
12 58 16	Residential Chairs	
12 58 16.13	Reclining Chairs	
12 58 19	Dining Tables and Chairs	
12 58 23	Coffee Tables	
12 58 26	Entertainment Centers	
12 58 29	Beds	
12 58 29.13	Daybeds	
12 58 33	Dressers	
12 58 33.13	Armoires	
12 58 36	Nightstands	
12 58 83	Custom Residential Furniture	

**12 59 00 Systems Furniture**

Includes: open office systems furniture, components, accessories, and integrated utilities.

See: 09 69 33 for low-profile fixed height access flooring.  
 10 22 23 for portable partitions, screens, and panels.  
 11 28 00 for office equipment.  
 12 51 00 for office furniture.

12 59 13	Panel-Hung Component System Furniture	
12 59 16	Free-Standing Component System Furniture	
12 59 19	Beam System Furniture	
12 59 23	Desk System Furniture	
12 59 83	Custom Systems Furniture	

NUMBER	TITLE	EXPLANATION
<b>12 60 00</b>	<b>Multiple Seating</b>	Includes: portable, fixed, and telescoping seating for theaters, auditoriums, lecture halls, stadiums, arenas, gymnasiums, religious facilities, restaurants, and other facilities where multiple seating is required. Fixed booths and fixed combination seat and table modules.  See: 11 61 00 for theater and stage equipment. 12 52 13 for portable chairs used with movable tables and used in classrooms and restaurants.
<b>12 61 00</b>	<b>Fixed Audience Seating</b>	Includes: fixed seating for theaters, auditoriums, lecture halls, and other facilities.  See: 11 61 00 for theater and stage equipment.
12 61 13	Upholstered Audience Seating	
12 61 16	Molded-Plastic Audience Seating	
<b>12 62 00</b>	<b>Portable Audience Seating</b>	Includes: interlocking, folding, stacking, and other seating for public assembly.  See: 12 52 13 for chairs. 12 58 16 for residential chairs.
12 62 13	Folding Chairs	
12 62 16	Interlocking Chairs	
12 62 19	Stacking Chairs	
12 62 23	Portable Bleachers	
<b>12 63 00</b>	<b>Stadium and Arena Seating</b>	Includes: fixed benches and seats for stadiums, arenas, gymnasiums, and other facilities.  Alternate Terms/Abbreviations: stadium/arena bench seating: bleachers.  See: 12 66 00 for telescoping stands. 13 34 16 for fabricated engineered grandstands and bleachers.
12 63 13	Stadium and Arena Bench Seating	
12 63 23	Stadium and Arena Seats	
<b>12 64 00</b>	<b>Booths and Tables</b>	Includes: booths and tables for restaurants and other facilities.  See: 12 54 16 for restaurant furniture.

DIVISION 12

NUMBER	TITLE	EXPLANATION
12 64 13	Booths	
12 64 16	Tables	
12 64 23	Banquette Seating	
<b>12 65 00</b>	<b>Multiple-Use Fixed Seating</b>	
<b>12 66 00</b>	<b>Telescoping Stands</b>	Includes: bleachers and platforms that retract to save floor space when not in use.  See: 12 63 00 for stadium and arena seating. 13 34 16 for fabricated engineered grandstands and bleachers.
12 66 13	Telescoping Bleachers	
12 66 23	Telescoping Chair Platforms	
<b>12 67 00</b>	<b>Pews and Benches</b>	See: 11 91 00 for religious equipment.
12 67 13	Pews	
12 67 23	Benches	
<b>12 68 00</b>	<b>Seat and Table Assemblies</b>	See: 12 56 33 for classroom furniture.
12 68 13	Pedestal Tablet Arm Chairs	
<b>12 90 00</b>	<b>Other Furnishings</b>	
<b>12 92 00</b>	<b>Interior Planters and Artificial Plants</b>	Includes: interior planters and artificial plants.  See: 32 90 00 for planting. 32 93 00 for live plants. 32 94 33 for planters.  See Also: 32 94 33 for interior planters.
12 92 13	Interior Artificial Plants	
12 92 33	Interior Planters	
12 92 43	Interior Landscaping Accessories	

NUMBER	TITLE	EXPLANATION
<b>12 93 00</b>	<b>Interior Public Space Furnishings</b>	Includes: furniture and fixtures for interior public and transitional spaces such as malls.  See: 12 60 00 for multiple seating. 12 68 00 for interior seat and table assemblies. 12 92 00 for interior planters and artificial plants. 32 90 00 for planting. 32 93 00 for live plants. 32 94 33 for planters.
12 93 13	Bicycle Racks	
12 93 14	Bicycle Lockers	
12 93 23	Trash and Litter Receptacles	

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NUMBER	TITLE	EXPLANATION
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## DIVISION 13 – SPECIAL CONSTRUCTION

<b>13 00 00</b>	<b>Special Construction</b>	May be used as Division level Section title.
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### 13 01 00 Operation and Maintenance of Special Construction

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of special construction.

Level 4 Numbering Recommendation: Level 4 titles for special construction are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

13 01 10	Operation and Maintenance of Special Facility Components
13 01 11	Operation and Maintenance of Swimming Pools
13 01 12	Operation and Maintenance of Fountains
13 01 13	Operation and Maintenance of Aquariums
13 01 14	Operation and Maintenance of Amusement Park Structures and Equipment
13 01 18	Operation and Maintenance of Ice Rinks
13 01 20	Operation and Maintenance of Special Purpose Rooms
13 01 21	Operation and Maintenance of Controlled Environment Rooms
13 01 23	Operation and Maintenance of Planetariums
13 01 30	Operation and Maintenance of Special Structures
13 01 40	Operation and Maintenance of Integrated Construction
13 01 49	Operation and Maintenance of Radiation Protection
13 01 50	Operation and Maintenance of Special Instrumentation
13 01 51	Operation and Maintenance of Stress Instrumentation
13 01 52	Operation and Maintenance of Seismic Instrumentation
13 01 53	Operation and Maintenance of Meteorological Instrumentation

### 13 05 00 Common Work Results for Special Construction

Includes: subjects common to multiple titles in Division 13.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

13 05 05	Selective Demolition for Special Construction	See: 02 41 19 for selective demolition for whole structure demolition.
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NUMBER	TITLE	EXPLANATION
<b>13 06 00</b>	<b>Schedules for Special Construction</b>	Includes: schedules of items common to multiple titles in Division 13.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
13 06 10	Schedules for Special Facility Components	
13 06 20	Schedules for Special Purpose Rooms	
13 06 30	Schedules for Special Structures	
13 06 40	Schedules for Integrated Construction	
13 06 50	Schedules for Special Instrumentation	
<b>13 08 00</b>	<b>Commissioning of Special Construction</b>	Includes: commissioning of items common to multiple titles in Division 13.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
13 08 10	Commissioning of Special Facility Components	
13 08 11	Commissioning of Swimming Pools	
13 08 12	Commissioning of Fountains	
13 08 13	Commissioning of Aquariums	
13 08 14	Commissioning of Amusement Park Structures and Equipment	
13 08 18	Commissioning of Ice Rinks	
13 08 20	Commissioning of Special Purpose Rooms	
13 08 21	Commissioning of Controlled Environment Rooms	
13 08 23	Commissioning of Planetariums	
13 08 30	Commissioning of Special Structures	
13 08 40	Commissioning of Integrated Construction	
13 08 50	Commissioning of Special Instrumentation	
<b>13 10 00</b>	<b>Special Facility Components</b>	
<b>13 11 00</b>	<b>Swimming Pools</b>	Includes: fabricated, or pre-engineered components, field assembled for athletic or recreational purposes. Diving boards, lifeguard chairs, floats, swimming pool ladders, underwater speakers.  See: 13 14 13 for water slides. 13 14 16 for water generating equipment. 13 17 00 for lap swimming pools. 13 17 00 for tubs and pools. 22 11 00 for facility water distribution. 22 13 00 for facility sanitary sewerage. 22 51 00 for swimming pool plumbing systems. 26 55 29 for underwater lighting.

NUMBER	TITLE	EXPLANATION
13 11 13	Below-Grade Swimming Pools	
13 11 23	On-Grade Swimming Pools	
13 11 33	Elevated Swimming Pools	
13 11 43	Recirculating Gutter Systems	
13 11 46	Swimming Pool Accessories	
13 11 49	Swimming Pool Cleaning Equipment	
13 11 53	Movable Pool Bulkheads	
13 11 56	Movable Pool Floors	
<b>13 12 00</b>	<b>Fountains</b>	Includes: decorative or functional manufactured fountains.  See: 22 11 00 for facility water distribution. 22 13 00 for facility sanitary sewerage. 22 52 00 for fountain plumbing systems. 26 55 29 for underwater lighting.
13 12 13	Exterior Fountains	
13 12 23	Interior Fountains	
<b>13 13 00</b>	<b>Aquariums</b>	Includes: tubs, bowls, and other containers for containing and displaying of aquatic animals and plants.  See: 22 11 00 for facility water distribution. 22 13 00 for facility sanitary sewerage. 26 55 29 for underwater lighting.
<b>13 14 00</b>	<b>Amusement Park Structures and Equipment</b>	Includes: fabricated or pre-engineered components, field-assembled for sport or recreational purposes.  See: 13 34 00 for fabricated engineered structures. 22 11 00 for facility water distribution. 22 13 00 for facility sanitary sewerage. 26 55 29 for underwater lighting.
13 14 13	Water Slides	
13 14 16	Wave Generating Equipment	
13 14 23	Amusement Park Rides	
<b>13 15 00</b>	<b>Specialty Element Construction</b>	Includes: specialty fabrications and scenery for themed environments.

NUMBER	TITLE	EXPLANATION
<b>13 17 00</b>	<b>Tubs and Pools</b>	<p>Includes: fabricated, or pre-engineered components, field assembled for therapeutic or recreational purposes. Lap swimming pools.</p> <p>See: 11 79 00 for therapy equipment.  13 11 00 for swimming pools.  13 24 16 for saunas.  13 24 26 for steam baths.  22 11 00 for facility water distribution.  22 13 00 for facility sanitary sewerage.  26 55 29 for underwater lighting.</p> <p>See Also: 22 41 00 for residential plumbing fixtures.  22 43 00 for healthcare plumbing fixtures.</p>
13 17 13	Hot Tubs	
13 17 23	Therapeutic Pools	
13 17 33	Whirlpool Tubs	
<b>13 18 00</b>	<b>Ice Rinks</b>	<p>Includes: equipment, piping, floor systems, and surrounding enclosures.</p> <p>May Include: freezing equipment.</p> <p>See: 13 28 16 for safety netting.</p> <p>See Also: 23 60 00 for freezing equipment.</p>
13 18 13	Ice Rink Floor Systems	
13 18 16	Ice Rink Dasher Boards	
<b>13 19 00</b>	<b>Kennels and Animal Shelters</b>	<p>Includes: facilities for housing and providing healthcare for animals.</p> <p>See: 10 22 13 for wire mesh partitions.  11 70 00 for animal healthcare equipment.  11 92 00 for agricultural equipment.  32 31 00 for fences and gates.</p>
13 19 13	Kennel Enclosures and Gates	
13 19 16	Kennel Feeding Devices	
13 19 19	Animal Washing Tubs	

NUMBER	TITLE	EXPLANATION
<b>13 20 00</b>	<b>Special Purpose Rooms</b>	Includes: fabricated and pre-engineered rooms designed and constructed to meet specific performance requirements of environmental control, dimensional tolerances, sound, fire protection, and other special conditions. Racquetball and squash court rooms.
<b>13 21 00</b>	<b>Controlled Environment Rooms</b>	See: 08 34 73 for sound control door assemblies. 11 41 23 for food service walk-in coolers. 11 41 26 for food service walk-in freezers. 11 53 00 for laboratory equipment. 11 70 00 for healthcare equipment. 13 24 00 for special activity rooms. 13 26 00 for fabricated rooms. 13 30 00 for special structures. 13 48 00 for sound, vibration, and seismic control. 44 20 00 for noise pollution control.
13 21 13	Clean Rooms	
13 21 16	Hyperbaric Rooms	
13 21 23	Insulated Rooms	
13 21 26	Cold Storage Rooms	
13 21 26.13	Walk-in Coolers	
13 21 26.16	Walk-in Freezers	
13 21 29	Constant Temperature Rooms	
13 21 48	Sound-Conditioned Rooms	
<b>13 22 00</b>	<b>Office Shelters and Booths</b>	See: 11 28 00 for office equipment. 12 51 00 for office furniture.
<b>13 23 00</b>	<b>Planetariums</b>	See: 11 55 00 for planetarium equipment. 13 34 56 for observatories.
<b>13 24 00</b>	<b>Special Activity Rooms</b>	See: 11 66 00 for athletic equipment. 13 17 13 for hot tubs. 13 21 00 for controlled environment rooms. 13 26 00 for fabricated rooms. 13 28 33 for athletic and recreational court walls. 13 28 66 for demountable athletic surfaces.
13 24 16	Saunas	
13 24 26	Steam Baths	
13 24 66	Athletic Rooms	

DIVISION 13

NUMBER	TITLE	EXPLANATION
<b>13 26 00</b>	<b>Fabricated Rooms</b>	See: 13 21 00 for controlled environment rooms. 13 23 00 for special activity rooms.
13 26 13	Storm Shelter Rooms	Alternate Terms/Abbreviations: tornado shelter rooms
<b>13 27 00</b>	<b>Vaults</b>	See: 08 34 59 for vault doors and day gates.
13 27 16	Modular Fire Vaults	
13 27 53	Security Vaults	
13 27 53.13	Modular Concrete Security Vaults	
13 27 53.16	Modular Metal-Clad Laminated Security Vaults	
<b>13 28 00</b>	<b>Athletic and Recreational Special Construction</b>	Includes: special construction for athletic and recreational activities that are directly related to the adjacent construction.  See: 09 64 66 for wood athletic flooring. 09 65 66 for resilient athletic flooring. 09 67 66 for fluid-applied athletic flooring. 13 14 00 for amusement park structures and equipment. 13 24 66 for athletic rooms.
13 28 13	Indoor Soccer Boards	
13 28 16	Safety Netting	
13 28 19	Arena Football Boards	
13 28 26	Floor Sockets	
13 28 33	Athletic and Recreational Court Walls	
13 28 66	Demountable Athletic Surfaces	
<b>13 30 00</b>	<b>Special Structures</b>	Includes: structures of special shapes and support systems not included in other Divisions.  See: 03 31 00 for structural concrete. 03 41 00 for precast structural concrete. 05 10 00 for structural metal framing. 06 11 00 for wood framing. 06 50 00 for structural plastics. 06 70 00 for structural composites.

NUMBER	TITLE	EXPLANATION
<b>13 31 00</b>	<b>Fabric Structures</b>	Includes: structures of flexible membrane material supported by air pressure, tensioned cables, or other framing system for temporary or permanent uses.  See: 05 16 00 for structural cabling. 08 88 23 for cable suspended glazing.
13 31 13	Air-Supported Fabric Structures	
13 31 13.13	Single-Walled Air-Supported Structures	
13 31 13.16	Multiple-Walled Air-Supported Structures	
13 31 23	Tensioned Fabric Structures	
13 31 33	Framed Fabric Structures	
<b>13 32 00</b>	<b>Space Frames</b>	Includes: three-dimensional structural frame of any material capable of transmitting loads in three dimensions.
13 32 13	Metal Space Frames	
13 32 23	Wood Space Frames	
<b>13 33 00</b>	<b>Geodesic Structures</b>	Includes: dome-shaped structure constructed of straight members of any material that form a triangular gridwork.  See: 13 34 23 for fabricated dome structures.
13 33 13	Geodesic Domes	
<b>13 34 00</b>	<b>Fabricated Engineered Structures</b>	Includes: fabricated, pre-engineered structures assembled on temporary or permanent foundations.  See: 08 44 33 for sloped glazing assemblies. 10 73 23 for car shelters. 10 73 26 for walkway coverings. 10 73 43 for transportation stop shelters. 11 12 00 for parking control equipment. 11 56 00 for observatory equipment. 11 93 00 for horticultural equipment. 12 63 00 for stadium and arena seating. 12 66 00 for telescoping stands. 13 11 00 for swimming pools. 13 14 00 for amusement park structures and equipment. 13 23 00 for planetariums. 13 26 00 for fabricated rooms. 13 33 13 for geodesic domes. 33 72 00 for utility substations.

DIVISION 13

NUMBER	TITLE	EXPLANATION
<b>13 34 13</b>	<b>Glazed Structures</b>	
13 34 13.13	Greenhouses	
13 34 13.16	Solariums	
13 34 13.19	Swimming Pool Enclosures	
13 34 13.23	Sunrooms	
13 34 13.26	Conservatories	
<b>13 34 16</b>	<b>Grandstands and Bleachers</b>	
13 34 16.13	Grandstands	
13 34 16.53	Bleachers	
<b>13 34 18</b>	<b>Post Frame Building Systems</b>	
		Alternate Terms/Abbreviations: pole barn.
<b>13 34 19</b>	<b>Metal Building Systems</b>	
<b>13 34 23</b>	<b>Fabricated Structures</b>	
13 34 23.13	Portable and Mobile Buildings	
13 34 23.14	Fabricated Classroom Buildings	
13 34 23.16	Fabricated Control Booths	
13 34 23.19	Fabricated Dome Structures	
13 34 23.23	Fabricated Substation Control Rooms	
13 34 23.26	Fabricated Cold Storage Buildings	
<b>13 34 56</b>	<b>Observatories</b>	
<b>13 35 00</b>	<b>Rammed Earth Construction</b>	
<b>13 35 13</b>	<b>Rammed Earth Walls</b>	
13 35 13.13	Traditional Rammed Earth Walls	
13 35 13.23	Stabilized Insulated Rammed Earth Walls	
<b>13 36 00</b>	<b>Towers</b>	
		Includes: fabricated and pre-engineered structures of a vertical nature for a variety of purposes.
		See: 33 71 13 for electrical transmission towers.
		33 81 13 for communication transmission towers.
		33 81 16 for antenna towers.
		34 73 23 for manufactured airfield control towers.
<b>13 36 13</b>	<b>Metal Towers</b>	
13 36 13.13	Steel Towers	
<b>13 36 23</b>	<b>Wood Towers</b>	
<b>13 40 00</b>	<b>Integrated Construction</b>	
		Includes: special construction that integrates multiple construction components into a fabricated module or assembly.

NUMBER	TITLE	EXPLANATION
<b>13 42 00</b>	<b>Building Modules and Components</b>	Includes: fabricated and pre-engineered modules for site assembly by stacking or linking; facility services components.  Alternate Terms/Abbreviations: detention cells: jail cells: penitentiary cells: prison cells.  See: 05 59 63 for fabricated detention enclosures. 11 25 00 for hospitality equipment. 11 30 00 for residential equipment. 12 35 25 for hospitality casework. 12 35 30 for residential casework.
13 42 13	Bathroom Unit Modules	
13 42 25	Hospitality Unit Modules	
13 42 33	Apartment Unit Modules	
13 42 43	Dormitory Unit Modules	
13 42 46	Education Unit Modules	
13 42 63	Detention Cell Modules	
13 42 63.13	Precast-Concrete Detention Cell Modules	
13 42 63.16	Steel Detention Cell Modules	
13 42 73	Integrated Interior Modules	
13 42 73.11	Integrated Floor Assemblies	
13 42 73.13	Integrated Wall Assemblies	
13 42 73.15	Integrated Ceiling Assemblies	
<b>13 44 00</b>	<b>Modular Mezzanines</b>	Includes: fabricated and pre-engineered mezzanine modules complete with structural support, flooring, railings, stairs, and other accessories.  See: 11 51 23 for library stack systems. 41 53 26 for industrial mezzanine storage systems.
<b>13 47 00</b>	<b>Facility Protection</b>	
13 47 13	Cathodic Protection	Includes: equipment, controls, and installation for cathodic protection of structures and underground metal construction and piping. Active and passive protection systems. Galvanic protection.  See: 40 46 42 for cathodic process corrosion protection.
13 47 13.13	Cathodic Protection for Underground and Submerged Piping	Includes: active and passive protection systems.
13 47 13.16	Cathodic Protection for Underground Storage Tanks	Includes: active and passive protection systems.
13 47 13.19	Cathodic Protection for Concrete Reinforcing	Includes: active and passive protection systems.



NUMBER	TITLE	EXPLANATION
<b>13 48 00</b>	<b>Sound, Vibration, and Seismic Control</b>	<p>Includes: fabricated, pre-engineered components for the reduction of sound and vibration within a structure.</p> <p>See: 02 22 13 for movement and vibration assessment.  02 22 16 for acoustic assessment.  08 34 73 for sound control door assemblies.  09 51 00 for acoustical ceilings.  09 62 48 for acoustic flooring.  09 80 00 for acoustic treatment.  13 21 48 for sound-conditioned rooms.  13 52 00 for seismic instrumentation.  21 05 48 for vibration and seismic controls for fire-suppression piping and equipment.  22 05 48 for vibration and seismic control for plumbing piping and equipment.  23 05 48 for vibration and seismic control for HVAC.  23 32 48 for acoustical air plenums.  25 05 48 for vibration and seismic controls for integrated automation.  26 05 48 for vibration and seismic controls for electrical systems.  27 05 48 for vibration and seismic controls for communication systems.  28 05 48 for vibration and seismic controls for electronic safety and security.  44 20 00 for noise pollution control.</p>
13 48 13	Manufactured Sound and Vibration Control Components	
13 48 23	Fabricated Sound and Vibration Control Assemblies	
13 48 53	Manufactured Seismic Control Components	
13 48 63	Fabricated Seismic Control Assemblies	

NUMBER	TITLE	EXPLANATION
<b>13 49 00</b>	<b>Radiation Protection</b>	<p>Includes: fabricated and pre-engineered radiation shielding components and structures for protection against radio frequency, x-ray, nuclear radiation, electromagnetic fields, and high energy magnetic pulse protection.</p> <p>Alternate Terms/Abbreviations: EMI: electromagnetic interference. RFI: radio frequency interference.</p> <p>See: 08 34 46 for RFI shielding doors.  08 34 49 for radiation shielding doors and frames.  08 56 46 for RFI shielding windows.  08 56 49 for radiation shielding windows.  08 88 49 for radiation-resistant glazing.  09 22 36 for lath.  26 35 23 for EMI filters.  26 35 46 for RFI filters.  28 41 00 for radiation detection and alarm.  40 91 16 for electromagnetic process measurement devices.</p>
13 49 13	Integrated X-Ray Shielding Assemblies	
13 49 16	Modular X-Ray Shielding Rooms	
13 49 23	Integrated RFI/EMI Shielding Assemblies	
13 49 26	Modular RFI/EMI Shielding Rooms	Alternate Terms/Abbreviations: radiation shielding: shielding.
<b>13 50 00</b>	<b>Special Instrumentation</b>	<p>Includes: instrumentation for measuring and recording phenomena such as stresses in structures, solar and wind energy, and effects of earthquakes.</p> <p>See: 02 31 13 for seismic investigations.  13 48 00 for sound, vibration, and seismic control.  23 56 00 for solar energy heating equipment.  26 31 00 for photovoltaic collectors.  26 32 23 for wind energy equipment.  34 43 23 for airfield weather observation equipment.  40 91 00 for primary process measurement devices.  40 91 19 for stress/strain process measurement devices.  42 12 23 for solar process heaters.  42 13 26 for solar industrial radiation heat exchangers.  48 14 00 for solar energy electrical power generation equipment.  48 15 00 for wind energy electrical power generation equipment.  48 19 19 for electrical power generation solar tracking equipment.</p>
<b>13 51 00</b>	<b>Stress Instrumentation</b>	

DIVISION 13

NUMBER	TITLE	EXPLANATION
<b>13 52 00</b>	<b>Seismic Instrumentation</b>	
<b>13 53 00</b>	<b>Meteorological Instrumentation</b>	
13 53 13	Solar Instrumentation	
13 53 23	Wind Instrumentation	

NUMBER	TITLE	EXPLANATION
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## DIVISION 14 – CONVEYING EQUIPMENT

### 14 00 00 Conveying Equipment

May be used as Division level Section title.

See: 25 32 00 for integrated automation instrumentation and terminal devices for conveying equipment.

25 52 00 for integrated automation control of conveying equipment.

25 92 00 for integrated automation control sequences for conveying equipment.

### 14 01 00 Operation and Maintenance of Conveying Equipment

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of conveying equipment.

Level 4 Numbering Recommendation: Level 4 titles for conveying equipment are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

14 01 10	Operation and Maintenance of Dumbwaiters
14 01 10.71	Dumbwaiter Rehabilitation
14 01 20	Operation and Maintenance of Elevators
14 01 20.71	Elevator Rehabilitation
14 01 30	Operation and Maintenance of Escalators and Moving Walks
14 01 30.71	Escalators and Moving Walks Rehabilitation
14 01 40	Operation and Maintenance of Lifts
14 01 40.71	Lift Rehabilitation
14 01 70	Operation and Maintenance of Turntables
14 01 80	Operation and Maintenance of Scaffolding
14 01 90	Operation and Maintenance of Other Conveying Equipment

### 14 05 00 Common Work Results for Conveying Equipment

Includes: subjects common to multiple titles in Division 14.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

NUMBER	TITLE	EXPLANATION
14 05 05	Selective Demolition for Conveying Equipment	See: 02 41 19 for selective demolition for whole structure demolition.
<b>14 06 00</b>	<b>Schedules for Conveying Equipment</b>	Includes: schedules of items common to multiple titles in Division 14.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
14 06 10	Schedules for Dumbwaiters	
14 06 20	Schedules for Elevators	
14 06 20.13	Elevator Equipment Schedule	
14 06 30	Schedules for Escalators and Moving Walks	
14 06 40	Schedules for Lifts	
14 06 40.13	Lift Schedule	
14 06 70	Schedules for Turntables	
14 06 80	Schedules for Scaffolding	
14 06 90	Schedules for Other Conveying Equipment	
<b>14 08 00</b>	<b>Commissioning of Conveying Equipment</b>	Includes: commissioning of items common to multiple titles in Division 14.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
14 08 10	Commissioning of Dumbwaiters	
14 08 20	Commissioning of Elevators	
14 08 30	Commissioning of Escalators and Moving Walks	
14 08 40	Commissioning of Lifts	
14 08 70	Commissioning of Turntables	
14 08 80	Commissioning of Scaffolding	
<b>14 10 00</b>	<b>Dumbwaiters</b>	Includes: packaged or field-assembled, motorized or hand-operated units, including cabs, doors, controls, safety equipment, hoistway equipment, and dumbwaiter machinery. Applications such as book lifts and cart lifts.  See: 11 43 13 for food delivery carts. 11 51 00 library equipment.
<b>14 11 00</b>	<b>Manual Dumbwaiters</b>	
<b>14 12 00</b>	<b>Electric Dumbwaiters</b>	

NUMBER	TITLE	EXPLANATION
<b>14 14 00</b>	<b>Hydraulic Dumbwaiters</b>	
<b>14 20 00</b>	<b>Elevators</b>	<p>Includes: passenger, freight, residential, and service elevators of all types, including cars, entrances, controls, safety equipment, hoistway equipment, and elevator machinery.</p> <p>See: 01 54 13 for temporary elevators. 14 42 00 for wheelchair lifts. 27 32 23 for elevator telephones.</p>
<b>14 21 00</b>	<b>Electric Traction Elevators</b>	<p>Includes: elevators that operate by electric traction.</p> <p>Usually Includes: elevator cabs.</p> <p>May Include: elevator entrances and elevator equipment and controls.</p> <p>See: 14 26 00 for limited-use/limited-application elevators.</p> <p>See Also: 14 27 00 for custom elevator cabs. 14 28 00 for entrances and elevator equipment and controls.</p>
14 21 13	Electric Traction Freight Elevators	
14 21 23	Electric Traction Passenger Elevators	
14 21 23.13	Machine Room Electric Traction Passenger Elevators	
14 21 23.16	Machine Room-Less Electric Traction Passenger Elevators	Alternate Terms/Abbreviations: MRL.
14 21 33	Electric Traction Residential Elevators	
14 21 43	Electric Traction Service Elevators	
<b>14 24 00</b>	<b>Hydraulic Elevators</b>	<p>Includes: elevators that operate by hydraulic action.</p> <p>Usually Includes: elevator cabs.</p> <p>May Include: elevator entrances and elevator equipment and controls.</p> <p>See: 14 26 00 for limited-use/limited-application elevators.</p> <p>See Also: 14 27 00 for custom elevator cabs. 14 28 00 for entrances and elevator equipment and controls.</p>
14 24 13	Hydraulic Freight Elevators	
14 24 23	Hydraulic Passenger Elevators	

NUMBER	TITLE	EXPLANATION
14 24 33	Hydraulic Residential Elevators	
14 24 43	Hydraulic Service Elevators	
<b>14 25 00</b>	<b>Rack and Pinion Elevators</b>	
<b>14 26 00</b>	<b>Limited-Use/Limited-Application Elevators</b>	Includes: packaged elevators for limited uses or applications.  See: 14 21 00 for electric traction elevators. 14 24 00 for hydraulic elevators.
<b>14 27 00</b>	<b>Custom Elevator Cabs and Doors</b>	Includes: elevator cars and elevator car finishes for electric traction and hydraulic elevators.  See Also: 14 21 00 for electric traction elevators. 14 24 00 for hydraulic elevators.  Products: smoke containment elevator hoistway doors.
14 27 13	Custom Elevator Cab Finishes	
14 27 16	Custom Elevator Doors	
<b>14 28 00</b>	<b>Elevator Equipment and Controls</b>	Includes: elevator entrances, controls, safety equipment, hoistway equipment, and elevator machinery for electric traction and hydraulic elevators.  See Also: 14 21 00 for electric traction elevators. 14 24 00 for hydraulic elevators.
14 28 16	Elevator Controls	
14 28 19	Elevator Equipment	
14 28 19.13	Elevator Safety Equipment	
14 28 19.16	Elevator Hoistway Equipment	
<b>14 30 00</b>	<b>Escalators and Moving Walks</b>	Includes: passenger conveying systems composed of moving belts or treads installed in horizontal or inclined position, including associated components, hardware, controls, safety equipment, and related items.  See: 34 77 13 for passenger boarding bridges.
<b>14 31 00</b>	<b>Escalators</b>	
<b>14 32 00</b>	<b>Moving Walks</b>	

NUMBER	TITLE	EXPLANATION
<b>14 33 00</b>	<b>Moving Ramps</b>	
14 33 13	Motorized Ramps	
14 33 16	Powered Ramps	
<b>14 40 00</b>	<b>Lifts</b>	Includes: vertical or inclined lifts and related equipment for a variety of purposes.  Alternate Terms/Abbreviations: people lifts: personnel hoists. Stage lifts: rising stages. Vehicle lifts: garage lifts: service station lifts.  See: 11 11 00 for vehicle service equipment. 11 13 19 for stationary loading dock equipment. 11 61 00 for theater and stage equipment. 11 78 19 for mortuary lifts. 14 10 00 for dumbwaiters. 14 71 11 for vehicle turntables. 14 74 61 for stage turntables. 14 83 00 for elevating platforms. 34 13 00 for funiculars. 34 14 00 for cable transportation.
<b>14 41 00</b>	<b>People Lifts</b>	
14 41 13	Counterbalanced People Lifts	
14 41 16	Endless-Belt People Lifts	
14 41 19	Stairway Chairlifts	Includes: stairway chairlifts, support structure, and accessories.
<b>14 42 00</b>	<b>Wheelchair Lifts</b>	
14 42 13	Inclined Wheelchair Lifts	
14 42 16	Vertical Wheelchair Lifts	
<b>14 43 00</b>	<b>Platform Lifts</b>	
14 43 13	Orchestra Lifts	
14 43 16	Stage Lifts	
<b>14 44 00</b>	<b>Sidewalk Lifts</b>	
<b>14 45 00</b>	<b>Vehicle Lifts</b>	
14 45 13	Vehicle Service Lifts	
14 45 23	Vehicle Parking Lifts	
<b>14 46 00</b>	<b>Material Lifts</b>	Includes: vertical reciprocating lifts.  See Also: 41 23 23 for lifts.



NUMBER	TITLE	EXPLANATION
<b>14 70 00</b>	<b>Turntables</b>	Includes: structural turntables for various applications.  See: 11 11 00 for vehicle service equipment. 11 25 00 for hospitality equipment. 11 59 00 for exhibit equipment. 11 61 00 for theater and stage equipment. 14 43 16 for stage lifts. 14 45 00 for vehicle lifts. 41 21 36 for piece material turntables.
<b>14 71 00</b>	<b>Industrial Turntables</b>	
14 71 11	Vehicle Turntables	
<b>14 72 00</b>	<b>Hospitality Turntables</b>	
14 72 25	Restaurant Turntables	
<b>14 73 00</b>	<b>Exhibit Turntables</b>	
14 73 59	Display Turntables	
<b>14 74 00</b>	<b>Entertainment Turntables</b>	
14 74 61	Stage Turntables	
<b>14 80 00</b>	<b>Scaffolding</b>	
<b>14 81 00</b>	<b>Suspended Scaffolding</b>	Includes: scaffolding, when part of the completed project.  See: 01 54 23 for temporary scaffolding and platforms.
14 81 13	Beam Scaffolding	
14 81 16	Carriage Scaffolding	
14 81 19	Hook Scaffolding	
<b>14 82 00</b>	<b>Rope Climbers</b>	See: 34 13 00 for funiculars. 34 14 00 for cable transportation.
14 82 13	Manual Rope Climbers	
14 82 16	Powered Rope Climbers	
<b>14 83 00</b>	<b>Elevating Platforms</b>	Includes: fixed elevating platforms to provide a movable elevated working platform for people and materials.  See: 14 43 00 for platform lifts. 41 66 16 for industrial mobile lifts and cherrypickers.

NUMBER	TITLE	EXPLANATION
14 83 13	Telescoping Platform Lifts	
14 83 13.13	Electric and Battery Telescoping Platform Lifts	
14 83 13.16	Pneumatic Telescoping Platform Lifts	
14 83 16	Scissor Lift Platforms	
14 83 19	Multi-Axis Platform Lifts	
<b>14 84 00</b>	<b>Powered Scaffolding</b>	See: 41 22 23 for hoists.
14 84 13	Window Washing Scaffolding	
14 84 23	Window Washing Hoists	
<b>14 90 00</b>	<b>Other Conveying Equipment</b>	
<b>14 91 00</b>	<b>Facility Chutes</b>	Includes: chutes which support the operation of the building or structure.  Does Not Include: chutes which support process engineering operations.  Alternate Terms/Abbreviations: trash chutes: refuse chutes: rubbish chutes: waste chutes.  See: 05 51 23 for metal fire escapes. 10 55 91 for mail chutes. 11 82 00 for solid waste handling equipment. 40 30 00 for solid and mixed materials piping and chutes. 40 32 00 bulk materials piping and chutes.
14 91 13	Coal Chutes	
14 91 23	Escape Chutes	
14 91 33	Laundry and Linen Chutes	
14 91 82	Trash Chutes	
<b>14 92 00</b>	<b>Pneumatic Tube Systems</b>	See: 11 21 00 for mercantile and service equipment. 11 28 00 for office equipment. 11 70 00 for healthcare equipment. 41 12 19 for pneumatic conveyors.
<b>14 93 00</b>	<b>Slide Pole Systems</b>	
14 93 13	Firehouse Slide Poles	

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# SPECIFICATIONS GROUP

## FACILITY SERVICES SUBGROUP

*Division 20 – Reserved for Future Expansion*

DIVISION 21 – FIRE SUPPRESSION

DIVISION 22 – PLUMBING

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

*Division 24 – Reserved for Future Expansion*

DIVISION 25 – INTEGRATED AUTOMATION

DIVISION 26 – ELECTRICAL

DIVISION 27 – COMMUNICATIONS

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

*Division 29 – Reserved for Future Expansion*

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NUMBER	TITLE	EXPLANATION
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## DIVISION 21 – FIRE SUPPRESSION

### 21 00 00 Fire Suppression

May be used as Division level Section title.

See: 02 41 19 for selective demolition of existing fire-suppression systems.  
 03 30 00 for cast-in-place concrete equipment bases.  
 07 84 00 for firestopping.  
 07 92 00 for joint sealants.  
 08 31 00 for access doors and panels.  
 09 91 00 for field painting.  
 10 44 00 for fire protection specialties.  
 31 23 33 for trenching and backfilling.

### 21 01 00 Operation and Maintenance of Fire Suppression

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of fire-suppression systems.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.  
 .61-.69 for repair.  
 .71-.79 for rehabilitation.  
 .81-.89 for replacement.  
 .91-.99 for restoration.

21 01 10	Operation and Maintenance of Water-Based Fire-Suppression Systems
21 01 20	Operation and Maintenance of Fire-Extinguishing Systems
21 01 30	Operation and Maintenance of Fire-Suppression Equipment

NUMBER	TITLE	EXPLANATION
<b>21 05 00</b>	<b>Common Work Results for Fire Suppression</b>	Includes: subjects common to multiple titles in Division 21.  See: 01 80 00 for performance requirements of subjects common to multiple titles. 05 45 13 for mechanical metal supports. 13 48 00 for sound, vibration, and seismic control. 22 05 29 for hangers and supports for plumbing piping and equipment. 22 05 33 for heat tracing for plumbing piping. 22 05 48 for vibration and seismic controls for plumbing piping and equipment. 22 05 53 for identification for plumbing piping and equipment. 23 05 29 for hangers and supports for HVAC piping and equipment. 23 05 33 for heat tracing for HVAC piping. 23 05 48 for vibration and seismic controls for HVAC piping and equipment. 23 05 53 for identification for HVAC piping and equipment. 40 41 00 for process piping and equipment heat tracing.
21 05 05	Selective Demolition for Fire Suppression	See: 02 41 19 for selective demolition for whole structure demolition.
21 05 13	Common Motor Requirements for Fire-Suppression Equipment	
21 05 16	Expansion Fittings and Loops for Fire-Suppression Piping	
21 05 17	Sleeves and Sleeve Seals for Fire-Suppression Piping	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included. Excludes firestopping requirements.
21 05 19	Meters and Gauges for Fire-Suppression Systems	
21 05 23	General-Duty Valves for Water-Based Fire-Suppression Piping	
21 05 29	Hangers and Supports for Fire-Suppression Piping and Equipment	
21 05 33	Heat Tracing for Fire-Suppression Piping	
21 05 48	Vibration and Seismic Controls for Fire-Suppression Piping and Equipment	
21 05 48.13	Vibration Controls for Fire-Suppression Piping and Equipment	Includes: vibration-isolation supports and hangers; vibration-isolation equipment bases.
21 05 53	Identification for Fire-Suppression Piping and Equipment	
<b>21 06 00</b>	<b>Schedules for Fire Suppression</b>	Includes: schedules of items common to multiple titles in Division 21.  Notes: a schedule may be included on drawings, in the project manual, or a project book.

NUMBER	TITLE	EXPLANATION
21 06 10	Schedules for Water-Based Fire-Suppression Systems	
21 06 20	Schedules for Fire-Extinguishing Systems	
21 06 30	Schedules for Fire-Suppression Equipment	
<b>21 07 00</b>	<b>Fire Suppression Systems Insulation</b>	Includes: thermal insulation of fire-suppression piping and equipment.  See: 07 21 00 for thermal insulation. 22 07 00 for plumbing insulation. 23 07 00 for HVAC insulation. 40 42 00 for process piping and equipment insulation.
21 07 16	Fire-Suppression Equipment Insulation	
21 07 19	Fire-Suppression Piping Insulation	
<b>21 08 00</b>	<b>Commissioning of Fire Suppression</b>	Includes: commissioning of items common to multiple titles in Division 21.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>21 09 00</b>	<b>Instrumentation and Control for Fire-Suppression Systems</b>	Includes: instrumentation and control associated with fire-suppression systems.  See: 13 50 00 for special instrumentation. 22 09 00 for instrumentation and control for plumbing. 23 09 00 for instrumentation and control for HVAC. 25 33 00 for integrated automation instrumentation and terminal devices for fire-suppression systems. 25 53 00 for integrated automation control of fire-suppression systems. 25 93 00 for integrated automation control sequences for fire-suppression systems. 28 46 00 for fire detection and alarm. 33 09 00 for instrumentation and control for utilities.
<b>21 10 00</b>	<b>Water-Based Fire-Suppression Systems</b>	Includes: systems that use water for fire extinguishing and suppression.  See: 21 30 00 for fire pumps. 28 46 00 for fire detection and alarm.



NUMBER	TITLE	EXPLANATION
<b>21 11 00</b>	<b>Facility Fire-Suppression Water-Service Piping</b>	Includes: piping systems for fire suppression for a structure. Fire hydrants closely associated with a structure.  May Include: fire-suppression water service from the structure to the utility water service line.  See: 21 30 00 for fire pumps. 33 14 16 for site water utility distribution piping. 33 14 19 for valves and hydrants for water utility service.
21 11 16	Facility Fire Hydrants	
21 11 19	Fire-Department Connections	
<b>21 12 00</b>	<b>Fire-Suppression Standpipes</b>	Includes: Siamese connections, piping, and other components, standpipe, and fire hose connections.  See: 10 44 00 for fire protection specialties. 10 44 13 for fire protection cabinets. 10 44 16 for fire extinguishers.
21 12 13	Fire-Suppression Hoses and Nozzles	
21 12 16	Fire-Suppression Hose Reels	
21 12 19	Fire-Suppression Hose Racks	
21 12 23	Fire-Suppression Hose Valves	
<b>21 13 00</b>	<b>Fire-Suppression Sprinkler Systems</b>	Includes: sprinkler systems using water for fire extinguishing and suppression.  See: 21 21 00 for carbon-dioxide fire-extinguishing systems. 21 22 00 for clean-agent fire-extinguishing systems. 21 23 00 for wet-chemical fire-extinguishing systems. 21 24 00 for dry-chemical fire-extinguishing systems.
21 13 13	Wet-Pipe Sprinkler Systems	Includes: piping, accessories, and other components charged with water to suppress fire.
21 13 16	Dry-Pipe Sprinkler Systems	Includes: piping, accessories, and other components prepared to suppress fire upon being charged with water by the opening of a sprinkler head or by means of an electrically operated valve.
21 13 19	Preaction Sprinkler Systems	
21 13 23	Combined Dry-Pipe and Preaction Sprinkler Systems	

NUMBER	TITLE	EXPLANATION
21 13 26	Deluge Fire-Suppression Sprinkler Systems	Includes: piping, accessories, and other components prepared to suppress fire through open sprinkler heads upon being charged with water by means of an electrically operated valve.
21 13 29	Water Spray Fixed Systems	
21 13 36	Antifreeze Sprinkler Systems	Includes: piping, accessories, and other components prepared to suppress fire with use of antifreeze to prevent freezing of water in system.
21 13 39	Foam-Water Systems	Includes: piping, accessories, and other components prepared to suppress fire using aqueous film-forming foam.
<b>21 16 00</b>	<b>Fire-Suppression Pressure Maintenance Pumps</b>	Alternate Terms/Abbreviations: pressure maintenance pumps: jockey pumps: make-up pumps.
<b>21 20 00</b>	<b>Fire-Extinguishing Systems</b>	Includes: systems that use other than water for fire extinguishing and suppression.  See: 23 38 00 for ventilation hoods with fire-suppression systems. 28 46 00 for fire detection and alarm.
<b>21 21 00</b>	<b>Carbon-Dioxide Fire-Extinguishing Systems</b>	Includes: systems that deliver carbon dioxide for fire extinguishing and suppression.  See: 21 13 00 for water fire-suppression sprinkler systems.
21 21 13	Carbon-Dioxide Fire-Extinguishing Piping	
21 21 13.13	High-Pressure, Carbon-Dioxide Fire-Extinguishing Systems	Includes: pipes, fittings, and specialties.
21 21 13.16	Low-Pressure, Carbon-Dioxide Fire-Extinguishing Systems	Includes: pipes, fittings, and specialties.
21 21 16	Carbon-Dioxide Fire-Extinguishing Equipment	
<b>21 22 00</b>	<b>Clean-Agent Fire-Extinguishing Systems</b>	Includes: systems that deliver clean agents for fire extinguishing and suppression.  See: 21 13 00 for water fire-suppression sprinkler systems.

NUMBER	TITLE	EXPLANATION
21 22 13	Clean-Agent Fire-Extinguishing Piping	
21 22 16	Clean-Agent Fire-Extinguishing Equipment	
<b>21 23 00</b>	<b>Wet-Chemical Fire-Extinguishing Systems</b>	Includes: systems that deliver wet chemicals for fire extinguishing and suppression.  See: 21 13 00 for water fire-suppression sprinkler systems.
21 23 13	Wet-Chemical Fire-Extinguishing Piping	
21 23 16	Wet-Chemical Fire-Extinguishing Equipment	
<b>21 24 00</b>	<b>Dry-Chemical Fire-Extinguishing Systems</b>	Includes: systems that deliver dry chemicals for fire extinguishing and suppression.  See: 21 13 00 for water fire-suppression sprinkler systems.
21 24 13	Dry-Chemical Fire-Extinguishing Piping	
21 24 16	Dry-Chemical Fire-Extinguishing Equipment	
<b>21 30 00</b>	<b>Fire Pumps</b>	Includes: pumps associated with water-based fire-suppression systems.  See: 21 10 00 for water-based fire-suppression systems. 21 11 00 for facility fire-suppression water-service piping. 21 12 00 for fire-suppression standpipes. 22 11 23 for domestic water pumps. 22 51 16 for swimming pool pumps. 22 52 16 for fountain pumps. 23 21 23 for hydronic pumps.
<b>21 31 00</b>	<b>Centrifugal Fire Pumps</b>	
21 31 13	Electric-Drive, Centrifugal Fire Pumps	
21 31 16	Diesel-Drive, Centrifugal Fire Pumps	
<b>21 32 00</b>	<b>Vertical-Turbine Fire Pumps</b>	
21 32 13	Electric-Drive, Vertical-Turbine Fire Pumps	
21 32 16	Diesel-Drive, Vertical-Turbine Fire Pumps	
<b>21 33 00</b>	<b>Positive-Displacement Fire Pumps</b>	
21 33 13	Electric-Drive, Positive-Displacement Fire Pumps	
21 33 16	Diesel-Drive, Positive-Displacement Fire Pumps	
<b>21 34 00</b>	<b>Fire Pump Accessories</b>	
21 34 13	Pressure Maintenance Pumps	

NUMBER	TITLE	EXPLANATION
<b>21 40 00</b>	<b>Fire-Suppression Water Storage</b>	
<b>21 41 00</b>	<b>Storage Tanks for Fire-Suppression Water</b>	Includes: tanks closely associated with a structure for the storage of water for fire extinguishing and suppression for a structure.  See: 09 97 13 for storage tank coatings. 22 12 00 for facility potable-water storage tanks. 23 13 00 for facility fuel-storage tanks. 31 00 00 for earthwork. 33 16 00 for water utility storage tanks. 33 56 00 for fuel storage tanks. 35 00 00 for waterway and marine construction. 43 41 13 for gas and liquid pressure vessels.
21 41 13	Pressurized Storage Tanks for Fire-Suppression Water	
21 41 16	Elevated Storage Tanks for Fire-Suppression Water	
21 41 19	Roof-Mounted Storage Tanks for Fire-Suppression Water	
21 41 23	Ground Suction Storage Tanks for Fire-Suppression Water	
21 41 26	Underground Storage Tanks for Fire-Suppression Water	
21 41 29	Storage Tanks for Fire-Suppression Water Additives	

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NUMBER	TITLE	EXPLANATION
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## DIVISION 22 – PLUMBING

### 22 00 00 Plumbing

May be used as Division level Section title.

See: 02 41 19 for selective demolition of existing plumbing systems.

03 30 00 for cast-in-place concrete equipment bases.

07 84 00 for firestopping.

07 92 00 for joint sealants.

08 31 00 for access doors and panels.

09 91 00 for field painting.

31 23 33 for trenching and backfilling.

### 22 01 00 Operation and Maintenance of Plumbing

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of plumbing.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

22 01 10	Operation and Maintenance of Plumbing Piping and Pumps
22 01 10.16	Video Piping Inspections
22 01 10.51	Plumbing Piping Cleaning
22 01 10.61	Plumbing Piping Repairs
22 01 10.62	Plumbing Piping Relining
22 01 30	Operation and Maintenance of Plumbing Equipment
22 01 40	Operation and Maintenance of Plumbing Fixtures
22 01 50	Operation and Maintenance of Pool and Fountain Plumbing Systems
22 01 60	Operation and Maintenance of Laboratory and Healthcare Systems

NUMBER	TITLE	EXPLANATION
<b>22 05 00</b>	<b>Common Work Results for Plumbing</b>	Includes: subjects common to multiple titles in Division 22.  See: 01 80 00 for performance requirements of subjects common to multiple titles. 05 45 13 for mechanical metal supports. 13 48 00 for sound, vibration, and seismic control. 21 05 29 for hangers and supports for fire-suppression piping and equipment. 21 05 33 for heat tracing for fire-suppression piping. 21 05 48 for vibration and seismic controls for fire-suppression piping and equipment. 21 05 53 for identification for fire-suppression piping and equipment. 23 05 29 for hangers and supports for HVAC piping and equipment. 23 05 33 for heat tracing for HVAC piping. 23 05 48 for vibration and seismic controls for HVAC. 23 05 53 for identification for HVAC piping and equipment. 40 41 00 for process piping and equipment heat tracing.
22 05 05	Selective Demolition for Plumbing	See: 02 41 19 for selective demolition for whole structure demolition.
22 05 13	Common Motor Requirements for Plumbing Equipment	
22 05 16	Expansion Fittings and Loops for Plumbing Piping	
22 05 17	Sleeves and Sleeve Seals for Plumbing Piping	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included. Excludes firestopping requirements.
22 05 19	Meters and Gauges for Plumbing Piping	
22 05 23	General-Duty Valves for Plumbing Piping	
22 05 29	Hangers and Supports for Plumbing Piping and Equipment	
22 05 33	Heat Tracing for Plumbing Piping	
22 05 48	Vibration and Seismic Controls for Plumbing Piping and Equipment	
22 05 48.13	Vibration Controls for Plumbing Piping and Equipment	Includes: vibration-isolation supports and hangers; vibration-isolation equipment bases.
22 05 53	Identification for Plumbing Piping and Equipment	
22 05 73	Facility Drainage Manholes	
22 05 76	Facility Drainage Piping Cleanouts	

NUMBER	TITLE	EXPLANATION
<b>22 06 00</b>	<b>Schedules for Plumbing</b>	Includes: schedules of items common to multiple titles in Division 22.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
22 06 10	Schedules for Plumbing Piping and Pumps	
22 06 10.13	Plumbing Pump Schedule	
22 06 12	Schedules for Facility Potable Water Storage	
22 06 15	Schedules for General Service Compressed-Air Equipment	
22 06 30	Schedules for Plumbing Equipment	
22 06 30.13	Domestic Water Heater Schedule	
22 06 40	Schedules for Plumbing Fixtures	
22 06 40.13	Plumbing Fixture Schedule	
22 06 50	Schedules for Pool and Fountain Plumbing Systems	
22 06 60	Schedules for Laboratory and Healthcare Systems	
<b>22 07 00</b>	<b>Plumbing Insulation</b>	Includes: thermal insulation of plumbing piping and equipment.  See: 07 21 00 for thermal insulation. 21 07 00 for fire-suppression insulation. 23 07 00 for HVAC insulation. 40 42 00 for process piping and equipment insulation.
22 07 16	Plumbing Equipment Insulation	
22 07 19	Plumbing Piping Insulation	
<b>22 08 00</b>	<b>Commissioning of Plumbing</b>	Includes: commissioning of items common to multiple titles in Division 22.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.



NUMBER	TITLE	EXPLANATION
<b>22 09 00</b>	<b>Instrumentation and Control for Plumbing</b>	Includes: instrumentation and control associated with plumbing.  See: 13 50 00 for special instrumentation. 21 09 00 for instrumentation and control for fire-suppression systems. 22 51 23 for swimming pool equipment controls. 22 52 23 for fountain equipment controls. 23 09 00 for instrumentation and control for HVAC. 25 34 00 for integrated automation instrumentation and terminal devices for plumbing. 25 54 00 for integrated automation control of plumbing. 25 94 00 for integrated automation control sequences for plumbing. 33 09 00 for instrumentation and control for utilities.
22 09 63	Medical Gas Alarms	See Also: 28 42 00 for gas detection and alarm.
<b>22 10 00</b>	<b>Plumbing Piping</b>	
<b>22 11 00</b>	<b>Facility Water Distribution</b>	Includes: piping, equipment, valves, and specialties associated with domestic water distribution within and under structures. Circulating pumps.  May Include: water service from the structure to the utility water service line.  See: 21 30 00 for fire pumps. 22 13 29 for sanitary sewerage pumps. 22 14 29 for sump pumps. 22 51 16 for swimming pool pumps. 22 52 16 for fountain pumps. 22 67 00 for healthcare and laboratory processed water systems. 23 12 00 for facility fuel pumps. 23 21 00 for hydronic piping and pumps. 23 22 00 for steam and condensate piping and pumps. 32 80 00 for irrigation. 33 11 00 for groundwater sources. 33 14 00 for water utility transmission and distribution. 40 23 00 for water process piping.
22 11 13	Facility Water Distribution Piping	
22 11 16	Domestic Water Piping	
22 11 17	Gray-Water Piping	Includes: pipe materials, fittings, and specialties.

NUMBER	TITLE	EXPLANATION
22 11 19	Domestic Water Piping Specialties	
22 11 23	Domestic Water Pumps	
22 11 23.13	Domestic-Water Packaged Booster Pumps	
22 11 23.23	Domestic-Water In-Line Pumps	Includes: close-coupled, horizontally or vertically mounted, in-line centrifugal domestic water pumps; separately coupled, horizontally mounted, in-line centrifugal domestic water pumps.
22 11 23.26	Close-Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps	
22 11 23.29	Close-Coupled, Vertically Mounted, In-Line Centrifugal Domestic-Water Pumps	
22 11 23.33	Separately Coupled, In-Line Centrifugal Domestic-Water Pumps	
22 11 23.36	Separately Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps	
22 11 23.43	Domestic-Water, Base-Mounted Pumps	Includes: close-coupled, horizontally or vertically mounted, in-line centrifugal domestic water pumps; separately coupled, horizontally mounted, in-line centrifugal domestic water pumps.
22 11 63	Gray-Water Pumps	Includes: close-coupled, horizontally or vertically mounted, in-line centrifugal domestic water pumps; separately coupled, horizontally mounted, in-line centrifugal domestic water pumps.
<b>22 12 00</b>	<b>Facility Potable-Water Storage Tanks</b>	Includes: tanks for storage of potable water serving a facility and located within, on, under, or closely associated with a structure.  See: 09 97 13 for steel storage tank coatings. 21 41 00 for facility storage tanks for fire-suppression water. 23 13 00 for facility fuel-storage tanks. 31 00 00 for earthwork. 33 16 00 for site water utility storage tanks. 33 56 00 for site fuel storage tanks. 35 00 00 for waterway and marine construction. 41 52 19 for material storage tanks. 43 41 13 for gas and liquid pressure vessels.
22 12 13	Facility Roof-Mounted, Potable-Water Storage Tanks	
22 12 16	Facility Elevated, Potable-Water Storage Tanks	
22 12 19	Facility Ground-Mounted, Potable-Water Storage Tanks	
22 12 21	Facility Underground Potable-Water Storage Tanks	
22 12 23	Facility Indoor Potable-Water Storage Tanks	
22 12 23.13	Facility Steel, Indoor Potable-Water Storage Pressure Tanks	
22 12 23.16	Facility Steel, Indoor Potable-Water Storage Non-Pressure Tanks	
22 12 23.23	Facility Plastic, Indoor Potable-Water Storage Pressure Tanks	
22 12 23.26	Facility Plastic, Indoor Potable-Water Storage Non-Pressure Tanks	

NUMBER	TITLE	EXPLANATION
<b>22 13 00</b>	<b>Facility Sanitary Sewerage</b>	Includes: sanitary waste and vent piping systems, with piping, floor drains, valves, piping specialties, interceptors, separators, and other components within and under structures.  May Include: sanitary piping from the structure to the utility sanitary sewer.  Alternate Terms/Abbreviations: FOG: fats, oils, and grease.  See: 21 30 00 for fire pumps. 22 11 23 for domestic water pumps. 22 14 29 for sump pumps. 22 51 16 for swimming pool pumps. 22 52 16 for fountain pumps. 22 66 00 for healthcare and laboratory chemical waste systems. 23 12 00 for facility fuel pumps. 23 21 00 for hydronic piping and pumps. 23 22 00 for steam and condensate piping and pumps. 33 31 00 for site sanitary sewerage piping. 33 32 00 for wastewater utility pumping stations. 33 34 00 for onsite wastewater disposal
22 13 13	Facility Sanitary Sewers	
22 13 16	Sanitary Waste and Vent Piping	
22 13 19	Sanitary Waste Piping Specialties	
22 13 19.13	Sanitary Drains	
22 13 19.23	Fats, Oils, and Grease Disposal Systems	
22 13 19.26	Grease Removal Devices	
22 13 19.33	Backwater Valves	
22 13 19.36	Air-Admittance Valves	
22 13 23	Sanitary Waste Interceptors	
22 13 26	Sanitary Waste Separators	
22 13 29	Sanitary Sewerage Pumps	
22 13 29.13	Wet-Pit-Mounted, Vertical Sewerage Pumps	
22 13 29.16	Submersible Sewerage Pumps	
22 13 29.23	Sewerage Pump Reverse-Flow Assemblies	
22 13 29.33	Sewerage Pump Basins and Pits	
22 13 33	Packaged, Submersible Sewerage Pump Units	
22 13 36	Packaged, Wastewater Pump Units	
22 13 43	Facility Packaged Sewage Pumping Stations	
22 13 43.13	Facility Dry-Well Packaged Sewage Pumping Stations	
22 13 43.16	Facility Wet-Well Packaged Sewage Pumping Stations	
22 13 63	Facility Gray Water Tanks	

NUMBER	TITLE	EXPLANATION
<b>22 14 00</b>	<b>Facility Storm Drainage</b>	Includes: storm drainage piping, drains, and other components within, under, or closely associated with a structure.  May Include: storm drainage piping from the structure to the utility storm sewer. Storm drains for areas closely associated with a structure such as courtyards, plazas, and loading dock areas.  See: 07 50 00 for roof drains integral with membrane roofing. 07 71 23 for gutters and downspouts. 22 13 29 for sanitary sewerage pumps. 31 00 00 for earthwork. 33 41 00 for subdrainage. 33 42 00 for stormwater conveyance. 33 44 00 for site storm water drains. 33 44 11 for field-erected stormwater pumping stations. 33 44 13 for packaged stormwater pumping stations. 35 00 00 for waterway and marine construction. 43 20 00 for liquid handling equipment.
22 14 13	Facility Storm Drainage Piping	
22 14 16	Rainwater Leaders	
22 14 19	Sump Pump Discharge Piping	
22 14 23	Storm Drainage Piping Specialties	
22 14 26	Facility Storm Drains	
22 14 26.13	Roof Drains	
22 14 26.16	Facility Area Drains	
22 14 26.19	Facility Trench Drains	
22 14 29	Sump Pumps	
22 14 29.13	Wet-Pit-Mounted, Vertical Sump Pumps	
22 14 29.16	Submersible Sump Pumps	
22 14 29.19	Sump-Pump Basins and Pits	
22 14 33	Packaged, Pedestal Drainage Pump Units	
22 14 36	Packaged, Submersible, Drainage Pump Units	
22 14 53	Rainwater Storage Tanks	
22 14 63	Facility Storm-Water Retention Tanks	Includes: tanks, fittings, and accessories.
<b>22 15 00</b>	<b>General Service Compressed-Air Systems</b>	Includes: pipe and fittings compressed air serving general service requirements. Piping, valves, piping specialties, pumps, compressors, and other components.  See: 22 61 00 for compressed-air systems for laboratory and healthcare facilities. 23 09 43 for pneumatic control system for HVAC. 40 12 00 for compressed air process piping.
22 15 13	General Service Compressed-Air Piping	

DIVISION 22

NUMBER	TITLE	EXPLANATION
22 15 16	General Service Compressed-Air Valves	
22 15 19	General Service Packaged Air Compressors and Receivers	
22 15 19.13	General Service Packaged Reciprocating Air Compressors	
22 15 19.16	General Service Packaged Liquid-Ring Air Compressors	
22 15 19.19	General Service Packaged Rotary-Screw Air Compressors	
22 15 19.23	General Service Packaged Sliding-Vane Air Compressors	

## 22 30 00 Plumbing Equipment

### 22 31 00 Domestic Water Softeners

Includes: equipment for the softening of domestic water.

Alternate Terms/Abbreviations: residential: household.

See: 22 10 00 for plumbing piping and pumps.

23 25 00 for HVAC water treatment.

44 40 00 for water pollution control equipment.

22 31 13	Residential Domestic Water Softeners
22 31 16	Commercial Domestic Water Softeners

### 22 32 00 Domestic Water Filtration Equipment

Includes: equipment for the filtering of domestic water.

See: 22 10 00 for plumbing piping and pumps.

22 51 19 for swimming pool water treatment equipment.

22 52 19 for fountain water treatment equipment.

23 25 00 for HVAC water treatment.

44 40 00 for water pollution control equipment.

22 32 13	Domestic-Water Bag-Type Filters
22 32 16	Domestic-Water Freestanding Cartridge Filters
22 32 19	Domestic-Water Off-Floor Cartridge Filters
22 32 23	Domestic-Water Carbon Filters
22 32 26	Domestic-Water Sand Filters
22 32 26.13	Domestic-Water Circulating Sand Filters
22 32 26.16	Domestic-Water Multimedia Sand Filters
22 32 26.19	Domestic-Water Greensand Filters

NUMBER	TITLE	EXPLANATION
<b>22 33 00</b>	<b>Electric Domestic Water Heaters</b>	Includes: electric equipment to heat domestic water.
		Alternate Terms/Abbreviations: residential: household.
		See: 22 10 00 for plumbing piping and pumps. 22 34 00 for fuel-fired domestic water heaters. 22 35 00 for domestic water heat exchangers. 23 56 00 for solar energy heating equipment. 26 31 00 for photovoltaic collectors. 42 12 23 for solar process heaters. 42 13 26 for industrial solar radiation heat exchangers. 48 14 00 for solar energy electrical power generation equipment.
22 33 13	Instantaneous Electric Domestic Water Heaters	
22 33 13.13	Flow-Control, Instantaneous Electric Domestic Water Heaters	
22 33 13.16	Thermostat-Control, Instantaneous Electric Domestic Water Heaters	
22 33 30	Residential, Electric Domestic Water Heaters	
22 33 30.13	Residential, Small-Capacity Electric Domestic Water Heaters	
22 33 30.16	Residential, Storage Electric Domestic Water Heaters	
22 33 30.23	Residential, Collector-to-Tank, Solar-Electric Domestic Water Heaters	
22 33 30.26	Residential, Collector-to-Tank, Heat-Exchanger-Coil, Solar-Electric Domestic Water Heaters	
22 33 33	Light-Commercial Electric Domestic Water Heaters	
22 33 36	Commercial Domestic Water Electric Booster Heaters	
22 33 36.13	Commercial Domestic Water Electric Booster Heaters	
22 33 36.16	Commercial Storage Electric Domestic Water Heaters	
<b>22 34 00</b>	<b>Fuel-Fired Domestic Water Heaters</b>	Includes: fuel-fired equipment to heat domestic water.
		Alternate Terms/Abbreviations: residential: household.
		See: 22 10 00 for plumbing piping and pumps. 22 33 00 for electric domestic water heaters. 22 35 00 for domestic water heat exchangers. 23 51 00 for breechings, chimneys, and stacks.
22 34 13	Instantaneous, Tankless, Gas Domestic Water Heaters	
22 34 30	Residential Gas Domestic Water Heaters	
22 34 30.13	Residential, Atmospheric, Gas Domestic Water Heaters	
22 34 30.16	Residential, Direct-Vent, Gas Domestic Water Heaters	
22 34 30.19	Residential, Power-Vent, Gas Domestic Water Heaters	
22 34 36	Commercial Gas Domestic Water Heaters	
22 34 36.13	Commercial, Atmospheric, Gas Domestic Water Heaters	
22 34 36.16	Commercial, Power-Burner, Gas Domestic Water Heaters	
22 34 36.19	Commercial, Power-Vent, Gas Domestic Water Heaters	
22 34 36.23	Commercial, High-Efficiency, Gas Domestic Water Heaters	
22 34 36.26	Commercial, Coil-Type, Finned-Tube, Gas Domestic Water Heaters	
22 34 36.29	Commercial, Grid-Type, Finned-Tube, Gas Domestic Water Heaters	

DIVISION 22

NUMBER	TITLE	EXPLANATION
22 34 46	Oil-Fired Domestic Water Heaters	
22 34 46.13	Large-Capacity, Oil-Fired Domestic Water Heaters	
22 34 56	Dual-Fuel-Fired Domestic Water Heaters	
<b>22 35 00</b>	<b>Domestic Water Heat Exchangers</b>	Includes: equipment to heat domestic water by means of heat exchange.
		See: 22 10 00 for plumbing piping and pumps. 22 33 00 for electric domestic water heaters. 22 34 00 for fuel-fired domestic water heaters. 23 57 00 for heat exchangers for HVAC.
22 35 13	Instantaneous Domestic Water Heat Exchangers	
22 35 13.13	Heating-Fluid-in-Coil, Instantaneous Domestic Water Heat Exchangers	
22 35 13.16	Domestic-Water-in-Coil, Instantaneous Domestic Water Heat Exchangers	
22 35 13.19	Heating-Fluid-in-U-Tube-Coil, Instantaneous Domestic Water Heat Exchangers	
22 35 23	Circulating, Domestic Water Heat Exchangers	
22 35 23.13	Circulating, Compact Domestic Water Heat Exchangers	
22 35 23.16	Circulating, Storage Domestic Water Heat Exchangers	
22 35 29	Noncirculating, Domestic Water Heat Exchangers	
22 35 29.13	Noncirculating, Compact Domestic Water Heat Exchangers	
22 35 29.16	Noncirculating, Storage Domestic Water Heat Exchangers	
22 35 36	Domestic Water Brazed-Plate Heat Exchangers	
22 35 39	Domestic Water Frame-and-Plate Heat Exchangers	
22 35 43	Domestic Water Heat Reclaimers	
<b>22 36 00</b>	<b>Domestic Water Preheaters</b>	
22 36 13	Solar Domestic Water Preheaters	
22 36 23	Geothermal Domestic Water Preheaters	
<b>22 40 00</b>	<b>Plumbing Fixtures</b>	
<b>22 41 00</b>	<b>Residential Plumbing Fixtures</b>	Includes: shower enclosures integral with bathtubs and shower receptors.
		See: 10 28 19 for shower and tub doors. 12 35 30 for residential casework. 12 36 00 for countertops. 12 36 00 for sinks and lavatories integral with countertops. 13 17 13 for hot tubs. 13 17 33 for whirlpool tubs.
		See Also: 12 36 00 for sinks and lavatories integral with countertops.
22 41 13	Residential Water Closets, Urinals, and Bidets	
22 41 13.13	Residential Water Closets	

NUMBER	TITLE	EXPLANATION
22 41 13.16	Residential Urinals	
22 41 13.19	Residential Bidets	
22 41 16	Residential Lavatories and Sinks	
22 41 16.13	Residential Lavatories	
22 41 16.16	Residential Sinks	
22 41 19	Residential Bathtubs	
22 41 23	Residential Showers	
22 41 26	Residential Disposers	
22 41 36	Residential Laundry Trays	
22 41 39	Residential Faucets, Supplies, and Trim	

## 22 42 00 Commercial Plumbing Fixtures

See: 10 21 13 for toilet compartments.  
 10 21 16 for shower and dressing compartments.  
 11 40 00 for foodservice equipment.  
 11 53 43 for laboratory service fittings and accessories.  
 12 30 00 for casework.  
 12 36 00 for countertops.  
 12 36 00 for sinks and lavatories integral with countertops.  
 13 17 13 for hot tubs.  
 13 17 33 for whirlpool tubs.

See Also: 11 48 00 for commercial kitchen food waste disposers.

22 42 13	Commercial Water Closets, Urinals, and Bidets
22 42 13.13	Commercial Water Closets
22 42 13.16	Commercial Urinals
22 42 16	Commercial Lavatories and Sinks
22 42 16.13	Commercial Lavatories
22 42 16.16	Commercial Sinks
22 42 19	Commercial Bathtubs
22 42 23	Commercial Showers
22 42 26	Commercial Disposers
22 42 29	Shampoo Bowls
22 42 33	Wash Fountains
22 42 36	Commercial Laundry Trays
22 42 39	Commercial Faucets
22 42 43	Flushometers

## 22 43 00 Healthcare Plumbing Fixtures

Alternate Terms/Abbreviations: healthcare: medical: hospital.

See: 11 53 43 for laboratory service fittings and accessories.  
 11 70 00 for healthcare equipment.  
 12 35 70 for healthcare casework.  
 12 36 00 for countertops.  
 12 36 00 for sinks and lavatories integral with countertops.  
 13 17 23 for therapeutic pools.  
 13 17 33 for whirlpool tubs.



NUMBER	TITLE	EXPLANATION
22 43 13	Healthcare Water Closets	
22 43 16	Healthcare Sinks	
22 43 19	Healthcare Bathtubs	
22 43 23	Healthcare Showers	
22 43 39	Healthcare Faucets	
22 43 43	Healthcare Plumbing Fixture Flushometers	

## **22 45 00      Emergency Plumbing Fixtures**

Includes: eyewashes.

Alternate Terms/Abbreviations: emergency showers: drench showers: safety showers.

See: 11 53 00 for laboratory equipment.  
11 53 43 for laboratory service fittings and accessories.  
11 57 00 for vocational shop equipment.

22 45 13	Emergency Showers
22 45 16	Eyewash Equipment
22 45 19	Self-Contained Eyewash Equipment
22 45 23	Personal Eyewash Equipment
22 45 26	Eye/Face Wash Equipment
22 45 29	Hand-Held Emergency Drench Hoses
22 45 33	Combination Emergency Fixture Units
22 45 36	Emergency Fixture Water-Tempering Equipment

## **22 46 00      Security Plumbing Fixtures**

See: 08 31 13 for security access doors and frames.  
08 34 53 for security doors and frames.  
08 39 53 for blast-resistant doors.  
08 42 33 for security revolving door entrances.  
08 56 53 for security windows.  
08 56 56 for security window screens.  
08 71 53 for security door hardware.  
08 88 53 for security glazing.  
26 55 53 for security lighting.

22 46 13	Security Water Closets and Urinals
22 46 13.13	Security Water Closets
22 46 13.16	Security Urinals
22 46 16	Security Lavatories and Sinks
22 46 16.13	Security Lavatories
22 46 16.16	Security Sinks
22 46 19	Security Showers
22 46 39	Security Faucets, Supplies, and Trim
22 46 43	Security Plumbing Fixture Flushometers
22 46 53	Security Plumbing Fixture Supports

## **22 47 00      Drinking Fountains and Water Coolers**

See: 10 25 16 for modular service walls.

NUMBER	TITLE	EXPLANATION
22 47 13	Drinking Fountains	
22 47 16	Pressure Water Coolers	
22 47 19	Water-Station Water Coolers	
22 47 23	Remote Water Coolers	

## **22 50 00 Pool and Fountain Plumbing Systems**

### **22 51 00 Swimming Pool Plumbing Systems**

Includes: piping, main drains, related system specialties, filters, pumps, heaters, and treatment equipment specific to swimming pools.

See: 13 11 00 for fabricated swimming pools.

13 13 00 for aquariums.

13 14 13 for water slides.

13 14 16 for wave generating equipment.

22 11 23 for domestic water pumps.

22 32 00 for domestic water filtration equipment.

22 51 13	Swimming Pool Piping	
22 51 16	Swimming Pool Pumps	
22 51 19	Swimming Pool Water Treatment Equipment	
22 51 23	Swimming Pool Equipment Controls	

### **22 52 00 Fountain Plumbing Systems**

Includes: piping, main drains, related system specialties, filters, pumps, and treatment equipment specific to fountains.

See: 13 12 00 for fountains.

22 11 23 for domestic water pumps.

22 32 00 for domestic water filtration equipment.

22 52 13	Fountain Piping	
22 52 16	Fountain Pumps	
22 52 19	Fountain Water Treatment Equipment	
22 52 19.13	Electronic Fountain Water Conditioning Equipment	
22 52 23	Fountain Equipment Controls	

NUMBER	TITLE	EXPLANATION
<b>22 60 00</b>	<b>Gas and Vacuum Systems for Laboratory and Healthcare Facilities</b>	<p>Includes: compressed air systems, vacuum systems, gas systems, chemical waste systems, and processed water systems for laboratory and healthcare purposes.</p> <p>Alternate Terms/Abbreviations: healthcare: medical: hospital.</p> <p>See: 11 53 00 for laboratory equipment.  11 70 00 for healthcare equipment.  11 74 00 for dental equipment.  12 35 53 for laboratory casework.  12 35 70 for healthcare casework.  12 35 70 for dental casework.  12 36 00 for countertops.</p>
<b>22 61 00</b>	<b>Compressed-Air Systems for Laboratory and Healthcare Facilities</b>	<p>Includes: compressed air systems for laboratory and healthcare purposes. Piping, valves, piping specialties, pumps, compressors, and other components.</p> <p>Alternate Terms/Abbreviations: healthcare: medical: hospital.</p> <p>See: 22 15 00 for general service compressed-air systems.  40 12 00 for compressed air process piping.</p>
22 61 13	Compressed-Air Piping for Laboratory and Healthcare Facilities	
22 61 13.53	Laboratory Compressed-Air Piping	
22 61 13.70	Healthcare Compressed-Air Piping	
22 61 13.74	Dental Compressed-Air Piping	
22 61 19	Compressed-Air Equipment for Laboratory and Healthcare Facilities	
22 61 19.53	Laboratory Compressed-Air Equipment	
22 61 19.70	Healthcare Compressed-Air Equipment	
22 61 19.74	Dental Compressed-Air Equipment	
<b>22 62 00</b>	<b>Vacuum Systems for Laboratory and Healthcare Facilities</b>	<p>Includes: vacuum systems for laboratory and medical purposes. Piping, valves, piping specialties, pumps, and other components.</p> <p>Alternate Terms/Abbreviations: healthcare: medical: hospital.</p> <p>See: 40 18 00 for vacuum systems process piping.</p>
22 62 13	Vacuum Piping for Laboratory and Healthcare Facilities	
22 62 13.53	Laboratory Vacuum Piping	
22 62 13.70	Healthcare, Surgical Vacuum Piping	
22 62 13.74	Dental Vacuum Piping	

NUMBER	TITLE	EXPLANATION
22 62 19	Vacuum Equipment for Laboratory and Healthcare Facilities	
22 62 19.53	Laboratory Vacuum Equipment	
22 62 19.70	Healthcare Vacuum Equipment	
22 62 19.74	Dental Vacuum and Evacuation Equipment	
22 62 23	Waste Anesthesia-Gas Piping	
<b>22 63 00</b>	<b>Gas Systems for Laboratory and Healthcare Facilities</b>	
		Includes: gas systems for laboratory and healthcare purposes. Piping, valves, piping specialties, pumps, and other components. Nitrogen gas, nitrous-oxide, and oxygen gas systems.
		Alternate Terms/Abbreviations: healthcare: medical: hospital.
		See: 23 11 23 for facility natural-gas piping. 40 13 00 for inert gases process piping. 40 16 00 for specialty and high-purity gases piping. 40 16 36 for nitrous oxide gas process piping.
22 63 13	Gas Piping for Laboratory and Healthcare Facilities	
22 63 13.53	Laboratory Gas Piping	
22 63 13.70	Healthcare Gas Piping	
22 63 19	Gas Storage Tanks for Laboratory and Healthcare Facilities	
22 63 19.53	Laboratory Gas Storage Tanks	
22 63 19.70	Healthcare Gas Storage Tanks	
<b>22 66 00</b>	<b>Chemical-Waste Systems for Laboratory and Healthcare Facilities</b>	
		Includes: chemical-waste systems for laboratory and healthcare purposes. Piping, piping specialties, and other components.
		Alternate Terms/Abbreviations: healthcare: medical: hospital.
		See: 22 13 00 for facility sanitary sewerage.
22 66 53	Laboratory Chemical-Waste and Vent Piping	
22 66 70	Healthcare Chemical-Waste and Vent Piping	
22 66 83	Chemical-Waste Tanks	
22 66 83.13	Chemical-Waste Dilution Tanks	
22 66 83.16	Chemical-Waste Neutralization Tanks	

NUMBER	TITLE	EXPLANATION
<b>22 67 00</b>	<b>Processed Water Systems for Laboratory and Healthcare Facilities</b>	<p>Includes: processed water systems for laboratory and healthcare purposes. Piping, valves, piping specialties, pumps, and other components.</p> <p>Alternate Terms/Abbreviations: healthcare: medical: hospital. DI: deionized. RO: reverse osmosis.</p> <p>See: 22 11 00 for facility water distribution.  40 23 00 for water process piping.  40 23 13 for deionized water process piping.  40 23 16 for distilled water process piping.  40 23 33 for reverse osmosis water process piping.</p>
22 67 13	Processed Water Piping for Laboratory and Healthcare Facilities	
22 67 13.13	Distilled-Water Piping	
22 67 13.16	Reverse-Osmosis Water Piping	
22 67 13.19	Deionized-Water Piping	
22 67 19	Processed Water Equipment for Laboratory and Healthcare Facilities	
22 67 19.13	Distilled-Water Equipment	
22 67 19.16	Reverse-Osmosis Water Equipment	
22 67 19.19	Deionized-Water Equipment	

NUMBER	TITLE	EXPLANATION
<b>DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)</b>		
<b>23 00 00</b>	<b>Heating, Ventilating, and Air Conditioning (HVAC)</b>	<p>May be used as Division level Section title.</p> <p>See: 02 41 19 for selective structure demolition of existing HVAC systems. 03 30 00 for cast-in-place concrete equipment bases. 07 84 00 for firestopping. 07 92 00 for joint sealants. 08 31 00 for access doors and panels. 09 91 00 for field painting. 31 23 33 for trenching and backfilling.</p>
<b>23 01 00</b>	<b>Operation and Maintenance of HVAC Systems</b>	<p>Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of HVAC systems.</p> <p>Level 4 Numbering Recommendation: Level 4 titles for HVAC systems are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.</p>
23 01 10	Operation and Maintenance of Facility Fuel Systems	
23 01 20	Operation and Maintenance of HVAC Piping and Pumps	
23 01 30	Operation and Maintenance of HVAC Air Distribution	
23 01 30.51	HVAC Air-Distribution System Cleaning	
23 01 50	Operation and Maintenance of Central Heating Equipment	
23 01 60	Operation and Maintenance of Central Cooling Equipment	
23 01 60.71	Refrigerant Recovery/Recycling	
23 01 70	Operation and Maintenance of Central HVAC Equipment	
23 01 80	Operation and Maintenance of Decentralized HVAC Equipment	
23 01 90	Diagnostic Systems for HVAC	

NUMBER	TITLE	EXPLANATION
<b>23 05 00</b>	<b>Common Work Results for HVAC</b>	Includes: subjects common to multiple titles in Division 23.  See: 01 80 00 for performance requirements of subjects common to multiple titles. 05 45 13 for mechanical metal supports. 13 48 00 for sound, vibration, and seismic control. 21 05 29 for hangers and supports for fire-suppression piping and equipment. 21 05 33 for heat tracing for fire-suppression piping. 21 05 48 for vibration and seismic controls for fire-suppression piping and equipment. 21 05 53 for identification for fire-suppression piping and equipment. 22 05 29 for hangers and supports for plumbing piping and equipment. 22 05 33 for heat tracing for plumbing piping. 22 05 48 for vibration and seismic controls for plumbing piping and equipment. 22 05 53 for identification for plumbing piping and equipment. 40 41 00 for process piping and equipment heat tracing.
23 05 05	Selective Demolition for Heating, Ventilating, and Air Conditioning (HVAC)	See: 02 41 19 for selective demolition for whole structure demolition.
23 05 13	Common Motor Requirements for HVAC Equipment	
23 05 16	Expansion Fittings and Loops for HVAC Piping	
23 05 17	Sleeves and Sleeve Seals for HVAC Piping	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included.  Does Not Include: firestopping requirements.
23 05 19	Meters and Gauges for HVAC Piping	
23 05 23	General-Duty Valves for HVAC Piping	
23 05 29	Hangers and Supports for HVAC Piping and Equipment	
23 05 33	Heat Tracing for HVAC Piping	
23 05 48	Vibration and Seismic Controls for HVAC	
23 05 48.13	Vibration Controls for HVAC	Includes: vibration-isolation supports and hangers; vibration-isolation equipment bases.
23 05 53	Identification for HVAC Piping and Equipment	
23 05 63	Anti-Microbial Coatings for HVAC Ducts and Equipment	
23 05 66	Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment	
23 05 93	Testing, Adjusting, and Balancing for HVAC	

NUMBER	TITLE	EXPLANATION
<b>23 06 00</b>	<b>Schedules for HVAC</b>	Includes: schedules of items common to multiple titles in Division 23.
		Notes: a schedule may be included on drawings, in the project manual, or a project book.
23 06 10	Schedules for Facility Fuel Service Systems	
23 06 20	Schedules for HVAC Piping and Pumps	
23 06 20.13	Hydronic Pump Schedule	
23 06 30	Schedules for HVAC Air Distribution	
23 06 30.13	HVAC Fan Schedule	
23 06 30.16	Air Terminal Unit Schedule	
23 06 30.19	Air Outlet and Inlet Schedule	
23 06 30.23	HVAC Air Cleaning Device Schedule	
23 06 50	Schedules for Central Heating Equipment	
23 06 50.13	Heating Boiler Schedule	
23 06 60	Schedules for Central Cooling Equipment	
23 06 60.13	Refrigerant Condenser Schedule	
23 06 60.16	Packaged Water Chiller Schedule	
23 06 70	Schedules for Central HVAC Equipment	
23 06 70.13	Indoor, Central-Station Air-Handling Unit Schedule	
23 06 70.16	Packaged Outdoor HVAC Equipment Schedule	
23 06 80	Schedules for Decentralized HVAC Equipment	
23 06 80.13	Decentralized Unitary HVAC Equipment Schedule	
23 06 80.16	Convection Heating and Cooling Unit Schedule	
23 06 80.19	Radiant Heating and Cooling Unit Schedule	
<b>23 07 00</b>	<b>HVAC Insulation</b>	Includes: thermal insulation of HVAC ducts, piping, and equipment.
		See: 07 21 00 for thermal insulation. 21 07 00 for fire-suppression insulation. 22 07 00 for plumbing insulation. 40 42 00 for process piping and equipment insulation.
23 07 13	Duct Insulation	
23 07 16	HVAC Equipment Insulation	
23 07 19	HVAC Piping Insulation	
<b>23 08 00</b>	<b>Commissioning of HVAC</b>	Includes: commissioning of items common to multiple titles in Division 23.
		See: 01 91 00 for commissioning of subjects common to multiple Divisions.



NUMBER	TITLE	EXPLANATION
<b>23 09 00</b>	<b>Instrumentation and Control for HVAC</b>	<p>Includes: items for operating and controlling HVAC equipment. Various types of controls and the sequence of operation describing the equipment operation.</p> <p>See: 13 50 00 for special instrumentation.            21 09 00 for instrumentation and control for fire-suppression systems.            22 09 00 for instrumentation and control for plumbing.            23 05 93 for testing, adjusting, and balancing for HVAC.            25 35 00 for integrated automation instrumentation and terminal devices for HVAC.            25 55 00 for integrated automation control of HVAC.            25 95 00 for integrated automation control sequences for HVAC.</p>
23 09 13	Instrumentation and Control Devices for HVAC	<p>Includes: piping, tubing, wiring, control panels, thermostats, aquastats, timers, recording and alarm devices, related to HVAC equipment.</p> <p>May Include: instrumentation and control devices as part of integrated automation.</p> <p>See Also: 25 35 00 for integrated automation instrumentation and terminal devices for HVAC.            25 55 00 for integrated automation control of HVAC.</p>
23 09 13.13	Actuators and Operators	
23 09 13.23	Sensors and Transmitters	
23 09 13.33	Control Valves	
23 09 13.43	Control Dampers	
23 09 23	Direct-Digital Control System for HVAC	<p>Includes: HVAC control equipment where control is done by a digital process using computers.</p> <p>May Include: direct-digital control system as part of integrated automation.</p> <p>Alternate Terms/Abbreviations: DDC: direct digital control.</p> <p>See: 40 94 00 for digital process controllers.</p> <p>See Also: 25 35 00 for integrated automation instrumentation and terminal devices for HVAC.            25 55 00 for integrated automation control of HVAC.</p>
23 09 23.11	Control Valves	Includes: control valves and actuators for DDC systems.

NUMBER	TITLE	EXPLANATION
23 09 23.12	Control Dampers	Includes: control dampers and actuators for DDC systems.
23 09 23.13	Energy Meters	Includes: thermal and electric power energy meters that connect to DDC systems.
23 09 23.14	Flow Instruments	Includes: airflow sensors, switches, and transmitters; liquid flow meters, sensors, switches, and transmitters.
23 09 23.16	Gas Instruments	Includes: carbon-dioxide sensors, transmitters, and monitoring systems; oxygen monitoring systems; VOC sensors and transmitters.  Alternate Terms/Abbreviations: VOC: volatile organic compound.
23 09 23.17	Level Instruments	Includes: liquid-level switches, sensors, and transmitters.
23 09 23.18	Leak Detection Instruments	Includes: point- and cable-type leak-detection switches.
23 09 23.19	Moisture Instruments	Includes: moisture switches, sensors, and transmitters.
23 09 23.21	Motion Instruments	Includes: PIR, Ultrasonic, and dual-technology motion sensors.  Alternate Terms/Abbreviations: PIR: post incident report.
23 09 23.22	Position Instruments	Includes: position limit switches for use in DDC systems for HVAC.
23 09 23.23	Pressure Instruments	Includes: air and liquid pressure sensors, switches, and transmitters.
23 09 23.24	Speed Instruments	Includes: speed switches for DDC controls for HVAC.
23 09 23.27	Temperature Instruments	Includes: air temperature sensors, switches, RTD transmitters; liquid and steam temperature sensors, switches, and transmitters.  Alternate Terms/Abbreviations: RTD: resistance temperature device.

DIVISION 23

NUMBER	TITLE	EXPLANATION
23 09 23.33	Vibration Instruments	Includes: vibration switches and transmitters connected to DDC systems for HVAC.
23 09 23.43	Weather Stations	Includes: weather stations connected to DDC for HVAC to help maintain air quality and temperature control in light of outside weather conditions.
23 09 33	Electric and Electronic Control System for HVAC	Includes: HVAC control equipment where the devices are powered with electricity.  See: 40 93 00 for process analog controllers/recorders.
23 09 43	Pneumatic Control System for HVAC	Includes: HVAC control equipment where the devices are powered with compressed air.  See: 22 15 00 for general service compressed-air systems. 40 93 00 for process analog controllers/recorders.
23 09 53	Pneumatic and Electric Control System for HVAC	Includes: HVAC control equipment where the devices are powered with electricity and compressed air.  See: 22 15 00 for general service compressed-air systems. 40 93 00 for process analog controllers/recorders.
23 09 93	Sequence of Operations for HVAC Controls	Includes: description of how the HVAC equipment is intended to operate.
23 09 93.11	Sequence of Operation for HVAC DDC	Includes: descriptions of operational sequences for HVAC control system.

## 23 10 00 Facility Fuel Systems

Includes: fuel systems associated with a structure.

See: 11 11 00 for vehicle service equipment.  
26 32 13 for engine generators.  
28 42 00 for gas detection and alarm.  
28 43 00 for fuel oil detection and alarm.  
33 50 00 for site fuel distribution utilities.

NUMBER	TITLE	EXPLANATION
<b>23 11 00</b>	<b>Facility Fuel Piping</b>	Includes: fuel piping, valves, piping specialties, and other components within, under, or closely associated with a structure.  See: 23 24 00 for internal-combustion engine piping. 33 52 00 for hydrocarbon transmission and distribution. 40 21 00 for liquid fuels process piping. 40 21 23 for fuel oils process piping.
23 11 13	Facility Fuel-Oil Piping	
23 11 16	Facility Gasoline Piping	
23 11 23	Facility Natural-Gas Piping	
23 11 26	Facility Liquefied-Petroleum Gas Piping	
<b>23 12 00</b>	<b>Facility Fuel Pumps</b>	Includes: fuel pumps within or closely associated with a structure.  See: 33 52 00 for hydrocarbon transmission and distribution.
23 12 13	Facility Fuel-Oil Pumps	
23 12 16	Facility Gasoline Dispensing Pumps	
23 12 26	Facility Liquefied-Petroleum Gas Pumps	
<b>23 13 00</b>	<b>Facility Fuel-Storage Tanks</b>	Includes: fuel tanks under or closely associated with a structure.  See: 09 97 13 for storage tank coatings. 33 56 00 for site fuel storage tanks. 41 52 19 for material storage tanks. 43 41 13 for gas and liquid pressure vessels.
23 13 13	Facility Underground Fuel-Oil, Storage Tanks	
23 13 13.13	Double-Wall Steel, Underground Fuel-Oil, Storage Tanks	
23 13 13.16	Composite, Steel, Underground Fuel-Oil, Storage Tanks	
23 13 13.19	Jacketed, Steel, Underground Fuel-Oil, Storage Tanks	
23 13 13.23	Glass-Fiber-Reinforced-Plastic, Underground Fuel-Oil, Storage Tanks	
23 13 13.33	Fuel-Oil Storage Tank Pumps	
23 13 23	Facility Aboveground Fuel-Oil, Storage Tanks	
23 13 23.13	Vertical, Steel, Aboveground Fuel-Oil, Storage Tanks	
23 13 23.16	Horizontal, Steel, Aboveground Fuel-Oil, Storage Tanks	
23 13 23.19	Containment-Dike, Steel, Aboveground Fuel-Oil, Storage Tanks	
23 13 23.23	Insulated, Steel, Aboveground Fuel-Oil, Storage Tanks	
23 13 23.26	Concrete-Vaulted, Steel, Aboveground Fuel-Oil, Storage Tanks	
23 13 26	Facility Aboveground Liquefied-Petroleum Gas Storage Tanks	

NUMBER	TITLE	EXPLANATION
<b>23 20 00</b>	<b>HVAC Piping and Pumps</b>	Includes: HVAC piping, pumps, and water treatment for a structure.  See: 23 05 93 for testing, adjusting, and balancing for HVAC. 23 09 00 for instrumentation and control for HVAC. 33 60 00 for site hydronic and steam energy utilities.
<b>23 21 00</b>	<b>Hydronic Piping and Pumps</b>	Includes: chilled condenser and hot water piping, valves, piping specialties, pumps, and other components within a structure.  See: 21 30 00 for fire pumps. 22 11 23 for domestic water pumps. 33 61 00 for site hydronic energy distribution.
23 21 13	Hydronic Piping	
23 21 13.13	Underground Hydronic Piping	
23 21 13.23	Aboveground Hydronic Piping	
23 21 13.33	Ground-Loop Heat-Pump Piping	
23 21 16	Hydronic Piping Specialties	
23 21 23	Hydronic Pumps	
23 21 23.13	In-Line Centrifugal Hydronic Pumps	
23 21 23.16	Base-Mounted, Centrifugal Hydronic Pumps	
23 21 23.19	Vertical-Mounted, Double-Suction Centrifugal Hydronic Pumps	
23 21 23.23	Vertical-Turbine Hydronic Pumps	
23 21 29	Automatic Condensate Pump Units	
<b>23 22 00</b>	<b>Steam and Condensate Piping and Pumps</b>	Includes: steam and condensate piping, valves, piping specialties and other components within a structure.  See: 33 63 00 for site steam energy distribution. 40 11 00 for steam process piping.
23 22 13	Steam and Condensate Heating Piping	
23 22 13.13	Underground Steam and Condensate Heating Piping	
23 22 13.23	Aboveground Steam and Condensate Heating Piping	
23 22 16	Steam and Condensate Heating Piping Specialties	
23 22 23	Steam Condensate Pumps	
23 22 23.13	Electric-Driven Steam Condensate Pumps	
23 22 23.23	Pressure-Powered Steam Condensate Pumps	
<b>23 23 00</b>	<b>Refrigerant Piping</b>	Includes: refrigerant piping, valves, piping specialties, refrigerant, and other components within a structure.  See: 28 44 00 for refrigerant detection and alarm.

NUMBER	TITLE	EXPLANATION
23 23 13	Refrigerant Piping Valves	
23 23 16	Refrigerant Piping Specialties	
23 23 19	Refrigerant Safety Relief Valve Discharge Piping	
23 23 23	Refrigerants	
<b>23 24 00</b>	<b>Internal-Combustion Engine Piping</b>	Includes: piping for internal-combustion engines other than fuel piping.  See: 23 11 00 for facility fuel piping. 23 51 00 for breechings, chimneys, and stacks. 26 32 13 for engine generators. 40 15 00 for combustion system gas piping.
23 24 13	Internal-Combustion Engine Remote-Radiator Coolant Piping	
23 24 16	Internal-Combustion Engine Exhaust Piping	
<b>23 25 00</b>	<b>HVAC Water Treatment</b>	Includes: water treatment equipment for hot water, chilled water, steam, and condenser water systems. One-shot feeders, automatic chemical feed systems, manual chemical feed systems, and chemicals.  See: 22 31 00 for domestic water softeners. 22 32 00 for domestic water filtration equipment.
23 25 13	Water Treatment for Closed-Loop Hydronic Systems	
23 25 16	Water Treatment for Open Hydronic Systems	
23 25 19	Water Treatment for Steam System Feedwater	
23 25 23	Water Treatment for Humidification Steam System Feedwater	
23 25 26	Electronic Water Conditioning for HVAC Systems	
23 25 33	HVAC Makeup-Water Filtration Equipment	Includes: water softeners, RO equipment, multimedia filters, self-cleaning strainers, bag-and cartridge-type filters, and centrifugal separators.
<b>23 30 00</b>	<b>HVAC Air Distribution</b>	Includes: ducts, duct accessories, fans, volume control equipment, and air inlets and outlets.  See: 23 05 93 for testing, adjusting, and balancing for HVAC. 23 09 00 for instrumentation and control for HVAC.

NUMBER	TITLE	EXPLANATION
<b>23 31 00</b>	<b>HVAC Ducts and Casings</b>	Includes: duct materials and fabrication, including duct hangers and supports.  See: 23 07 13 for duct insulation. 23 33 46 for flexible ducts. 23 33 53 for duct liners.
23 31 13	Metal Ducts	
23 31 13.13	Rectangular Metal Ducts	
23 31 13.16	Round and Flat-Oval Spiral Ducts	
23 31 13.19	Metal Duct Fittings	
23 31 16	Nonmetal Ducts	
23 31 16.13	Fibrous-Glass Ducts	
23 31 16.16	Thermoset Fiberglass-Reinforced Plastic Ducts	
23 31 16.19	PVC Ducts	
23 31 16.26	Concrete Ducts	
23 31 19	HVAC Casings	
<b>23 32 00</b>	<b>Air Plenums and Chases</b>	Includes: plenums and chases formed by general construction work results used for HVAC air distribution.  See: 09 50 00 for suspended ceilings. 09 69 00 for access flooring. 13 48 00 for sound, vibration, and seismic control. 23 31 00 for HVAC ducts and casings.
23 32 13	Fabricated, Metal Air Plenums	
23 32 33	Air-Distribution Ceiling Plenums	
23 32 36	Air-Distribution Floor Plenums	
23 32 39	Air-Distribution Wall Plenums	
23 32 43	Air-Distribution Chases Formed by General Construction	
23 32 48	Acoustical Air Plenums	
<b>23 33 00</b>	<b>Air Duct Accessories</b>	Includes: dampers, duct access panel and test holes, flexible duct connectors, turning vanes and extractors, and sound attenuators. Balancing, back draft, fire, smoke, and combination fire and smoke dampers.  See: 23 07 13 for duct insulation. 23 09 00 for instrumentation and control for HVAC. 23 31 00 for HVAC ducts and casings.
23 33 13	Dampers	
23 33 13.13	Volume-Control Dampers	
23 33 13.16	Fire Dampers	
23 33 13.19	Smoke-Control Dampers	
23 33 13.23	Backdraft Dampers	

NUMBER	TITLE	EXPLANATION
23 33 19	Duct Silencers	
23 33 23	Turning Vanes	
23 33 33	Duct-Mounting Access Doors	
23 33 38	Duct Security Bars	
23 33 43	Flexible Connectors	
23 33 46	Flexible Ducts	
23 33 53	Duct Liners	
<b>23 34 00</b>	<b>HVAC Fans</b>	Includes: various types of fans for air distribution. Ceiling fans and exhaust fans.  Alternate Terms/Abbreviations: air curtains: air doors.  See: 23 31 00 for HVAC ducts and casings. 23 38 00 for ventilation hoods.
23 34 13	Axial HVAC Fans	
23 34 16	Centrifugal HVAC Fans	
23 34 23	HVAC Power Ventilators	
23 34 33	Air Curtains	
23 34 39	High-Volume, Low-Speed Propeller Fans	Includes: fans, motors, gearboxes, and drives.  Alternate Terms/Abbreviations: commercial ceiling fans.
<b>23 35 00</b>	<b>Special Exhaust Systems</b>	Includes: exhaust systems with a special specific purpose. Sawdust collection includes inlets, ducts, fans, and collection bins or cyclones. Exhaust systems for vehicle repair facilities, vehicle and engine test facilities, engine-generator exhaust systems, and engine-driven fire-pump exhaust systems.  See: 23 40 00 for HVAC air cleaning devices. 44 11 16 for industrial dust collectors.
23 35 13	Dust Collection Systems	
23 35 13.13	Sawdust Collection Systems	
23 35 16	Engine Exhaust Systems	
23 35 16.13	Positive-Pressure Engine Exhaust Systems	
23 35 16.16	Mechanical Engine Exhaust Systems	
23 35 33	Listed Kitchen Ventilation Exhaust System	Includes: fire-rated kitchen ventilation systems intended chiefly for commercial applications.  See Also: 23 31 00 for HVAC ducts and casings for non-rated kitchen ventilation systems. 23 38 13 for listed commercial-kitchen hoods.



NUMBER	TITLE	EXPLANATION
<b>23 36 00</b>	<b>Air Terminal Units</b>	Includes: air terminal units involving heat transfer and forced air supply.  Alternate Terms/Abbreviations: VAV: variable air volume.
23 36 13	Constant-Air-Volume Units	
23 36 16	Variable-Air-Volume Units	
<b>23 37 00</b>	<b>Air Outlets and Inlets</b>	Includes: devices used to supply or remove air from a space or building.  See: 08 90 00 for louvers and vents. 09 58 00 for air outlets and inlets integral with integrated ceiling assemblies. 09 69 00 for air outlets and inlets integral with access flooring. 23 38 00 for ventilation hoods.
23 37 13	Diffusers, Registers, and Grilles	
23 37 13.43	Security Registers and Grilles	Includes: registers and grilles used in detention facilities.
23 37 16	Fabric Air Distribution Devices	
23 37 23	HVAC Gravity Ventilators	
23 37 23.13	HVAC Gravity Dome Ventilators	
23 37 23.16	HVAC Gravity Louvered-Penthouse Ventilators	
23 37 23.19	HVAC Gravity Upblast Ventilators	
<b>23 38 00</b>	<b>Ventilation Hoods</b>	Includes: ventilation hoods and equipment with fire-suppression systems for commercial kitchens.  May Include: laboratory fumes hoods connected to HVAC system.  See: 11 53 13 for recirculating laboratory fume hoods. 21 20 00 for fire extinguishing systems.  See Also: 11 44 00 for commercial-kitchen hoods. 11 53 13 for laboratory fume hoods.
23 38 13	Commercial-Kitchen Hoods	
23 38 13.13	Listed Commercial-Kitchen Hoods	
23 38 13.16	Standard Commercial-Kitchen Hoods	
23 38 16	Fume Hoods	

NUMBER	TITLE	EXPLANATION
<b>23 40 00</b>	<b>HVAC Air Cleaning Devices</b>	Includes: devices of a variety of types to clean distribution air.  Alternate Terms/Abbreviations: HEPA: high-efficiency particulate air (filter). ULPA: ultra-low penetration air (filter). SULPA: super ultra-low penetration air (filter).  See: 23 31 00 for HVAC ducts and casings. 23 35 13 for sawdust collection systems. 44 11 00 for particulate control equipment.
<b>23 41 00</b>	<b>Particulate Air Filtration</b>	
23 41 13	Panel Air Filters	
23 41 16	Renewable-Media Air Filters	
23 41 19	Washable Air Filters	
23 41 23	Extended Surface Filters	
23 41 33	High-Efficiency Particulate Filtration	
23 41 43	Ultra-Low Penetration Filtration	
23 41 46	Super Ultra-Low Penetration Filtration	
<b>23 42 00</b>	<b>Gas-Phase Air Filtration</b>	
23 42 13	Activated-Carbon Air Filtration	
23 42 16	Chemically-Impregnated Adsorption Air Filtration	
23 42 19	Catalytic-Adsorption Air Filtration	
<b>23 43 00</b>	<b>Electronic Air Cleaners</b>	
23 43 13	Washable Electronic Air Cleaners	
23 43 16	Agglomerator Electronic Air Cleaners	
23 43 23	Self-Contained Electronic Air Cleaners	
<b>23 50 00</b>	<b>Central Heating Equipment</b>	Includes: boilers, feedwater equipment, and draft accessories; furnaces; heaters; heat exchangers; and breechings, chimneys, and stacks.  See: 23 05 93 for testing, adjusting, and balancing for HVAC. 23 07 16 for HVAC equipment insulation. 23 09 00 for instrumentation and control for HVAC. 23 11 00 for facility fuel piping. 23 21 00 for hydronic piping and pumps. 23 22 00 for steam and condensate piping and pumps. 33 61 00 for site hydronic energy distribution. 33 63 00 for site steam energy distribution. 42 10 00 for process heating equipment.

NUMBER	TITLE	EXPLANATION
<b>23 51 00</b>	<b>Breechings, Chimneys, and Stacks</b>	Includes: double-wall and single-wall chimneys, breechings, and stacks.  See: 04 50 00 for refractory masonry. 22 34 00 for fuel-fired domestic water heaters. 23 24 16 for internal-combustion engine exhaust piping. 23 52 00 for heating boilers. 23 54 00 for furnaces. 23 55 00 for fuel-fired heaters. 40 15 00 for combustion system gas piping. 40 47 00 for refractories.
23 51 13	Draft Control Devices	
23 51 13.11	Draft Control Fans	Includes: draft-inducer fans, venturi-draft-inducer fans, mechanical-draft vent fans, vent exhaust fans, and combustion-air fans.
23 51 13.13	Draft-Induction Fans	
23 51 13.16	Vent Dampers	
23 51 13.19	Barometric Dampers	
23 51 16	Fabricated Breechings and Accessories	
23 51 19	Fabricated Stacks	
23 51 23	Gas Vents	
23 51 33	Insulated Sectional Chimneys	
23 51 43	Flue-Gas Filtration Equipment	
23 51 43.13	Gaseous Filtration	
23 51 43.16	Particulate Filtration	
<b>23 52 00</b>	<b>Heating Boilers</b>	Includes: gas and oil fuel-fired, solid fuel-fired, and electric boilers and generators for both hot water and steam systems.  See: 23 11 00 for facility fuel piping. 23 25 00 for HVAC water treatment. 23 51 00 for breechings, chimneys, and stacks. 23 53 00 for heating boiler feedwater equipment. 42 11 00 for process boilers.
23 52 13	Electric Boilers	
23 52 16	Condensing Boilers	
23 52 16.13	Stainless-Steel Condensing Boilers	
23 52 16.16	Aluminum Condensing Boilers	
23 52 17	Low Mass Boilers	
23 52 19	Pulse Combustion Boilers	
23 52 23	Cast-Iron Boilers	

NUMBER	TITLE	EXPLANATION
23 52 33	Water-Tube Boilers	
23 52 33.13	Finned Water-Tube Boilers	
23 52 33.14	Flexible Water-Tube Boilers	Includes: flexible water-tube boilers with burners, controls and accessories, suitable for use in steam or hot water systems fired by natural gas, propane, or fuel oil. Includes controls, hot water or steam boiler trim, and natural gas, propane, or fuel oil-fired burner.
23 52 33.16	Steel Water-Tube Boilers	
23 52 33.19	Copper Water-Tube Boilers	
23 52 39	Fire-Tube Boilers	
23 52 39.13	Scotch Marine Boilers	
23 52 39.16	Steel Fire-Tube Boilers	
23 52 83	Boiler Blowdown Systems	
<b>23 53 00</b>	<b>Heating Boiler Feedwater Equipment</b>	Includes: equipment to remove oxygen and other dissolved gases in boiler feed.  See: 23 52 00 for heating boilers.
23 53 13	Boiler Feedwater Pumps	
23 53 16	Deaerators	
<b>23 54 00</b>	<b>Furnaces</b>	Includes: gas and oil fuel-fired, and electric furnaces.  See: 23 11 00 for facility fuel piping. 23 51 00 for breechings, chimneys, and stacks. 42 14 00 for industrial furnaces.
23 54 13	Electric-Resistance Furnaces	
23 54 16	Fuel-Fired Furnaces	
23 54 16.13	Gas-Fired Furnaces	
23 54 16.16	Oil-Fired Furnaces	
<b>23 55 00</b>	<b>Fuel-Fired Heaters</b>	Includes: gas and oil fuel-fired duct, radiant, and unit heaters.  See: 23 11 00 for facility fuel piping. 23 51 00 for breechings, chimneys, and stacks. 23 82 39 for unit heaters.
23 55 13	Fuel-Fired Duct Heaters	
23 55 13.13	Oil-Fired Duct Heaters	
23 55 13.16	Gas-Fired Duct Heaters	
23 55 23	Gas-Fired Radiant Heaters	
23 55 23.13	Low-Intensity Gas-Fired Radiant Heaters	
23 55 23.16	High-Intensity Gas-Fired Radiant Heaters	

DIVISION 23

NUMBER	TITLE	EXPLANATION
23 55 33	Fuel-Fired Unit Heaters	
23 55 33.13	Oil-Fired Unit Heaters	
23 55 33.16	Gas-Fired Unit Heaters	
<b>23 56 00</b>	<b>Solar Energy Heating Equipment</b>	Includes: equipment powered by solar energy.  See: 22 33 30 for residential, collector-to-tank, solar-electric domestic water heaters. 26 31 00 for photovoltaic collectors. 48 14 00 for solar energy electrical power generation equipment.
23 56 13	Heating Solar Collectors	
23 56 13.13	Heating Solar Flat-Plate Collectors	
23 56 13.16	Heating Solar Concentrating Collectors	
23 56 13.19	Heating Solar Vacuum-Tube Collectors	
23 56 16	Packaged Solar Heating Equipment	
23 56 23	Solar Air-Heating Panels	
<b>23 57 00</b>	<b>Heat Exchangers for HVAC</b>	Includes: equipment used to transfer heat from one medium to another.  See: 22 35 00 for domestic water heat exchangers. 23 21 00 for hydronic piping and pumps. 23 22 00 for steam and condensate piping and pumps. 23 72 00 for air-to-air energy recovery equipment. 42 13 00 for industrial heat exchangers and recuperators.
23 57 13	Steam-to-Steam Heat Exchangers	
23 57 16	Steam-to-Water Heat Exchangers	
23 57 19	Liquid-to-Liquid Heat Exchangers	
23 57 19.13	Plate-Type, Liquid-to-Liquid Heat Exchangers	
23 57 19.16	Shell-Type, Liquid-to-Liquid Heat Exchangers	
23 57 33	Direct Geoexchange Heat Exchangers	Includes: continuous sealed underground closed-loop heat exchanger with one refrigerant supply tube and one refrigerant return tube.  See: 23 71 00 for thermal storage of energy. 48 16 00 for geothermal energy electrical power generation equipment.

NUMBER	TITLE	EXPLANATION
<b>23 60 00</b>	<b>Central Cooling Equipment</b>	<p>Includes: building space cooling equipment and equipment to reject heat from the refrigeration process.</p> <p>May Include: freezing equipment for ice rinks.</p> <p>See: 23 05 93 for testing, adjusting, and balancing for HVAC.  23 07 16 for HVAC equipment insulation.  23 09 00 for instrumentation and control for HVAC.  23 11 00 for facility fuel piping.  23 21 00 for hydronic piping and pumps.  23 76 00 for evaporative air-cooling equipment.  33 61 00 for site hydronic energy distribution.  42 20 00 for process cooling equipment.</p> <p>See Also: 13 18 00 for ice rinks.</p>
<b>23 61 00</b>	<b>Refrigerant Compressors</b>	<p>Includes: various types of compressors used in the refrigeration process.</p> <p>See: 28 44 00 for refrigerant detection and alarm.</p>
23 61 13	Centrifugal Refrigerant Compressors	
23 61 13.13	Non-Condensable Gas Purge Equipment	
23 61 16	Reciprocating Refrigerant Compressors	
23 61 19	Scroll Refrigerant Compressors	
23 61 23	Rotary-Screw Refrigerant Compressors	
<b>23 62 00</b>	<b>Packaged Compressor and Condenser Units</b>	<p>Includes: compressors used in the refrigeration process in combination with condensing units used to reject heat from the refrigeration process.</p> <p>See: 28 44 00 for refrigerant detection and alarm.</p>
23 62 13	Packaged Air-Cooled Refrigerant Compressor and Condenser Units	
23 62 23	Packaged Water-Cooled Refrigerant Compressor and Condenser Units	
23 62 46	Packaged Variable-Refrigerant-Flow Air-Conditioning Systems	
<b>23 63 00</b>	<b>Refrigerant Condensers</b>	<p>Includes: condensing units used to reject heat from the refrigeration process.</p> <p>See: 28 44 00 for refrigerant detection and alarm.  42 23 00 for process condensers and evaporators.</p>
23 63 13	Air-Cooled Refrigerant Condensers	

NUMBER	TITLE	EXPLANATION
23 63 23	Water-Cooled Refrigerant Condensers	
23 63 33	Evaporative Refrigerant Condensers	
<b>23 64 00</b>	<b>Packaged Water Chillers</b>	Includes: various types of chillers used for building space cooling.  See: 42 22 00 for process chillers and coolers. 42 22 13 for centrifugal process chillers and coolers. 42 22 16 for reciprocating process chillers and coolers. 42 22 23 for rotary process chillers and coolers.
23 64 13	Absorption Water Chillers	
23 64 13.13	Direct-Fired Absorption Water Chillers	
23 64 13.16	Indirect-Fired Absorption Water Chillers	
23 64 16	Centrifugal Water Chillers	
23 64 16.13	Air-Cooled Centrifugal Water Chillers	
23 64 16.16	Water-Cooled Centrifugal Water Chillers	
23 64 19	Reciprocating Water Chillers	
23 64 23	Scroll Water Chillers	
23 64 23.13	Air-Cooled Scroll Water Chillers	
23 64 23.16	Water-Cooled Scroll Water Chillers	
23 64 26	Rotary-Screw Water Chillers	
23 64 26.13	Air-Cooled, Rotary-Screw Water Chillers	
23 64 26.16	Water-Cooled, Rotary-Screw Water Chillers	
23 64 33	Modular Water Chillers	Includes: water- and air-cooled, packaged, modular water chillers.
23 64 33.13	Air-Cooled, Modular Water Chillers	
23 64 33.16	Water-Cooled, Modular Water Chillers	
<b>23 65 00</b>	<b>Cooling Towers</b>	Includes: factory- and field-assembled cooling towers used to reject heat from the refrigeration process.  See: 31 00 00 for earthwork. 35 00 00 for waterway and marine construction. 42 21 00 for process cooling towers.
23 65 13	Forced-Draft Cooling Towers	
23 65 13.13	Open-Circuit, Forced-Draft Cooling Towers	
23 65 13.16	Closed-Circuit, Forced-Draft Cooling Towers	
23 65 14	Induced-Draft Cooling Towers	
23 65 14.13	Open-Circuit, Induced-Draft Counterflow Cooling Towers	Includes: open-circuit cooling tower in which airflow and condenser-water flow are in opposing directions.

NUMBER	TITLE	EXPLANATION
23 65 14.14	Open-Circuit, Induced-Draft Crossflow Cooling Towers	Includes: open-circuit cooling tower in which airflow is horizontal across cascading condenser-water flow and fan draws air through the tower.
23 65 14.16	Closed-Circuit, Induced-Draft Counterflow Cooling Towers	Includes: closed-circuit cooling tower in which airflow is drawn through condenser-water flowing through closed-circuit piping system.
23 65 14.17	Closed-Circuit, Induced-Draft Combined-Flow Cooling Towers	Includes: closed-circuit cooling tower in which airflow is drawn through sides of tower condenser-water flowing through closed-circuit piping system; induced-draft fan is mounted on top of tower.
23 65 16	Natural-Draft Cooling Towers	
23 65 23	Field-Erected Cooling Towers	
23 65 33	Liquid Coolers	

## **23 70 00 Central HVAC Equipment**

Includes: equipment that serves a total HVAC system.

See: 23 05 93 for testing, adjusting, and balancing for HVAC.  
 23 07 16 for HVAC equipment insulation.  
 23 09 00 for instrumentation and control for HVAC.  
 23 11 00 for facility fuel piping.  
 23 21 00 for hydronic piping and pumps.  
 33 61 00 for site hydronic energy distribution.

## **23 71 00 Thermal Storage**

Includes: equipment to store thermal energy for use in heating and/or cooling and with charging or discharging this energy at a controllable rate.

See: 23 57 33 for direct geexchange heat exchanger.  
 48 16 00 for geothermal energy electrical power generation equipment.

23 71 13	Thermal Heat Storage
23 71 13.13	Room Storage Heaters for Thermal Storage
23 71 13.16	Heat-Pump Boosters for Thermal Storage
23 71 13.19	Central Furnace Heat-Storage Units
23 71 13.23	Pressurized-Water Thermal Storage Tanks
23 71 16	Chilled-Water Thermal Storage
23 71 19	Ice Storage
23 71 19.13	Internal Ice-on-Coil Thermal Storage
23 71 19.16	External Ice-on-Coil Thermal Storage
23 71 19.19	Encapsulated-Ice Thermal Storage
23 71 19.23	Ice-Harvesting Thermal Storage



NUMBER	TITLE	EXPLANATION
23 71 19.26	Ice-Slurry Thermal Storage	
<b>23 72 00</b>	<b>Air-to-Air Energy Recovery Equipment</b>	Includes: air-to-air type energy recovery units.  See: 23 57 00 for heat exchangers for HVAC.
23 72 13	Heat-Wheel Air-to-Air Energy-Recovery Equipment	
23 72 16	Heat-Pipe Air-to-Air Energy-Recovery Equipment	
23 72 19	Fixed-Plate Air-to-Air Energy-Recovery Equipment	
23 72 23	Packaged Air-to-Air Energy-Recovery Units	
<b>23 73 00</b>	<b>Indoor Central-Station Air-Handling Units</b>	Includes: indoor units consisting of fans, coils, dampers, control devices, and other accessories. Assembly of standard produced components or assembly of custom designed components.  May Include: filters with unit.  See: 23 81 00 for decentralized unitary HVAC equipment.  See Also: 23 40 00 for HVAC air cleaning devices.
23 73 13	Modular Indoor Central-Station Air-Handling Units	
23 73 23	Custom Indoor Central-Station Air-Handling Units	
23 73 33	Indoor Indirect Fuel-Fired Heating and Ventilating Units	
23 73 33.13	Indoor Indirect Oil-Fired Heating and Ventilating Units	
23 73 33.16	Indoor Indirect Gas-Fired Heating and Ventilating Units	
23 73 39	Indoor, Direct Gas-Fired Heating and Ventilating Units	
<b>23 74 00</b>	<b>Packaged Outdoor HVAC Equipment</b>	Includes: outdoor units consisting of fans, coils, dampers, control devices and other accessories. Units may be for single-zone, multizone, and variable-air-volume applications. Units may be mounted on the roof or at grade level. Assembly of standard, readily available stock components.  May Include: filters with unit.  See Also: 23 40 00 for HVAC air cleaning devices.
23 74 13	Packaged, Outdoor, Central-Station Air-Handling Units	
23 74 16	Packaged Rooftop Air-Conditioning Units	
23 74 16.11	Packaged, Small-Capacity, Rooftop Air-Conditioning Units	Includes: six tons and smaller units. Rooftop heating, cooling, and ventilating units, and roof-mounting curbs and accessories.

NUMBER	TITLE	EXPLANATION
23 74 16.12	Packaged, Intermediate-Capacity, Rooftop Air-Conditioning Units	Includes: 7.5- to twenty-five-ton units. Rooftop heating, cooling, and ventilating units, and roof-mounting curbs and accessories.
23 74 16.13	Packaged, Large-Capacity, Rooftop Air-Conditioning Units	Includes: units larger than twenty-five tons. Rooftop heating, cooling, and ventilating units, and roof-mounting curbs and accessories.
23 74 23	Packaged, Outdoor, Heating-Only Makeup-Air Units	
23 74 23.13	Packaged, Direct-Fired, Outdoor, Heating-Only Makeup-Air Units	
23 74 23.16	Packaged, Indirect-Fired, Outdoor, Heating-Only Makeup-Air Units	
23 74 33	Dedicated Outdoor-Air Units	
<b>23 75 00</b>	<b>Custom-Packaged Outdoor HVAC Equipment</b>	Includes: outdoor unitary equipment that may consist of heat recovery, service vestibules, boilers, chillers, and space for other mechanical equipment. Units may be mounted on the roof or at grade level. Units may be for single-zone, multizone, and variable-air-volume applications; and can have multiple separate air handlers incorporated into a single unit. Assembly of non-standard customized or custom-built components, or a combination of standard components with non-standard customized or custom-built components.
23 75 13	Custom-Packaged, Outdoor, Central-Station Air-Handling Units	
23 75 16	Custom-Packaged, Rooftop Air-Conditioning Units	Includes: rooftop heating, cooling, and ventilating units and roof-mounting curbs and accessories.
23 75 23	Custom-Packaged, Outdoor, Heating and Ventilating Makeup-Air Units	
23 75 33	Custom-Packaged, Outdoor, Heating and Cooling Makeup Air-Conditioners	
<b>23 76 00</b>	<b>Evaporative Air-Cooling Equipment</b>	Includes: equipment used to reject heat from the refrigeration process by evaporation.  Alternate Terms/Abbreviations: evaporative air coolers: swamp coolers.  See: 23 60 00 for central cooling equipment. 23 81 00 for decentralized unitary HVAC equipment. 42 23 00 for process condensers and evaporators.
23 76 13	Direct Evaporative Air Coolers	
23 76 16	Indirect Evaporative Air Coolers	
23 76 19	Combined Direct and Indirect Evaporative Air Coolers	

NUMBER	TITLE	EXPLANATION
<b>23 80 00</b>	<b>Decentralized HVAC Equipment</b>	Includes: equipment that serves a portion of an HVAC system.  See: 23 05 93 for testing, adjusting, and balancing for HVAC. 23 07 16 for HVAC equipment insulation. 23 09 00 for instrumentation and control for HVAC. 23 21 00 for hydronic piping and pumps.
<b>23 81 00</b>	<b>Decentralized Unitary HVAC Equipment</b>	Includes: equipment types that contain all the components of the refrigeration process within a single package. Air- and water-source heat pumps.  See: 23 73 00 for indoor, central-station air-handling units. 23 76 00 for evaporative air-cooling equipment.
23 81 13	Packaged Terminal Air-Conditioners	
23 81 13.11	Packaged Terminal Air-Conditioners, Through-Wall Units	Includes: heating and cooling units; with electric heat, hydronic heat, or heat-pump configurations.
23 81 13.12	Packaged Terminal Air-Conditioners, Freestanding Units	Includes: heating and cooling units; with electric heat, hydronic heat, or heat-pump configurations.
23 81 13.13	Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units	Includes: heating and cooling units; with electric heat, hydronic heat, or heat-pump configurations.
23 81 16	Room Air-Conditioners	
23 81 19	Self-Contained Air-Conditioners	
23 81 19.13	Small-Capacity Self-Contained Air-Conditioners	
23 81 19.16	Large-Capacity Self-Contained Air-Conditioners	
23 81 23	Computer-Room Air-Conditioners	
23 81 23.11	Small-Capacity, Computer-Room Air-Conditioners, Floor Mounted Units	Includes: six tons (21 kW) and smaller units. Cooling-only units.
23 81 23.12	Large-Capacity, Computer-Room Air-Conditioners, Floor-Mounted Units	Includes: seven tons (25 kW) and larger units. Cooling-only units.
23 81 23.13	Computer-Room Air-Conditioners, Ceiling Mounted Units	Includes: cooling-only units.
23 81 23.14	Computer-Room Air-Conditioners, Console Units	Includes: cooling-only units.
23 81 23.16	Computer-Room Air-Conditioners, Rack Mounted, Space-Cooling Units	Includes: cooling-only units.

NUMBER	TITLE	EXPLANATION
23 81 23.18	Computer-Room, Rack-Cooling Equipment	Includes: cooling-only units.
23 81 26	Split-System Air-Conditioners	
23 81 26.13	Small-Capacity Split-System Air-Conditioners	
23 81 26.16	Large-Capacity Split-System Air-Conditioners	
23 81 29	Variable Refrigerant Flow HVAC Systems	
23 81 43	Air-Source Unitary Heat Pumps	
23 81 46	Water-Source Unitary Heat Pumps	
23 81 49	Ground-Source Unitary Heat Pumps	
<b>23 82 00</b>	<b>Convection Heating and Cooling Units</b>	Includes: terminal units with water, steam, and electric coils.
		See: 05 58 19 for custom formed metal heating/cooling unit covers.
		23 55 33 for fuel-fired unit heaters.
		42 12 00 for process heaters.
23 82 13	Valance Heating and Cooling Units	
23 82 14	Chilled Beams	
23 82 16	Air Coils	
23 82 16.11	Hydronic Air Coils	Includes: air coils with hot- and chilled-water transfer medium.
23 82 16.12	Steam Air Coils	Includes: air coils with steam transfer medium.
23 82 16.13	Refrigerant Air Coils	Includes: air coils with refrigerant transfer medium.
23 82 16.14	Electric-Resistance Air Coils	Includes: air coils with electric-resistance element.
23 82 19	Fan Coil Units	
23 82 23	Unit Ventilators	
23 82 26	Induction Units	
23 82 29	Radiators	
23 82 33	Convectors	
23 82 36	Finned-Tube Radiation Heaters	
23 82 39	Unit Heaters	
23 82 39.13	Cabinet Unit Heaters	
23 82 39.16	Propeller Unit Heaters	
23 82 39.19	Wall and Ceiling Unit Heaters	
23 82 41	Water-to-Water Heat Pumps	

NUMBER	TITLE	EXPLANATION
<b>23 83 00</b>	<b>Radiant Heating and Cooling Units</b>	Includes: electric cables and hydronic piping used for radiant heating for space heating or snow and ice control.  See: 21 05 33 for heat tracing for fire-suppression piping. 22 05 33 for heat tracing for plumbing piping. 23 05 33 for heat tracing for HVAC piping. 23 55 23 for gas-fired radiant heaters. 32 13 00 for rigid paving. 40 41 00 for process piping and equipment heat tracing.
23 83 13	Radiant-Heating Electric Cables	
23 83 13.16	Radiant-Heating Electric Mats	
23 83 16	Radiant Heating and Cooling Hydronic Piping	
23 83 23	Radiant-Heating Electric Panels	
23 83 26	Radiant Heating and Cooling Hydronic Panels	
23 83 33	Electric Radiant Heaters	
<b>23 84 00</b>	<b>Humidity Control Equipment</b>	Includes: equipment that either adds moisture or removes moisture from a medium in order to control the humidity.  See: 13 11 00 for swimming pools. 13 18 00 for ice rinks. 42 23 19 for process humidifiers. 42 31 00 for gas dryers and dehumidifiers.
23 84 13	Humidifiers	
23 84 13.13	Heated-Pan Humidifiers	
23 84 13.16	Wetted-Element Humidifiers	
23 84 13.19	Atomizing Humidifiers	
23 84 13.23	Direct-Steam-Injection Humidifiers	
23 84 13.26	Jacketed, Steam Humidifiers	
23 84 13.29	Self-Contained Steam Humidifiers	
23 84 13.33	Portable Humidifiers	
23 84 16	Mechanical Dehumidification Units	
23 84 16.13	Outdoor, Mechanical Dehumidification Units	
23 84 16.16	Indoor, Mechanical Dehumidification Units	
23 84 16.33	Portable Dehumidifiers	
23 84 19	Desiccant Dehumidification Units	

NUMBER	TITLE	EXPLANATION
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# DIVISION 25 – INTEGRATED AUTOMATION

<b>25 00 00</b>	<b>Integrated Automation</b>	<p>May be used as Division level Section title.</p> <p>Alternate Terms/Abbreviations: integrated automation: building automation.</p> <p>See: 02 41 19 for selective demolition of existing integrated automation systems. 07 84 00 for firestopping. 07 92 00 for joint sealants. 08 31 00 for access doors and panels. 09 91 00 for field painting. 31 23 33 for trenching and backfilling. Division 40 for process integration.</p>
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<b>25 01 00</b>	<b>Operation and Maintenance of Integrated Automation</b>	<p>Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of integrated automation systems.</p> <p>Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.</p>
25 01 10	Operation and Maintenance of Integrated Automation Network Equipment	
25 01 20	Operation and Maintenance of Integrated Equipment	
25 01 30	Operation and Maintenance of Integrated Automation Instrumentation and Terminal Devices	
25 01 90	Diagnostic Systems for Integrated Automation	

NUMBER	TITLE	EXPLANATION
<b>25 05 00</b>	<b>Common Work Results for Integrated Automation</b>	Includes: subjects common to multiple titles in Division 25.  See: 01 80 00 for performance requirements of subjects common to multiple titles. 05 45 00 for metal support assemblies. 13 48 00 for sound, vibration, and seismic control. 27 05 26 for grounding and bonding for communications systems. 27 05 26 for grounding and bonding for communications. 27 05 28 for pathways for communications systems. 27 05 28 for pathways for communications. 27 05 48 for vibration and seismic controls for communications. 27 05 53 for identification for communications. 27 15 01 for conductors and cables for electronic safety and security. 28 05 48 for vibration and seismic controls for electronic safety and security. 28 05 53 for identification for electronic safety and security.
25 05 05	Selective Demolition for Integrated Automation	See: 02 41 19 for selective demolition for whole structure demolition.
25 05 13	Conductors and Cables for Integrated Automation	
25 05 26	Grounding and Bonding for Integrated Automation	
25 05 28	Pathways for Integrated Automation	
25 05 28.29	Hangers and Supports for Integrated Automation	
25 05 28.33	Conduits and Backboxes for Integrated Automation	
25 05 28.36	Cable Trays for Integrated Automation	
25 05 28.39	Surface Raceways for Integrated Automation	
25 05 48	Vibration and Seismic Controls for Integrated Automation	
25 05 53	Identification for Integrated Automation	
<b>25 06 00</b>	<b>Schedules for Integrated Automation</b>	Includes: schedules of items common to multiple titles in Division 25.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
25 06 11	Schedules for Integrated Automation Network	
25 06 12	Schedules for Integrated Automation Network Gateways	
25 06 13	Schedules for Integrated Automation Control and Monitoring Network	
25 06 14	Schedules for Integrated Automation Local Control Units	
25 06 30	Schedules for Integrated Automation Instrumentation and Terminal Devices	

NUMBER	TITLE	EXPLANATION
<b>25 08 00</b>	<b>Commissioning of Integrated Automation</b>	Includes: commissioning of items common to multiple titles in Division 25.  See: 01 91 00 for commissioning of subjects common to multiple divisions.
<b>25 10 00</b>	<b>Integrated Automation Network Equipment</b>	Includes: hardware and software for integrated automation network (building automation).  See: 40 90 00 for instrumentation and control for process systems.
<b>25 11 00</b>	<b>Integrated Automation Network Devices</b>	Includes: hardware devices for integrated automation network.  See: 11 28 00 for office equipment. 40 95 00 for process control hardware.
25 11 13	Integrated Automation Network Servers	
25 11 16	Integrated Automation Network Routers, Bridges, Switches, Hubs, and Modems	
25 11 19	Integrated Automation Network Operator Workstations	
<b>25 12 00</b>	<b>Integrated Automation Network Gateways</b>	Includes: hardware and/or software interfaces that allows the building automation system to command and/or process data from dissimilar equipment and systems in a transparent fashion.
25 12 13	Hardwired Integration Network Gateways	
25 12 16	Direct-Protocol Integration Network Gateways	
25 12 19	Neutral-Protocol Integration Network Gateways	
25 12 23	Client-Server Information/Database Integration Network Gateways	
<b>25 13 00</b>	<b>Integrated Automation Control and Monitoring Network</b>	Includes: networked supervisory controllers and integration panels to allow monitoring and control of building subsystems.  See: 27 21 00 for data communications network equipment.
25 13 13	Integrated Automation Control and Monitoring Network Supervisory Control	
25 13 16	Integrated Automation Control and Monitoring Network Integration Panels	
25 13 19	Integrated Automation Control and Monitoring Network Interoperability	



NUMBER	TITLE	EXPLANATION
<b>25 14 00</b>	<b>Integrated Automation Local Control Units</b>	Includes: microprocessor-based controllers and/or panels that permit the monitoring, control and data gathering from various pieces of building equipment and devices.  See: 27 22 00 for data communications hardware.
25 14 13	Integrated Automation Remote Control Panels	
25 14 16	Integrated Automation Application-Specific Control Panels	
25 14 19	Integrated Automation Terminal Control Units	
25 14 23	Integrated Automation Field Equipment Panels	
<b>25 15 00</b>	<b>Integrated Automation Software</b>	Includes: software requirements include alarm management, data display, report routines, graphics, applications, password protection, internet/intranet connectivity, and software licenses and upgrades.  See: 27 25 00 for data communications software. 27 34 13 for toll fraud equipment and software. 27 34 16 for telemanagement software. 40 96 00 for process control software.
25 15 13	Integrated Automation Software for Network Gateways	
25 15 16	Integrated Automation Software for Control and Monitoring Networks	
25 15 19	Integrated Automation Software for Local Control Units	
<b>25 30 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices</b>	Includes: because the instrumentation and terminal devices for most integrated automation systems depends on the seamless interaction among subsystems, it is recommended that all instrumentation and terminal devices be included in the following titles to prevent conflict between the requirements of these interdependent systems.  Alternate Terms/Abbreviations: KW: kilowatt. UPS: uninterruptible power supply.  See: 23 09 13 for instrumentation and control devices for HVAC. 25 50 00 for integrated automated facility controls. 25 90 00 for integrated automation control sequences. 40 90 00 for instrumentation and control for process systems.  See Also: 23 09 13 for instrumentation and control devices for HVAC.

NUMBER	TITLE	EXPLANATION
<b>25 31 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Facility Equipment</b>	See: Division 11 for facility equipment.
<b>25 32 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Conveying Equipment</b>	See: Division 14 for conveying equipment.
<b>25 33 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Fire-Suppression Systems</b>	See: Division 21 for fire-suppression systems.
<b>25 34 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Plumbing</b>	See: Division 22 for plumbing.
<b>25 35 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for HVAC</b>	See: 22 15 00 for general service compressed air systems. 23 09 00 for instrumentation and control for HVAC. 23 09 13 for actuators and operators for HVAC. 23 09 13 for sensors and transmitters for HVAC. 23 09 13 for control valves for HVAC. 23 09 13 for control dampers for HVAC. Division 23 for HVAC.
25 35 13	Integrated Automation Actuators and Operators	
25 35 16	Integrated Automation Sensors and Transmitters	
25 35 19	Integrated Automation Control Valves	
25 35 23	Integrated Automation Control Dampers	
25 35 26	Integrated Automation Compressed Air Supply	
<b>25 36 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Electrical Systems</b>	See: 26 09 00 for instrumentation and controls for electrical systems. 26 09 13 for electrical power monitoring and control. 26 09 23 for lighting control devices. 26 33 00 for battery equipment. 26 50 00 for lighting. Division 26 for electrical systems.
25 36 13	Integrated Automation Power Meters	
25 36 16	Integrated Automation KW Transducers	Alternate Terms/Abbreviations: KW: kilowatt
25 36 19	Integrated Automation Current Sensors	

DIVISION 25

NUMBER	TITLE	EXPLANATION
25 36 23	Integrated Automation Battery Monitors	
25 36 26	Integrated Automation Lighting Relays	
25 36 29	Integrated Automation UPS Monitors	
<b>25 37 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Communications Systems</b>	See: Division 27 for communication systems.
<b>25 38 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Electronic Safety and Security Systems</b>	See: Division 28 for electronic safety and security.
<b>25 50 00</b>	<b>Integrated Automation Facility Controls</b>	Includes: hardware and/or software that allows the building automation system to monitor and control equipment and systems specified in other Divisions.  See: 23 09 13 for instrumentation and control devices for HVAC. 25 30 00 for integrated automation instrumentation and terminal devices. 25 90 00 for integrated automation control sequences. 40 90 00 for instrumentation and control for process systems.
<b>25 51 00</b>	<b>Integrated Automation Control of Facility Equipment</b>	See: Division 11 for facility equipment.
<b>25 52 00</b>	<b>Integrated Automation Control of Conveying Equipment</b>	See: Division 14 for conveying equipment.
<b>25 53 00</b>	<b>Integrated Automation Control of Fire-Suppression Systems</b>	See: Division 21 for fire-suppression systems.
<b>25 54 00</b>	<b>Integrated Automation Control of Plumbing</b>	See: Division 22 for plumbing.
<b>25 55 00</b>	<b>Integrated Automation Control of HVAC</b>	See: 23 09 23 for direct-digital control system for HVAC. Division 23 for HVAC.
<b>25 56 00</b>	<b>Integrated Automation Control of Electrical Systems</b>	See: Division 26 for electrical systems.

NUMBER	TITLE	EXPLANATION
<b>25 57 00</b>	<b>Integrated Automation Control of Communications Systems</b>	See: Division 27 for communication systems.
<b>25 58 00</b>	<b>Integrated Automation Control of Electronic Safety and Security Systems</b>	See: Division 28 for electronic safety and security.
<b>25 90 00</b>	<b>Integrated Automation Control Sequences</b>	Includes: description of how the equipment of a facility is intended to operate on an integrated control basis.  See: 23 09 13 for instrumentation and control devices for HVAC. 25 30 00 for integrated automation instrumentation and terminal devices. 25 50 00 for integrated automated facility controls. 40 90 00 for instrumentation and control for process systems.
<b>25 91 00</b>	<b>Integrated Automation Control Sequences for Facility Equipment</b>	See: Division 11 for facility equipment.
<b>25 92 00</b>	<b>Integrated Automation Control Sequences for Conveying Equipment</b>	See: Division 14 for conveying equipment.
<b>25 93 00</b>	<b>Integrated Automation Control Sequences for Fire-Suppression Systems</b>	See: Division 21 for fire-suppression systems.
<b>25 94 00</b>	<b>Integrated Automation Control Sequences for Plumbing</b>	See: Division 22 for plumbing.
<b>25 95 00</b>	<b>Integrated Automation Control Sequences for HVAC</b>	See: 23 09 23 for direct-digital control system for HVAC. Division 23 for HVAC.
<b>25 96 00</b>	<b>Integrated Automation Control Sequences for Electrical Systems</b>	See: Division 26 for electrical systems.
<b>25 97 00</b>	<b>Integrated Automation Control Sequences for Communications Systems</b>	See: Division 27 for communication systems.

DIVISION 25

NUMBER	TITLE	EXPLANATION
<b>25 98 00</b>	<b>Integrated Automation Control Sequences for Electronic Safety and Security Systems</b>	See: Division 28 for electronic safety and security.

NUMBER	TITLE	EXPLANATION
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## DIVISION 26 – ELECTRICAL

### 26 00 00 Electrical

May be used as Division level Section title.

See: 02 41 19 for selective demolition of existing electrical systems.

03 30 00 for cast-in-place concrete equipment bases.

07 84 00 for firestopping.

07 92 00 for joint sealants.

08 31 00 for access doors and panels.

09 91 00 for field painting.

31 23 33 for trenching and backfilling.

### 26 01 00 Operation and Maintenance of Electrical Systems

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of electrical systems.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

Definitions: medium-voltage: 2400 V to 69 kV. Low-voltage: 600 V and less.

26 01 10	Operation and Maintenance of Medium-Voltage Electrical Distribution
26 01 20	Operation and Maintenance of Low-Voltage Electrical Distribution
26 01 26	Maintenance Testing of Electrical Systems
26 01 30	Operation and Maintenance of Facility Electrical Power Generating and Storing Equipment
26 01 40	Operation and Maintenance of Electrical Protection Systems
26 01 40.13	Operation and Maintenance of Lightning Protection Systems
26 01 50	Operation and Maintenance of Lighting
26 01 50.51	Luminaire Relamping
26 01 50.81	Luminaire Replacement

NUMBER	TITLE	EXPLANATION
<b>26 05 00</b>	<b>Common Work Results for Electrical</b>	<p>Includes: subjects common to multiple titles in Division 26. Raceway and boxes include conduit, tubing, surface raceways, and electrical boxes. Medium-voltage: 2400 V to 69 kV. Low-voltage: 600 V and less. Control-voltage: 50 V and less.</p> <p>Alternate Terms/Abbreviations: EMT: electrical metallic tubing.</p> <p>Notes: definitions: medium-voltage: 2400 V to 69 kV. Low-voltage: 600 V and less. Control-voltage: 50 V and less.</p> <p>See: 01 80 00 for performance requirements of subjects common to multiple titles.  05 35 00 for raceway decking assemblies.  05 45 16 for electrical metal supports.  13 48 00 for sound, vibration, and seismic control.  25 05 13 for conductors and cables for integrated automation.  25 05 26 for grounding and bonding for integrated automation.  25 05 28 for pathways for integrated automation.  25 05 48 for vibration and seismic control for integrated automation.  25 05 53 for identification for integrated automation.  27 05 26 for grounding and bonding for communications systems.  27 05 28 for pathways for communications systems.  27 05 46 for utility poles for communications systems.  27 05 48 for vibration and seismic controls for communications.  27 05 53 for identification for communications.  27 15 01 for conductors and cables for electronic safety and security.  28 05 48 for vibration and seismic controls for electronic safety and security.  28 05 53 for identification for electronic safety and security.  33 71 16 for electrical utility poles.  33 71 19 for electrical utility underground ducts and manholes.</p>
26 05 05	Selective Demolition for Electrical	See: 02 41 19 for selective demolition for whole structure demolition.
26 05 13	Medium-Voltage Cables	
26 05 13.13	Medium-Voltage Open Conductors	
26 05 13.16	Medium-Voltage, Single- and Multi-Conductor Cables	
26 05 19	Low-Voltage Electrical Power Conductors and Cables	
26 05 19.13	Undercarpet Electrical Power Cables	
26 05 19.23	Manufactured Wiring Assemblies	
26 05 23	Control-Voltage Electrical Power Cables	
26 05 26	Grounding and Bonding for Electrical Systems	
26 05 29	Hangers and Supports for Electrical Systems	
26 05 33	Raceway and Boxes for Electrical Systems	
26 05 33.13	Conduit for Electrical Systems	

NUMBER	TITLE	EXPLANATION
26 05 33.16	Boxes for Electrical Systems	
26 05 33.23	Surface Raceways for Electrical Systems	
26 05 36	Cable Trays for Electrical Systems	
26 05 39	Underfloor Raceways for Electrical Systems	
26 05 43	Underground Ducts and Raceways for Electrical Systems	
26 05 44	Sleeves and Sleeve Seals for Electrical Raceways and Cabling	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included. Excludes firestopping requirements.
26 05 46	Poles for Electrical Systems	See Also: 33 71 16 for electrical utility poles.
26 05 48	Vibration and Seismic Controls for Electrical Systems	
26 05 48.16	Seismic Controls for Electrical Systems	Includes: restraint channel bracings, restraint cables, seismic-restraint accessories, and mechanical and adhesive anchor bolts.
26 05 53	Identification for Electrical Systems	
26 05 73	Power System Studies	
26 05 73.13	Short-Circuit Studies	
26 05 73.16	Coordination Studies	
26 05 73.19	Arc-Flash Hazard Analysis	
26 05 73.23	Load Flow Studies	
26 05 73.26	Stability Studies	
26 05 73.29	Harmonic-Analysis Studies	
26 05 76	Photometric Studies	
26 05 83	Wiring Connections	
<b>26 06 00</b>	<b>Schedules for Electrical</b>	Includes: schedules of items common to multiple titles in Division 26.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
26 06 10	Schedules for Medium-Voltage Electrical Distribution	
26 06 20	Schedules for Low-Voltage Electrical Distribution	
26 06 20.13	Electrical Switchboard Schedule	
26 06 20.16	Electrical Panelboard Schedule	
26 06 20.19	Electrical Motor-Control Center Schedule	
26 06 20.23	Electrical Circuit Schedule	
26 06 20.26	Wiring Device Schedule	
26 06 30	Schedules for Facility Electrical Power Generating and Storing Equipment	
26 06 40	Schedules for Electrical Protection Systems	
26 06 50	Schedules for Lighting	
26 06 50.13	Lighting Panelboard Schedule	
26 06 50.16	Lighting Fixture Schedule	



NUMBER	TITLE	EXPLANATION
<b>26 08 00</b>	<b>Commissioning of Electrical Systems</b>	Includes: commissioning of items common to multiple titles in Division 26.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>26 09 00</b>	<b>Instrumentation and Control for Electrical Systems</b>	Includes: instrumentation and control associated with electrical systems.  See: 13 50 00 for special instrumentation. 25 36 00 for integrated automation instrumentation and terminal devices for electrical systems. 25 56 00 for integrated automation control of electrical systems. 25 96 00 for integrated automation control sequences for electrical systems. 33 09 70 for instrumentation and control for electrical utilities.
26 09 13	Electrical Power Monitoring	
26 09 15	Peak Load Controllers	
26 09 16	Electrical Control Components	
26 09 17	Programmable Controllers	
26 09 19	Enclosed Contactors	
26 09 23	Lighting Control Devices	Includes: clock and calendar, photoelectric switches, occupancy sensors, and light-leveling control devices. Control- and low-voltage lighting control devices connected through computers. Addressable lighting control devices and lighting components (ballasts) connected through computers.  See: 11 61 00 for theater and stage equipment. 26 50 00 for lighting. 26 55 61 for theatrical lighting.  See Also: 11 61 00 for theatrical lighting controls.
26 09 26	Lighting Control Panelboards	
26 09 33	Central Dimming Controls	
26 09 33.13	Multichannel Remote-Controlled Dimmers	
26 09 33.16	Remote-Controlled Dimming Stations	
26 09 36	Modular Dimming Controls	
26 09 36.13	Manual Modular Dimming Controls	
26 09 36.16	Integrated Multipreset Modular Dimming Controls	
26 09 36.19	Standalone Multipreset Modular Dimming	Includes: wall-box multiscene dimming controls and multipreset modular dimming controls, commonly known as architectural dimmers.
26 09 43	Network Lighting Controls	

NUMBER	TITLE	EXPLANATION
26 09 43.13	Digital-Network Lighting Controls	
26 09 43.16	Addressable Luminaire Lighting Controls	
26 09 43.19	Wireless Network Lighting Controls	
26 09 43.23	Relay-Based Lighting Controls	Includes: passive, network-type luminaire control systems using relays. Lighting control panels having mechanically held relays for switching, networked control panels interoperation with building automation systems, low-voltage and programmable signal sources, internet-protocol-based digital signal sources, and field-mounted sensors.
26 09 61	Theatrical Lighting Controls	
<b>26 10 00</b>	<b>Medium-Voltage Electrical Distribution</b>	Includes: substations, transformers, switchgear, and circuit protection devices to distribute medium-voltage electrical power from the facility service point to the point of delivery.  Definitions: medium-voltage: 2400 V to 69 kV.  See: 26 05 13 for medium-voltage cables. 26 20 00 for low-voltage electrical distribution. 26 30 00 for facility electrical power generating and storing equipment. 33 71 00 for electrical utility distribution.
<b>26 11 00</b>	<b>Substations</b>	Includes: assembly of switches, circuit breakers, buses, and transformers to switch circuits and convert power from one voltage to another.  See: 33 72 00 for utility substations. 34 21 16 for traction power substations.
26 11 13	Primary Unit Substations	
26 11 16	Secondary Unit Substations	Includes: factory assembled and test units consisting of medium-voltage primary incoming section, transformer section, and low-voltage secondary motor-control-center section, and low-voltage secondary switchboard section.
26 11 16.11	Secondary Unit Substations with Switchgear Secondary	Includes: factory-assembled and test units consisting of medium-voltage primary incoming section, transformer section, and low-voltage secondary switchgear section.
26 11 16.12	Secondary Unit Substations with Switchboard Secondary	Includes: factory-assembled and test units consisting of medium-voltage primary incoming section, transformer section, and low-voltage secondary switchboard section.

NUMBER	TITLE	EXPLANATION
26 11 16.13	Secondary Unit Substations with Motor Control Center Secondary	Includes: factory-assembled and test units consisting of medium-voltage primary incoming section, transformer section, and low-voltage secondary motor-control-center section, and low-voltage secondary switchboard section.
<b>26 12 00</b>	<b>Medium-Voltage Transformers</b>	Includes: transformers for medium-voltage applications.  See: 26 22 00 for low-voltage transformers. 33 73 00 for utility transformers. 34 21 23 for traction power transformer-rectifier units.
26 12 13	Liquid-Filled, Medium-Voltage Transformers	
26 12 16	Dry-Type, Medium-Voltage Transformers	
26 12 19	Pad-Mounted, Liquid-Filled, Medium-Voltage Transformers	
<b>26 13 00</b>	<b>Medium-Voltage Switchgear</b>	Includes: switchgear for medium-voltage applications.  See: 26 23 00 for low-voltage switchgear. 33 77 00 for medium-voltage utility switchgear. 34 21 19 for traction power switchgear.
26 13 13	Medium-Voltage Circuit Breaker Switchgear	
26 13 16	Medium-Voltage Fusible Interrupter Switchgear	
26 13 19	Medium-Voltage Vacuum Interrupter Switchgear	
26 13 23	Medium-Voltage Metal-Enclosed Switchgear	
26 13 26	Medium-Voltage Metal-Clad Switchgear	
26 13 29	Medium-Voltage Compartmentalized Switchgear	
<b>26 15 00</b>	<b>Medium-Voltage Enclosed Bus Assemblies</b>	
26 15 13	Medium-Voltage Busways	
26 15 16	Medium-Voltage Cablebus	
<b>26 16 00</b>	<b>Medium-Voltage Metering</b>	
<b>26 18 00</b>	<b>Medium-Voltage Circuit Protection Devices</b>	Includes: circuit protection devices for medium-voltage applications.  See: 26 28 00 for low-voltage circuit protective devices. 26 41 23 for lightning protection surge arresters and suppressors. 33 77 00 for medium-voltage utility circuit protection devices.
26 18 13	Medium-Voltage Cutouts	
26 18 16	Medium-Voltage Fuses	

NUMBER	TITLE	EXPLANATION
26 18 19	Medium-Voltage Lightning Arresters	
26 18 23	Medium-Voltage Surge Arresters	
26 18 26	Medium-Voltage Reclosers	
26 18 29	Medium-Voltage Enclosed Bus	
26 18 33	Medium-Voltage Enclosed Fuse Cutouts	
26 18 36	Medium-Voltage Enclosed Fuses	
26 18 39	Medium-Voltage Motor Controllers	

## 26 20 00 Low-Voltage Electrical Distribution

Includes: overhead power systems, transformers, switchgear, switchboards, panelboards, enclosed bus assemblies, power distribution units, controllers, wiring devices, and circuit protection devices to distribute low-voltage electrical power from the point of voltage transformation to the point of use. Typical voltages: 120, 208, 230, 240, 277, 460, and 480.

Definitions: low-voltage: 600 V and less.

See: 26 05 19 for low-voltage electrical power conductors and cables.

26 10 00 for medium-voltage electrical distribution.

26 30 00 for facility electrical power generating and storing equipment.

## 26 21 00 Low-Voltage Electrical Service Entrance

See: 26 05 19 for low-voltage electrical power conductors and cables.

26 05 46 for utility poles for electrical systems.

33 71 13 for site electrical transmission towers.

33 71 16 for electrical utility poles.

26 21 13	Low-Voltage Overhead Electrical Service Entrance
26 21 16	Low-Voltage Underground Electrical Service Entrance

## 26 22 00 Low-Voltage Transformers

Includes: transformers for low-voltage applications.

See: 26 12 00 for medium-voltage transformers.

26 22 13	Low-Voltage Distribution Transformers
26 22 16	Low-Voltage Buck-Boost Transformers
26 22 17	Low-Voltage Transformers for Nonlinear Loads

Includes: enclosed dry-type transformers for nonlinear power loads, similar to computers and other electronic power supplies, with primaries and secondaries rated 600 volts and less.

DIVISION 26

NUMBER	TITLE	EXPLANATION
26 22 18	Low-Voltage Transformers for Load Centers	Includes: small dry-type transformers with integral circuit breaker load center, with primary and secondary voltages of 600 volts or less.
26 22 19	Control and Signal Transformers	
<b>26 23 00</b>	<b>Low-Voltage Switchgear</b>	Includes: switchgear for low-voltage applications.  See: 26 13 00 for medium-voltage switchgear.
26 23 13	Paralleling Low-Voltage Switchgear	
<b>26 24 00</b>	<b>Switchboards and Panelboards</b>	Includes: switchboards, panelboards, and control centers.  See: 26 27 16 for electrical cabinets and enclosures. 26 29 13 for enclosed controllers. 26 29 23 for variable-frequency motor controllers.
26 24 13	Switchboards	
26 24 16	Panelboards	
26 24 16.16	Electronically Operated Circuit-Breaker Panelboards	Includes: manual and programmable, electrical branch circuit panelboards using low-voltage or digital control circuits. Includes electrically operated, molded-case circuit breakers.
26 24 19	Motor-Control Centers	
<b>26 25 00</b>	<b>Low-Voltage Enclosed Bus Assemblies</b>	Includes: busway, step bus, and tap boxes.  See: 33 72 26 for utility substation bus assemblies.
26 25 13	Low-Voltage Busways	
26 25 16	Low-Voltage Cablebus Systems	
<b>26 27 00</b>	<b>Low-Voltage Distribution Equipment</b>	Includes: wiring devices includes receptacles, switches, dimmers, and finish plates.  See: 26 24 00 for switchboards and panelboards. 33 71 73 for utility electric meters.  See Also: 11 11 36 for vehicle charging unit.
26 27 13	Electricity Metering	

NUMBER	TITLE	EXPLANATION
26 27 16	Electrical Cabinets and Enclosures	
26 27 19	Multi-Outlet Assemblies	
26 27 23	Indoor Service Poles	
26 27 26	Wiring Devices	
26 27 33	Power Distribution Units	Includes: circuit protection devices for low-voltage applications. Enclosed switches and transfer switches.
		See: 26 24 16 for panelboards.
26 27 73	Door Chimes	
<b>26 28 00</b>	<b>Low-Voltage Circuit Protective Devices</b>	Includes: circuit protection devices for low-voltage applications. Enclosed switches and transfer switches.
		See: 26 18 00 for medium-voltage circuit protection devices.
26 28 13	Fuses	
26 28 16	Enclosed Switches and Circuit Breakers	
26 28 16.13	Enclosed Circuit Breakers	
26 28 16.16	Enclosed Switches	
<b>26 29 00</b>	<b>Low-Voltage Controllers</b>	Includes: contactors and motor controllers.
		May Include: fuses.
		Alternate Terms/Abbreviations: enclosed controllers: motor controllers.
		See: 26 24 19 for motor-control centers. 26 28 13 for fuses.
26 29 13	Enclosed Controllers	
26 29 13.13	Across-the-Line Motor Controllers	
26 29 13.16	Reduced-Voltage Motor Controllers	
26 29 23	Variable-Frequency Motor Controllers	
26 29 33	Controllers for Fire Pump Drivers	
26 29 33.13	Full-Service Controllers for Fire Pump Electric-Motor Drivers	
26 29 33.16	Limited-Service Controllers for Fire Pump Electric-Motor Drivers	
26 29 33.19	Controllers for Fire Pump Diesel Engine Drivers	

NUMBER	TITLE	EXPLANATION
<b>26 30 00</b>	<b>Facility Electrical Power Generating and Storing Equipment</b>	<p>Includes: equipment to generate and store electrical power for a single facility.</p> <p>See: 48 10 00 for electrical power generation equipment.</p>
<b>26 31 00</b>	<b>Photovoltaic Collectors</b>	<p>Includes: solar cells to convert sunlight to electricity.</p> <p>See: 07 31 00 for solar collector roof shingles.  22 33 30 for residential, collector-to-tank, solar-electric domestic water heaters.  23 56 00 for solar energy heating equipment.  42 12 23 for solar process heaters.  42 13 26 for industrial solar radiation heat exchangers.  48 14 00 for solar energy electrical power generation equipment.</p>
<b>26 32 00</b>	<b>Packaged Generator Assemblies</b>	<p>Includes: generators, frequency changers, and rotary converters and uninterruptible power units.</p> <p>See: 23 11 00 for facility fuel piping.  23 24 00 for internal-combustion engine piping.  48 11 00 for fossil fuel plant electrical power generation equipment.  48 13 00 for hydroelectric plant electrical power generation equipment.  48 15 00 for wind energy electrical power generation equipment.</p>
26 32 13	Engine Generators	
26 32 13.13	Diesel-Engine-Driven Generator Sets	
26 32 13.16	Gas-Engine-Driven Generator Sets	
26 32 13.26	Gas-Turbine Engine-Driven Generators	
		Alternate Terms/Abbreviations: microturbines.
		See: 48 11 23 for fossil fuel electrical power plant gas turbines.
26 32 16	Steam-Turbine Generators	
26 32 19	Hydro-Turbine Generators	
26 32 23	Wind Energy Equipment	
26 32 23.13	Horizontal-Axis Wind Turbines	
		Includes: small-scale facility-mounted units.
		See Also: 48 15 13 for wind turbines for power plant wind turbines.

NUMBER	TITLE	EXPLANATION
26 32 23.16	Vertical-Axis Wind Turbines	Includes: small-scale facility-mounted units.  See Also: 48 15 13 for wind turbines for power plant wind turbines.
26 32 26	Frequency Changers	
26 32 29	Rotary Converters	
26 32 33	Rotary Uninterruptible Power Units	
26 32 36	Resistive Load Banks	
<b>26 33 00</b>	<b>Battery Equipment</b>	Includes: batteries, battery racks, battery chargers, static power converters, uninterruptible power supplies, and accessories.  May Include: battery-operated emergency light fixtures.  See: 25 36 23 for integrated automation battery monitors. 26 31 00 for photovoltaic collectors. 33 72 33 for electrical utility substation. 48 17 13 for electrical power generation batteries.  See Also: 26 52 13 for emergency lighting incorporating batteries.
26 33 13	Batteries	
26 33 16	Battery Racks	
26 33 19	Battery Units	
26 33 23	Central Battery Equipment	
26 33 23.13	Central Battery Equipment for Emergency Lighting	
26 33 33	Static Power Converters	
26 33 43	Battery Chargers	
26 33 46	Battery Monitoring	
26 33 53	Static Uninterruptible Power Supply	
<b>26 35 00</b>	<b>Power Filters and Conditioners</b>	Includes: capacitors, chokes and inductors, filters, power factor controllers, and voltage regulators.  Alternate Terms/Abbreviations: EMI: electromagnetic interference. RFI: radio frequency interference. Power factor correction equipment: power factor controllers.  See: 08 34 46 for RFI shielding doors. 08 56 46 for RFI shielding windows. 13 49 00 for radiation protection. 26 18 23 for medium-voltage surge arresters. 28 41 00 for radiation detection and alarm. 40 91 16 for electromagnetic process measurement devices.



DIVISION 26

NUMBER	TITLE	EXPLANATION
26 35 13	Capacitors	
26 35 16	Chokes and Inductors	
26 35 23	Electromagnetic-Interference Filters	
26 35 26	Harmonic Filters	
26 35 33	Power Factor Correction Equipment	
26 35 33.13	Medium-Voltage Power Factor Correction Equipment	
26 35 33.16	Low-Voltage Power Factor Correction Equipment	
26 35 36	Slip Controllers	
26 35 43	Static-Frequency Converters	
26 35 46	Radio-Frequency-Interference Filters	
26 35 53	Voltage Regulators	
<b>26 36 00</b>	<b>Transfer Switches</b>	Includes: switches transfer from one source of electricity to another.
26 36 13	Manual Transfer Switches	
26 36 23	Automatic Transfer Switches	
<b>26 40 00</b>	<b>Electrical Protection</b>	
<b>26 41 00</b>	<b>Facility Lightning Protection</b>	Includes: wiring and equipment for lightning protection.  Notes: other building elements may be used in lightning protection systems in lieu of air terminals.  See: 26 18 19 for medium-voltage lightning arresters. 33 79 00 for site grounding. 33 79 93 for site lightning protection.  See Also: 02 30 00 for subsurface investigation for testing of electrical conductance of soils.
26 41 13	Lightning Protection for Structures	
26 41 13.13	Lightning Protection for Buildings	
26 41 16	Lightning Prevention and Dissipation	
26 41 19	Early Streamer Emission Lightning Protection	
26 41 23	Lightning Protection Surge Arresters and Suppressors	
<b>26 43 00</b>	<b>Surge Protective Devices</b>	Includes: devices to protect against voltage surges on electrical distribution systems.
26 43 13	Surge Protective Devices for Low-Voltage Electrical Power Circuits	

NUMBER	TITLE	EXPLANATION
<b>26 50 00</b>	<b>Lighting</b>	Includes: luminaries, lighting equipment, ballasts, dimming controls, and lighting accessories. Fluorescent, high intensity discharge, incandescent, mercury vapor, neon, and sodium vapor lighting.  Alternate Terms/Abbreviations: HID: high intensity discharge.  See: 10 84 00 for gas lighting. 25 36 26 for integrated automation lighting relays. 26 09 23 for lighting controls. 26 20 00 for low-voltage electrical transmission.
<b>26 51 00</b>	<b>Interior Lighting</b>	Includes: lighting for interior locations, except for emergency lighting, lighting in hazardous locations, and special purpose lighting. Chandeliers, troffers.  See: 09 54 16 for luminous ceilings. 09 58 00 for integrated ceiling assemblies. 10 14 33 for illuminated panel signage.
26 51 13	Incandescent Interior Lighting	
26 51 16	Fluorescent Interior Lighting	
26 51 19	LED Interior Lighting	
26 51 23	HID Interior Lighting	
<b>26 52 00</b>	<b>Safety Lighting</b>	Includes: equipment for exitway lighting and other emergency applications, including emergency battery units, fixtures with integral batter power supplies.  See: 26 52 13 for exit signs.
26 52 13	Emergency and Exit Lighting	See Also: 10 14 00 for signage.
26 52 13.13	Emergency Lighting	
26 52 13.16	Exit Signs	
<b>26 54 00</b>	<b>Classified Location Lighting</b>	Includes: lighting for application in areas classified as hazardous.  See: 26 55 33 for hazard warning lighting.
26 54 13	Incandescent Classified Location Lighting	
26 54 16	Fluorescent Classified Location Lighting	

NUMBER	TITLE	EXPLANATION
26 54 19	LED Classified Location Lighting	
<b>26 55 00</b>	<b>Special Purpose Lighting</b>	Includes: lighting equipment for specialized applications.  Alternate Terms/Abbreviations: healthcare lighting: medical lighting.  See: 11 13 26 for loading dock lights. 11 59 00 for exhibit and display equipment. 11 61 00 for theater and stage equipment. 11 70 00 for healthcare equipment. 13 10 00 for swimming pools. 13 12 00 for fountains. 13 14 00 for aquatic park structures. 13 17 00 for tubs and pools. 26 54 00 for classified location lighting. 34 40 00 for transportation signals. 35 13 13 for navigation signals.  See Also: 11 61 00 for theatrical lighting.
26 55 23	Outline Lighting	
26 55 29	Underwater Lighting	
26 55 33	Hazard Warning Lighting	
26 55 36	Obstruction Lighting	
26 55 39	Helipad Lighting	See: 34 43 00 for airfield signaling and control equipment.
26 55 53	Security Lighting	
26 55 59	Display Lighting	
26 55 61	Theatrical Lighting	
26 55 63	Detention Lighting	
26 55 68	Athletic Field Lighting	
26 55 70	Healthcare Lighting	
26 55 83	Broadcast Lighting	

NUMBER	TITLE	EXPLANATION
<b>26 56 00</b>	<b>Exterior Lighting</b>	Includes: lighting equipment for exterior locations, except for special purpose and signal lighting. Airfield general exterior lighting.  Alternate Terms/Abbreviations: athletic lighting: sports lighting.  See: 10 14 33 for illuminated panel signage. 11 13 26 for loading dock lights. 11 68 23 for exterior court athletic equipment. 32 94 00 for planting accessories. 34 41 13 for traffic signals. 34 42 13 for railway signals. 34 43 13 for airfield signals. 34 43 16 for airfield landing equipment. 34 71 00 for roadway construction. 34 72 00 for railway construction. 34 73 00 for airfield construction. 34 75 00 for roadway equipment.
26 56 13	Lighting Poles and Standards	
26 56 17	Fluorescent Exterior Lighting	
26 56 18	Incandescent Exterior Lighting	
26 56 19	LED Exterior Lighting	
26 56 21	HID Exterior Lighting	

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NUMBER	TITLE	EXPLANATION
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## DIVISION 27 – COMMUNICATIONS

### 27 00 00 Communications

May be used as Division level Section title.

See: 02 41 19 for selective demolition of existing communications systems.  
 07 84 00 for firestopping.  
 07 92 00 for joint sealants.  
 08 31 00 for access doors and panels.  
 09 91 00 for field painting.  
 25 37 00 for integrated automation instrumentation and terminal devices for communications.  
 25 57 00 for integrated automation control of communications.  
 25 97 00 for integrated automation control sequences for communications.  
 31 23 33 for trenching and backfilling.

### 27 01 00 Operation and Maintenance of Communications Systems

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of communications.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

27 01 10	Operation and Maintenance of Structured Cabling and Enclosures
27 01 20	Operation and Maintenance of Data Communications
27 01 30	Operation and Maintenance of Voice Communications
27 01 40	Operation and Maintenance of Audio-Video Communications
27 01 50	Operation and Maintenance of Distributed Communications and Monitoring

NUMBER	TITLE	EXPLANATION
<b>27 05 00</b>	<b>Common Work Results for Communications</b>	Includes: subjects common to multiple titles in Division 27.
		Alternate Terms/Abbreviations: T1: high speed digital network. DSL: digital subscriber line.
		See: 01 80 00 for performance requirements of subjects common to multiple titles. 05 45 19 for communications metal supports. 13 48 00 for sound, vibration, and seismic control. 25 05 13 for conductors and cables for integrated automation. 25 05 26 for grounding and bonding for integrated automation. 25 05 28 for pathways for integrated automation. 25 05 48 for vibration and seismic control for integrated automation. 25 05 53 for identification for integrated automation. 26 05 43 for underground ducts and raceways for electrical. 26 05 46 for utility poles for electrical. 27 05 26 for grounding and bonding for communications systems. 27 05 28 for pathways for communications systems. 27 15 01 for conductors and cables for electronic safety and security. 28 05 48 for vibration and seismic controls for electronic safety and security. 28 05 53 for identification for electronic safety and security. 33 81 19 for site communications utility poles. 33 82 43 for grounding and bonding for site communications distribution.
27 05 05	Selective Demolition for Communications	See: 02 41 19 for selective demolition for whole structure demolition.
27 05 11	Cameras for Audio-Visual Systems	
27 05 13	Communications Services	
27 05 13.13	Dialtone Services	
27 05 13.23	T1 Services	
27 05 13.33	DSL Services	
27 05 13.43	Cable Services	
27 05 13.53	Satellite Services	
27 05 26	Grounding and Bonding for Communications Systems	
27 05 28	Pathways for Communications Systems	
27 05 29	Hangers and Supports for Communications Systems	
27 05 33	Conduits and Backboxes for Communications Systems	
27 05 36	Cable Trays for Communications Systems	
27 05 39	Surface Raceways for Communications Systems	
27 05 43	Underground Ducts and Raceways for Communications Systems	

NUMBER	TITLE	EXPLANATION
27 05 44	Sleeves and Sleeve Seals for Communications Pathways and Cabling	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included.  Does Not Include: firestopping requirements.
27 05 46	Utility Poles for Communications Systems	
27 05 48	Vibration and Seismic Controls for Communications Systems	
27 05 48.16	Seismic Controls for Communications Systems	Includes: restraint channel bracings, restraint cables, seismic-restraint accessories, and mechanical and adhesive anchor bolts.
27 05 53	Identification for Communications Systems	
<b>27 06 00</b>	<b>Schedules for Communications</b>	Includes: schedules of items common to multiple titles in Division 27.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
27 06 10	Schedules for Structured Cabling and Enclosures	
27 06 20	Schedules for Data Communications	
27 06 30	Schedules for Voice Communications	
27 06 40	Schedules for Audio-Video Communications	
27 06 50	Schedules for Distributed Communications and Monitoring	
<b>27 08 00</b>	<b>Commissioning of Communications</b>	See: 01 91 00 for commissioning of subjects common to multiple divisions.
<b>27 10 00</b>	<b>Structured Cabling</b>	Includes: backbone and horizontal cabling for a facility.  See: 27 05 13 for communications services. 27 13 00 for communications backbone cabling. 27 15 00 for communications horizontal cabling. 27 16 00 for communications connecting cords, devices and adapters.
<b>27 11 00</b>	<b>Communications Equipment Room Fittings</b>	Includes: equipment to fit out a communications equipment room or space.
27 11 13	Communications Entrance Protection	
27 11 16	Communications Cabinets, Racks, Frames, and Enclosures	



NUMBER	TITLE	EXPLANATION
27 11 19	Communications Termination Blocks and Patch Panels	
27 11 23	Communications Cable Management and Ladder Rack	
27 11 26	Communications Rack Mounted Power Protection and Power Strips	
<b>27 13 00</b>	<b>Communications Backbone Cabling</b>	Includes: inside and outside: copper, fiber, and coaxial cable plant.  Alternate Terms/Abbreviations: optical fiber: fiber optic. T1: high-speed digital network. DSL: digital subscriber line.  See: 27 05 13 for communications services. 27 11 00 for communications equipment room work. 27 15 00 for communications horizontal cabling. 27 15 13 for communications copper horizontal cabling. 27 15 23 for communications optical fiber horizontal cabling. 27 15 33 for communications coaxial horizontal cabling. 27 16 00 for communications connecting cords, devices and adapters. 33 82 00 for site communications distribution. 33 82 13 for site copper communications distribution cabling. 33 82 23 for site optical fiber communications distribution cabling. 33 82 33 for site coaxial communications distribution cabling.
27 13 13	Communications Copper Backbone Cabling	
27 13 13.13	Communications Copper Cable Splicing and Terminations	
27 13 23	Communications Optical Fiber Backbone Cabling	
27 13 23.13	Communications Optical Fiber Splicing and Terminations	
27 13 33	Communications Coaxial Backbone Cabling	
27 13 33.13	Communications Coaxial Splicing and Terminations	
27 13 43	Communications Services Cabling	
27 13 43.13	Dialtone Services Cabling	
27 13 43.23	T1 Services Cabling	
27 13 43.33	DSL Services Cabling	
27 13 43.43	Cable Services Cabling	
27 13 43.53	Satellite Services Cabling	

NUMBER	TITLE	EXPLANATION
<b>27 15 00</b>	<b>Communications Horizontal Cabling</b>	Includes: horizontal cable plant from communications equipment room to workstation or drop location.  Alternate Terms/Abbreviations: CCTV: closed circuit television. IF/RF: intermediate frequency/radio frequency. Optical fiber: fiber optic.  See: 27 11 00 for communications equipment room work. 27 13 00 for communications backbone cabling. 27 13 13 for communications copper backbone cabling. 27 13 23 for communications optical fiber backbone cabling. 27 13 33 for communications coaxial backbone cabling. 27 16 00 for communications connecting cords, devices and adapters. 27 20 00 for data communications. 27 30 00 for voice communications. 27 40 00 for audio-video communications. 27 51 13 for paging systems. 27 52 13 for patient monitoring and telemetry systems. 27 52 23 for nurse call/code blue systems. 27 53 19 for internal cellular, paging, and antenna systems.
27 15 01	Communications Horizontal Cabling Applications	Notes: additional Level 4 applications may be added as needed by project.
27 15 01.11	Conductors and Cables for Electronic Safety and Security	
27 15 01.13	Video Surveillance Communications Conductors and Cables	
27 15 01.15	Access Control Communications Conductors and Cables	
27 15 01.16	Voice Communications Horizontal Cabling	
27 15 01.17	Intrusion Detection Communications Conductors and Cables	
27 15 01.19	Fire Alarm Communications Conductors and Cables	
27 15 01.23	Audio-Video Communications Horizontal Cabling	
27 15 01.39	Patient Monitoring and Telemetry Communications Horizontal Cabling	
27 15 01.43	Nurse Call and Intercom Communications Horizontal Cabling	
27 15 01.46	Paging Communications Horizontal Cabling	
27 15 01.49	Intermediate Frequency/Radio Frequency Communications Horizontal Cabling	
27 15 01.53	Antennas Communications Horizontal Cabling	
27 15 13	Communications Copper Horizontal Cabling	
27 15 23	Communications Optical Fiber Horizontal Cabling	
27 15 33	Communications Coaxial Horizontal Cabling	
27 15 43	Communications Faceplates and Connectors	

NUMBER	TITLE	EXPLANATION
<b>27 16 00</b>	<b>Communications Connecting Cords, Devices, and Adapters</b>	Includes: patch cords, station cords and other adapters.  See: 27 11 00 for communications equipment room work. 27 13 00 for communications backbone cabling. 27 15 00 for communications horizontal cabling.
27 16 13	Communications Custom Cable Assemblies	
27 16 16	Communications Media Converters, Adapters, and Transceivers	
27 16 19	Communications Patch Cords, Station Cords, and Cross Connect Wire	
<b>27 20 00</b>	<b>Data Communications</b>	See: 27 15 00 for data communications horizontal cabling.
<b>27 21 00</b>	<b>Data Communications Network Equipment</b>	Includes: switching and routing equipment for data communications.  Alternate Terms/Abbreviations: CSU/DSU: channel service unit/data service unit. LAN: local area network. WAN: wide area network.  See: 25 13 00 for integrated automation control and monitoring network. 27 22 00 for data communications hardware. 27 24 00 for data communications peripheral data equipment. 27 25 00 for data communications software. 27 26 00 for data communications programming and integration services. 28 05 31 for communications equipment for electronic safety and security.
27 21 13	Data Communications Firewalls	
27 21 16	Data Communications Routers, CSU/DSU, Multiplexers, Codecs, and Modems	
27 21 26	Data Communications Network Management	
27 21 29	Data Communications Switches and Hubs	
27 21 33	Data Communications Wireless Access Points	

NUMBER	TITLE	EXPLANATION
<b>27 22 00</b>	<b>Data Communications Hardware</b>	Includes: computer equipment for data communications.  See: 11 28 00 for office equipment. 25 14 00 for integrated automation local control units. 27 21 00 for data communications network equipment. 27 24 00 for data communications peripheral data equipment. 27 25 00 for data communications software. 27 26 00 for data communications programming and integration services. 40 95 00 for process control hardware.
27 22 13	Data Communications Mainframes	
27 22 16	Data Communications Storage and Backup	
27 22 19	Data Communications Servers	
27 22 23	Data Communications Desktops	
27 22 26	Data Communications Laptops	
27 22 29	Data Communications Handhelds	
<b>27 24 00</b>	<b>Data Communications Peripheral Data Equipment</b>	Includes: additional equipment for data communications.  See: 11 28 00 for office equipment. 27 21 00 for data communications network equipment. 27 22 00 for data communications hardware. 27 25 00 for data communications software. 27 26 00 for data communications programming and integration services. 27 41 00 for audio-video systems. 27 41 23 for audio-video accessories. 40 95 00 for process control hardware.
27 24 13	Printers	
27 24 16	Scanners	
27 24 19	External Drives	
27 24 23	Audio-Video Devices	
27 24 26	Virtual Reality Equipment	
27 24 29	Disaster Recovery Equipment	

NUMBER	TITLE	EXPLANATION
<b>27 25 00</b>	<b>Data Communications Software</b>	Includes: software for data communications.  Alternate Terms/Abbreviations: CRM: customer relationship management. VPN: virtual private network.  See: 25 15 00 for integrated automation software. 27 21 00 for data communications network equipment. 27 22 00 for data communications hardware. 27 24 00 for data communications peripheral data equipment. 27 26 00 for data communications programming and integration services. 27 34 13 for toll fraud equipment and software. 27 34 16 for telemanagement software. 40 96 00 for process control software.
27 25 13	Virus Protection Software	
27 25 16	Application Suites	
27 25 19	Email Software	
27 25 23	Graphics/Multimedia Software	
27 25 26	Customer Relationship Management Software	
27 25 29	Operating System Software	
27 25 33	Database Software	
27 25 37	Virtual Private Network Software	
27 25 39	Internet Conferencing Software	
<b>27 26 00</b>	<b>Data Communications Programming and Integration Services</b>	Includes: custom programming and integration requirements.  See: 27 21 00 for data communications network equipment. 27 22 00 for data communications hardware. 27 24 00 for data communications peripheral data equipment. 27 25 00 for data communications software.  See Also: 28 05 45 for systems integration and unified systems.
27 26 13	Web Development	
27 26 16	Database Development	
27 26 19	Application Development	
27 26 23	Network Integration Requirements	
27 26 26	Data Communications Integration Requirements	

NUMBER	TITLE	EXPLANATION
<b>27 30 00</b>	<b>Voice Communications</b>	See: 27 15 00 for voice communications horizontal cabling.
<b>27 31 00</b>	<b>Voice Communications Switching and Routing Equipment</b>	Includes: switching and routing equipment for voice communications.  Alternate Terms/Abbreviations: PBX: private branch exchange. IP: internet protocol.  See: 27 32 00 for voice communications terminal equipment. 27 33 00 for voice communications messaging. 27 34 00 for call accounting. 27 35 00 for call management.
27 31 13	PBX/ Key Systems	
27 31 23	Internet Protocol Voice Switches	
<b>27 32 00</b>	<b>Voice Communications Terminal Equipment</b>	Includes: telephones and other equipment associated with use of telephone lines.  Alternate Terms/Abbreviations: TTY: teletypewriter, also called TDD: telecommunication device for the deaf. Facsimiles: fax machines.  See: 10 17 00 for telephone specialties. 10 25 16 for modular service walls. 14 20 00 for elevators. 27 31 00 for voice communications switching and routing equipment. 27 33 00 for voice communications messaging. 27 33 26 for facsimile servers. 27 34 00 for call accounting. 27 35 00 for call management.
27 32 13	Telephone Sets	
27 32 16	Wireless Transceivers	
27 32 23	Elevator Telephones	
27 32 26	Ring-Down Emergency Telephones	
27 32 29	Facsimiles and Modems	
27 32 36	TTY Equipment	
27 32 43	Radio Communications Equipment	

NUMBER	TITLE	EXPLANATION
<b>27 33 00</b>	<b>Voice Communications Messaging</b>	Includes: voice mail, fax servers and other automated response systems.  See: 27 31 00 for voice communications switching and routing equipment. 27 32 00 for voice communications terminal equipment. 27 32 29 for facsimiles and modems. 27 34 00 for call accounting. 27 35 00 for call management.
27 33 16	Voice Mail and Auto Attendant	
27 33 23	Interactive Voice Response	
27 33 26	Facsimile Servers	
<b>27 34 00</b>	<b>Call Accounting</b>	Includes: hardware and software that facilitates call accounting.  See: 27 25 00 for data communications software. 27 31 00 for voice communications switching and routing equipment. 27 32 00 for voice communications terminal equipment. 27 33 00 for voice communications messaging. 27 35 00 for call management.
27 34 13	Toll Fraud Equipment and Software	
27 34 16	Telemanagement Software	
<b>27 35 00</b>	<b>Call Management</b>	Includes: call center equipment and systems.  See: 27 31 00 for voice communications switching and routing equipment. 27 32 00 for voice communications terminal equipment. 27 33 00 for voice communications messaging. 27 34 00 for call accounting.
27 35 13	Digital Voice Announcers	
27 35 16	Automatic Call Distributors	
27 35 19	Call Status and Management Displays	
27 35 23	Dedicated 911 Systems	

NUMBER	TITLE	EXPLANATION
<b>27 40 00</b>	<b>Audio-Video Communications</b>	See: 27 15 00 for audio-video communications horizontal cabling.
<b>27 41 00</b>	<b>Audio-Video Systems</b>	Includes: standalone and integrated audio-video systems and equipment that generally support a single room or space in a facility with many components that function as one system. In the case of CATV, the integrated audio-video system connects to a cable distribution system. Source and production equipment, switches, amplifiers, control interfaces, microphones, and presentation devices. Broadcast studio audio-video equipment.  May Include: audio-visual furniture.  Alternate Terms/Abbreviations: CATV: community antenna television: community access television: cable television: cable TV. MATV: master antenna television.  See: 11 25 00 for hospitality equipment. 11 28 00 for office equipment. 11 50 00 for educational equipment. 11 52 00 for audio-visual equipment. 11 61 00 for theater and stage equipment. 27 15 00 for communications horizontal cabling. 27 24 23 for audio-video devices. 27 51 00 for distributed audio-video communications systems.  See Also: 12 56 52 for audio-visual furniture.
27 41 13	Architecturally Integrated Audio-Video Equipment	
27 41 16	Integrated Audio-Video Systems and Equipment	
27 41 16.25	Integrated Audio-Video Systems and Equipment for Restaurants and Bars	
27 41 16.28	Integrated Audio-Video Systems and Equipment for Conference Rooms	
27 41 16.29	Integrated Audio-Video Systems and Equipment for Board Rooms	
27 41 16.51	Integrated Audio-Video Systems and Equipment for Classrooms	
27 41 16.52	Integrated Audio-Video Systems and Equipment for Religious Facilities	
27 41 16.61	Integrated Audio-Video Systems and Equipment for Theaters	
27 41 16.62	Integrated Audio-Video Systems and Equipment for Auditoriums	
27 41 16.63	Integrated Audio-Video Systems and Equipment for Stadiums and Arenas	
27 41 19	Portable Audio-Video Equipment	
27 41 23	Audio-Video Accessories	
27 41 33	Master Antenna Television Systems	
27 41 43	Audio-Video Conferencing	



NUMBER	TITLE	EXPLANATION
<b>27 42 00</b>	<b>Electronic Digital Systems</b>	Includes: hardware, software, and equipment for digital signage systems.  See: 10 13 13 for self-contained electronic directories. 10 14 63 for self-contained electronic message signage.
27 42 13	Point of Sale Systems	
27 42 16	Transportation Information Display Systems	
27 42 19	Public Information Systems	
<b>27 50 00</b>	<b>Distributed Communications and Monitoring Systems</b>	
<b>27 51 00</b>	<b>Distributed Audio-Video Communications Systems</b>	Includes: paging, public address, sound masking, and intercommunications systems that service all or part of a facility.  See: 11 20 00 for commercial equipment. 11 28 00 for office equipment. 11 30 00 for residential equipment. 11 50 00 for educational equipment. 11 52 00 for audio-visual equipment. 11 70 00 for healthcare equipment. 27 15 00 for paging communications horizontal cabling. 27 40 00 for audio-video communications.
27 51 13	Paging Systems	
27 51 13.13	Overhead Paging Systems	
27 51 16	Public Address Systems	
27 51 19	Sound Masking Systems	
27 51 23	Intercommunications and Program Systems	Includes: paging, public address, sound masking, access control, and intercommunications systems that service all or part of a facility.
27 51 23.20	Commercial Intercommunications and Program Systems	
27 51 23.30	Residential Intercommunications and Program Systems	
27 51 23.50	Educational Intercommunications and Program Systems	
27 51 23.63	Detention Intercommunications and Program Systems	
27 51 23.70	Healthcare Intercommunications and Program Systems	
27 51 26	Assistive Listening Systems	
27 51 29	Emergency Communications Systems	Includes: communication rescue assistance equipment to aid first responders, area of refuge communication systems, and other life safety communications systems typically powered on emergency power networks.  See Also: 28 49 00 for electronic personal protection systems.

NUMBER	TITLE	EXPLANATION
27 51 29.13	Rescue Assistance Signal Systems	
<b>27 52 00</b>	<b>Healthcare Communications and Monitoring Systems</b>	Includes: communications and monitoring systems for healthcare applications.  See: 11 70 00 for healthcare equipment. 27 15 00 for nurse call communications horizontal cabling. 27 15 00 for patient monitoring and telemetry communications horizontal cabling.
27 52 13	Patient Monitoring and Telemetry Systems	
27 52 16	Telemedicine Systems	
27 52 19	Healthcare Imaging Systems	
27 52 23	Nurse Call/Code Blue Systems	
<b>27 53 00</b>	<b>Distributed Systems</b>	Includes: clocks, interior antenna systems and tracking systems.  Alternate Terms/Abbreviations: RF: radio frequency.  See: 10 25 16 for modular service walls. 10 74 13 for exterior clocks. 12 46 19 for interior clocks.
27 53 13	Clock Systems	
27 53 13.13	Wireless Clock Systems	
27 53 16	Infrared and Radio Frequency Tracking Systems	
27 53 19	Internal Cellular, Paging, and Antenna Systems	

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NUMBER

TITLE

EXPLANATION

# DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

## 28 00 00 Electronic Safety and Security

May be used as Division level  
Section title.

See: 02 41 19 for selective demolition  
of existing electronic safety and  
security systems.  
07 84 00 for firestopping.  
08 31 00 for access doors and panels.  
08 42 00 for entrances.  
08 56 53 for security windows.  
08 70 00 for hardware.  
08 87 23 for safety and security films.  
10 14 63 for electronic message  
signage.  
11 12 00 for parking control  
equipment.  
11 97 00 for security equipment.  
11 98 00 for detention equipment.  
12 59 00 for systems furniture.  
25 38 00 for integrated automation  
instrumentation and terminal devices  
for electronic safety and security.  
25 58 00 for integrated automation  
control of electronic safety and  
security.  
25 98 00 for integrated automation  
control sequences for electronic  
safety and security.  
26 55 53 for security lighting.  
27 11 00 for communications  
equipment room fittings.  
27 15 01 for communications  
horizontal cabling applications.  
27 20 00 for data communications.  
27 30 00 for voice communications.  
27 40 00 for audio-video  
communications.  
27 50 00 for distributed  
communications and monitoring  
systems.  
32 31 13.53 for high-security chain  
link fences and gates.  
33 79 00 for site grounding.  
33 80 00 for communications utilities.  
34 40 00 for transportation signaling  
and control equipment.  
40 63 00 for control system  
equipment.

NUMBER	TITLE	EXPLANATION
<b>28 01 00</b>	<b>Operation and Maintenance of Electronic Safety and Security</b>	<p>Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of electronic safety and security.</p> <p>Level 4 Numbering Recommendation: Level 4 titles for electronic safety and security are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:            .51-.59 for maintenance.            .61-.69 for repair.            .71-.79 for rehabilitation.            .81-.89 for replacement.            .91-.99 for restoration.</p>
28 01 10	Operation and Maintenance of Access Control	
28 01 10.51	Maintenance and Administration of Access Control	
28 01 10.71	Revisions and Upgrades of Access Control	
28 01 20	Operation and Maintenance of Video Surveillance	
28 01 20.51	Maintenance and Administration of Video Surveillance	
28 01 20.71	Revisions and Upgrades of Video Surveillance	
28 01 30	Operation and Maintenance of Security Detection, Alarm, and Monitoring	
28 01 30.51	Maintenance and Administration of Security Detection, Alarm, and Monitoring	
28 01 30.71	Revisions and Upgrades of Security Detection, Alarm, and Monitoring	
28 01 50	Operation and Maintenance of Specialized Systems	
28 01 50.51	Maintenance and Administration of Specialized Systems	
28 01 50.71	Revisions and Upgrades of Specialized Systems	
28 01 60	Operation and Maintenance of Mass Notification	
28 01 60.51	Maintenance and Administration of Mass Notification	
28 01 60.71	Revisions and Upgrades of Mass Notification	
28 01 70	Operation and Maintenance of Life Safety	
28 01 70.51	Maintenance and Administration of Life Safety	
28 01 70.71	Revisions and Upgrades of Life Safety	
28 01 80	Operation and Maintenance of Fire Detection and Alarm	
28 01 80.51	Maintenance and Administration of Fire Detection and Alarm	
28 01 80.71	Revisions and Upgrades of Fire Detection and Alarm	
<b>28 05 00</b>	<b>Common Work Results for Electronic Safety and Security</b>	<p>See: 27 11 00 for communications equipment room fittings.            27 15 01 for communications horizontal cabling applications.            27 20 00 for data communications.            27 30 00 for voice communications.            27 40 00 for audio-video communications.</p>
28 05 05	Selective Security Systems Demolition	

NUMBER	TITLE	EXPLANATION
28 05 07	Power Sources for Electronic Safety and Security	Includes: electronic low-voltage power sources specifically for electronic safety and security purposes, also covering UL294 and UL294B approved power supplies for access control.  Alternate Terms/Abbreviations: UL294. PoE: Power over Ethernet  See Also: 26 20 00 for low-voltage electrical distribution.
28 05 07.11	Power Sources for Access Control	Includes: UL294 and UL294B approved power supplies for access control.
28 05 07.13	Power Sources for Video Surveillance	
28 05 07.15	Power Sources for Intrusion Detection	
28 05 07.17	Power Sources for Fire Detection and Alarm	
28 05 07.19	Solar Power Sources for Electronic Safety and Security	See: 48 14 13: for solar energy collectors.
28 05 07.21	PoE Power Sources for Electronic Safety and Security	Includes: UL294B mid-span injectors or network switches used exclusively for access control.  Alternate Terms/Abbreviations: UL294, UL294B. PoE: Power over Ethernet.  See: 28 05 07 for power sources for access control.
28 05 07.23	Uninterruptible Power Supply	See Also: 26 33 53 for static uninterruptible power supply.
28 05 07.25	Power Source Monitoring	See Also: 26 33 46 for battery monitoring.
28 05 07.27	Power Source Monitoring Appliances	
28 05 07.29	Power Source Monitoring Software	
28 05 09	Surge Protection for Electronic Safety and Security	See Also: 26 43 13 for surge protective devices for low-voltage electrical power circuits.
28 05 09.11	Surge Protection for Access Control	
28 05 09.13	Surge Protection for Video Surveillance	
28 05 09.15	Surge Protection for Intrusion Detection	
28 05 09.17	Surge Protection for Fire Detection and Alarm	
28 05 11	Cyber Security Requirements for Electronic Safety and Security	

DIVISION 28

NUMBER	TITLE	EXPLANATION
28 05 13	Servers, Workstations and Storage for Electronic Safety and Security	Includes: storage hardware, software, and services supporting security, life safety, and fire alarm multiple requirements.  See: 27 21 00 for data communications network equipment. 27 22 16 data communications storage and backup. 27 24 00 for data communications peripheral data equipment.  See Also: 27 22 16 for data communications storage and backup.
28 05 13.11	System Requirements for Servers, Workstations and Storage	Includes: requirements on redundancy and resiliency.  Notes: this Section is not intended to duplicate or supplant Division 01 General Requirements content.
28 05 15	Servers for Electronic Safety and Security	See Also: 27 22 19 for data communications servers.
28 05 17	Workstations for Electronic Safety and Security	See Also: 27 22 23 for data communications desktops.
28 05 19	Storage Appliances for Electronic Safety and Security	Alternate Terms/Abbreviations: DVR: digital video recorder. NVR: network video recorder.  See Also: 27 42 13 for of sale systems.
28 05 19.11	Digital Video Recorders	
28 05 19.13	Hybrid Digital Video Recorders	
28 05 19.15	Network Video Recorders	
28 05 21	Network Attached Storage for Electronic Safety and Security	Alternate Terms/Abbreviations: NAS: network attached storage.
28 05 23	Storage Area Network for Electronic Safety and Security	Alternate Terms/Abbreviations: SAN: storage area network
28 05 25	Cloud Based Storage for Electronic Safety and Security	
28 05 27	Archival Systems for Electronic Safety and Security	
28 05 27.11	Digital Tape Storage	
28 05 27.13	Storage Media	
28 05 29	Storage Management Software for Electronic Safety and Security	See Also: 27 25 00 for data communications software.
28 05 31	Communications Equipment for Electronic Safety and Security	See Also: 27 00 00 for data communications.

NUMBER	TITLE	EXPLANATION
28 05 33	Safety and Security Network Communications Equipment	Includes: data communications network equipment is to be dedicated for security use only.  See Also: 27 22 00 for data communications hardware.
28 05 33.11	Security Data Communications Firewalls	See Also: 27 21 13 for data communications firewalls.
28 05 33.13	Security Data Communications Routers	See Also: 27 21 16 for data communications routers, CSU/DSU, multiplexers, codecs, and modems.
28 05 33.15	Security Data Communications Power-over-Ethernet Switches	See Also: 27 21 29 for data communications switches and hubs.
28 05 33.17	Security Data Communications Non-Power-over-Ethernet Switches	See Also: 27 21 29 for data communications switches and hubs.
28 05 33.19	Security Data Communications Media Converters	See Also: 27 16 16 for communications media converters, adapters, and transceivers.
28 05 35	Security Data Communications Wireless Transmission Equipment	See Also: 27 21 33 for data communications wireless access points.
28 05 35.11	Microwave Transmission Equipment	See Also: 33 83 16 for microwave transmitters and receivers.
28 05 37	Security Voice Communications Distributed Antenna System	Includes: voice communications systems serving a dedicated security function in a standalone security system, and/or when there is no other voice communication distributed antenna system being specified under Division 27.  See Also: 27 53 19 for internal cellular, paging, and antenna systems.
28 05 37.11	Bi-directional Amplifiers	
28 05 37.13	Repeaters	
28 05 37.15	Remote Repeaters	



DIVISION 28

NUMBER	TITLE	EXPLANATION
28 05 39	Antennas	Includes: antennas used when the section for security voice communications distributed antenna system is being utilized.  See: 27 15 01 for antennas communications horizontal cabling.  See Also: 27 53 19 for internal cellular, paging, and antenna systems.
28 05 39.11	Donor Antennas	
28 05 39.13	Multi-band Antennas	
28 05 39.15	Band Specific Antennas	
28 05 39.17	Radiating Coaxial Cable	
28 05 39.19	Other Antennas	
28 05 41	Signal Controllers	Includes: components used when the section for security voice communications distributed antenna system is being utilized.  See: 27 15 01 for antennas communications horizontal cabling.
28 05 41.11	Splitters	
28 05 41.13	Directional Couplers	
28 05 43	Security Voice Communications Private Mobile Radio System	Includes: mobile radio equipment used when the section for security voice communications distributed antenna system is being utilized.  See Also: 27 32 43 for radio communications equipment.
28 05 43.11	Base Station	
28 05 43.13	Handheld Radio	
28 05 44	Sleeves and Sleeve Seals for Electronic Safety and Security Pathways and Cabling	Includes: penetration methods into and through fire-rated and unrated walls, ceilings, and floors. Sealing of conduit penetrations against water is included.  Does Not Include: firestopping requirements.
28 05 45	Systems Integration and Unified Systems	Includes: requirements to integrate various Division 28 and other subsystems into a functional integrated system.  See Also: 27 26 00 for data communications programming and integration services.
28 05 45.11	Mechanical	
28 05 45.13	Electrical	
28 05 45.15	Information	

NUMBER	TITLE	EXPLANATION
28 05 48 28 05 48.16	Vibration and Seismic Controls for Electronic Safety and Security Seismic Controls for Electronic Safety and Security	Includes: restraint channel bracings, restraint cables, seismic-restraint accessories, and mechanical and adhesive anchor bolts.
28 05 53	Identification for Electronic Safety and Security	
<b>28 06 00</b>	<b>Schedules for Electronic Safety and Security</b>	Includes: schedules of items common to multiple titles in Division 28.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
28 06 10	Schedules for Access Control	See Also: 08 06 71 for door hardware schedule.
28 06 20	Schedules for Video Surveillance	
28 06 30	Schedules for Security Detection, Alarm, and Monitoring	
28 06 40	Schedules for Detention Monitoring and Control	
28 06 50	Schedules for Information Management and Display	
28 06 60	Schedules for Mass Notification	
28 06 70	Schedules for Life Safety	
28 06 80	Schedules for Fire Detection and Alarm	
<b>28 08 00</b>	<b>Commissioning of Electronic Safety and Security</b>	Includes: commissioning of items common to multiple titles in Division 28.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
28 08 11	Testing for Baseline Performance Criteria	Includes: parameters that provide the minimum acceptable performance for testing and qualification prior to commissioning, validating all aspects have correct signal strength, consistent signal transmission, perform basic function reliably, are programmed correctly and accurately, etc.

NUMBER	TITLE	EXPLANATION
<b>28 10 00</b>	<b>Access Control</b>	Includes: control and monitoring equipment and systems for controlling access to a facility.  See: 08 34 53 for security doors and frames. 08 42 33 for revolving door entrances. 08 71 00 for door hardware. 08 74 00 for non-integrated access control hardware. 11 12 00 for parking control equipment. 11 14 00 for pedestrian control equipment. 11 15 00 for security control equipment. 11 98 00 for detention equipment. 26 05 33 for raceway and boxes for electrical. 27 05 28 for pathways for communications. 27 05 33 for conduits and backboxes for communications systems. 27 15 01 for access control communications conductors and cables. 28 05 07 for power sources for access control. 28 05 13 for servers, workstations, and storage for electronic safety and security. 28 05 31 for communications equipment for electronic safety and security. 28 20 00 for video surveillance. 28 31 00 for intrusion detection. 28 46 00 for fire detection and alarm. 28 51 00 for information management and presentation. 28 52 00 for detention security systems. 34 50 00 for transportation fare collection equipment. 41 24 36 for process metal detectors.
<b>28 11 00</b>	<b>Access Control Global Applications</b>	
<b>28 12 00</b>	<b>Special Requirements for Access Control Systems</b>	
28 12 01	System Requirements for Access Control Systems	Notes: this Section is not intended to duplicate or supplant Division 01 General Requirements content.
<b>28 13 00</b>	<b>Access Control Software and Database Management</b>	See Also: 28 05 13 for servers, workstations, and storage. 28 23 00 video management system. 28 31 00 intrusion detection. 28 51 00 information management and presentation.
28 13 11	Access Control Software	
28 13 11.11	Access Control Operating Systems	
28 13 11.13	Access Control Application Services	
28 13 11.15	Access Control Mobile Applications	

NUMBER	TITLE	EXPLANATION
28 13 13	Access Control Software Interfaces	See Also: 28 16 00 for access control interfaces.
28 13 15	Access Control Cloud Services	
<b>28 14 00</b>	<b>Access Control System Hardware</b>	Includes: access control hardware that functions at the system level, i.e., set back from and capable of supporting multiple openings.
28 14 11	Access Control Network Controllers	
28 14 13	Access Control Door Controllers	
28 14 15	Access Control Inputs and Outputs	
28 14 17	Access Control Printers and Encoders	
28 14 19	Access Control Enclosures	
<b>28 15 00</b>	<b>Integrated Access Control Hardware Devices</b>	Includes: electronic devices that control access and are integrated with another system or systems.
		See Also: 08 06 71 for door hardware schedule. 28 06 10 for schedules for access control.
28 15 11	Integrated Credential Readers and Entry Management	
28 15 11.11	Standard Card Readers	
28 15 11.13	Keypads	
28 15 11.15	Biometric Identity Devices	
28 15 11.17	Combination Reader Devices	Includes: multi-technology readers (e.g. proximity, keypad, Transportation Worker Identification Credential (TWIC) readers with proximity, PIN code and biometric).
28 15 13	Access Control Credentials	
28 15 13.11	Access Control Cards	
28 15 13.13	Wireless Key Fobs	
28 15 15	Electrified Locking Devices and Accessories	Includes: electrified locking devices and accessories (mortise, cylindrical, exit devices, electric strikes, electromagnetic locks).
28 15 15.11	Direct Interface Integrated Locking Devices	Includes: devices incorporating multiple technologies, such as Wiegand and RS-485.
28 15 15.13	Wireless Integrated Locking Devices	
28 15 15.15	Intelligent Ethernet Integrated Locking Devices	
28 15 15.17	Status Monitoring and Egress Devices	Includes: door position switches, REX motion sensors, push buttons, automatic operators.
		Alternate Terms/Abbreviations: REX: Request to Exit.

DIVISION 28

NUMBER	TITLE	EXPLANATION
28 15 17	Egress Management Devices	
28 15 17.11	Magnetic Lock Delayed Egress Devices	
28 15 17.13	Panic Hardware Delayed Egress Devices	
28 15 19	Access Control Remote Devices	
28 15 19.11	Smart Phone Interface Requirements	Alternate Terms/Abbreviations: NFC: near field communications.
28 15 19.13	Wireless Access Control Devices	Includes: transponders and corresponding receivers.
28 15 21	Telephone Entry Systems	
28 15 23	Intercom Entry Systems	See Also: 11 98 00 for detention equipment. 27 50 00 for distributed communications and monitoring systems. 27 51 00 for distributed audio-video communications systems. 27 51 23 for intercommunications and program systems.
28 15 23.11	Audio Intercom (Analog)	
28 15 23.13	Audio-Video Intercom (Analog)	
28 15 23.15	Audio Intercom (IP)	
28 15 23.17	Audio-Video Intercom (IP)	
28 15 25	Electronic Key Management Systems	See Also: 08 79 13 for key storage equipment. 10 41 16 for emergency key cabinets. 11 12 13 for parking key and card control units.
28 15 27	Access Control Electronic Turnstiles and Mobility Systems	Includes: turnstile systems incorporating an electronic access control requirement.  See: 11 14 13 for turnstiles.
<b>28 16 00</b>	<b>Access Control Interfaces</b>	See Also: 28 05 45 for systems integration and unified systems.
28 16 11	Access Control Interfaces to Access Control Hardware	See: 08 34 53 for security doors and frames. 08 42 33 for revolving door entrances. 08 71 00 for door hardware. 08 74 00 for non-integrated access control hardware.
28 16 13	Access Control Interfaces to Intrusion Detection	
28 16 15	Access Control Interfaces to Video Surveillance	
28 16 17	Access Control Interfaces to Fire Alarm	

NUMBER	TITLE	EXPLANATION
28 16 19	Access Control Interfaces to Enterprise Software	Includes: access control interfaces to enterprise software business application packages.
28 16 21	Access Control Interfaces to Mechanical Systems	Includes: interfaces to HVAC.  Alternate Terms/Abbreviations: HVAC: heating, ventilation, and air conditioning.
28 16 23	Access Control Interfaces to Electrical Systems	Includes: interfaces to lighting.
28 16 25	Access Control Interfaces to Electronic Key Management System	
28 16 27	Access Control Interfaces to Elevator Controls	See Also: 14 28 00 for elevator equipment and controls.
28 16 29	Access Control Interfaces to Parking Equipment	See Also: 11 12 00 for parking control equipment.
28 16 31	Access Control Interfaces to Perimeter Security Systems	
<b>28 17 00</b>	<b>Access Control Identification Management Systems</b>	
28 17 11	Visitor Management Systems	
28 17 13	Self Check in and Kiosk Visitor Systems	
28 17 15	Contractor and Vendor Management Systems	
28 17 17	Mobile Access Identification Management Systems	
<b>28 18 00</b>	<b>Security Access Detection Equipment</b>	
28 18 11	Security Access Metal Detectors	
28 18 13	Security Access X-ray Equipment	
28 18 15	Security Access Explosive Detection Equipment	
28 18 17	Security Access Sniffing Equipment	
<b>28 19 00</b>	<b>Access Control Vehicle Identification Systems</b>	
28 19 11	Loading Dock Access Management Systems	See: 11 13 00 for loading dock equipment.
28 19 13	Parking Garage Access Management Systems	See: 11 12 00 for parking control equipment.
28 19 15	Perimeter Vehicle Access Management Systems	See: 28 31 21 for area and perimeter intrusion detection.

NUMBER	TITLE	EXPLANATION
<b>28 20 00</b>	<b>Video Surveillance</b>	<p>Includes: video surveillance cameras and supporting hardware and video management systems.</p> <p>See: 26 05 33 for raceway and boxes for electrical.            27 05 28 for pathways for communication systems.            27 05 33 for conduits and backboxes for communications systems.            27 15 01 for video surveillance communications conductors and cables.            28 05 07 for power sources for video surveillance.            28 05 13 for servers, workstations, and storage for electronic safety and security.            28 05 31 for communications equipment for electronic safety and security.            28 10 00 for access control.            28 30 00 for security detection, alarm, and monitoring.            28 51 00 for information management and presentation.            28 52 00 for detention security systems.</p> <p>See Also: 26 55 53 for security lighting.</p>
<b>28 21 00</b>	<b>Surveillance Cameras</b>	Includes: any type of video surveillance camera.
28 21 11	Analog Camera	
28 21 13	IP Cameras	Includes: high-definition and mega-pixel cameras.
28 21 13.11	Panoramic IP Cameras	Includes: 180- and 360-degree cameras.
28 21 13.13	Analytic Packages for IP Cameras	
28 21 15	Specialty Cameras	Includes: thermal and combination cameras.
28 21 17	Camera Housings	Includes: housings not integral to the camera.
28 21 19	Camera Mounts	Includes: mounts not integral to the camera.
28 21 21	Illuminators	Includes: visible and infrared camera illuminators.

NUMBER	TITLE	EXPLANATION
<b>28 23 00</b>	<b>Video Management System</b>	Includes: video management platforms and attendant software, licenses, and interfaces.  See Also: 28 05 13 for servers, workstations, and storage. 28 51 19 for control room monitoring equipment, including displays and video walls.
28 23 11	Video Management System Analytics	Includes: separate stand-alone analytic equipment.
28 23 13	Video Management System Interfaces	Includes: definition of interfaces with external systems for alarm call-up triggers and events.
<b>28 25 00</b>	<b>Video Surveillance Positioning Equipment</b>	Includes: specialty pan/tilt controllers for camera housings, camera poles and camera lowering equipment.
<b>28 30 00</b>	<b>Security Detection, Alarm, and Monitoring</b>	Includes: hardware, software, and equipment for building, area, and perimeter intrusion systems and perimeter protection systems, alarm operations and monitoring centers, asset and personnel tracking system, and audio monitoring equipment.  See: 26 05 33 for raceway and boxes for electrical. 27 05 28 for pathways for communication systems. 27 05 33 for conduits and backboxes for communications systems. 27 15 01 for intrusion detection communications conductors and cables. 28 05 07 for power sources for intrusion detection. 28 05 13 for servers, workstations, and storage for electronic safety and security. 28 05 31 for communications equipment for electronic safety and security. 28 10 00 for access control. 28 20 00 for video surveillance. 28 51 00 for information management and presentation. 28 52 00 for detention security systems.
<b>28 31 00</b>	<b>Intrusion Detection</b>	
28 31 11	Building Intrusion Detection	Includes: hardware, software, and equipment for burglary systems.  Alternate Terms/Abbreviations: GUI: graphical user interface.
28 31 11.11	Building Intrusion Detection Control, GUI, and Logic Systems	



DIVISION 28

NUMBER	TITLE	EXPLANATION
28 31 11.13	Building Intrusion Detection Remote Devices and Sensors	
<b>28 31 21</b>	<b>Area and Perimeter Intrusion Detection</b>	
28 31 21.11	Fiber Optic Area and Perimeter Security Systems	
28 31 21.13	Microwave Area and Perimeter Security Systems	
28 31 21.15	Integrated Video Area and Perimeter Security Systems	
28 31 21.17	Fixed Optical Beam Area and Perimeter Security Systems	
28 31 21.19	LIDAR Area and Perimeter Security Systems	Alternate Terms/Abbreviations: LIDAR: light detection and ranging.
28 31 21.21	Coaxial Area and Perimeter Security Systems	
28 31 21.23	Area and Perimeter Intrusion Detection Devices and Sensors	Includes: detecting area and perimeter devices and sensors provisioned as individual components.
<b>28 31 31</b>	<b>Intrusion Detection Interfaces</b>	
28 31 31.11	Intrusion Detection Interfaces to Security Monitoring and Control	
28 31 31.13	Intrusion Detection Interfaces to Access Control System	
28 31 31.15	Intrusion Detection Interfaces to Video Surveillance	
28 31 31.17	Intrusion Detection Interfaces to Information Management and Presentation	
28 31 31.19	Intrusion Detection Interfaces to Mass Notification	
28 31 31.21	Intrusion Detection Interfaces to Life Safety	
28 31 31.23	Intrusion Detection Interfaces to Fire Alarm	
28 31 31.25	Intrusion Detection Interfaces to Temperature Controls	Includes: interfaces to food service equipment, freezer units, process controllers, environmental control processors.
		See Also: 11 41 00 for food service equipment. 23 09 13 for temperature sensors for HVAC.
<b>28 33 00</b>	<b>Security Monitoring and Control</b>	Includes: requirements for security operations centers, monitoring and control software and services, asset and personnel tracking systems.
		See Also: 22 09 63 for medical gas alarms.
28 33 11	Electronic Structural Monitoring Systems	
28 33 13	Security Operations and Monitoring Centers	
28 33 15	Security Monitoring and Control Software	
28 33 17	Security Monitoring and Control Services	
<b>28 35 00</b>	<b>Tracking Systems</b>	Alternate Terms/Abbreviations: RF: radio frequency. GPS: global positioning systems.
28 35 11	Asset Tracking Systems	See Also: 27 53 16 for infrared and radio frequency tracking systems.
28 35 11.11	RF Asset Tracking Systems	

NUMBER	TITLE	EXPLANATION
28 35 11.13	GPS Asset Tracking Systems	
28 35 11.15	Cellular Asset Tracking Systems	
28 35 13	Personnel Tracking Systems	See Also: 27 53 16 for infrared and radio frequency tracking systems.
28 35 13.11	RF Personnel Tracking Systems	
28 35 13.13	GPS Personnel Tracking Systems	
28 35 13.15	Cellular Personnel Tracking Systems	
<b>28 37 00</b>	<b>Audio Monitoring</b>	
28 37 11	Audio Monitoring Devices	
28 37 13	Gunshot Detection Systems	
<b>28 40 00</b>	<b>Life Safety</b>	Includes: systems and equipment that monitor and report the need for assistance or potentially life threatening situations.  See: 26 05 33 for raceway and boxes for electrical. 27 05 28 for pathways for communication systems. 27 05 33 for conduits and backboxes for communications systems. 27 15 01 for fire alarm communications conductors and cables. 28 05 07 for power sources for fire detection and alarm. 28 05 13 for servers, workstations, and storage for electronic safety and security. 28 05 31 for communications equipment for electronic safety and security. 28 10 00 for access control. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring. 28 51 00 for information management and presentation.
<b>28 41 00</b>	<b>Radiation Detection and Alarm</b>	Includes: systems and equipment for the detection and notification of radioactive presence.  Alternate Terms/Abbreviations: GUI: graphical user interface.  See: 11 77 00 for radiology equipment. 13 49 00 for radiation protection. 28 40 00 for security monitoring and control. 28 60 00 for mass notification. 28 80 00 for fire detection and alarm.
28 41 11	Radiation Detection and Alarm Control, GUI, and Logic Systems	
28 41 13	Radiation Detection and Alarm Integrated Audio Evacuation Systems	
28 41 15	Radiation Detection Sensors	

NUMBER	TITLE	EXPLANATION
28 41 17	Radiation Dosimeters	
<b>28 42 00</b>	<b>Gas Detection and Alarm</b>	Includes: systems and equipment for the detection and notification of gas presence.  Alternate Terms/Abbreviations: GUI: graphical user interface.  See: 23 10 00 for facility fuel systems. 28 40 00 for security monitoring and control. 28 43 00 for fuel-oil detection and alarm. 28 60 00 for mass notification. 28 80 00 for fire detection and alarm. 33 50 00 for fuel distribution utilities. 40 10 00 for fuel gases process piping.
28 42 11	Gas Detection and Alarm Control, GUI, and Logic Systems	
28 42 13	Gas Detection and Alarm Integrated Audio Evacuation Systems	
28 42 15	Gas Detection Sensors	
<b>28 43 00</b>	<b>Fuel Oil Detection and Alarm</b>	Includes: systems and equipment for the detection and notification of fuel oil presence.  Alternate Terms/Abbreviations: GUI: graphical user interface.  See: 23 11 13 for facility fuel-oil piping. 23 11 13 for facility fuel-oil pumping. 23 12 13 for facility fuel-oil pumps. 23 13 00 for facility fuel storage tanks. 28 40 00 for security monitoring and control. 28 42 00 for gas detection and alarm. 28 60 00 for mass notification. 28 80 00 for fire detection and alarm. 33 52 13 for fuel-oil distribution utilities. 40 21 00 for liquid fuel process piping.
28 43 11	Fuel Oil Detection and Alarm Control, GUI, and Logic Systems	
28 43 13	Fuel Oil Detection and Alarm Integrated Audio Evacuation Systems	
28 43 15	Fuel Oil Detection Sensors	

NUMBER	TITLE	EXPLANATION
<b>28 44 00</b>	<b>Refrigerant Detection and Alarm</b>	Includes: systems and equipment for the detection and notification of refrigerant presence.  Alternate Terms/Abbreviations: GUI: graphical user interface.  See: 23 23 00 for refrigerant piping. 23 61 00 for refrigerant compressors. 23 62 00 for packaged compressor and condenser units. 23 63 00 for refrigerant condensers. 28 40 00 for security monitoring and control. 28 60 00 for mass notification. 28 80 00 for fire detection and alarm.
28 44 11	Refrigerant Detection and Alarm Control, GUI, and Logic Systems	
28 44 13	Refrigerant Detection and Alarm Integrated Audio Evacuation Systems	
28 44 15	Refrigerant Detection Sensors	
<b>28 45 00</b>	<b>Water Detection and Alarm</b>	
28 45 11	Water Detection and Alarm Control, GUI, and Logic Systems	
28 45 13	Water Detection Sensors	
28 45 15	Building Envelope Water Detection and Alarm	
<b>28 46 00</b>	<b>Fire Detection and Alarm</b>	Includes: monitoring and recording of fire protection devices and fire-suppression systems; audio and/or visual warning systems for inhabitants of structures and for firefighting authorities; activation of elevators and air handling systems to a predetermined fire mode, and other fire protection functions.  See: 10 44 00 for fire protection specialties. 27 15 01 for fire alarm communications conductors and cables. 28 32 00 for radiation detection and alarm. 28 33 00 for gas detection and alarm. 28 35 00 for refrigerant detection and alarm. 28 43 00 for fuel-oil detection and alarm. Division 21 for fire-suppression systems.
28 46 10	Detection and Initiation	Includes: interfaces from external systems.
28 46 11	Fire Sensors and Detectors	
28 46 11.11	Linear Heat Detection Sensors	
28 46 11.13	Spot-type Heat Detection Sensors	
28 46 11.15	Duct Smoke Detection Sensors	
28 46 11.17	Beam Smoke Detection Sensors	
28 46 11.19	Video Smoke Detection Sensors	
28 46 11.21	Carbon-monoxide Detection Sensors	

DIVISION 28

NUMBER	TITLE	EXPLANATION
28 46 11.23	Combination Sensors	Includes: sensors which combine two or more sensor technologies into one sensing device.
28 46 11.25	Air Sampling Systems	
28 46 11.27	Other Sensors	
28 46 12	Other Initiating Devices	
28 46 12.11	Fire Alarm Pull Stations	
28 46 12.13	Fire Alarm Level Detector Switches	
28 46 12.15	Fire Alarm Flow Switches	
28 46 12.17	Fire Alarm Pressure Sensors	
28 46 12.19	Sprinkler Supervisory Devices	
28 46 21	Fire Alarm	
28 46 21.11	Addressable Fire-alarm Systems	
28 46 21.13	Conventional Fire-alarm Systems	
28 46 21.15	Protected Premise Systems	
28 46 21.17	Proprietary Systems	
28 46 21.19	Central Station Systems	
28 46 21.21	Remote Station Systems	
28 46 21.23	Public Emergency Alarm Reporting Systems	
28 46 22	Network Command Centers, Printers, and Peripherals for Fire Systems	
28 46 23	Fire Alarm Notification Appliances	
28 46 23.11	Fire Alarm Horns and Strobes	
28 46 23.13	Fire Alarm Speakers	
28 46 23.15	Fire Alarm Low Frequency Sounders	
28 46 23.17	Wide Band Sounders	Includes: devices used in directional evacuation systems.
28 46 24	Fire Detection and Alarm Emergency Control Function Interfaces	Includes: interfaces to remote monitoring, access control video surveillance, intrusion detection, elevator control.  See: 14 28 16 elevator controls. 28 10 00 for access control. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring. 28 50 00 for specialized systems.
28 46 24.11	Fire Detection and Alarm Interfaces to Remote Monitoring	
28 46 24.13	Fire Detection and Alarm Interfaces to Access Control Hardware	
28 46 24.15	Fire Detection and Alarm Interfaces to Access Control System	
28 46 24.17	Fire Detection and Alarm Interfaces to Intrusion Detection	
28 46 24.19	Fire Detection and Alarm Interfaces to Video Surveillance	
28 46 24.21	Fire Detection and Alarm Interfaces to Elevator Control	
28 46 24.23	Other Fire Detection and Alarm Interfaces	

NUMBER	TITLE	EXPLANATION
<b>28 47 00</b>	<b>Mass Notification</b>	<p>Includes: servers, workstations, software, and system integration.</p> <p>Notes: mass notification system (MNS) is a life safety system and is integrated with fire alarm systems. MNS may also be integrated with a variety of other systems, including A/V, integrated security management system, controls systems, depending on the application.</p> <p>See Also: 28 05 15 servers for electronic safety and security. 28 05 17 workstations for electronic safety and security. 28 05 45 for systems integration and unified systems.</p>
28 47 11	System Requirements for Mass Notification	<p>Includes: common requirements, redundancy, and resiliency.</p> <p>Notes: this Section is not intended to duplicate or supplant Division 01 General Requirements content.</p>
28 47 13	Mass Notification Software	Includes: operating systems, server and client, integration platform, and integration plug-ins or add-ons.
28 47 15	Mass Notification Control Panels	
28 47 17	Notification Devices and Methods	
28 47 17.11	Notification Appliances and Methods Indoors	Includes: emergency voice communications (speakers) and audio-visual notification appliances (chime strobe).
28 47 17.13	Notification Appliances and Methods Outdoors	Includes: emergency voice communications (Big Voice) and audio-visual notifications (chime/strobe).
28 47 17.15	Notification Appliances and Methods Distributed Recipient	<p>Includes: SMS, VOIP, smart phone apps, visual electronic signage (LED/LCD), ADA assistive technologies.</p> <p>Alternate Terms/Abbreviations: SMS: short message service: text message. VOIP: voice over internet protocol. ADA: Americans with Disabilities Act.</p>
28 47 17.17	Notification Appliances and Methods Public Methods	Includes: broadcast TV, broadcast radio, internet media channels.
28 47 21	Mass Notification System Interfaces	Includes: fire alarm, security management systems, energy management systems, control systems, network, and telephone.

DIVISION 28

NUMBER	TITLE	EXPLANATION
28 47 21.11	Notification Interfaces to Access Control Systems	
28 47 21.13	Notification Interfaces to Video Surveillance Systems	
28 47 21.15	Notification Interfaces to Security Detection, Alarm, and Monitoring	
28 47 21.17	Notification Interfaces to Security Monitoring and Control	
28 47 21.19	Notification Interfaces to Life Safety Systems	
28 47 21.21	Notification Interfaces to Fire Detection and Alarm	
28 47 21.23	Notification Interfaces to Detention Systems	
28 47 21.25	Notification Interfaces to Emergency Response Systems	
28 47 21.27	Notification Interfaces to Network and Facilities Monitoring	
28 47 21.29	Notification Interfaces to Web Intelligence	
28 47 21.31	Notification Interfaces to Traffic Management and Monitoring Systems	
28 47 21.33	Notification Interfaces to Smart Phones	
28 47 21.35	Notification Interfaces to Other External Subsystems	

**28 48 00      Emergency Response Systems**

See Also: 27 32 26 ring-down emergency telephones.  
27 32 43 radio communications equipment.

28 48 23      Computer Aided Dispatch

**28 49 00      Electronic Personal Protection Systems**

Includes: systems and equipment that monitor and annunciate the need for assistance.

See: 10 43 00 for emergency aid specialties.

28 49 11	Electronic Personal Safety Detection Systems
28 49 13	Electronic Personal Safety Alarm Annunciation and Control Systems
28 49 15	Electronic Personal Safety Interfaces to Remote Monitoring
28 49 17	Electronic Personal Safety Emergency Aid Devices

**28 50 00      Specialized Systems**

Includes: hybrid and special purpose systems.

See Also: 28 10 00 for access control.  
28 20 00 for video surveillance.  
28 30 00 for security detection, alarm, and monitoring.  
28 33 00 for security monitoring and control.  
28 40 00 for life safety.  
28 46 00 for fire detection and alarm.  
28 47 00 for mass notification.

NUMBER	TITLE	EXPLANATION
<b>28 51 00</b>	<b>Information Management and Presentation</b>	See Also: 28 10 00 for access control. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring. 28 33 00 for security monitoring and control. 28 40 00 for life safety. 28 46 00 for fire detection and alarm. 28 47 00 for mass notification.
28 51 11	Information Management and Presentation Architecture	
28 51 13	Data and Information Management	Includes: rules engines, decision trees, data fusion, response planning, data retention, and audit trail requirements.
28 51 15	Information Interfaces to Connected Subsystems	Includes: any connected subsystem or remote data structure.  See Also: 26 09 13 for electrical power monitoring. 26 33 46 for battery monitoring. 27 50 00 for distributed communications and monitoring systems. 27 52 00 for healthcare communications and monitoring systems. 28 10 00 for access control. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring. 28 33 00 for security monitoring and control. 28 40 00 for life safety. 28 46 00 for fire detection and alarm. 28 47 00 for mass notification.
28 51 15.11	Information Interfaces to Access Control Systems	
28 51 15.13	Information Interfaces to Video Surveillance Systems	
28 51 15.15	Information Interfaces to Security Detection, Alarm, and Monitoring	
28 51 15.17	Information Interfaces to Security Monitoring and Control	Includes: interfaces to asset tracking and personnel monitoring systems.
28 51 15.19	Information Interfaces to Mass Notification Systems	
28 51 15.21	Information Interfaces to Life Safety Systems	Includes: interfaces to panic/alert systems.
28 51 15.23	Information Interfaces to Fire Detection and Alarm	
28 51 15.25	Information Interfaces to Detention Systems	
28 51 15.27	Information Interfaces to Emergency Response Systems	
28 51 15.29	Information Interfaces to License Plate Recognition Systems	
28 51 15.31	Information Interfaces to Facial Recognition Systems	
28 51 15.33	Information Interfaces to Remote Data Structures	Includes: government watch lists, criminal history databases, license plate databases, identity management systems, etc.



DIVISION 28

NUMBER	TITLE	EXPLANATION
28 51 15.35	Information Interfaces to Network and Facilities Monitoring	See Also: 25 10 00 integrated automation network equipment.
28 51 15.37	Information Interfaces to Crowd Sourcing	
28 51 15.39	Information Interfaces to Web Intelligence	
28 51 15.41	Information Interfaces to Traffic Management and Monitoring Systems	See: 27 42 16 for transportation information display systems. 34 41 00 for roadway signaling and control equipment.
28 51 15.43	Information Interfaces to Environmental Monitoring Systems	
28 51 15.45	Information Interfaces to Directly Connected Sensors	
28 51 15.47	Information Interfaces to Other Safety and Security Subsystems	
28 51 15.49	Information Interfaces to Other External Subsystems	See Also: 26 09 13 for electrical power monitoring. 26 33 46 for battery monitoring. 27 50 00 for distributed communications and monitoring systems. 27 52 00 for healthcare communications and monitoring systems.
28 51 17	Data Presentation	Includes: logical presentation of data and alarms to user, and user interaction.
28 51 17.11	Maps	
28 51 17.13	Visualization	
28 51 17.15	Events/Alarms/Incidents	
28 51 17.17	Video Workspace	
28 51 17.19	Dispatch/Notification	
28 51 17.21	Review and Investigation	
28 51 17.23	Reporting	
28 51 19	Control Room and Monitoring Equipment	See Also: 11 52 00 for audio-visual equipment. 27 41 00 for audio-video systems. 27 42 00 for electronic digital systems.
28 51 19.11	Display/Workstations	
28 51 19.13	Video Walls	
28 51 19.15	Audio Equipment	
28 51 19.17	Remote Displays	

NUMBER	TITLE	EXPLANATION
<b>28 52 00</b>	<b>Detention Security Systems</b>	Includes: electronic equipment and systems for detention applications.  See: 05 59 63 for detention enclosures. 11 98 00 for detention equipment. 13 42 63 for detention cell modules. 26 55 63 for detention lighting. 27 51 23 for detention intercommunications and program systems. 28 10 00 for access control. 28 20 00 for video surveillance. 28 31 00 for intrusion detection. 32 31 13 for high-security chain link fences and gates.
28 52 11	Detention Security System Requirements	Includes: electronic equipment and systems specific to detention monitoring and control.
28 52 13	Detention Monitoring and Control System and Interfaces	Includes: interfaces to subsystems that may not be detention specific.
28 52 13.11	Detention Interfaces to Access Control Systems	See: 28 10 00 for access control.
28 52 13.13	Detention Interfaces to Video Surveillance Systems	See: 28 20 00 for video surveillance.
28 52 13.15	Detention Interfaces to Security Detection, Alarm, and Monitoring	See: 28 30 00 for security detection, alarm, and monitoring.
28 52 13.17	Detention Interfaces to Security Monitoring and Control	See: 28 40 00 for security monitoring and control.
28 52 13.19	Detention Interfaces to Duress Alarm Systems	See: 28 40 00 for life safety.
28 52 13.21	Detention Interfaces to Distributed Television Systems	
28 52 13.23	Detention Interfaces to Perimeter Security Systems	See: 28 31 21 for area and perimeter intrusion detection.
28 52 15	Detention Video Systems	Includes: video based systems that provide specific detention support services.
28 52 15.11	Detention Interfaces to Video Interrogation Systems	
28 52 15.13	Detention Interfaces to Video Arraignment Systems	
28 52 15.15	Detention Interfaces to Video Visitation Systems	

DIVISION 28

NUMBER	TITLE	EXPLANATION
28 52 17	Detention Communication Systems	
28 52 17.11	Detention Interfaces to Intercom and Paging Systems	
28 52 17.13	Detention Interfaces to Local Intercom Systems	
28 52 17.15	Detention Interfaces to Inmate Television Systems	
28 52 19	Detention Personal Protection Systems	

# SPECIFICATIONS GROUP

## SITE AND INFRASTRUCTURE SUBGROUP

*Division 30 – Reserved for Future Expansion*

**DIVISION 31 – EARTHWORK**

**DIVISION 32 – EXTERIOR IMPROVEMENTS**

**DIVISION 33 – UTILITIES**

**DIVISION 34 – TRANSPORTATION**

**DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION**

*Division 36 – Reserved for Future Expansion*

*Division 37 – Reserved for Future Expansion*

*Division 38 – Reserved for Future Expansion*

*Division 39 – Reserved for Future Expansion*

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NUMBER	TITLE	EXPLANATION
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# DIVISION 31 – EARTHWORK

## 31 00 00 Earthwork

May be used as Division level  
Section title.

### 31 01 00 Maintenance of Earthwork

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of earthwork.

Level 4 Numbering Recommendation: Level 4 titles for earthwork are provided as example for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

31 01 10	Maintenance of Clearing
31 01 20	Maintenance of Earth Moving
31 01 40	Maintenance of Shoring and Underpinning
31 01 50	Maintenance of Excavation Support and Protection
31 01 60	Maintenance of Special Foundations and Load Bearing Elements
31 01 62	Maintenance of Driven Piles
31 01 62.61	Driven Pile Repairs
31 01 63	Maintenance of Bored and Augered Piles
31 01 63.61	Bored and Augered Pile Repairs
31 01 70	Maintenance of Tunneling and Mining
31 01 70.61	Tunnel Leak Repairs

### 31 05 00 Common Work Results for Earthwork

Includes: subjects common to multiple titles in Division 31.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

02 05 19 for geosynthetics for existing conditions.

32 05 13 for soils for exterior improvements.

32 05 16 for aggregates for exterior improvements.

32 05 19 for geosynthetics for exterior improvements.

32 05 23 for cement and concrete for exterior improvements.

31 05 05	Selective Demolition for Earthwork
	See: 02 41 19 for selective demolition for whole structure demolition.
31 05 13	Soils for Earthwork
31 05 16	Aggregates for Earthwork
31 05 19	Geosynthetics for Earthwork

DIVISION 31

NUMBER	TITLE	EXPLANATION
31 05 19.13	Geotextiles for Earthwork	
31 05 19.16	Geomembranes for Earthwork	
31 05 19.19	Geogrids for Earthwork	
31 05 19.23	Geosynthetic Clay Liners	
31 05 19.26	Geocomposites	
31 05 19.29	Geonets	
31 05 23	Cement and Concrete for Earthwork	

**31 06 00 Schedules for Earthwork**

Includes: schedules of items common to multiple titles in Division 31.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

31 06 10	Schedules for Clearing	
31 06 20	Schedules for Earth Moving	
31 06 20.13	Trench Dimension Schedule	
31 06 20.16	Backfill Material Schedule	
31 06 40	Schedules for Shoring and Underpinning	
31 06 50	Schedules for Excavation Support and Protection	
31 06 60	Schedules for Special Foundations and Load Bearing Elements	
31 06 60.13	Driven Pile Schedule	
31 06 60.16	Caisson Schedule	
31 06 70	Schedules for Tunneling and Mining	

**31 08 00 Commissioning of Earthwork**

Includes: commissioning of items common to multiple titles in Division 31.

See: 01 91 00 for commissioning of subjects common to multiple Divisions.

31 08 13	Pile Load Testing	
31 08 13.13	Dynamic Pile Load Testing	
31 08 13.16	Static Pile Load Testing	

**31 09 00 Geotechnical Instrumentation and Monitoring of Earthwork**

Includes: geotechnical instrumentation and monitoring of items common to multiple titles in Division 31.

See: 00 31 32 for geotechnical data available to bidders, proposers, or contractors before construction begins.  
 02 32 00 for geotechnical investigations performed by the contractor as part of the project.  
 02 32 23 for groundwater monitoring before construction.  
 31 60 00 for special foundations and load-bearing elements.  
 33 11 53 for monitoring wells.

31 09 13	Geotechnical Instrumentation and Monitoring	
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NUMBER	TITLE	EXPLANATION
31 09 13.13	Groundwater Monitoring During Construction	
31 09 16	Foundation Performance Instrumentation	
31 09 16.26	Bored and Augered Pile Load Tests	

## 31 10 00 Site Clearing

Includes: removal of vegetation at the site, including stripping of sod and soil, and tree pruning for site clearing.

See: 01 56 39 for temporary tree and plant protection.  
 32 01 90 for pruning for maintenance of shrubs and trees.  
 32 91 19 for landscape grading.  
 32 91 19 for topsoil placement and grading.  
 32 96 00 for transplanting.

## 31 11 00 Clearing and Grubbing

## 31 12 00 Selective Clearing

## 31 13 00 Selective Tree and Shrub Removal and Trimming

31 13 13 Selective Tree and Shrub Removal  
 31 13 16 Selective Tree and Shrub Trimming

## 31 14 00 Earth Stripping and Stockpiling

31 14 13 Soil Stripping and Stockpiling  
 31 14 13.13 Soil Stripping  
 31 14 13.16 Soil Stockpiling  
 31 14 13.23 Topsoil Stripping and Stockpiling  
 31 14 16 Sod Stripping and Stockpiling  
 31 14 16.13 Sod Stripping  
 31 14 16.16 Sod Stockpiling

## 31 20 00 Earth Moving

Includes: grading, excavating, embankments, and sedimentation and erosion control. Earth moving for foundations, structures, pavement, railways, ditches, channels, culverts, drains, and utilities.

See: 31 30 00 for earthwork methods.  
 35 24 00 for dredging.  
 41 61 00 for mobile earth moving equipment.

## 31 21 00 Off-Gassing Mitigation

Includes: mitigation of gases from underground sources.

See: 00 31 24 for environmental assessment information.  
 02 24 00 for environmental assessment.  
 02 50 00 for site remediation.  
 02 56 19 for gas containment.  
 02 80 00 for facility remediation.



DIVISION 31

NUMBER	TITLE	EXPLANATION
31 21 13	Radon Mitigation	
31 21 13.13	Radon Venting	
31 21 16	Methane Mitigation	
31 21 16.13	Methane Venting	
<b>31 22 00</b>	<b>Grading</b>	Includes: earth moving to reshape contours.  See: 31 14 00 for earth stripping and stockpiling. 32 71 00 for constructed wetlands. 32 91 19 for landscape grading.
31 22 13	Rough Grading	
31 22 16	Fine Grading	
31 22 16.13	Roadway Subgrade Reshaping	
31 22 19	Finish Grading	
31 22 19.13	Spreading and Grading Topsoil	
<b>31 23 00</b>	<b>Excavation and Fill</b>	Includes: excavation and fill for foundations, structures, pavement, railways, ditches, channels, culverts, drains, and utilities.  May Include: foundation and underslab drainage.  Alternate Terms/Abbreviations: flowable fill: controlled density fill: unshrinkable fill: flowcrete: liquid dirt: fly ash slurry: flowable mortar: plastic soil cement: soil replacement: lean mix backfill: controlled low strength material.  See: 31 21 00 for off-gassing mitigation. 31 24 00 for embankments. 31 71 00 for tunnel excavation. 33 05 07 for trenchless installation of utility piping. 33 05 97 for identification and signage for utilities.  See Also: 33 41 00 for subdrainage.
31 23 13	Subgrade Preparation	
31 23 16	Excavation	
31 23 16.13	Trenching	
31 23 16.16	Structural Excavation for Minor Structures	
31 23 16.26	Rock Removal	
31 23 19	Dewatering	
31 23 23	Fill	
31 23 23.13	Backfill	
31 23 23.23	Compaction	
31 23 23.33	Flowable Fill	
31 23 23.43	Geofoam	
31 23 33	Trenching and Backfilling	

NUMBER	TITLE	EXPLANATION
<b>31 24 00</b>	<b>Embankments</b>	Includes: soil and rock embankments for support or containment and protection purposes.  See: 31 34 00 for embankments with soil reinforcement. 31 35 00 for embankments with slope protection. 34 71 00 for roadway construction. 34 72 00 for railway construction. 35 41 13 for embankment levees. 35 73 00 for embankment dams.
31 24 13	Roadway Embankments	
31 24 16	Railway Embankments	
<b>31 25 00</b>	<b>Erosion and Sedimentation Controls</b>	Includes: construction of permanent erosion checks and controls.  See: 22 14 00 for facility storm drainage. 31 34 00 for erosion and sedimentation control with soil reinforcement. 31 35 00 for erosion and sedimentation control with slope protection. 33 40 00 for storm drainage utilities.
31 25 14	Stabilization Measures for Erosion and Sedimentation Control	
31 25 14.13	Hydraulically-Applied Erosion Control	
31 25 14.16	Rolled Erosion Control Mats and Blankets	
31 25 24	Structural Measures for Erosion and Sedimentation Control	
31 25 24.13	Rock Barriers	
31 25 34	Retention Measures for Erosion and Sedimentation Controls	
31 25 34.13	Rock Basins	
<b>31 30 00</b>	<b>Earthwork Methods</b>	Includes: earthwork methods used for multiple purposes.  See: 31 20 00 for earth moving.
<b>31 31 00</b>	<b>Soil Treatment</b>	Includes: soil treatment to resist invasion of adjoining structure by pests and growth of vegetation.  See: 06 05 73 for wood treatment. 10 81 00 for pest control devices. 31 32 16 for chemical treatment soil stabilization. 32 91 00 for planting preparation.
31 31 13	Rodent Control	
31 31 13.16	Rodent Control Bait Systems	

DIVISION 31

NUMBER	TITLE	EXPLANATION
31 31 13.19	Rodent Control Traps	
31 31 13.23	Rodent Control Electronic Systems	
31 31 13.26	Rodent Control Repellents	
31 31 16	Termite Control	
31 31 16.13	Chemical Termite Control	
31 31 16.16	Termite Control Bait Systems	
31 31 16.19	Termite Control Barriers	
31 31 19	Vegetation Control	
31 31 19.13	Chemical Vegetation Control	
31 31 33	Sanitary Vacuum System Piping	Includes: systems with onsite pneumatic vacuum valve sumps, where conveyance is under vacuum to a centralized vacuum station.

**31 32 00 Soil Stabilization**

Includes: addition and integration of material in and on soil to stabilize and strengthen soil material and the construction of which it is a part. Fully grouted, passive (non-tensioned) soil nails used to resist failure forces on slopes.

Alternate Terms/Abbreviations: soil mixing stabilization: soil modification: soil conditioning. Shotcrete: gunite.

See: 02 55 00 for remediation soil stabilization.

03 37 13 for shotcrete.

31 05 19 for geosynthetics for earthwork.

31 33 33 for shotcrete for rock stabilization.

31 34 19 for geosynthetic soil reinforcement.

31 35 19 for geosynthetic slope protection.

31 74 19 for shotcrete tunnel lining.

32 91 13 for soil preparation.

32 91 16 for planting soil stabilization.

31 32 13	Soil Mixing Stabilization	
31 32 13.13	Asphalt Soil Stabilization	
31 32 13.16	Cement Soil Stabilization	
31 32 13.19	Lime Soil Stabilization	
31 32 13.23	Fly-Ash Soil Stabilization	
31 32 13.26	Lime-Fly-Ash Soil Stabilization	
31 32 16	Chemical Treatment Soil Stabilization	
31 32 16.13	Polymer Emulsion Soil Stabilization	
31 32 17	Water Injection Soil Stabilization	
31 32 19	Geosynthetic Soil Stabilization and Layer Separation	
31 32 19.13	Geogrid Soil Stabilization	
31 32 19.16	Geotextile Soil Stabilization	
31 32 19.19	Geogrid Layer Separation	
31 32 19.23	Geotextile Layer Separation	
31 32 23	Pressure Grouting Soil Stabilization	
31 32 23.13	Cementitious Pressure Grouting Soil Stabilization	
31 32 23.16	Chemical Pressure Grouting Soil Stabilization	
31 32 33	Shotcrete Soil Slope Stabilization	
31 32 36	Soil Nailing	

NUMBER	TITLE	EXPLANATION
31 32 36.13	Driven Soil Nailing	
31 32 36.16	Grouted Soil Nailing	
31 32 36.19	Corrosion-Protected Soil Nailing	
31 32 36.23	Jet-Grouted Soil Nailing	
31 32 36.26	Launched Soil Nailing	
<b>31 33 00</b>	<b>Rock Stabilization</b>	
		Includes: various technologies to make an unstable rock slope more stable.
		Alternate Terms/Abbreviations: shotcrete: gunite.
		See: 03 37 13 for shotcrete. 31 32 33 for shotcrete for soil slope stabilization. 31 51 00 for excavation anchor tiebacks. 31 68 13 for rock foundation anchors. 31 72 13 for tunnel rock reinforcement and initial support. 31 74 19 for shotcrete tunnel lining.
31 33 13	Rock Bolting and Grouting	
31 33 23	Rock Slope Netting	
31 33 26	Rock Slope Wire Mesh	
31 33 33	Shotcrete Rock Slope Stabilization	
31 33 43	Vegetated Rock Slope Stabilization	
<b>31 34 00</b>	<b>Soil Reinforcement</b>	
		Includes: various technologies to reinforce the strength and stability of soils.
		Alternate Terms/Abbreviations: soil reinforcement: reinforced earth.
		See: 31 05 19 for geosynthetics for earthwork. 31 25 00 for erosion and sedimentation control. 31 32 19 for geosynthetic soil stabilization and layer separation. 31 35 19 for geosynthetic slope protection. 32 32 34 for reinforced soil retaining walls.
31 34 19	Geosynthetic Soil Reinforcement	
31 34 19.13	Geogrid Soil Reinforcement	
31 34 19.16	Geotextile Soil Reinforcement	
31 34 23	Fiber Soil Reinforcement	
31 34 23.13	Geosynthetic Fiber Soil Reinforcement	

NUMBER	TITLE	EXPLANATION
<b>31 35 00</b>	<b>Slope Protection</b>	Includes: various technologies to protect slopes from erosion.  See: 03 30 00 for CIP concrete. 03 40 00 for precast concrete. 04 22 00 for concrete unit masonry. 07 17 00 for bentonite waterproofing. 31 05 19 for geosynthetics for earthwork. 31 25 00 for erosion and sedimentation control. 31 32 19 for geosynthetic soil stabilization and layer separation. 31 34 19 for geosynthetic soil reinforcement. 31 56 00 for slurry walls. 31 56 13 for bentonite slurry walls. 35 42 35 for slope protection bank protection. 35 43 35 for slope protection scour protection.
31 35 19	Geosynthetic Slope Protection	
31 35 19.13	Geogrid Slope Protection	
31 35 19.16	Geotextile Slope Protection	
31 35 19.19	Slope Protection with Mulch Control Netting	
31 35 23	Slope Protection with Slope Paving	
31 35 23.13	Cast-in-Place Concrete Slope Paving	
31 35 23.16	Precast Concrete Slope Paving	
31 35 23.19	Concrete Unit Masonry Slope Paving	
31 35 26	Containment Barriers	
31 35 26.13	Clay Containment Barriers	
31 35 26.16	Geomembrane Containment Barriers	
31 35 26.23	Bentonite Slurry Trench	
<b>31 36 00</b>	<b>Gabions</b>	Includes: wire baskets filled with rock used for a variety of purposes.  Alternate Terms/Abbreviations: gabion boxes: gabion baskets.  See: 32 32 36 for gabion retaining walls. 35 31 19 for gabion revetments. 35 31 26 for gabion jetties. 35 31 29 for gabion groins. 35 42 36 for gabion bank protection. 35 43 36 for gabion scour protection.
31 36 13	Gabion Boxes	
31 36 19	Gabion Mattresses	
31 36 19.13	Vegetated Gabion Mattresses	

NUMBER	TITLE	EXPLANATION
<b>31 37 00</b>	<b>Riprap</b>	Includes: cover of rock used to stabilize slopes subject to water erosion intended to be permanent.  See: 35 42 37 for riprap bank protection. 35 43 37 for riprap scour protection.
31 37 13	Machined Riprap	
31 37 16	Non-Machined Riprap	
31 37 16.13	Rubble-Stone Riprap	
31 37 16.16	Concrete Unit Masonry Riprap	
31 37 16.19	Sacked Sand-Cement Riprap	
<b>31 40 00</b>	<b>Shoring and Underpinning</b>	Includes: underpinning, needling, grouting, and other methods of strengthening or shoring structures and earth to protect and stabilize existing construction.  See: 31 50 00 for excavation support and protection.
<b>31 41 00</b>	<b>Shoring</b>	Includes: temporary support of structural components and earth.  Alternate Terms/Abbreviations: trench shielding: trench boxing.  See: 31 51 00 for anchor tiebacks. 31 53 00 for cribbing and walers. 35 31 16 for steel sheet piling seawalls. 35 42 13 for steel sheet piling bank protection.
31 41 13	Timber Shoring	
31 41 16	Sheet Piling	
31 41 16.13	Steel Sheet Piling	
31 41 16.16	Plastic Sheet Piling	
31 41 19	Metal Hydraulic Shoring	
31 41 19.13	Aluminum Hydraulic Shoring	
31 41 23	Pneumatic Shoring	
31 41 33	Trench Shielding	
<b>31 43 00</b>	<b>Concrete Raising</b>	Includes: variety of technologies to raise sunken concrete.  Alternate Terms/Abbreviations: pressure grouting: slabjacking: mudjacking.  See: 02 43 16 for structure raising. 31 46 00 for needle beams. 31 48 00 for underpinning. 32 01 29 for concrete pavement raising.

DIVISION 31

NUMBER	TITLE	EXPLANATION
31 43 13	Pressure Grouting	
31 43 13.13	Concrete Pressure Grouting	
31 43 13.16	Polyurethane Pressure Grouting	
31 43 16	Compaction Grouting	
31 43 19	Mechanical Jacking	
<b>31 45 00</b>	<b>Vibroflotation and Densification</b>	
		Includes: activities requiring vibrator penetration at high depth to densify, reinforce, and stabilize loose soil or soft soils.
		Alternate Terms/Abbreviations: vibroflotation: vibro compaction.
31 45 13	Vibroflotation	
31 45 16	Densification	
<b>31 46 00</b>	<b>Needle Beams</b>	
		Includes: horizontal shoring members placed under or through a wall to support the structural load while performing work under the base of the wall.
		See: 31 43 00 for concrete raising. 31 48 00 for underpinning.
31 46 13	Cantilever Needle Beams	
<b>31 48 00</b>	<b>Underpinning</b>	
		Includes: replacing a structural element's foundation while the structural element remains in place.
		Alternate Terms/Abbreviations: micropiles: screw piles.
		See: 31 43 00 for concrete raising. 31 46 00 for needle beams. 31 63 33 for drilled micropiles.
31 48 13	Underpinning Piers	
31 48 19	Bracket Piers	
31 48 23	Jacked Piers	
31 48 33	Micropile Underpinning	
<b>31 50 00</b>	<b>Excavation Support and Protection</b>	
		Includes: permanent and temporary support of excavations and excavation enclosures, such as cofferdams, for construction below water and in water.
		See: 31 23 19 for dewatering. 31 40 00 for shoring and underpinning.

NUMBER	TITLE	EXPLANATION
<b>31 51 00</b>	<b>Anchor Tiebacks</b>	Includes: anchor assemblies to support excavations by grouted prestressed ties to earth or rock. Tendons, equipment, corrosion protection grout, drilling, anchor fabrication, grouting, and testing.  See: 31 33 13 for rock bolting and grouting. 31 41 00 for shoring. 31 68 00 for foundation anchors.
31 51 13	Excavation Soil Anchors	
31 51 16	Excavation Rock Anchors	
<b>31 52 00</b>	<b>Cofferdams</b>	Includes: watertight enclosures that allow construction operations below the surface of water.  See: 03 37 26 for underwater placed concrete. 31 64 00 for caissons. 35 53 00 for underwater construction.
31 52 13	Sheet Piling Cofferdams	
31 52 16	Timber Cofferdams	
31 52 19	Precast Concrete Cofferdams	
<b>31 53 00</b>	<b>Cribbing and Walers</b>	Includes: structural members to line and support the lining of an excavation.  Alternate Terms/Abbreviations: walers: whalers.  See: 31 41 00 for shoring.
31 53 13	Timber Cribwork	
<b>31 54 00</b>	<b>Ground Freezing</b>	Includes: stabilizing earthwork by freezing.  See: 31 66 19 for refrigerated foundations.
<b>31 56 00</b>	<b>Slurry Walls</b>	Includes: subsurface barriers constructed of trenches filled with a slurry mixture to impede or stop groundwater flow.  See: 07 17 00 for bentonite waterproofing. 31 35 26 for bentonite slurry trench containment barrier. 31 66 16 for slurry diaphragm foundation walls.



DIVISION 31

NUMBER	TITLE	EXPLANATION
31 56 13	Bentonite Slurry Walls	
31 56 13.13	Soil-Bentonite Slurry Walls	
31 56 13.16	Cement-Bentonite Slurry Walls	
31 56 13.19	Slag-Cement-Bentonite Slurry Walls	
31 56 13.23	Soil-Cement-Bentonite Slurry Walls	
31 56 13.26	Pozzolan-Bentonite Slurry Walls	
31 56 13.29	Organically-Modified Bentonite Slurry Walls	
31 56 16	Attipulgite Slurry Walls	
31 56 16.13	Soil-Attipulgite Slurry Walls	
31 56 19	Slurry-Geomembrane Composite Slurry Walls	
31 56 23	Lean Concrete Slurry Walls	
31 56 26	Bio-Polymer Trench Drain	

## 31 60 00 Special Foundations and Load-Bearing Elements

### 31 62 00 Driven Piles

Includes: driven deep pile foundations of various materials for support of structures.

May Include: reinforcement in cast-in-place concrete piles and concrete-filled steel piles.

Alternate Terms/Abbreviations: pressure-injected footings; compacted-expanded base-concrete piles.

See: 03 30 00 for CIP concrete.  
 03 40 00 for precast concrete.  
 05 12 00 for structural steel framing.  
 06 13 00 for heavy timber.  
 31 63 00 for bored piles.  
 31 66 13 for special piles.

31 62 13	Concrete Piles	
31 62 13.13	Cast-in-Place Concrete Piles	
31 62 13.16	Concrete Displacement Piles	
31 62 13.19	Precast Concrete Piles	
31 62 13.23	Prestressed Concrete Piles	
31 62 13.26	Pressure-Injected Footings	
31 62 16	Steel Piles	
31 62 16.13	Sheet Steel Piles	
31 62 16.16	Steel H Piles	
31 62 16.19	Unfilled Tubular Steel Piles	
31 62 19	Timber Piles	
31 62 23	Composite Piles	
31 62 23.13	Concrete-Filled Steel Piles	
31 62 23.16	Wood and Cast-in-Place Concrete Piles	

NUMBER	TITLE	EXPLANATION
<b>31 63 00</b>	<b>Bored Piles</b>	<p>Includes: bored and deep augered pile and drilled shaft and caisson construction for support of structures. Test and production piles.</p> <p>May Include: pile, shaft, or caisson reinforcement.</p> <p>Alternate Terms/Abbreviations: micropiles: screw piles. Fixed end caisson piles: rock socketed piles.</p> <p>See: 03 30 00 for cast-in-place concrete.  31 23 19 for dewatering.  31 40 00 for shoring and underpinning.  31 48 33 for micropile underpinning.  31 50 00 for excavation support and protection.  31 62 00 for driven piles.  31 66 13 for special piles.  35 53 00 for underwater construction.</p> <p>See Also: 03 20 00 for concrete reinforcement.</p>
31 63 13	Bored and Augered Test Piles	
31 63 16	Auger Cast Grout Piles	
31 63 19	Bored and Socketed Piles	
31 63 19.13	Rock Sockets for Piles	
31 63 23	Bored Concrete Piles	
31 63 23.13	Bored and Belled Concrete Piles	
31 63 23.16	Bored Friction Concrete Piles	
31 63 26	Drilled Caissons	
31 63 26.13	Fixed End Caisson Piles	
31 63 26.16	Concrete Caissons for Marine Construction	
31 63 29	Drilled Concrete Piers and Shafts	
31 63 29.13	Uncased Drilled Concrete Piers	
31 63 29.16	Cased Drilled Concrete Piers	
31 63 33	Drilled Micropiles	
<b>31 64 00</b>	<b>Caissons</b>	<p>Includes: sunken or driven load-bearing enclosures to protect excavation for foundations, promote substructure construction, and become part of permanent structure. Casing and reinforcement.</p> <p>See: 31 52 00 for cofferdams.  31 63 26 for drilled caissons.  35 53 00 for underwater construction.</p>
31 64 13	Box Caissons	
31 64 16	Excavated Caissons	
31 64 19	Floating Caissons	
31 64 23	Open Caissons	

DIVISION 31

NUMBER	TITLE	EXPLANATION
31 64 26	Pneumatic Caissons	
31 64 29	Sheeted Caissons	
<b>31 66 00</b>	<b>Special Foundations</b>	Includes: foundations of a special design, including load-bearing wall products and systems, crib stabilized, reinforced, and unit walls.  May Include: retaining walls.  See: 03 30 00 for cast-in-place concrete structures. 31 54 00 for ground freezing. 31 56 00 for slurry walls. 31 62 00 for driven piles. 31 63 00 for bored piles. 31 64 00 for caissons. 32 32 26 for metal crib retaining walls. 32 32 43 for soldier beam retaining walls.  See Also: 32 32 00 for retaining walls.
31 66 13	Special Piles	
31 66 13.13	Rammed Aggregate Piles	
31 66 15	Helical Foundation Piles	
31 66 16	Special Foundation Walls	
31 66 16.13	Anchored Foundation Walls	
31 66 16.23	Concrete Cribbing Foundation Walls	
31 66 16.26	Metal Cribbing Foundation Walls	
31 66 16.33	Manufactured Modular Foundation Walls	
31 66 16.43	Mechanically Stabilized Earth Foundation Walls	
31 66 16.46	Slurry Diaphragm Foundation Walls	
31 66 16.53	Soldier-Beam Foundation Walls	
31 66 16.56	Permanently-Anchored Soldier-Beam Foundation Walls	
31 66 19	Refrigerated Foundations	
<b>31 68 00</b>	<b>Foundation Anchors</b>	Includes: anchor assemblies to fasten deep foundations, walls, and similar elements to rock or other material. Tendons, equipment, corrosion protection grout, drilling, anchor fabrication, grouting, and testing.  See: 31 33 13 for rock bolting and grouting. 31 51 00 for excavation anchor tiebacks.
31 68 13	Rock Foundation Anchors	
31 68 16	Helical Foundation Anchors	

NUMBER	TITLE	EXPLANATION
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## 31 70 00 Tunneling and Mining

Includes: tunnel boring, bracing and jacking work, including excavating, linings and casings, grouting support systems, boring machines, control and spoil removal systems.

See: 03 30 00 for cast-in-place concrete.

31 23 19 for dewatering.

31 40 00 for shoring and underpinning.

31 52 00 for cofferdams.

33 05 07 for trenchless installation of utility piping.

## 31 71 00 Tunnel Excavation

Includes: moles and tunnel-boring machines. Rock excavation by boring machine, drill, and blast. Robotic processes.

See: 31 23 00 for excavation and fill.

31 50 00 for excavation support and protection.

31 72 00 for tunnel support systems.

33 05 07 for trenchless installation of utility piping.

31 71 13	Shield Driving Tunnel Excavation
31 71 16	Tunnel Excavation by Drilling and Blasting
31 71 19	Tunnel Excavation by Tunnel Boring Machine
31 71 23	Tunneling by Cut and Cover

## 31 72 00 Tunnel Support Systems

Includes: supports put in place as tunnel excavation proceeds.

See: 31 33 00 for rock stabilization.

31 71 00 for tunnel excavation.

31 74 00 for tunnel construction linings.

31 72 13	Rock Reinforcement and Initial Support
31 72 16	Steel Ribs and Lagging

## 31 73 00 Tunnel Grouting

Includes: stabilizing tunnel excavation by grouting.

See: 03 60 00 for grouting.

31 73 13	Cement Tunnel Grouting
31 73 16	Chemical Tunnel Grouting

DIVISION 31

NUMBER	TITLE	EXPLANATION
<b>31 74 00</b>	<b>Tunnel Construction</b>	Includes: lining of tunnel after tunnel excavation.  Alternate Terms/Abbreviations: shotcrete: gunite.  See: 03 30 00 for cast-in-place concrete. 03 40 00 for precast concrete. 31 72 00 for tunnel support systems. 31 77 00 for submersible tube tunnels.
31 74 13	Cast-in-Place Concrete Tunnel Lining	
31 74 16	Precast Concrete Tunnel Lining	
31 74 19	Shotcrete Tunnel Lining	
<b>31 75 00</b>	<b>Shaft Construction</b>	Includes: support systems for vertical shafts.  See: 03 30 00 for cast-in-place concrete. 03 40 00 for precast concrete.
31 75 13	Cast-in-Place Concrete Shaft Lining	
31 75 16	Precast Concrete Shaft Lining	
<b>31 77 00</b>	<b>Submersible Tube Tunnels</b>	Includes: construction of tunnels by installation of fabricated tunnel tubes.  See: 31 74 00 for tunnel construction.
31 77 13	Trench Excavation for Submerged Tunnels	
31 77 16	Tube Construction (Outfitting Tunnel Tubes)	
31 77 19	Floating and Laying Submerged Tunnels	

NUMBER	TITLE	EXPLANATION
<b>DIVISION 32 – EXTERIOR IMPROVEMENTS</b>		
<b>32 00 00</b>	<b>Exterior Improvements</b>	May be used as Division level Section title.

**32 01 00      Operation and Maintenance of Exterior Improvements**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of exterior improvements.

Alternate Terms/Abbreviations: pavement raising: pavement jacking. Reused: recycled.

Level 4 Numbering Recommendation: Level 4 titles for exterior improvements are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

See: 32 12 16 for seal coats.

32 01 11	Paving Cleaning
32 01 11.51	Rubber and Paint Removal from Paving
32 01 11.52	Rubber Removal from Paving
32 01 11.53	Paint Removal from Paving
32 01 13	Flexible Paving Surface Treatment
32 01 13.61	Slurry Seal (Latex Modified)
32 01 13.62	Asphalt Surface Treatment
32 01 16	Flexible Paving Rehabilitation
32 01 16.71	Cold Milling Asphalt Paving
32 01 16.72	Asphalt Paving Reuse
32 01 16.73	In Place Cold Reused Asphalt Paving
32 01 16.74	In Place Hot Reused Asphalt Paving
32 01 16.75	Heater Scarifying of Asphalt Paving
32 01 17	Flexible Paving Repair
32 01 17.61	Sealing Cracks in Asphalt Paving
32 01 17.62	Stress-Absorbing Membrane Interlayer
32 01 19	Rigid Paving Surface Treatment
32 01 19.61	Sealing of Joints in Rigid Paving
32 01 19.62	Patching of Rigid Paving
32 01 23	Base Course Reconditioning
32 01 26	Rigid Paving Rehabilitation
32 01 26.71	Grooving of Concrete Paving

DIVISION 32

NUMBER	TITLE	EXPLANATION
32 01 26.72	Grinding of Concrete Paving	
32 01 26.73	Milling of Concrete Paving	
32 01 26.74	Concrete Overlays	
32 01 26.75	Concrete Paving Reuse	
32 01 29	Rigid Paving Repair	
32 01 29.61	Partial Depth Patching of Rigid Paving	
32 01 29.62	Concrete Paving Raising	
32 01 29.63	Subsealing and Stabilization	
32 01 30	Operation and Maintenance of Site Improvements	
32 01 30.13	Snow Removal	
32 01 80	Operation and Maintenance of Irrigation	
32 01 90	Operation and Maintenance of Planting	See: 31 13 00 for selective tree and shrub removal and trimming. 32 90 00 for maintenance of new planting as part of construction contract. 32 91 00 for planting preparation. 32 96 00 for transplanting.
32 01 90.13	Fertilizing	
32 01 90.16	Amending Soils	
32 01 90.19	Mowing	
32 01 90.23	Pruning	
32 01 90.26	Watering	
32 01 90.29	Topsoil Preservation	
32 01 90.33	Tree and Shrub Preservation	

**32 05 00 Common Work Results for Exterior Improvements**

Includes: subjects common to multiple titles in Division 32.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

02 05 19 for geosynthetics for existing conditions.

31 05 13 for soils for earthwork.

31 05 16 for aggregates for earthwork.

31 05 19 for geosynthetics for earthwork.

31 05 23 for cement and concrete for earthwork.

32 05 05 Selective Demolition for Exterior Improvements

See: 02 41 19 for selective demolition for whole structure demolition.

32 05 13 Soils for Exterior Improvements

32 05 16 Aggregates for Exterior Improvements

32 05 19 Geosynthetics for Exterior Improvements

32 05 19.13 Geotextiles for Exterior Improvements

32 05 19.16 Geomembranes for Exterior Improvements

32 05 19.19 Geogrids for Exterior Improvements

32 05 23 Cement and Concrete for Exterior Improvements

32 05 33 Common Work Results for Planting

NUMBER	TITLE	EXPLANATION
<b>32 06 00</b>	<b>Schedules for Exterior Improvements</b>	Includes: schedules of items common to multiple titles in Division 32.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
32 06 10	Schedules for Bases, Ballasts, and Paving	
32 06 10.13	Pedestrian Walkway Schedule	
32 06 30	Schedules for Site Improvements	
32 06 30.13	Retaining Wall Schedule	
32 06 80	Schedules for Irrigation	
32 06 80.13	Irrigation Piping Schedule	
32 06 90	Schedules for Planting	
32 06 90.13	Planting Schedule	
<b>32 08 00</b>	<b>Commissioning of Exterior Improvements</b>	Includes: commissioning of items common to multiple titles in Division 32.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
<b>32 10 00</b>	<b>Bases, Ballasts, and Paving</b>	Includes: granular, concrete, treated, synthetic, and other materials that comprise the structure; paving, and surfacing for walks, parking lots, roads, streets, highways, rail transportation, airfields, and athletic playing surfaces. Curbs, gutters, and paving specialties.  See: 03 10 00 for concrete forming. 03 20 00 for concrete reinforcement. 03 30 00 for cast-in-place concrete. 34 10 00 for guideways/railways. 34 71 00 for roadway construction. 34 72 00 for railway construction.



NUMBER	TITLE	EXPLANATION
<b>32 11 00</b>	<b>Base Courses</b>	Includes: bound and unbound base and subbase courses that separate flexible, rigid, or unit paving courses from the underlying foundation or subgrade. Bound and unbound base and subbase courses that separate rail track supports from the underlying foundation or subgrade.  See: 31 20 00 for subgrade and roadbed. 31 24 13 for roadway embankments. 31 24 16 for railway embankments. 32 01 23 for base course reconditioning. 32 12 00 for flexible paving. 32 13 00 for rigid paving. 32 14 00 for unit paving. 34 11 00 for rail tracks. 34 71 00 for roadway construction. 34 72 00 for railway construction.
32 11 13	Subgrade Modifications	
32 11 13.13	Lime-Treated Subgrades	
32 11 13.16	Bituminous-Treated Subgrades	
32 11 16	Subbase Courses	
32 11 16.13	Sand-Clay Subbase Courses	
32 11 16.16	Aggregate Subbase Courses	
32 11 23	Aggregate Base Courses	Includes: crushed aggregate, caliche, and lime rock base courses.
32 11 23.13	Sand-Clay Base Courses	
32 11 23.23	Base Course Drainage Layers	
32 11 26	Asphaltic Base Courses	
32 11 26.13	Plant Mix Asphaltic Base Courses	
32 11 26.16	Road Mix Asphaltic Base Courses	
32 11 26.19	Bituminous-Stabilized Base Courses	
32 11 29	Lime Treated Base Courses	
32 11 29.13	Lime-Fly Ash-Treated Base Courses	
32 11 33	Cement-Treated Base Courses	
32 11 33.13	Portland Cement-Stabilized Base Courses	
32 11 36	Concrete Base Courses	
32 11 36.11	Soil-Cement Concrete Base Courses	
32 11 36.13	Lean Concrete Base Courses	
32 11 36.16	Plain Cement Concrete Base Courses	
32 11 36.19	Hydraulic Cement Concrete Base Courses	
32 11 39	Shell Base Course	

NUMBER	TITLE	EXPLANATION
<b>32 12 00</b>	<b>Flexible Paving</b>	Includes: pavements above base course, including conventional and modified pavements for a variety of applications. Asphaltic scratch or leveling courses, bituminous binder courses, and bituminous concrete wearing courses. Tack coats and prime coats.  May Include: base courses.  Alternate Terms/Abbreviations: paving: bituminous paving: bituminous concrete: blacktop. Porous paving: pervious paving.  See: 32 01 13 for flexible paving surface treatment. 32 01 16 for flexible paving rehabilitation. 32 01 17 for flexible paving repair. 32 13 00 for rigid paving. 32 14 00 for unit paving. 32 14 43 for porous unit paving. 32 16 13 for curbs and gutters. 41 66 19 for mobile paving equipment.  See Also: 32 11 00 for base courses.
32 12 13	Preparatory Coats	
32 12 13.13	Tack Coats	
32 12 13.16	Asphaltic Tack Coats	
32 12 13.19	Prime Coats	
32 12 13.23	Asphaltic Prime Coats	
32 12 16	Asphalt Paving	
32 12 16.13	Plant-Mix Asphalt Paving	
32 12 16.16	Road-Mix Asphalt Paving	
32 12 16.19	Cold-Mix Asphalt Paving	
32 12 16.23	Reinforced Asphalt Paving	
32 12 16.26	Fiber-Modified Asphalt Paving	
32 12 16.29	Polymer-Modified Asphalt Paving	
32 12 16.33	Granulated Rubber-Modified Asphalt Paving	
32 12 16.36	Athletic Asphalt Paving	
32 12 19	Asphalt Paving Wearing Courses	
32 12 19.13	Road-Mix Asphalt Paving Wearing Courses	
32 12 19.16	Resin-Modified Asphalt Paving Wearing Courses	
32 12 19.19	Porous Friction Asphalt Paving Wearing Courses	
32 12 33	Flexible Paving Surface Treatments	
32 12 36	Seal Coats	
32 12 36.13	Asphaltic Seal and Fog Coats	
32 12 36.16	Coal Tar Seal Coats	
32 12 36.19	Coal Tar Seal Coats with Unvulcanized Rubber	
32 12 36.23	Fuel-Resistant Sealers	
32 12 43	Porous Flexible Paving	
32 12 73	Asphalt Paving Joint Sealants	

NUMBER	TITLE	EXPLANATION
<b>32 13 00</b>	<b>Rigid Paving</b>	Includes: rigid cement concrete pavements above base course, including conventional modified pavements for a variety of applications.  May Include: base courses.  See: 03 35 23 for exposed aggregate concrete finishing. 03 35 33 for stamped concrete finishing. 03 37 23 for roller-compacted concrete. 32 01 19 for rigid paving surface treatment. 32 01 26 for rigid paving rehabilitation. 32 01 29 for rigid paving repair. 32 12 00 for flexible paving. 32 14 00 for unit paving. 32 16 13 for curbs and gutters. 41 66 19 for mobile paving equipment.  See Also: 32 11 00 for base courses.
32 13 13	Concrete Paving	
32 13 13.13	Exposed Aggregate Concrete Paving	
32 13 13.16	Power-Compacted Concrete Paving	
32 13 13.17	Roller-Compacted Concrete Paving	
32 13 13.19	Prestressed Concrete Paving	
32 13 13.23	Concrete Paving Surface Treatment	
32 13 13.26	Stained Concrete Paving	
32 13 13.33	Plain Concrete Paving	Alternate Terms/Abbreviations: unreinforced concrete paving.
32 13 16	Decorative Concrete Paving	
32 13 16.13	Patterned Concrete Paving	
32 13 16.19	Imprinted Concrete Paving	
32 13 16.23	Stamped Concrete Paving	
32 13 43	Pervious Concrete Paving	Alternate Terms/Abbreviations: porous concrete.
32 13 73	Concrete Paving Joint Sealants	
32 13 73.13	Fuel-Resistant Concrete Paving Joint Sealants	
32 13 73.16	Field-Molded Concrete Paving Joint Sealants	
32 13 73.19	Compression Concrete Paving Joint Sealants	

NUMBER	TITLE	EXPLANATION
<b>32 14 00</b>	<b>Unit Paving</b>	Includes: pavers laid on a prepared surface or base.  May Include: base courses.  Alternate Terms/Abbreviations: porous unit paving; pervious unit paving.  See: 32 12 00 for flexible paving. 32 12 43 for porous flexible paving. 32 13 00 for rigid paving. 32 16 13 for curbs and gutters. 32 92 00 for grasses. 32 93 13 for ground covers.  See Also: 32 11 00 for base courses.
32 14 13	Precast Concrete Unit Paving	
32 14 13.13	Interlocking Precast Concrete Unit Paving	
32 14 13.16	Precast Concrete Unit Paving Slabs	
32 14 13.19	Porous Precast Concrete Unit Paving	
32 14 16	Brick Unit Paving	
32 14 23	Asphalt Unit Paving	
32 14 26	Wood Paving	
32 14 29	Rubber Paving	
32 14 33	Plastic Paving	
32 14 33.13	Permeable Plastic Paving	
32 14 40	Stone Paving	
32 14 43	Porous Unit Paving	
<b>32 15 00</b>	<b>Aggregate Surfacing</b>	Includes: aggregate-only surfacing and binding agents for aggregate surfacing.
32 15 13	Cinder Surfacing	
32 15 40	Crushed Stone Surfacing	
32 15 50	Aggregate-Turf Pavement	Includes: soil-bound stone, gravel, or sand with seedbed soil.
<b>32 16 00</b>	<b>Curbs, Gutters, Sidewalks, and Driveways</b>	See: 03 30 00 for cast-in-place concrete. 03 40 00 for precast concrete. 32 12 00 for flexible paving. 32 13 00 for rigid paving. 32 14 00 for unit paving.
32 16 13	Curbs and Gutters	
32 16 13.13	Cast-in-Place Concrete Curbs and Gutters	
32 16 13.16	Steel Faced Curbs	
32 16 13.23	Precast Concrete Curbs and Gutters	

DIVISION 32

NUMBER	TITLE	EXPLANATION
32 16 13.33	Asphalt Curbs	
32 16 13.43	Stone Curbs	
32 16 23	Sidewalks	
32 16 33	Driveways	
<b>32 17 00</b>	<b>Paving Specialties</b>	Includes: special construction to enhance the safety and functionality of paved surfaces.  See: 26 56 00 for exterior lighting. 34 71 13 for vehicle barriers. 34 71 16 for impact attenuating devices. 34 71 19 for vehicle delineators.
32 17 13	Parking Bumpers	Includes: bumpers to facilitate parking of vehicles.  See: 03 48 26 for precast concrete parking bumpers.
32 17 13.13	Metal Parking Bumpers	
32 17 13.16	Plastic Parking Bumpers	
32 17 13.19	Precast Concrete Parking Bumpers	
32 17 13.23	Rubber Parking Bumpers	
32 17 13.26	Wood Parking Bumpers	
32 17 16	Manufactured Traffic-Calming Devices	Includes: preformed rubber or plastic traffic-calming devices; including speed bumps, speed humps, and speed cushions; applied to pavement.  Does Not Include: site-formed or cut calming items integral with the paving.
32 17 23	Pavement Markings	Includes: informational and directional markings on pavement.  See: 10 14 00 for signage.  See Also: 09 91 00 for painting pavement markings.
32 17 23.13	Painted Pavement Markings	Includes: game and athletic marking.
32 17 23.23	Raised Pavement Markings	
32 17 23.33	Plastic Pavement Markings	
32 17 26	Tactile Warning Surfacing	Includes: modified walking surface textures and colors to provide information and warning about conditions to visually impaired.  See: 10 14 00 for signage.

NUMBER	TITLE	EXPLANATION
32 17 29	Pavement Embedded Warning Lights	See: 34 41 33 for public and large private roadway installations.
32 17 43	Pavement Snow Melting Systems	
<b>32 18 00</b>	<b>Athletic and Recreational Surfacing</b>	Includes: surfaces for exterior athletic and recreational activities.  Alternate Terms/Abbreviations: athletic surfacing: sports surfacing.  See: 09 64 66 for wood athletic flooring. 09 65 66 for resilient athletic flooring. 09 67 66 for fluid-applied athletic flooring. 11 68 13 for playground equipment. 11 68 16 for play structures. 11 68 23 for exterior court athletic equipment. 11 68 33 for athletic field equipment. 13 28 66 for demountable athletic surfaces. 32 31 13 for recreational and tennis court fences and gates. 32 31 13 for chain link backstops for softball and baseball.
32 18 13	Synthetic Grass Surfacing	
32 18 16	Synthetic Resilient Surfacing	
32 18 16.13	Playground Protective Surfacing	
32 18 23	Athletic Surfacing	
32 18 23.13	Baseball Field Surfacing	
32 18 23.16	Natural Baseball Field Surfacing	
32 18 23.19	Synthetic Baseball Field Surfacing	
32 18 23.23	Field Sport Surfacing	
32 18 23.26	Natural Field Sport Surfacing	
32 18 23.29	Synthetic Field Sport Surfacing	
32 18 23.33	Running Track Surfacing	
32 18 23.36	Natural Running Track Surfacing	
32 18 23.39	Synthetic Running Track Surfacing	
32 18 23.43	Recreational Court Surfacing	
32 18 23.53	Tennis Court Surfacing	
32 18 23.56	Natural Tennis Court Surfacing	
32 18 23.59	Synthetic Tennis Court Surfacing	
32 18 23.63	Equestrian Surfacing	

## **32 30 00 Site Improvements**

Includes: variety of exterior improvements.

NUMBER	TITLE	EXPLANATION
<b>32 31 00</b>	<b>Fences and Gates</b>	Includes: fences for protective, security, decorative, recreational, and right-of-way applications. Protective fence for bridge parapets and sidewalks. Gate operators.  See: 01 56 26 for temporary fencing. 02 58 13 for snow fencing. 10 22 13 for wire mesh partitions. 11 68 00 for play field equipment and structures. 13 19 13 for kennel enclosures and gates.
32 31 11	Gate Operators	
32 31 13	Chain Link Fences and Gates	
32 31 13.23	Recreational Court Fences and Gates	
32 31 13.26	Tennis Court Fences and Gates	
32 31 13.29	Tennis Court Wind Breaker	
32 31 13.33	Chain Link Backstops	
32 31 13.53	High-Security Chain Link Fences and Gates	
32 31 16	Welded Wire Fences and Gates	
32 31 17	Expanded Metal Fences and Gates	
32 31 19	Decorative Metal Fences and Gates	
32 31 19.53	Decorative Metal Security Fences and Gates	Includes: decorative metallic-coated-steel security fences, including posts, rails, pickets, swing gates, horizontal-slide gates, gate operators and controls, and hardware.
32 31 23	Plastic Fences and Gates	
32 31 26	Wire Fences and Gates	
32 31 26.11	Wire Fences with Wood Posts	
32 31 26.13	Wire Fences with Steel Posts	
32 31 29	Wood Fences and Gates	
32 31 32	Composite Fences and Gates	
32 31 53	Cattle Guards	
32 31 56	Wild Life Deterrent Fence	

NUMBER	TITLE	EXPLANATION
<b>32 32 00</b>	<b>Retaining Walls</b>	Includes: retaining walls of any construction associated with exterior construction.  See: 03 30 00 for cast-in-place concrete. 03 40 00 for precast concrete. 04 22 33 for interlocking concrete unit masonry. 06 13 00 for heavy timber. 31 34 00 for soil reinforcement. 31 36 00 for gabions. 31 66 16 for metal cribbing foundation walls. 35 31 19 for gabion revetments. 35 31 26 for gabion jetties. 35 31 29 for gabion groins. 35 42 36 for gabion bank protection. 35 43 36 for gabion scour protection.  See Also: 03 30 00 for cast-in-place concrete retaining walls. 03 40 00 for precast concrete retaining walls. 33 41 33 for retaining wall drainage.
32 32 13	Cast-in-Place Concrete Retaining Walls	
32 32 16	Precast Concrete Retaining Walls	
32 32 19	Unit Masonry Retaining Walls	
32 32 23	Segmental Retaining Walls	
32 32 23.13	Segmental Concrete Unit Masonry Retaining Walls	
32 32 23.16	Manufactured Modular Walls	
32 32 26	Metal Crib Retaining Walls	
32 32 29	Timber Retaining Walls	
32 32 34	Reinforced Soil Retaining Walls	
32 32 36	Gabion Retaining Walls	
32 32 43	Soldier-Beam Retaining Walls	
32 32 53	Stone Retaining Walls	
<b>32 33 00</b>	<b>Site Furnishings</b>	Includes: furniture and fixtures for exterior applications.  See: 12 60 00 for multiple seating. 12 68 00 for interior seat and table assemblies. 12 92 00 for interior planters and artificial plants. 32 90 00 for planting. 32 93 00 for live plants. 32 94 33 for planters.  See Also: 32 94 33 for manufactured planters.
32 33 13	Site Bicycle Racks	
32 33 14	Site Bicycle Lockers	
32 33 15	Site Bicycle Shelters	
32 33 23	Site Trash and Litter Receptacles	



NUMBER	TITLE	EXPLANATION
32 33 33	Site Manufactured Planters	
32 33 43	Site Seating and Tables	
32 33 43.13	Site Seating	
32 33 43.53	Site Tables	

### **32 34 00 Fabricated Bridges**

Includes: fabricated bridges for foot and vehicular traffic.

See: 05 12 33 for structural steel for bridges.  
 05 16 33 for bridge cabling.  
 34 81 00 for bridge machinery.  
 34 82 00 for bridge specialties.

32 34 13	Fabricated Pedestrian Bridges	
32 34 23	Fabricated Roadway Bridges	
32 34 33	Fabricated Railway Bridges	

### **32 35 00 Screening Devices**

Includes: self-supporting walls for noise control, safety, protection, and privacy.

Alternate Terms/Abbreviations: sound barriers: highway sound barriers.

See: 06 49 19 for wood screens and exterior wood shutters.  
 10 71 13 for exterior sun control devices.  
 10 82 13 for exterior grilles and screens.  
 34 73 19 for jet blast barriers.

32 35 13	Screens and Louvers	
32 35 16	Sound Barriers	
32 35 23	Fire Barriers	
32 35 26	Blast Barriers	

### **32 39 00 Manufactured Site Specialties**

32 39 13	Manufactured Metal Bollards	
32 39 13.11	Manufactured Metal Security Bollards	
32 39 16	Manufactured Fire Pits	
32 39 33	Artificial Rock Fabrications	

### **32 70 00 Wetlands**

Includes: construction and restoration of excavated basins with purposely placed wetland vegetation to enhance pollutant removal from stormwater runoff.

See: 02 50 00 for site remediation.  
 22 14 00 for facility storm drainage.  
 31 20 00 for earth moving.  
 33 40 00 for storm drainage utilities.

NUMBER	TITLE	EXPLANATION
<b>32 71 00</b>	<b>Constructed Wetlands</b>	
<b>32 72 00</b>	<b>Wetlands Restoration</b>	
<b>32 80 00</b>	<b>Irrigation</b>	Includes: pipe underground or surface systems with equipment, piping, sprinkler heads, valves, and controls.  See: 11 92 00 for agricultural equipment. 11 93 00 for horticultural equipment. 13 34 13 for greenhouses. 22 11 00 for facility water distribution. 32 90 00 for planting. 33 14 00 for water utility transmission and distribution.
<b>32 81 00</b>	<b>Irrigation Components</b>	
32 81 13	Irrigation Intake Screens	
<b>32 82 00</b>	<b>Irrigation Pumps</b>	
<b>32 84 00</b>	<b>Planting Irrigation</b>	
32 84 13	Drip Irrigation	
32 84 23	Underground Sprinklers	
<b>32 86 00</b>	<b>Agricultural Irrigation</b>	
<b>32 90 00</b>	<b>Planting</b>	Includes: planting and transplanting of trees, shrubs, vines, and other herbaceous plants; temporary storage, layout, bed preparation, preparation of pits, pruning, planting, fertilizing, and backfilling, wrapping, staking and guying, protection, edging, and maintenance of new plantings when part of construction or landscaping contract.  See: 01 56 39 for temporary tree and plant protection. 31 13 00 for selective tree and shrub removal and trimming. 31 14 13 for topsoil stripping and stockpiling. 31 22 19 for finish grading. 32 01 90 for maintenance for existing planting. 32 84 00 for planting irrigation.

NUMBER	TITLE	EXPLANATION
<b>32 91 00</b>	<b>Planting Preparation</b>	Includes: tillage and plant bed preparation, protection, and stabilization.  Usually Includes: netting, blankets, and stabilizer mats for stabilizing soil and establishing plants.  See: 31 14 13 for topsoil stripping and stockpiling. 31 22 19 for finish grading. 31 31 19 for vegetation control. 31 32 13 for soil mixing stabilization. 32 01 90 for fertilizing and amending soils for maintenance.
32 91 13	Soil Preparation	
32 91 13.13	Hydro-Punching	
32 91 13.16	Mulching	
32 91 13.19	Planting Soil Mixing	
32 91 13.23	Structural Soil Mixing	
32 91 13.26	Planting Beds	
32 91 16	Planting Soil Stabilization	
32 91 16.13	Blanket Planting Soil Stabilization	
32 91 16.16	Mat Planting Soil Stabilization	
32 91 16.19	Netting Planting Soil Stabilization	
32 91 19	Landscape Grading	
32 91 19.13	Topsoil Placement and Grading	
<b>32 92 00</b>	<b>Turf and Grasses</b>	Includes: application of seed, sod, or plants, fertilizer, lime, and mulch, and maintenance until acceptance.  May Include: soil preparation and finish grading with topsoil, and planting accessories.  See: 31 25 00 for erosion and sedimentation control. 32 14 43 for porous unit paving.  See Also: 31 22 19 for finish grading. 32 91 00 for planting preparation. 32 94 00 for planting accessories.
32 92 13	Hydro-Mulching	
32 92 16	Plugging	
32 92 19	Seeding	
32 92 19.13	Mechanical Seeding	
32 92 19.16	Hydraulic Seeding	
32 92 23	Sodding	
32 92 26	Sprigging	
32 92 26.13	Stolonizing	

NUMBER	TITLE	EXPLANATION
<b>32 93 00</b>	<b>Plants</b>	<p>Includes: planting pits, pruning, planting, supplements, backfilling, wrapping, staking, and guying, protection, and maintenance of new plantings as part of construction or landscaping contract.</p> <p>May Include: soil preparation and finish grading with topsoil, and planting accessories.</p> <p>See: 12 92 33 for interior planters.  31 13 00 for selective tree and shrub removal and trimming.  32 01 90 for pruning for maintenance of shrubs and trees.  32 14 43 for porous unit paving.  32 96 00 for transplanting.</p> <p>See Also: 31 22 19 for finish grading.  32 91 00 for planting preparation.  32 94 00 for planting accessories.</p>
32 93 13	Ground Covers	
32 93 23	Plants and Bulbs	
32 93 33	Shrubs	
32 93 43	Trees	
32 93 93	Exterior Artificial Plants	
<b>32 94 00</b>	<b>Planting Accessories</b>	<p>Includes: accessories to separate, house, and protect plants.</p> <p>May Include: interior planters, manufactured planters.</p> <p>See: 13 34 13 for greenhouses.  32 14 43 for porous unit paving.</p> <p>See Also: 12 92 33 for interior planters.</p>
32 94 13	Landscape Edging	
32 94 16	Landscape Timbers	
32 94 19	Landscape Surfacing	
32 94 33	Planters	
32 94 43	Tree Grates	
32 94 46	Tree Grids	
<b>32 95 00</b>	<b>Exterior Planting Support Structures</b>	<p>Includes: trellis, treillage, green wall, arbor, and climbing support netting.</p>

NUMBER	TITLE	EXPLANATION
<b>32 96 00</b>	<b>Transplanting</b>	<p>Includes: relocation of plant material. Application of antidesiccant and antitranspirant, excavation, replanting, pruning, watering, and maintenance of transplanted shrubs and trees.</p> <p>Alternate Terms/Abbreviations: transplanting: replanting.</p> <p>See: 31 13 00 for selective tree and shrub removal and trimming. 32 93 00 for plants.</p>
32 96 13	Ground Cover Transplanting	
32 96 23	Plant and Bulb Transplanting	
32 96 33	Shrub Transplanting	
32 96 43	Tree Transplanting	

NUMBER	TITLE	EXPLANATION
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## DIVISION 33 – UTILITIES

### 33 00 00 Utilities

May be used as Division level Section title.

See: 02 41 13 for selective demolition of existing utilities.  
 03 30 00 for cast-in-place concrete.  
 09 90 00 for field painting.  
 31 23 33 for trenching and backfilling.  
 40 60 00 and 40 70 00 for process instrumentation and controls.  
 43 20 00 for process liquid pumps in specially constructed (non-packaged) pumping stations.  
 43 40 00 for fabricated process storage tanks at a facility.

### 33 01 00 Operation and Maintenance of Utilities

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of utilities.

Level 4 Numbering Recommendation: Level 4 titles for utilities are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.  
 .61-.69 for repair.  
 .71-.79 for rehabilitation.  
 .81-.89 for replacement.  
 .91-.99 for restoration.

See: 09 97 00 for surface preparation and painting of existing water storage tanks.

#### 33 01 10 Operation and Maintenance of Water Utilities

##### 33 01 10.51 Water Utility Intake Cleaning and Maintenance

Includes: cleaning of water intake structures and intake conduits, including removal of sediment and aquatic organisms.

##### 33 01 10.52 Reservoir Maintenance

##### 33 01 10.53 Flushing of Water Utility Piping

##### 33 01 10.54 Cleaning of Water Utility Piping

Includes: cleaning of transmission and distribution system piping by methods other than flushing. Includes dewatering and removal of sediment and other matter.

DIVISION 33

NUMBER	TITLE	EXPLANATION
33 01 10.56	Cleaning of Water Utility Storage Tanks	
33 01 10.57	Disinfection of Water Supply Wells	
33 01 10.58	Disinfection of Water Utility Piping Systems	
33 01 10.59	Disinfection of Water Utility Storage Tanks	
33 01 10.81	Water Supply Well Abandonment	
33 01 10.91	Rehabilitation of Water Supply Wells	
33 01 10.92	Redevelopment of Water Supply Wells	
33 01 12	Inspection and Testing of Water Utilities	
33 01 12.11	Leakage Detection	
33 01 12.13	Electrical Continuity Testing	
33 01 30	Operation and Maintenance of Sewer Utilities	
33 01 30.11	Television Inspection of Sewers	
33 01 30.13	Dye Testing of Sewers	
33 01 30.16	Smoke Testing	
33 01 30.23	Pipe Bursting	
33 01 30.41	Cleaning of Sewers	
33 01 30.42	Cleaning of Manholes	
33 01 30.43	Removal of Protruding Service Connection	
33 01 30.44	Chemical Treatment of Roots in Sewer Lines	
33 01 30.61	Packer Injection Grouting	
33 01 30.72	Cured-in-Place Pipe Lining	Includes: cured-in-place lining by water, steam, and ultraviolet inversion methods.
33 01 30.73	Cured-in-Place Point Repair	
33 01 30.74	Cured-in-Place Lateral Lining	
33 01 30.77	Cured-in-Place Lateral Shortliners	
33 01 30.79	Fold-and-Form Pipe Lining	
33 01 30.81	Manhole Rehabilitation	
33 01 30.82	Epoxy Lining for Concrete Manholes	
33 01 30.84	Manhole Inserts	
33 01 30.86	Manhole Rim Adjustment	
33 01 34	Operation and Maintenance of Onsite Wastewater Disposal Systems	
33 01 34.13	Septic Tank Solids Removal	
33 01 34.14	Septic Tank Maintenance	Includes: probiotic additives, chlorine tablets, and other work results associated with routine maintenance of septic tanks.
33 01 34.19	Septic Tank Abandonment	
33 01 34.33	Maintenance of Onsite Sand Filters	
33 01 50	Operation and Maintenance of Hydrocarbon Utilities	
33 01 50.53	Cleaning of Hydrocarbon Conveyance Piping	
33 01 50.56	Cleaning of Hydrocarbon Storage Tanks	
33 01 50.73	Relining of Hydrocarbon Conveyance Piping	
33 01 50.76	Relining of Steel Hydrocarbon Storage Tanks	
33 01 50.81	Hydrocarbon Well Abandonment	
33 01 50.91	Rehabilitation of Hydrocarbon Wells	
33 01 60	Operation and Maintenance of Hydronic and Steam Energy Utilities	
33 01 70	Operation and Maintenance of Electrical Utilities	
33 01 70.51	Electrical Utility Visual Inspection	
33 01 70.52	Electrical Utility Thermographic Surveys	
33 01 70.53	Electrical Utility Insulation Testing	
33 01 70.54	Electrical Utility Insulating Oil/Fluid Analysis	
33 01 80	Operation and Maintenance of Communications Utilities	

NUMBER	TITLE	EXPLANATION
33 01 80.51	Communication Utility Visual Inspection	
33 01 80.52	Communication Utility Thermographic Surveys	
<b>33 05 00</b>	<b>Common Work Results for Utilities</b>	Includes: subjects common to multiple titles in Division 33.
		Alternate Terms/Abbreviations: ABS: acrylonitrile butadiene styrene. PVC: polyvinyl chloride. PCCP: prestressed concrete cylinder pipe. BWP: bar-wrapped concrete pressure pipe steel cylinder type or bar-wrapped pipe. HDPE: high-density polyethylene.
		See: 01 80 00 for performance requirements of subjects common to multiple titles. 26 05 53 for identification for electrical systems. 31 23 33 for trenching and backfilling. 33 41 00 for subdrainage. 33 42 13 for stormwater culverts. 40 05 00 for common work results for exposed process piping. 40 05 00 for valves used in utilities and process service.
33 05 04	Selective Demolition for Utilities	
33 05 05	Buried Piping Installation	
33 05 05.11	Installing Bell-and-Spigot Joints	
33 05 05.13	Installing Push-on Joints	
33 05 05.15	Installing Butt-and-Strap Joints	
33 05 05.16	Installing Mechanical Joints	
33 05 05.18	Installing Restrained Joints	
33 05 05.19	Fusing Joints	
33 05 05.31	Hydrostatic Testing	
33 05 05.33	Infiltration and Exfiltration Testing	
33 05 05.36	Vacuum Testing	
33 05 05.41	Air Testing	
33 05 05.43	Mandrel Testing	
33 05 05.46	Lamp Testing	
33 05 07	Trenchless Installation of Utility Piping	
33 05 07.13	Utility Directional Drilling	
33 05 07.23	Utility Boring and Jacking	
33 05 07.24	Casing Piping for Utility Jacking	
33 05 07.33	Tunnelling	
33 05 07.36	Microtunnelling	
33 05 07.43	Utility Impact Molding	
33 05 07.53	Cable Trenching and Plowing	
33 05 09	Piping Specials for Utilities	
33 05 09.13	Couplings for Utility Piping	
33 05 09.23	Adapters for Utility Piping	
33 05 09.33	Thrust Restraint for Utility Piping	
33 05 09.43	Tapping Sleeves and Saddles for Utility Piping	
33 05 11	Aluminum Utility Pipe	
33 05 12	Brass Utility Pipe	
33 05 16	Cast-Iron Utility Pipe	
33 05 17	Copper Utility Pipe and Tubing	



DIVISION 33

NUMBER	TITLE	EXPLANATION
33 05 19	Ductile-Iron Utility Pipe	
33 05 21	High-Alloy Nickel Utility Pipe and Tubing	
33 05 23	Stainless Steel Utility Pipe and Tubing	
33 05 23.13	Duplex and Super-Duplex Stainless Steel Utility Pipe	
33 05 23.23	300- and 400-Series Stainless Steel Utility Pipe	
33 05 23.33	Special-Fabrication Stainless Steel Utility Pipe and Tubing	
33 05 24	Steel Utility Pipe	
33 05 24.13	Steel Pipe and Tubing for Air and Gas Service	
33 05 24.23	Steel Pipe for Water Service	
33 05 24.26	Steel Pipe and Tubing for Utility Liquid Service	
33 05 24.33	Steel Pipe for Bulk Materials Conveyance	
33 05 27	Corrugated Metal Utility Pipe	
33 05 27.13	Corrugated Metal Culvert Pipe	
33 05 27.23	Corrugated Metal Slotted Pipe	
33 05 27.33	Corrugated Metal Culvert Arch Pipe	
33 05 31	Thermoplastic Utility Pipe	
33 05 31.11	Polyvinyl Chloride Gravity Sewer Pipe	
33 05 31.13	Polyvinyl Chloride Pressure Pipe	
33 05 31.16	Polyvinyl Chloride Pressure Pipe for Water Transmission and Distribution (AWWA C900 and AWWA C905)	
33 05 31.19	Fusible Polyvinyl Chloride Pipe	
33 05 31.21	Ribbed Polyvinyl Chloride Gravity Pipe	
33 05 31.23	Dual-Wall Polyvinyl Chloride Profile Pipe	
33 05 31.26	Polyvinyl Chloride Sleeve Pipe	
33 05 31.27	Polyvinyl Chloride Perforated Drainage Pipe	
33 05 31.29	Polyvinyl Chloride Electrical Duct	
33 05 31.33	ABS Utility Pipe	
33 05 33	Polyethylene Utility Pipe	
33 05 33.13	Corrugated-Wall, Smooth Interior HDPE Gravity Pipe	
33 05 33.23	Polyethylene Pressure Pipe and Tubing (AWWA C901 and AWWA C906)	
33 05 33.33	Corrugated, Perforated HDPE Drainage Pipe	
33 05 33.36	Corrugated, Non-Perforated HDPE Drainage Pipe	
33 05 33.53	HDPE Gas Utility Pipe	
33 05 33.56	Medium-Density Polyethylene Gas Utility Pipe	
33 05 33.63	HDPE Communication Duct	
33 05 36	Fiberglass-Reinforced Plastic Utility Pipe	
33 05 36.13	Fiberglass-Reinforced Plastic Pipe for Utility Air, Gas, and Odor Service	
33 05 36.23	Fiberglass-Reinforced Plastic Pipe for Utility Liquid Service	
33 05 36.33	Fiberglass-Reinforced Plastic Pipe for Electrical Service	
33 05 37	Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Utility Pipe	
33 05 39	Concrete Pipe	
33 05 39.11	Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C300)	
33 05 39.13	Prestressed Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C301)	
33 05 39.16	Reinforced Concrete Pressure Pipe, Non-cylinder Type (AWWA C302)	
33 05 39.17	Concrete Pressure Pipe, Bar-Wrapped Steel-Cylinder Type (AWWA C303)	
33 05 39.23	Reinforced Concrete Low-Head Pressure Utility Pipe	
33 05 39.33	Non-Reinforced Concrete Sewer and Culvert Pipe	
33 05 39.36	Non-Reinforced Concrete Irrigation and Drainage Pipe	
33 05 39.41	Reinforced Concrete Pipe for Sewers and Culverts	
33 05 39.43	Perforated Concrete Utility Pipe	
33 05 39.46	Reinforced Concrete Elliptical Pipe for Sewers and Culverts	
33 05 39.49	Reinforced Concrete Box Sections for Sewers and Culverts	
33 05 39.63	Concrete Pipe Closures	
33 05 39.66	Concrete Pipe Thrust Restraints	
33 05 39.69	Concrete Pipe Wall Fittings	

NUMBER	TITLE	EXPLANATION
33 05 41	Vitrified Clay Utility Pipe	
33 05 43	Ceramic Drainage Tile	
33 05 46	Asbestos Cement Utility Pipe	See: 02 82 33 for removal of asbestos cement pipe.
33 05 61	Concrete Manholes	Includes: standard manholes, doghouse manholes, manhole barrels, flat-top sections, cone-top sections, manhole benches, and accessories such as rubber boots and manhole steps.
33 05 63	Concrete Vaults and Chambers	
33 05 66	Concrete Distribution Chambers	Includes: leech field distribution chambers and leachate distribution or collection chambers, and accessories.
33 05 69	Concrete Trenchways	
33 05 71	Cleanouts	
33 05 73	Polyethylene Manholes	
33 05 76	Fiberglass Manholes	
33 05 77	Fiberglass Metering Manholes	Includes: manhole, integral flume for open-channel flow metering or mounting for closed-pipe flow meter installation, and accessories.
33 05 81	Metallic Castings for Utility Structures	Includes: metal covers for manholes, chambers, and vaults, metallic steps for manholes, and other metallic accessories for buried utility structures.
33 05 83	Non-Metallic Accessories for Utility Structures	Includes: fiberglass covers for manholes, chambers, and vaults, polypropylene steps for manholes, and other non-metallic accessories for buried utility structures.
33 05 93	Common Motor Requirements for Utilities	
33 05 96	Vibration and Seismic Controls for Utilities	
33 05 97	Identification and Signage for Utilities	See: 26 05 53 for identification requirements for electrical systems in a facility.
33 05 97.13	Signage for Utilities	
33 05 97.16	Markers for Utility Identification	
33 05 97.23	Underground Utility Warning Tape	
33 05 97.33	Utility Identification Flags	
<b>33 06 00</b>	<b>Schedules for Utilities</b>	Includes: schedules of items common to multiple titles in Division 33.  Notes: a schedule may be included on drawings, in the project manual, or a project book.

DIVISION 33

NUMBER	TITLE	EXPLANATION
33 06 05	Schedules for Utility Piping	
33 06 10	Schedules for Water Utilities	
33 06 30	Schedules for Sanitary Sewerage Utilities	
33 06 40	Schedules for Stormwater Utilities	
33 06 40.13	Stormwater Drainage System Schedules	
33 06 50	Schedules for Hydrocarbon Utilities	
33 06 60	Schedules for Hydronic and Steam Energy Utilities	
33 06 70	Schedules for Electrical Utilities	
33 06 80	Schedules for Communications Utilities	

**33 08 00 Commissioning of Utilities**

Includes: commissioning of items common to multiple titles in Division 33.

See: 01 91 00 for commissioning of subjects common to multiple Divisions.

33 08 10	Commissioning of Water Utilities	
33 08 30	Commissioning of Sanitary Sewerage Utilities	
33 08 40	Commissioning of Stormwater Utilities	
33 08 50	Commissioning of Hydrocarbon Utilities	
33 08 60	Commissioning of Hydronic and Steam Energy Utilities	
33 08 70	Commissioning of Electrical Utilities	
33 08 80	Commissioning of Communications Utilities	

**33 09 00 Instrumentation and Control for Utilities**

Includes: instrumentation and control common to multiple titles in Division 33.

Notes: radio frequency (RF) communications between RF-capable meter registers and data collection/repeater units can employ various communication technologies, including narrow band (single, fixed radio frequency), spread spectrum, direct-sequence spread spectrum, frequency-hopping spread spectrum, cellular phone data networks, Bluetooth, ZigBee, Wavenis, and other wireless RF communication technologies.

See: 13 50 00 for special instrumentation.  
 21 09 00 for instrumentation and control for fire-suppression systems.  
 22 09 00 for instrumentation and control for plumbing.  
 23 09 00 for instrumentation and control for HVAC.  
 26 09 00 for instrumentation and control for electrical systems.  
 33 19 00 for water utility metering equipment.  
 33 59 00 for hydrocarbon utility metering equipment.  
 40 60 00 and 40 70 00 for instrumentation and control for process systems.  
 48 09 00 for instrumentation and control for electrical power generation.

NUMBER	TITLE	EXPLANATION
33 09 01	Utility Meter Registers	
33 09 01.13	Mechanical Registers	
33 09 01.23	Pulse Registers	
33 09 01.33	Encoder Registers	
33 09 02	Touch-based Utility Meter Reading Equipment	
33 09 03	Handheld Radio Frequency Utility Meter Reading Equipment	Alternate Terms/Abbreviations: handheld: walk-by.
33 09 04	Mobile Radio Frequency Utility Meter Reading Equipment	Alternate Terms/Abbreviations: mobile: drive-by.
33 09 05	Fixed-Network Radio Frequency Utility Meter Reading Equipment	Includes: a series of antennas, towers, collectors, repeaters, or other permanently installed infrastructure to collect transmissions of meter readings from enabled meter registers and relay the data to a central computer, without a person in the field to collect such data.  May Include: star network systems (data transmitted to a central data collector by repeaters), mesh network systems (where meter registers serve as repeaters), and hybrid networks (networks that include both mobile and fixed meter reading and transmitting equipment).
33 09 06	Satellite Radio Frequency Utility Meter Reading Equipment	
33 09 07	Power Line Communication Utility Meter Reading Equipment	
33 09 08	Wireless Local Area Network Utility Meter Reading Equipment	Alternate Terms/Abbreviations: WLAN: wireless local area network: wi-fi.
33 09 09	Meter Data Acquisition and Hosting Software	
33 09 10	Instrumentation and Control for Water Utilities	
33 09 30	Instrumentation and Control for Sanitary Sewerage Utilities	
33 09 40	Instrumentation and Control for Stormwater Utilities	
33 09 50	Instrumentation and Control for Hydrocarbon Utilities	
33 09 53	Leak Detection for Hydrocarbon Systems	
33 09 60	Instrumentation and Control for Hydronic and Steam Energy Utilities	
33 09 70	Instrumentation and Control for Electrical Utilities	
33 09 80	Instrumentation and Control for Communications Utilities	

NUMBER	TITLE	EXPLANATION
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**33 10 00 Water Utilities**

Includes: public and private water sources, distribution, and storage for potable uses, firefighting, and irrigation for a site, for multiple facilities, or municipalities.

See: 21 11 00 for fire-suppression water service for a building or structure.

22 11 00 for water distribution for a building or structure.

32 80 00 for irrigation.

33 01 10 for maintenance of water utilities, including cleaning and disinfecting.

33 09 10 for instrumentation and control for water utilities.

43 20 00 for pumps used in non-packaged, field-assembled water pumping systems.

43 30 00 for gas and liquid purification equipment.

46 00 00 for water treatment equipment, including chemical feed systems used in water distribution systems.

**33 11 00 Groundwater Sources**

Includes: dug, bored, driven, or drilled wells, for water supply and aquifer recharging, and monitoring wells. Well casings, well screens, riser pipes, well pumps, and accessories. Wells for a single site or facility and for multiple facilities and municipalities.

See: 02 32 23 for groundwater monitoring before construction.

02 70 00 for wells used for groundwater extraction for remediation purposes.

28 20 00 for video surveillance.

31 09 13 for groundwater monitoring during construction.

31 23 19 for groundwater systems for dewatering of excavations.

32 80 00 for irrigation.

33 01 10 for abandonment, rehabilitation, redevelopment, and disinfection of water supply wells.

33 09 10 for instrumentation and control for water supply wells.

40 70 00 for instrumentation for wells.

- 33 11 11 Test Wells
- 33 11 13 Potable Water Supply Wells
- 33 11 16 Irrigation Wells
- 33 11 19 Aquifer Recharging Wells
- 33 11 33 Vertically Suspended Dry-Location Centrifugal Well Pumps
- 33 11 36 Submersible Centrifugal Well Pumps
- 33 11 39 Jet-Type Well Pumps
- 33 11 53 Monitoring Wells

NUMBER	TITLE	EXPLANATION
<b>33 12 00</b>	<b>Surface Water Sources</b>	Includes: work results associated with surface water sources, including reservoirs and intakes in streams and lakes, for public, institutional, or private water supply.  See: 03 00 00 for concrete construction. 28 20 00 for video surveillance. 31 05 19 for geosynthetics for reservoir liners. 31 23 00 for excavation and fill for reservoirs. 31 24 00 for embankments for reservoirs. 31 37 00 for riprap for reservoirs, rivers, and streams. 31 51 00 for anchoring systems for reservoir floating covers. 32 31 00 for fencing and gates for site security. 33 01 10 for intake structure cleaning and maintenance. 33 01 10 for reservoir maintenance. 33 05 00 for pipe used in water intakes. 33 16 00 for rain water harvesting cisterns. 33 40 00 for conveyance of stormwater drained from covered reservoirs. 35 53 00 for waterways and marine construction, including dams and associated equipment, shoreline protection, waterway scour protection, and underwater construction. 40 05 59 for hydraulic gates. 46 21 00 for water screening equipment and trash raking equipment.
33 12 11	Intake Structure Systems	
33 12 13	Intake Cribs	
33 12 16	Intake Drop and Riser Shafts	See: 33 01 10 for intake cleaning and maintenance. 33 05 00 for intake tubes. 35 53 00 for underwater construction.
33 12 31	Reservoir Weight-tensioned, Defined Sump Floating Covers	
33 12 31.13	Reservoir Weight-tensioned, Defined Sump Polyethylene-reinforced Floating Covers	
33 12 31.23	Reservoir Weight-tensioned, Defined Sump Polypropylene-reinforced Floating Covers	
33 12 33	Reservoir Mechanically-tensioned Floating Covers	
33 12 33.13	Reservoir Mechanically-tensioned Polyethylene-reinforced Floating Covers	
33 12 33.23	Reservoir Mechanically-tensioned Polypropylene-reinforced Floating Covers	
33 12 36	Reservoir Short-term Floating Covers	
33 12 39	Reservoir Ball Floating Covers	
33 12 43	Floats for Reservoir Floating Covers	
33 12 46	Appurtenances for Reservoir Floating Covers	May Include: hatches, air vents, walkways, and other appurtenances not otherwise specified with the floating cover system.
33 12 53	Reservoir Flexible Baffle Curtains	

NUMBER	TITLE	EXPLANATION
<b>33 14 00</b>	<b>Water Utility Transmission and Distribution</b>	Includes: water transmission and distribution piping and equipment for public or private services, whether for a single site or facility, or multiple facilities, including municipalities.
		<p>See: 13 47 13 for cathodic protection.            21 11 00 for facility fire-suppression water service piping and appurtenances for a building or structure.            22 11 00 for facility water distribution for a building or structure.            28 20 00 for video surveillance.            32 80 00 for irrigation.            33 01 10 for flushing, cleaning, and disinfecting of water transmission and distribution piping and equipment.            33 05 00 for pipe used in water transmission and distribution.            33 05 09 for piping specialties, including couplings, adapters, thrust restraints, and tapping sleeves.            33 05 63 for vaults and chambers.            33 09 00 for registers and meter reading equipment for water meters.            33 16 00 for water utility storage tanks.            33 19 00 for water utility metering equipment.            40 05 76 for hot-tapping devices, including tapping sleeves and line stops for process piping.            40 05 78 for valves used in water utility service, including various types of isolation, throttling, and check valves, pump control valves, backflow preventers of various types, surge valves, altitude valves, air release valves, air/vacuum valves, and combination air valves for water service, and other valves.            46 30 00 for chemical feed systems used in water transmission, storage, and distribution systems.</p>
33 14 11	Water Utility Transmission Piping	
33 14 13	Public Water Utility Distribution Piping	
33 14 16	Site Water Utility Distribution Piping	
33 14 17	Site Water Utility Service Laterals	
33 14 19	Valves and Hydrants for Water Utility Service	Notes: this is an alternate location for specifying water utility valves and hydrants. Valves and hydrants are indicated in detail under 40 05 00.
33 14 23	Enclosures for Water Utility Piping and Valves	
33 14 23.11	Heated, Insulated Aluminum Enclosures for Water Utility Piping and Valves	
33 14 23.13	Heated, Insulated Fiberglass Enclosures for Water Utility Piping and Valves	
33 14 23.16	Unheated, Insulated Aluminum Enclosures for Water Utility Piping and Valves	
33 14 23.17	Unheated, Insulated Fiberglass Enclosures for Water Utility Piping and Valves	
33 14 23.23	Fiberglass Artificial Rock Enclosures for Water Utility Piping and Valves	
33 14 23.26	Plastic Artificial Rock Enclosures for Water Utility Piping and Valves	
33 14 23.33	Enclosures for Water Utility Air Valves	

NUMBER	TITLE	EXPLANATION
33 14 43	Packaged Pumping Systems for Water Utility Service	<p>Includes: factory-assembled systems purchased as a package. Field-assembled engineered systems not purchased as a package are indicated in detail under 43 20 00 (pumps) and 40 00 00 (exposed process piping). Packaged pumping systems include a variety of skid-mounted pumps, suction and discharge piping and valves, and controls, including control panels, variable-speed drives, two-speed drives, constant-speed units, and combinations thereof. Typical water utility service application is pressure-boosting. Pumps may be oriented vertically or horizontally on the skid. Pump types may include: between-bearings centrifugal pumps (split-case axial pumps), overhung (end suction) centrifugal pumps, and vertically suspended centrifugal pumps (vertical turbine pumps).</p>



NUMBER	TITLE	EXPLANATION
<b>33 16 00</b>	<b>Water Utility Storage Tanks</b>	<p>Includes: water storage tanks for a single facility or site, and for multiple facilities and municipalities. Includes tanks for storing treated water and for rain water harvesting (cisterns).</p> <p>Alternate Terms/Abbreviations: AWWA: American Water Works Association.</p> <p>See: 03 00 00 for concrete used in constructing foundations and other tank elements.  05 50 00 for metal ladders, stairs, platforms, handrails, and railings.  09 97 13 for storage tank coatings.  13 20 00 for special-purpose rooms installed in pillars of elevated storage tanks.  13 47 13 for cathodic protection for metallic storage tanks.  21 41 00 for storage tanks for fire-suppression water.  22 12 00 for potable water storage tanks for buildings or structures.  22 14 53 for rain water storage tanks within a structure.  28 20 00 for video surveillance.  33 01 10 for disinfection of water storage tanks.  33 34 00 for onsite wastewater disposal.  33 41 00 for subdrainage.  33 56 00 for hydrocarbon storage tanks.  33 80 00 for communication utility equipment installed on water storage tanks.  34 43 13 for air traffic hazard lighting installed on elevated water storage tanks and antennas.  40 05 73 for altitude valves.  40 72 00 for level-measuring instrumentation.  43 40 00 for fabricated storage tanks used at a process facility.  46 30 00 for chemical feed systems used with water storage tanks.  46 41 00 for equipment used for mixing water storage tank contents.</p>
33 16 11	Elevated Composite Water Storage Tanks	<p>Notes: composite tanks are constructed using concrete and steel.</p>
33 16 13	Elevated Pillar-Type Steel Water Storage Tanks	<p>Alternate Terms/Abbreviations: fluted-column water storage tanks.</p> <p>Notes: typically includes tank installed atop a single, large-diameter, corrugated-wall pillar.</p>

NUMBER	TITLE	EXPLANATION
33 16 16	Multi-Column Elevated Steel Water Storage Tanks	Includes: tanks with ellipsoidal, torical, dome, or flat bottoms, and ellipsoidal, torical, or cone-shaped roofs.
33 16 19	Elevated Spheroid Steel Water Storage Tanks	
33 16 23	Ground-Level Steel Water Storage Tanks	Includes: tanks with ellipsoidal, torical, dome, or cone-shaped roofs, typically with flat bottoms. Includes welded or bolted construction.  Alternate Terms/Abbreviations: ground-level storage tanks where the tank height is greater than its diameter: standpipes. Ground-level storage tanks where the tank diameter is greater than its height: reservoirs.
33 16 31	Ground-Level AWWA D110 Type I Prestressed Concrete Water Storage Tanks	
33 16 32	Ground-Level AWWA D110 Type II Prestressed Concrete Water Storage Tanks	
33 16 33	Ground-Level AWWA D110 Type III Prestressed Concrete Water Storage Tanks	May Include: roofs constructed as clear span free-standing concrete domes, or with column-supported conventionally reinforced flat slab roofs.
33 16 36	Ground-Level Reinforced Concrete Water Storage Tanks	
33 16 53	Ground-Level Metal Water Storage Cisterns	
33 16 56	Ground-Level Plastic Water Storage Cisterns	
33 16 61	Underground Concrete Water Storage Cisterns	Includes: precast and specially fabricated cast-in-place concrete tanks, typically used for rain water harvesting.  May Include: integral inlet filters, discharge pump system, and appurtenances.
33 16 63	Underground Non-Metallic Water Storage Cisterns	Includes: polyethylene and fiberglass tanks, typically used for rain water harvesting.  May Include: integral inlet filters, discharge pump system, and appurtenances.
33 16 66	Underground Plastic Modular Water Storage Cisterns	
33 16 93	Water Storage Tank Interior Curtain Walls	Includes: divider walls of various materials such as geomembranes, precast concrete, shotcrete, concrete masonry units, and others, used for baffling and separation inside a water storage tank.
33 16 96	Water Storage Tank Appurtenances	Includes: hatches, overflow weirs/boxes and discharge piping, vents, fall-prevention equipment, and other appurtenances not specified with the tank.

NUMBER	TITLE	EXPLANATION
<b>33 19 00</b>	<b>Water Utility Metering Equipment</b>	Includes: equipment for metering water distributed to multiple facilities, including municipal water metering systems.  Notes: water meters indicated under 33 19 00 are uniquely adapted to utility water service metering. General types of process flow meters are indicated in detail under 40 71 00.  See: 33 01 10 for flushing, cleaning, and disinfecting of water transmission and distribution piping and equipment. 33 09 00 for registers and meter reading equipment for water utilities. 33 14 00 for water utility transmission and distribution. 40 05 00 for valves used in water utility service. 40 71 00 for process flow meters.
33 19 13	Positive Displacement Water Meters	Includes: meters with bronze, brass, or plastic bodies. Often used for metering residences and small commercial properties.
33 19 13.13	Oscillating Piston Water Meters	
33 19 13.23	Nutating Disc Water Meters	
33 19 16	Velocity-Type Water Meters	
33 19 16.13	Single-Jet Water Meters	
33 19 16.16	Multi-Jet Water Meters	
33 19 16.23	Turbine Water Meters	Includes: meters with bronze, cast-iron, or ductile-iron bodies.
33 19 16.26	Fire-Type Turbine Water Meters	
33 19 16.29	Portable Fire Hydrant-Type Turbine Water Meters	
33 19 16.33	Propeller Water Meters	
33 19 19	Compound Water Meters	
33 19 23	Magnetic Water Meters	
33 19 26	Ultrasonic Water Meters	
33 19 29	Pre-paid Water Meters	
<b>33 30 00</b>	<b>Sanitary Sewerage</b>	Includes: wastewater sewerage for a facility site and for multiple facilities, for both sanitary sewage and combined sewage.  See: 22 13 00 for sanitary sewerage for a structure. 33 09 30 for instrumentation and control for sanitary sewerage. 44 40 00 for water pollution control equipment. 46 00 00 for wastewater treatment equipment, including packaged treatment plants.

NUMBER	TITLE	EXPLANATION
<b>33 31 00</b>	<b>Sanitary Sewerage Piping</b>	<p>Includes: sanitary waste piping systems, with piping, valves, piping specialties, interceptors, separators, and other components serving a facility site or multiple facilities.</p> <p>Alternate Terms/Abbreviations: SDGS: small-diameter gravity sewers. STEP: septic tank effluent pump.</p> <p>Notes: gray-water system may refer to either small-diameter gravity sewers or septic tank effluent pump systems. Because they convey sanitary sewage and are constructed equal to sanitary sewerage, combined sewers are included under sanitary sewerage gravity piping and force main piping.</p> <p>See: 13 47 13 for cathodic protection.  22 13 13 for facility sanitary sewers.  33 05 71 for manholes, chambers, and cleanouts.  33 31 23 for sanitary sewerage force main piping.  40 05 78 for air valves used in wastewater service.</p>
33 31 11	Public Sanitary Sewerage Gravity Piping	
33 31 13	Site Sanitary Sewerage Gravity Piping	
33 31 16	Site Sanitary Sewerage Gravity Service Laterals	Notes: service laterals are typically the buried sanitary line between the building or structure and the main collector sewer.
33 31 19	Small-Diameter Sanitary Sewerage Gravity Piping	Notes: small-diameter gravity sewer systems have onsite primary treatment, usually via septic tanks.
33 31 23	Sanitary Sewerage Force Main Piping	
33 31 26	Sanitary Pressure Sewer Piping	Includes: systems without onsite primary treatment where conveyance is under pressure. Properties in such systems are often serviced via grinder pumps.
33 31 29	STEP System Piping	Includes: systems with onsite primary treatment, usually provided via septic tanks, where conveyance is under pressure by septic tank effluent pumps (STEP).

NUMBER	TITLE	EXPLANATION
<b>33 32 00</b>	<b>Sanitary Sewerage Equipment</b>	<p>Includes: equipment specialized for sanitary sewerage systems, such as packaged pumping systems and vacuum systems.</p> <p>Alternate Terms/Abbreviations: wastewater pumps: sewage pumps: sewage ejectors. STEP: septic tank effluent pump.</p> <p>See: 33 37 00 for overflow control equipment.  43 20 00 for pumps used for field-assembled systems used in wastewater conveyance.  46 20 00 for screening, trash-raking, and grit removal equipment for preliminary treatment.</p>
33 32 11	Field-Erected Wastewater Pumping Stations	<p>Includes: public and private field-erected pumping stations for conventional wastewater conveyance, typically for smaller pumping stations utilizing submersible pumps in a wet well with or without a separate dry valve chamber, or self-priming pumps.</p> <p>May Include: instrumentation and pump controls.</p>
33 32 13	Packaged Wastewater Pumping Stations	<p>Includes: factory-assembled systems, purchased as a package, for conventional wastewater pumping. Field-assembled engineered systems not purchased as a package are indicated in detail under 43 20 00 (pumps) and 40 00 00 (exposed process piping). Packaged pumping systems include a variety of skid-mounted pumps, wet well structures, and discharge piping and valves, and controls including control panels, variable-speed drives, two-speed drives, constant-speed units, and combinations thereof. May be used for public or private sewerage systems. Pumps may vary with the package. Pump types may include: dry-pit overhung (end suction) centrifugal pumps, submersible overhung (end suction) centrifugal pumps, and other pump types.</p>
33 32 16	Packaged Wastewater Grinder Pump Assemblies	<p>Includes: packaged sump/holding tank equipped with centrifugal or semi-positive displacement pump(s), controls, and alarm panel, serving one or more buildings or structures, installed either in a basement or buried outdoors. Pumps include integral cutting mechanisms. May discharge to either a conventional gravity or pressurized wastewater collection system.</p>
33 32 19	Septic Tank Effluent Pumps	
33 32 26	Pneumatic Sewage Ejectors	
33 32 33	Wastewater Collection Vacuum Stations	

NUMBER	TITLE	EXPLANATION
33 32 36	Pneumatic Wastewater Vacuum Valve Sumps	Includes: the packaged sump/holding tank assembly equipped with an air pressure sensor and vacuum valve, serving one or more buildings or structures connected to a vacuum wastewater collection system.
<b>33 34 00</b>	<b>Onsite Wastewater Disposal</b>	Includes: onsite wastewater treatment and disposal systems serving one or more buildings or structures.  May Include: septic tanks and other onsite systems.  Alternate Terms/Abbreviations: septic tank: interceptor tank. Drainage field: leach field: absorption field: drainfield.  See: 33 01 34 for operation and maintenance of onsite wastewater disposal systems, including septic tank solids removal. 33 05 00 and 33 31 00 for piping for onsite wastewater disposal systems. 33 09 30 for instrumentation and control for onsite wastewater disposal systems. 33 32 11 for field-erected wastewater pumping stations. 46 07 53 for packaged wastewater treatment plants. 46 53 00 for rotating biological contactors, trickling filters, sequencing batch reactors, and other biological treatment systems used for wastewater treatment at a site.
33 34 13	Septic Tanks	Includes: horizontal and vertical septic tanks.
33 34 13.13	Concrete Septic Tanks	
33 34 13.23	Fiberglass Septic Tanks	
33 34 13.33	Polyethylene Septic Tanks	
33 34 16	Septic Tank Effluent Filters	Includes: removable, cartridge-type filters of one or more stages installed downstream of a septic tank to reduce solids discharge to the drainage field. Tube filters, textile media filters, and other filter media types.
33 34 16.13	Septic Tank Gravity Effluent Filters	
33 34 16.16	Septic Tank Pressurized Effluent Filters	
33 34 19	Septic Tank Accessories	Includes: risers, tank covers, vent pipes, vent pipe insect screens, vent covers, vent pipe odor filters, sludge samplers, and other septic tank accessories.

DIVISION 33

NUMBER	TITLE	EXPLANATION
33 34 23	Onsite Aerobic Equipment	Includes: aerobic treatment systems serving a single residence or small number of buildings or structures. Includes aerobic equipment retrofitted into septic tanks such as diaphragm, piston, or rotary vane air pumps.  See Also: 46 53 00 for rotating biological contactors, trickling filters, sequencing batch reactors, and other biological treatment systems used for wastewater treatment at a site.
33 34 33	Onsite Intermittent Wastewater Filtration Systems	Includes: intermittently dosed filters using sand, gravel, anthracite, crushed glass, expanded shale, bottom ash, or other media. May be constructed in an excavation or above the pre-construction grade. Usually preceded by a septic tank. May discharge to a drainage field or infiltrate directly from the filter bed.  See Also: 46 53 41 for intermittent sand filters used at wastewater treatment facilities serving multiple sites.
33 34 36 33 34 51	Onsite Recirculating Wastewater Filtration Systems Drainage Field System	Notes: this is an alternative location for specifying drainage fields as a system. Drainage fields are comprised of solid and perforated piping, aggregate such as crushed stone, geosynthetics, and engineered fill, and are typically specified under other divisions and shown as a system on drawings. May be conventional or mound systems.  See Also: 33 05 43 for perforated PVC drainage pipe, perforated concrete drainage pipe, and ceramic drainage tile.
33 34 53	Distribution Chambers	See Also: 33 05 66 for concrete distribution chambers.
33 34 53.13	Drainage Field Concrete Distribution Chambers	
33 34 53.23	Drainage Field Fiberglass Distribution Chambers	
33 34 53.33	Drainage Field Polyethylene Distribution Chambers	
33 34 56	Drainage Field Dosing Chambers	
33 34 57	Drainage Field Infiltration Chambers	

NUMBER	TITLE	EXPLANATION
<b>33 36 00</b>	<b>Wastewater Utility Storage Tanks</b>	<p>Includes: field-erected tanks for temporary storage of wastewater, including sanitary sewage and combined sewage. May be located at a remote site in the collection system or at a treatment facility.</p> <p>Alternate Terms/Abbreviations: ground-level: ground-supported. AWWA: American Water Works Association.</p> <p>Notes: treatment lagoons are typically shown on the drawings and specified as part of the work under other divisions, including 31 00 00 and 32 00 00.</p> <p>See: 03 00 00 for concrete used in constructing foundations and other tank elements.  05 50 00 for metal ladders, stairs, platforms, handrails, and railings.  09 97 13 for storage tank coatings.  13 47 13 for cathodic protection for metallic storage tanks.  33 16 00 for field-erected utility tanks used for storing potable water and rain water (cisterns).  33 37 46 for end-of-pipe in-water storage systems for sanitary sewer overflow and combined sewer overflow.  33 41 00 for subdrainage.  33 56 00 for hydrocarbon storage tanks.  40 72 00 for level-measuring instrumentation.  43 40 00 for fabricated storage tanks used at a process facility.  44 30 00 for odor control equipment.  46 30 00 for chemical feed systems used with wastewater storage tanks.  46 41 00 for equipment used for mixing wastewater storage tank contents.  46 46 00 for sediment removal equipment.</p>
33 36 23	Ground-Level Steel Wastewater Storage Tanks	Includes: tanks with ellipsoidal, torical, dome, or cone-shaped roofs. Welded or bolted construction.
33 36 31	Ground-Level AWWA D110 Type I Prestressed Concrete Wastewater Storage Tanks	
33 36 32	Ground-Level AWWA D110 Type II Prestressed Concrete Wastewater Storage Tanks	
33 36 33	Ground-Level AWWA D110 Type III Prestressed Concrete Wastewater Storage Tanks	May Include: roofs constructed as clear span free-standing concrete domes, or with column-supported conventionally reinforced flat slab roofs.
33 36 36	Ground-Level Reinforced Concrete Wastewater Storage Tanks	
33 36 43	Underground Reinforced Concrete Wastewater Storage Tanks	



NUMBER	TITLE	EXPLANATION
33 36 53	Wastewater Storage Tunnel Systems	Notes: this is an alternate location for specifying tunnel systems used for temporary storage of wastewater. Primary location for tunnels and associated linings is 31 70 00.
<b>33 37 00</b>	<b>Overflow Control</b>	Includes: treatment equipment and physical control equipment intended for sanitary sewer overflow (SSO), combined sewer overflow (CSO), and stormwater applications.  Alternate Terms/Abbreviations: swirl concentrators: vortex separators.  See: 33 34 00 for onsite wastewater disposal. 33 41 00 for subdrainage. 40 70 00 for process instrumentation. 46 07 53 for packaged wastewater, combined sewer overflow, and stormwater treatment systems at a treatment facility. 46 43 66 for ballasted high-rate clarifier equipment. 46 43 67 for high rate clarification/thickening equipment. 46 46 26 for tipping sediment flushing tanks, flushing gates, water cannons, and nozzle systems.
33 37 13	Bending Weirs	
33 37 16	Spring-loaded Weirs	
33 37 23	Flow Regulators	
33 37 33	Swirl Concentrators	
33 37 36	Vortex-Type Hydrodynamic Separators	
33 37 43	Netting Systems	
33 37 46	End-of-Pipe In-water Storage Systems	

## **33 40 00 Stormwater Utilities**

Includes: public or private stormwater drainage for surface water and/or groundwater for a single site or for multiple sites.

See: 01 57 13 for temporary control of erosion and sediment.  
01 57 23 for temporary control of stormwater pollution.  
22 14 00 for facility stormwater drainage within or under a structure.  
31 25 00 for permanent erosion and sediment controls.  
33 09 40 for instrumentation and control for stormwater utilities.  
44 40 00 for water pollution control equipment.

NUMBER	TITLE	EXPLANATION
<b>33 41 00</b>	<b>Subdrainage</b>	Includes: subdrainage for intercepting and conveying groundwater away from a structure or to a drainage sump.  Alternate Terms/Abbreviations: foundation drainage: footing drains: footer drains.  See: 22 14 29 for sump pumps. 22 14 33 for packaged, pedestal drainage pump units. 22 14 36 for packaged, submersible, drainage pump units. 31 05 19 for geosynthetics for earthwork and drainage. 32 05 19 for geosynthetics for exterior improvements and drainage. 32 32 00 for retaining walls. 33 05 39 for perforated PVC, perforated corrugated metal, perforated concrete pipe, and ceramic drain tile pipe.
33 41 13	Foundation Drainage	
33 41 13.13	Foundation Drainage Piping	
33 41 13.16	Geocomposite Foundation Drainage	
33 41 16	Subdrainage Piping	
33 41 16.16	Geocomposite Subdrainage	
33 41 16.19	Pipe Underdrains	
33 41 19	Underslab Drainage	
33 41 19.13	Underslab Drainage Piping	
33 41 19.16	Geocomposite Underslab Drainage	
33 41 23	Drainage Layers	Notes: drainage layers may be used for surface drainage or as part of a vegetated roofing system.
33 41 23.16	Gravel Drainage Layers	
33 41 23.19	Geosynthetic Drainage Layers	
33 41 33	Retaining Wall Drainage	
33 41 43	Synthetic-Media French Drains	

NUMBER	TITLE	EXPLANATION
<b>33 42 00</b>	<b>Stormwater Conveyance</b>	<p>Includes: piping and structures for stormwater conveyance, either for a single site or for multiple sites, including public and private stormwater conveyance. Includes culverts under transportation ways, embankments, and similar barriers.</p> <p>Alternate Terms/Abbreviations: trench drain: channel drain. Stormwater or gravity piping: storm sewers.</p> <p>Notes: drainage inlets such as catch basins for area drainage typically do not have traps to prevent release of in-pipe gases.</p> <p>See: 22 14 13 for facility stormwater drainage piping within a structure.  33 05 00 for manholes, chambers, and vaults used for stormwater conveyance, and associated manhole covers and similar accessories.  33 05 00 for various types of pipe used for stormwater conveyance.  33 44 00 for pumps, inlet filters, and other equipment used in stormwater utilities.</p>
33 42 11	Stormwater Gravity Piping	<p>Includes: buried stormwater gravity piping of various materials.</p> <p>Notes: this is an alternative location for specifying stormwater gravity piping. Various types of pipe are in 33 05 00.</p>
33 42 13	Stormwater Culverts	<p>Includes: culverts of various materials and cross-sectional shapes, such as circular, arch, elliptical, and other shapes.</p> <p>Notes: this is an alternative location for specifying stormwater culverts. Various types of pipe are in 33 05 00.</p>
33 42 16	Stormwater Force Main Piping	
33 42 23	Headwalls and Endwalls for Stormwater Piping	<p>Includes: headwalls of various materials, such as concrete and fiberglass, for storm sewer outfalls and culverts. May be fabricated or field-constructed.</p> <p>See Also: 03 00 00 for concrete.</p>
33 42 26	End Sections for Stormwater Piping	
33 42 26.11	Aluminum End Sections for Stormwater Piping	
33 42 26.13	Steel End Sections for Stormwater Piping	
33 42 26.16	Corrugated Metal End Sections for Stormwater Piping	
33 42 26.23	Concrete End Sections for Stormwater Piping	

NUMBER	TITLE	EXPLANATION
33 42 31	Stormwater Area Drains and Inlets	Includes: catch basins, drop inlets, and similar flat-topped structures for collecting stormwater from an area, including concrete, cast-iron, fiberglass, and other materials.
33 42 33	Stormwater Curbside Drains and Inlets	Includes: curbside catch basins, drop inlets, and similar structures intended for installation as part of a curbing system for collecting stormwater from an area.
33 42 36	Stormwater Trench Drains	Includes: trench drains, channel drains, and similar modular, long inlets for collecting stormwater from an area, including concrete, cast-iron, fiberglass, and other materials. May be flat-bottomed or sloped-bottomed.
33 42 41	Gratings and Frames for Stormwater Drainage Inlets	Includes: flat, concave, and atrium-type gratings, and fitting-type gratings of various shapes and grating types for stormwater inlets.
33 42 41.11	Aluminum Gratings and Frames for Stormwater Drainage Inlets	
33 42 41.21	Brass Gratings and Frames for Stormwater Drainage Inlets	
33 42 41.31	Cast-Iron Gratings and Frames for Stormwater Drainage Inlets	
33 42 41.41	Chrome Gratings and Frames for Stormwater Drainage Inlets	
33 42 41.51	Steel Gratings and Frames for Stormwater Drainage Inlets	
33 42 41.61	Fiberglass Gratings and Frames for Stormwater Drainage Inlets	
<b>33 44 00</b>	<b>Stormwater Utility Equipment</b>	Includes: equipment such as pumps, filters, and other items utilized for stormwater conveyance and stormwater quality control.  See: 22 14 33 for packaged, pedestal drainage pump units used within a building or structure. 22 14 36 for packaged, submersible drainage pump units serving a facility or structure. 33 32 00 for pumping stations used with sanitary sewage and combined sewage. 33 37 00 for overflow control equipment. 33 41 00 for subdrainage. 43 20 00 for pumps used for field-assembled systems for stormwater conveyance. 46 21 00 for screening and trash-raking equipment. 46 25 00 for oil and grease separators at a treatment facility.

DIVISION 33

NUMBER	TITLE	EXPLANATION
33 44 11	Field-Erected Stormwater Pumping Stations	<p>Includes: public and private field-erected pumping stations for conventional stormwater conveyance, typically for smaller pumping stations utilizing submersible pumps in a wet well with or without a separate dry valve chamber, or self-priming pumps.</p> <p>May Include: instrumentation and pump controls.</p>
33 44 13	Packaged Stormwater Pumping Stations	<p>Includes: factory-assembled systems, purchased as a package, for conventional stormwater pumping. Field-assembled engineered systems not purchased as a package are indicated in detail under 43 20 00 (pumps) and 40 00 00 (exposed process piping). Packaged pumping systems include a variety of skid-mounted pumps, wet well structures, and discharge piping and valves, and controls including control panels, variable-speed drives, two-speed drives, constant-speed units, and combinations thereof. May be used for public or private stormwater systems. Pumps may vary with the package. Pump types may include: dry-pit overhung (end suction) centrifugal pumps, submersible overhung (end suction) centrifugal pumps, and other pump types.</p>
33 44 21	Stormwater Downspout Filters	
33 44 23	Inline Stormwater Filters	
33 44 26	Stormwater Catch Basin Insert Filters	
33 44 27	Stormwater Trench Drain Insert Filters	
33 44 31	Stormwater Membrane Filtration	
33 44 33	Stormwater Trash and Debris Guards	
33 44 36	Oil and Stormwater Separators	<p>Includes: ground-level and buried units of materials such as steel, fiberglass, and concrete.</p> <p>See Also: 46 25 00 for oil and grease separation equipment at a treatment facility.</p>
33 44 43	Vortex-Type Hydrodynamic Separators	
33 44 53	Stormwater Area Drainage Pop-up Relief Valves	

NUMBER	TITLE	EXPLANATION
<b>33 46 00</b>	<b>Stormwater Management</b>	<p>Includes: facilities for attenuating stormwater flow rate and for improving stormwater quality, and for infiltrating stormwater into the ground. Stormwater detention ponds, stormwater retention ponds, fire protection ponds, cooling water ponds, and similar impoundments. Green alternatives for stormwater infiltration and reuse.</p> <p>Alternate Terms/Abbreviations: leaching pit: infiltration well. Retention pond: stabilization pond.</p> <p>Notes: ponds and impoundments that do not employ fabricated elements are typically shown on the drawings and are specified under other Divisions such as 31 00 00 and 35 00 00.</p> <p>See: 21 40 00 for fire-suppression water storage for a building or structure. 31 23 00 for excavation and fill. 31 24 00 for embankments. 31 35 26 for containment barriers. 32 14 43 for porous unit paving. 32 31 00 for fences. 33 10 00 for water utilities, including surface water sources such as reservoirs. 33 16 00 for storage tanks used for rain water harvesting for reuse. 33 37 00 for overflow controls. 33 42 41 for gratings and frames on outlet structures for stormwater ponds. 35 73 00 for embankment dams. 40 05 59 for hydraulic gates.</p>
33 46 11	Stormwater Ponds	Notes: alternate location for specifying stormwater ponds, typically under other Divisions.
33 46 11.13	Stormwater Detention Ponds	
33 46 11.23	Stormwater Retention Ponds	
33 46 11.33	Fire Protection Ponds	
33 46 11.43	Cooling Water Ponds	
33 46 16	Outlet Structures for Stormwater Ponds	Includes: structures for controlling the rate of discharge from a stormwater pond.
33 46 16.13	Stormwater Pond Concrete Outlet Structures	
33 46 16.23	Stormwater Pond Fiberglass Outlet Structures	

NUMBER	TITLE	EXPLANATION
33 46 23	Modular Buried Stormwater Storage Units	Includes: fabricated modular units that together form an underground stormwater detention, retention, or infiltration. Typically non-metallic materials, including polyethylene or concrete. Accessories may include items such as sediment traps to improve stormwater quality.  See Also: 33 16 66 for modular buried storage tanks used for rain water harvesting.
33 46 39	Rain Barrels	
33 46 53	Stormwater Leaching Pits	
33 46 56	Tree Box Filters	Includes: structures for access to underground storm drainage piping. Chambers and underground detention chambers.  See: 22 05 73 for facility drainage manholes. 33 05 00 for common work results for utilities. 33 05 61 for concrete manholes. 33 05 63 for concrete vaults and chambers. 33 05 66 for concrete distribution chambers. 33 05 69 for concrete trenchways. 33 05 71 for cleanouts. 33 05 73 for polyethylene manholes. 33 05 76 for fiberglass manholes.
33 46 59	Concrete Modular Biofiltration Cells	
33 46 63	Swale Protection Prefilters	

## 33 50 00 Hydrocarbon Utilities

Includes: utilities for extracting, conveying, and storing liquid, gas, and other hydrocarbon transmission and distribution for a single site or facility or for multiple facilities. Includes various forms of petroleum, liquid and gaseous natural gas, propane, and other hydrocarbons.

See: 09 90 00 for coating systems.  
33 05 97 for identification and signage for utilities.  
33 09 50 for instrumentation and control for hydrocarbon utilities, including leak detection systems.  
43 12 00 for gas compressors.  
43 20 00 for liquid pumps.

NUMBER	TITLE	EXPLANATION
<b>33 51 00</b>	<b>Hydrocarbon Sources</b>	<p>Includes: dug, bored, driven, or drilled wells, for production of hydrocarbons, and monitoring wells. Well casings, well screens, riser pipes, well pumps, and accessories. Wells for a single site or facility, and for commercial production.</p> <p>See: 02 24 00 for environmental assessments.  02 30 00 for subsurface investigations, including exploratory drilling.  02 32 23 for groundwater monitoring before construction.  02 70 00 for wells used for groundwater extraction for remediation purposes.  28 20 00 for video surveillance.  31 09 13 for groundwater monitoring during construction.  33 01 50 for abandonment and rehabilitation of hydrocarbon wells.  33 09 50 for instrumentation and control for hydrocarbon wells.  33 14 00 for water utility transmission and distribution.  35 50 00 for docks, piers, and appurtenances for marine transport of hydrocarbons.  35 52 00 for offshore platform construction.  40 05 00 for valves used in hydrocarbon production.  40 10 00 for exposed process piping for gaseous hydrocarbons.  40 21 00 for exposed process piping for liquid hydrocarbons.  40 70 00 for instrumentation for wells.  42 00 00 for hydrocarbon refinery process equipment.  43 12 00 for gas compressors.  43 20 00 for process liquid pumps.  44 40 00 for water pollution control, including spill containment.  46 00 00 for treatment of wastewater resulting from hydrocarbon production.</p>
33 51 13	Appraisal Wells for Liquid Hydrocarbons	
33 51 16	Appraisal Wells for Gaseous Hydrocarbons	
33 51 23	Production Wells for Liquid Hydrocarbons	
33 51 26	Production Wells for Gaseous Hydrocarbons	
33 51 33	Liquid Injection Wells	
33 51 36	Gas Injection Wells	
33 51 39	Monitoring Wells	
33 51 53	Reciprocating Pumpjack	<p>Alternate Terms/Abbreviations: pumpjack: horse: donkey pumper: nodding donkey: pumping unit: horsehead pump: rocking horse: beam pump: dinosaur: grasshopper pump: big Texan: thirsty bird: jack pump.</p>
33 51 56	Submersible Liquid Hydrocarbon Pumps	



NUMBER	TITLE	EXPLANATION
<b>33 52 00</b>	<b>Hydrocarbon Transmission and Distribution</b>	<p>Includes: work results for conveyance of hydrocarbons by a utility or private company, including transmission and distribution for a single site, facility, or multiple facilities. Includes handling of pipe, including pipe stacking and storing; welding of conveyance pipe; pigging; and farm tap installations.</p> <p>Alternate Terms/Abbreviations: pigging: in-line inspection (ILI): cleaning pig: gauge pig: smart pig: intelligent pig.</p> <p>See: 01 51 29 for temporary natural gas.  01 53 00 for temporary pigging.  01 57 13 for temporary erosion and sediment controls.  09 96 00 for specialized, field-applied pipe coatings.  13 47 13 for cathodic protection.  23 11 00 for fuel piping within, under, or closely associated with a building or structure.  23 12 00 for fuel pumps closely associated with a building or structure.  31 23 00 for excavation and fill, including trenching.  33 05 09 for tapping sleeves and saddles for utility piping.  33 56 53 for compressed gaseous hydrocarbon storage tanks.  40 05 76 for hot-tapping valves and appurtenances.  40 10 00 for exposed gas process piping at a hydrocarbon facility.  40 21 00 for exposed liquid process piping at a hydrocarbon facility.  44 40 00 for water pollution control, including spill containment.</p>
33 52 13	Liquid Hydrocarbon Piping	
33 52 16	Gas Hydrocarbon Piping	
33 52 16.13	Steel Natural Gas Piping	
33 52 16.23	Medium Density Polyethylene Piping for Natural Gas	
33 52 16.26	High Density Polyethylene Piping for Natural Gas	
33 52 19	Hydrocarbon Piping Handling	
33 52 19.13	Hydrocarbon Piping Stringing, Storing, and Stacking	
33 52 23	Hydrocarbon Piping Welding	
33 52 23.13	Liquid Hydrocarbon Piping Welding	
33 52 23.16	Gas Hydrocarbon Piping Welding	
33 52 26	Hydrocarbon Piping Pigging	
33 52 26.13	Hydrocarbon Piping Pig Launchers	
33 52 26.16	Hydrocarbon Piping Pig Receivers	
33 52 26.23	Pigs for Hydrocarbon Piping	

NUMBER	TITLE	EXPLANATION
<b>33 53 00</b>	<b>Hydrocarbon Utility Pressure Regulation</b>	Includes: equipment to regulate pressure for various hydrocarbons applications.  See: 40 05 67 for general-purpose pressure-regulating valves in process applications. 40 94 00 for self-contained pressure regulators used in process control applications. 43 13 23 for gas pressure regulators used in industrial processes. 43 22 59 for liquid pressure regulators used in industrial processes.
33 53 13	Liquid Hydrocarbon Pressure Regulation	
33 53 16	Gas Hydrocarbon Pressure Regulation	
<b>33 54 00</b>	<b>Hydrocarbon Utility Safety Equipment</b>	Includes: valves and leak detection used for protecting hydrocarbon utility piping, product within piping, the public, and adjacent property.  See: 33 53 00 for hydrocarbon utility pressure regulation. 40 05 00 for general-purpose valves used in process applications. 40 70 00 for instrumentation used in general-purpose detection of liquid and gas leaks in process applications.
33 54 13	Liquid Hydrocarbon Leak Detection Equipment	
33 54 16	Gas Hydrocarbon Leak Detection Equipment	
33 54 23	Hydrocarbon Pipeline Venting	
33 54 23.13	Liquid Hydrocarbon Pipeline Venting	
33 54 23.16	Gas Hydrocarbon Pipeline Venting	

NUMBER	TITLE	EXPLANATION
<b>33 56 00</b>	<b>Hydrocarbon Storage</b>	<p>Includes: storage tanks and equipment for bulk storage of hydrocarbon liquids and gases for a single facility or site, and for industrial/commercial facilities. Commercial bulk storage facilities.</p> <p>Alternate Terms/Abbreviations: ground-level: ground-supported. Aboveground storage tank: AST. Underground storage tank: UST.</p> <p>Notes: metallic tanks include steel, stainless steel, and other metals. Non-metallic tanks include concrete, polyethylene, and fiberglass.</p> <p>See: 03 00 00 for concrete used in constructing foundations and other tank elements.  05 50 00 for metal ladders, stairs, platforms, handrails, and railings.  09 97 13 for steel storage tank coatings.  09 97 23 for concrete storage tank and containment-dike coatings.  13 47 13 for cathodic protection of metallic storage tanks.  23 13 00 for facility fuel storage tanks for a building or structure.  28 43 00 for fuel oil detection and alarm.  33 16 00 for water utility storage tanks.  33 34 00 for onsite wastewater disposal.  33 41 00 for subdrainage.  33 52 00 for hydrocarbons transmission and distribution.  33 57 00 for hydrocarbon receiving/dispensing equipment.  34 73 00 for airfield construction.  43 40 00 for fabricated storage tanks used at a process facility.  43 42 26 for welded steel gas storage sphere.  44 40 00 for water pollution control equipment, including prefabricated containment berms/dikes, collapsible storage tanks, containment booms, and spill cleanup equipment.</p>
33 56 13	Aboveground Hydrocarbon Storage Tanks	Includes: tanks elevated above the ground on supports, columns, or pillars.
33 56 21	Ground-Level Fixed Roof Hydrocarbon Storage Tanks	Includes: tanks with cone-shaped, domed, umbrella-type, or other fixed roofs. Typically used with liquids with high flashpoints.
33 56 21.13	Double-Wall Ground-Level Fixed Roof Metallic Hydrocarbon Storage Tanks	
33 56 21.16	Single-Wall Ground-Level Fixed Roof Metallic Hydrocarbon Storage Tanks	
33 56 21.23	Single-Wall Ground-Level Fixed Roof Non-Metallic Hydrocarbon Storage Tanks	
33 56 21.26	Double-Wall Ground-Level Fixed Roof Non-Metallic Hydrocarbon Storage Tanks	

NUMBER	TITLE	EXPLANATION
33 56 23	Ground-Level External Floating Roof Hydrocarbon Storage Tanks	Notes: external floating roof tanks have no fixed roof of any sort; typically used with liquids that have medium vapor pressure.
33 56 26	Ground-Level Internal Floating Roof Hydrocarbon Storage Tanks	Notes: internal floating roof tanks have an external fixed roof and an internal cover that floats on the liquid surface; typically used with liquids that have low vapor pressure.
33 56 33	Underground Hydrocarbon Storage	
33 56 33.13	Double-Wall Metallic Underground Hydrocarbon Storage Tanks	
33 56 33.23	Single-Wall Metallic Underground Hydrocarbon Storage Tanks	
33 56 33.26	Single-Wall Non-Metallic Underground Hydrocarbon Storage Tanks	
33 56 33.29	Double-Wall Non-Metallic Underground Hydrocarbon Storage Tanks	
33 56 33.43	Underground Hydrocarbon Storage Caverns	
33 56 43	Aviation Fuel Storage Tanks	
33 56 43.13	Ground-Level Aviation Fuel Storage Tanks	
33 56 43.53	Underground Aviation Fuel Storage Tanks	
33 56 53	Compressed Gaseous Hydrocarbon Storage Tanks	
33 56 60	Moveable Hydrocarbon Storage Tanks	Includes: skid-mounted, trailer-mounted, and other tanks not permanently installed.  See Also: 44 41 41 for collapsible storage tanks used for pollution control.
33 56 93	Hydrocarbon Tank Linings	
33 56 96	Hydrocarbon Storage Tank Appurtenances	Includes: hatches, inlet and discharge piping, vents, nozzles, fall-prevention equipment, and other appurtenances not specified with the tank.
<b>33 57 00</b>	<b>Bulk Hydrocarbons Receiving/Dispensing Equipment</b>	Includes: tanker truck, rail, and marine transport off-loading assemblies, pantograph, controls, pumps, and transfer equipment for hydrocarbons transfer.  See: 23 10 00 for fuel piping and pumps for a building or structure. 23 12 16 for facility fuel-dispensing pumps. 33 56 00 for hydrocarbons storage tanks. 40 05 89 for quick-connect couplers. 40 10 00 for gaseous hydrocarbons process piping. 40 21 00 for liquid fuels process piping. 40 22 00 for process piping for petroleum products. 40 60 00 and 40 70 00 for instrumentation and controls associated with a process facility. 44 41 13 for containment structures and spill cleanup.

NUMBER	TITLE	EXPLANATION
<b>33 59 00</b>	<b>Hydrocarbon Utility Metering</b>	Includes: metering for liquid and gas hydrocarbons. Metering may also include facilities for sampling and quality measurement. Metering equipment indicated herein is relatively unique to hydrocarbons production, transmission, and distribution.  See: 28 43 00 for fuel oil detection and alarm. 33 09 00 for registers and meter reading equipment. 40 70 00 for general-purpose flow meters and analyzers used in process applications.
33 59 11	Diaphragm/Bellows Hydrocarbons Meters	
33 59 13	Hydrocarbons Rotary Meters	
33 59 16	Hydrocarbons Turbine Meters	
33 59 19	Hydrocarbons Orifice Meters	
33 59 23	Hydrocarbons Ultrasonic Flow Meters	
33 59 26	Hydrocarbons Coriolis Meters	
33 59 43	Liquid Hydrocarbon Sampling and Quality Analysis Instrumentation	
33 59 46	Gas Hydrocarbon Sampling and Quality Analysis Instrumentation	
<b>33 60 00</b>	<b>Hydronic and Steam Energy Utilities</b>	Includes: hydronic and steam energy distribution for a single facility or for multiple facilities.  See: 13 47 13 for cathodic protection. 23 20 00 for hydronic, steam, and condensate piping and pumps for a building or structure. 33 09 60 for instrumentation and control for hydronic and steam energy utilities. 40 60 00 and 40 70 00 for instrumentation and control for process applications.
<b>33 61 00</b>	<b>Hydronic Energy Distribution</b>	Includes: chilled condenser and hot water piping, valves, piping specialties, pumps, and other components serving a single facility or for multiple facilities.  See: 13 47 13 for cathodic protection. 23 21 00 for hydronic piping and pumps for a structure. 33 09 60 for instrumentation and control for steam and hydronic energy utilities. 33 46 11 for cooling water ponds.
33 61 13	Buried Hydronic Energy Distribution	
33 61 23	Ground-Level Hydronic Energy Distribution	
33 61 27	Prefabricated Energy Distribution	
33 61 29	Pre-Engineered, Field-Assembled Energy Distribution	
33 61 33	Hydronic Energy Distribution Metering	

NUMBER	TITLE	EXPLANATION
<b>33 63 00</b>	<b>Steam Energy Distribution</b>	Includes: steam and condensate piping, valves, piping specialties and other components serving a single facility or multiple facilities.  Alternate Terms/Abbreviations: utilidor: utility tunnel: utility corridor.  See: 13 47 13 for cathodic protection. 23 22 00 for steam and condensate piping and pumps within a building or structure. 40 11 00 for steam process piping.
33 63 13	Underground Steam and Condensate Distribution Piping	
33 63 13.13	Shallow-Trench Steam Distribution Piping	
33 63 13.16	Utilidor Steam Distribution Piping	
33 63 23	Ground-Level Steam and Condensate Distribution Piping	
33 63 33	Steam Energy Distribution Metering	

## **33 70 00 Electrical Utilities**

Includes: substations, transformers, switchgear, circuit protection devices, utility structures, and wiring used to transmit and distribute extra-high-, high- and medium-voltage electrical power from the point of power generation to the supply points of facilities. Distribution at high- and medium-voltage levels within a facility to or between supply points.

See: 33 09 70 for instrumentation and control for electrical utilities.

33 72 33 for control house equipment.

33 80 00 for communication utilities.

48 10 00 for electrical power generation equipment.

NUMBER	TITLE	EXPLANATION
<b>33 71 00</b>	<b>Electrical Utility Transmission and Distribution</b>	Includes: utility structures and wiring to distribute extra-high-, high- and medium-voltage electrical power from the point of power generation to the supply points of facilities. Metering and termination equipment and utility company requirements related to electrical service entrances.  Notes: definitions: extra-high-voltage: 345 kV to 765 kV. High-voltage: 115 kV to 230 kV. Medium-voltage: 2400 V to 69 kV.  Alternate Terms/Abbreviations: EHV: extra-high-voltage. HV: high-voltage.  See: 26 05 43 for facility underground ducts and raceways for electrical systems. 26 05 46 for facility utility poles for electrical systems. 26 16 00 for medium-voltage metering for a facility. 26 21 00 for low-voltage overhead electrical power systems. 26 27 13 for electricity metering for a facility. 33 79 16 for tower grounding. 33 79 19 for utilities grounding. 33 81 00 for communication structures. 34 23 13 for traction power poles. 48 19 00 for electrical power control equipment.
33 71 13	Electrical Utility Towers	
33 71 13.13	Precast Concrete Electrical Utility Towers	
33 71 13.23	Steel Electrical Utility Towers	
33 71 13.33	Wood Electrical Utility Towers	
33 71 16	Electrical Poles	Includes: crossarms and guys.
33 71 16.13	Precast Concrete Electrical Utility Poles	
33 71 16.23	Steel Electrical Utility Poles	
33 71 16.33	Wood Electrical Utility Poles	
33 71 19	Electrical Underground Ducts, Ductbanks, and Manholes	
33 71 19.13	Electrical Manholes and Handholes	
33 71 19.23	Trenched Electrical Underground Duct and Ductbanks	
33 71 19.33	Trenchless Electrical Underground Duct and Ductbanks	
33 71 23	Insulators and Fittings	Includes: conductor hardware, insulators, dampers, sleeves.
33 71 23.13	Suspension Insulators	
33 71 23.16	Post Insulators	
33 71 23.23	Potheads	
33 71 26	Transmission and Distribution Equipment	
33 71 26.13	Capacitor Banks	Includes: series and shunt capacitors.
33 71 26.16	Coupling Capacitors	
33 71 26.23	Current Transformers	

NUMBER	TITLE	EXPLANATION
33 71 26.26	Potential Transformers	
33 71 36	Extra-High-Voltage Transmission Wiring	
33 71 36.13	Overhead Extra-High-Voltage Transmission Wiring	Includes: marker balls.
33 71 39	High-Voltage Transmission Wiring	
33 71 39.13	Overhead High-Voltage Transmission Wiring	Includes: marker balls.
33 71 39.23	Underground High-Voltage Transmission Wiring	
33 71 39.33	Underwater High-Voltage Transmission Wiring	
33 71 49	Medium-Voltage Transmission Wiring	
33 71 49.13	Overhead Medium-Voltage Transmission Wiring	Includes: marker balls.
33 71 49.23	Underground Medium-Voltage Transmission Wiring	
33 71 49.33	Underwater Medium-Voltage Transmission Wiring	
33 71 53	Direct-Current Transmission	
33 71 73	Electrical Utility Services	
33 71 83	Transmission and Distribution Specialties	
<b>33 72 00</b>	<b>Utility Substations</b>	Includes: assembly of structures, switches, circuit breakers, buses, and transformers to switch circuits and convert power from transmission voltage to distribution voltage for utility-owned transmission and distribution substations.  Alternate Terms/Abbreviations: control house: doghouse. Double-end break: double-side break. Vertical reach: pantograph: semi-pantograph: knee-type switch.  See: 13 34 23 for fabricated substation control rooms. 26 11 00 for facility substations. 26 13 00 for medium-voltage switchgear. 33 73 00 for utility transformers. 33 75 00 for high-voltage switchgear. 33 77 00 for medium-voltage utility switchgear. 33 79 00 for site grounding and lighting protection. 33 79 23 for utility substation grounding. 34 21 16 for traction power substations.
33 72 13	Deadend Structures	
33 72 23	Structural Bus Supports	
33 72 23.13	Bus Support Insulators	
33 72 26	Substation Bus Assemblies	
33 72 26.13	Aluminum Substation Bus Assemblies	
33 72 26.16	Copper Substation Bus Assemblies	
33 72 33	Control House Equipment	
33 72 33.13	Relays	Includes: breaker failure (BFR), breaker reclosing, line protection, including remedial action schemes (RAS), load shedding, reactive, transformer, bus differential.



DIVISION 33

NUMBER	TITLE	EXPLANATION
33 72 33.16	Substation Control Panels	Includes: control battery main (129 vdc) and auxiliary (48-24 vdc), battery chargers, station service transformers, engine generator and transfer switch.
33 72 33.23	Power-Line Carriers	
33 72 33.26	Substation Metering	
33 72 33.43	Substation DC Supply	Includes: control battery main (129 vdc) and auxiliary (48-24 vdc), battery chargers, station service transformers, engine generator and transfer switch.
33 72 43	Substation Control Wiring	Includes: local control and schematic relay wiring between relay devices.
33 72 53	Shunt Reactors	
33 72 63	Substation Disconnect Switches	
33 72 63.13	Vertical Break Disconnect Switches	
33 72 63.16	Double End Break Disconnect Switches	
33 72 63.19	Double End Break "Vee" Disconnect Switches	
33 72 63.21	Center Break Disconnect Switches	
33 72 63.23	Center Break "Vee" Disconnect Switches	
33 72 63.26	Single Side Break Disconnect Switches	
33 72 63.27	Vertical Reach Disconnect Switches	
33 72 63.29	Grounding for Substation Disconnect Switches	
33 72 63.31	Hook Sticks	
<b>33 73 00</b>	<b>Utility Transformers</b>	Includes: transformers for utility substation applications for transforming transmission voltage to distribution voltage.  See: 26 12 00 for medium-voltage facility transformers. 26 13 00 for medium-voltage switchgear. 26 16 00 for medium-voltage metering. 26 18 00 for medium-voltage protection devices. 26 22 00 for low-voltage facility transformers. 33 72 00 for utility substations. 33 75 00 for high-voltage switchgear. 33 77 00 for medium-voltage utility switchgear. 34 21 23 for traction power transformer-rectifier units. 48 19 23 for electrical power generation transformers.
33 73 13	Liquid-Filled Utility Transformers	
33 73 23	Dry-Type Utility Transformers	

NUMBER	TITLE	EXPLANATION
<b>33 74 00</b>	<b>Extra-High-Voltage (EHV) Switchgear and protection devices</b>	<p>Includes: switchgear and circuit protection devices for extra-high-voltage utility applications. Extra-high-voltage: 345 kV to 765 kV.</p> <p>Alternate Terms/Abbreviations: circuit breakers: disconnect switches. Gas-filled circuit breakers: SF6 circuit breakers.</p> <p>See: 33 72 00 for utility substations.  33 73 00 for utility transformers.  33 75 00 for high-voltage switchgear and protection devices.  33 77 00 for medium-voltage utility switchgear and protection devices.  33 79 23 for utility substation grounding.  34 21 19 for traction power switchgear.</p>
33 74 13	Air EHV Circuit Breaker	
33 74 16	Oil EHV Circuit Breaker	
33 74 19	Gas EHV Circuit Breaker	
33 74 30	EHV Disconnect Switch	
33 74 36	EHV Utility Fuses	
33 74 39	EHV Surge Arresters	
33 74 40	EHV Rod Gap	
33 74 43	EVH Shunt Reactors	
33 74 43.13	EHV Shunt Reactor Banks	
33 74 43.16	EHV Current Limiting Reactors	
<b>33 75 00</b>	<b>High-Voltage Switchgear and Protection Devices</b>	<p>Includes: switchgear and circuit protection devices for high-voltage utility applications. High-voltage: 115 kV to 230 kV.</p> <p>Alternate Terms/Abbreviations: circuit breakers: disconnect switches. Gas-filled circuit breakers: SF6 circuit breakers.</p> <p>See: 33 72 00 for utility substations.  33 73 00 for utility transformers.  33 74 00 for extra-high-voltage switchgear and protection devices.  33 77 00 for medium-voltage utility switchgear and protection devices.  33 79 23 for utility substation grounding.  34 21 19 for traction power switchgear.</p>
33 75 13	Air High-Voltage Circuit Breaker	
33 75 16	Oil High-Voltage Circuit Breaker	
33 75 19	Gas High-Voltage Circuit Breaker	
33 75 23	Vacuum High-Voltage Circuit Breaker	
33 75 30	High-Voltage Disconnect Switch	

NUMBER	TITLE	EXPLANATION
33 75 36	High-Voltage Utility Fuses	
33 75 39	High-Voltage Surge Arresters	
33 75 40	High-Voltage Rod Gap	

### **33 77 00 Medium-Voltage Utility Switchgear and Protection Devices**

Includes: switchgear and circuit protection devices for medium-voltage utility applications. Medium-voltage: 2400 V to 69 kV.

Alternate Terms/Abbreviations: circuit breakers: disconnect switches. Gas circuit breakers: SF6 circuit breakers.

See: 26 13 00 for medium-voltage facility switchgear.  
 26 16 00 for medium-voltage metering.  
 26 18 00 for medium-voltage circuit protection devices.  
 33 72 00 for utility substations.  
 33 73 00 for utility transformers.  
 33 75 00 for high-voltage utility switchgear and circuit protection devices.  
 33 79 23 for utility substation grounding.  
 34 21 19 for traction power switchgear.

33 77 13	Air Medium-Voltage Circuit Breaker
33 77 16	Oil Medium-Voltage Circuit Breaker
33 77 19	Gas Medium-Voltage Circuit Breaker
33 77 23	Vacuum Medium-Voltage Circuit Breaker
33 77 26	Medium-Voltage Utility Fusible Interrupter Switchgear
33 77 30	Medium-Voltage Disconnect Switch
33 77 33	Medium-Voltage Utility Cutouts
33 77 36	Medium-Voltage Utility Fuses
33 77 39	Medium-Voltage Utility Surge Arresters
33 77 40	Medium-Voltage Rod Gap
33 77 53	Medium-Voltage Utility Reclosers

### **33 78 00 Substation Converter Stations**

### **33 79 00 Site Grounding**

Includes: a conducting connection between an element and a ground electrode placed in the earth to provide a safe path for the dissipation of fault currents, lightning strikes, static discharges, EMI and RFI signals and interference.

See: 26 05 26 for grounding and bounding of electrical systems.  
 26 41 00 for facility lightning protection.  
 33 71 13 for electrical utility towers.  
 33 81 13 for communications transmission towers.  
 33 81 16 for antenna towers.  
 34 73 16 for airfield grounding.

NUMBER	TITLE	EXPLANATION
33 79 13	Site Improvement Grounding	
33 79 13.13	Fence Grounding	
33 79 16	Tower Grounding	
33 79 16.13	Communications Tower Grounding	
33 79 16.16	Antenna Tower Grounding	
33 79 19	Utilities Grounding	
33 79 19.13	Electrical Utilities Grounding	
33 79 19.16	Communications Utilities Grounding	
33 79 23	Utility Substation Grounding	
33 79 83	Site Grounding Conductors	
33 79 93	Site Lightning Protection	
33 79 93.13	Lightning Arrestors	
33 79 93.16	Lightning Strike Counters	
33 79 93.19	Lightning Strike Warning Devices	

### **33 80 00 Communications Utilities**

Includes: communications transmission and distribution for one site or multiple sites.

Alternate Terms/Abbreviations: OSP: outside plant. ISP: inside plant.

See: 26 00 00 for electrical associated with a building or structure.

27 10 00 for facility structured cabling.

27 21 00 for data communications network equipment.

33 09 80 for instrumentation and control for communication utilities.

33 70 00 for electrical utilities.

40 66 00 for process control-related network and communications equipment.

### **33 81 00 Communications Structures**

Includes: structures for elevated and below-ground distribution of communications cables and signals.

See: 03 00 00 for concrete.

27 05 46 for facility utility poles for communications systems.

33 71 00 for electrical structures.

33 79 16 for tower grounding.

34 23 13 for traction power poles.

33 81 13	Monopole Communications Towers
33 81 16	Lattice Communications Towers
33 81 19	Guyed Communications Towers
33 81 21	Concealed Communications Towers
33 81 23	Broadcast Communications Towers
33 81 27	Aerial Cable Installation Hardware
33 81 29	Communications Vaults, Pedestals, and Enclosures
33 81 63	Cell Site Shelter Equipment

DIVISION 33

NUMBER	TITLE	EXPLANATION
33 81 63.16	DC Rectifiers	
33 81 63.19	Backup Batteries	
33 81 63.23	Baseband Microwave Processing	
33 81 63.26	Base Station Transceivers	
33 81 63.43	Remote Monitoring	

**33 82 00      Communications Transmission and Distribution**

Includes: copper and optical fiber outside facility.

Alternate Terms/Abbreviations: ISDN: integrated services digital network.

See: 27 05 26 for grounding and bonding for facility communications systems.  
 27 10 00 for facility structured cabling.  
 27 13 00 for communications backbone cabling.  
 27 13 13 for communications copper backbone cabling.  
 27 13 23 for communications optical fiber backbone cabling.  
 27 13 33 for communications coaxial backbone cabling.  
 33 79 19 for utilities grounding.

33 82 13	Copper Communications Transmission and Distribution Cabling	
33 82 13.13	Copper Splicing and Terminations	
33 82 23	Optical Fiber Communications Transmission and Distribution Cabling	
33 82 23.13	Optical Fiber Splicing and Terminations	
33 82 33	Coaxial Communications Transmission and Distribution Cabling	
33 82 33.13	Coaxial Splicing and Terminations	
33 82 43	Grounding and Bonding for Communications Transmission and Distribution	
33 82 46	Cable Pressurization Equipment	Includes: waveguide dehydrators.

33 82 53	Cleaning, Lubrication, and Restoration Chemicals	
33 82 63	Shelter Equipment	
33 82 63.13	Transceivers	
33 82 63.16	Control Panels	
33 82 63.23	Power-Line Carriers	
33 82 63.43	Backup Batteries	

**33 83 00      Wireless Communications Transmission and Distribution**

Includes: external wireless communications systems.

Alternate Terms/Abbreviations: UHF: ultra-high frequency, 300 MHz to 3.0 GHz. VHF: very-high frequency, 30 MHz to 300 MHz.

See: 33 09 00 for wireless equipment used for meter reading and metered data transmissions.

33 83 13	Laser Transmitters and Receivers	
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NUMBER	TITLE	EXPLANATION
33 83 16	Microwave Transmitters and Receivers	Includes: analog radio: order wire, service channel, and digital radio: wayside.
33 83 17	Microwave Antennas	
33 83 17.13	Microwave Waveguides	
33 83 19	Infrared Transmitters and Receivers	
33 83 23	Radio Antennas	

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NUMBER	TITLE	EXPLANATION
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# DIVISION 34 – TRANSPORTATION

## 34 00 00 Transportation

May be used as Division level  
Section title.

### 34 01 00 Operation and Maintenance of Transportation

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of transportation.

Level 4 Numbering Recommendation: Level 4 titles for transportation are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

34 01 13 Operation and Maintenance of Roadways

34 01 23 Operation and Maintenance of Railways

34 01 23.13 Track Removal and Salvage

34 01 23.81 Track Crosstie Replacement

34 01 33 Operation and Maintenance of Airfields

34 01 43 Operation and Maintenance of Bridges

### 34 05 00 Common Work Results for Transportation

Includes: subjects common to multiple titles in Division 34.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

34 05 05 Selective Demolition for Transportation

See: 02 41 19 for selective demolition for whole structure demolition.

34 05 13 Common Work Results for Roadways

34 05 23 Common Work Results for Railways

34 05 33 Common Work Results for Airports

34 05 43 Common Work Results for Bridges

### 34 06 00 Schedules for Transportation

Includes: schedules of items common to multiple titles in Division 34.

Notes: a schedule may be included on drawings, in the project manual, or a project book.



DIVISION 34

NUMBER	TITLE	EXPLANATION
34 06 13	Schedules for Roadways	
34 06 23	Schedules for Railways	
34 06 33	Schedules for Airfields	
34 06 43	Schedules for Bridges	
<b>34 08 00</b>	<b>Commissioning of Transportation</b>	Includes: commissioning of items common to multiple titles in Division 34.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
34 08 13	Commissioning of Roadways	
34 08 23	Commissioning of Railways	
34 08 33	Commissioning of Airfields	
34 08 43	Commissioning of Bridges	
<b>34 10 00</b>	<b>Guideways/Railways</b>	See: 34 42 00 for railway signaling and control equipment. 34 72 00 for railway construction. 34 76 00 for railway equipment.
<b>34 11 00</b>	<b>Rail Tracks</b>	Includes: fabricated metal items for railroad and light rail rack, rails, joint bars, bolts, rail anchors, tie plates, spikes, track cross ties, appurtenances, and accessories.  See: 31 24 16 for railway embankments. 32 11 00 for railway base courses. 34 12 00 for monorails. 34 13 13 for inclined railway. 34 24 00 for third rail traction power. 41 24 39 for railcar movers. 41 64 00 for rail vehicles.
34 11 13	Track Rails	
34 11 13.13	Light Rail Track	
34 11 13.23	Heavy Rail Track	
34 11 16	Welded Track Rails	
34 11 16.13	In-Track Butt-Welded Track Rail	
34 11 16.16	Pressure-Welded Track Rail	
34 11 16.19	Thermite-Welded Track Rail	
34 11 19	Track Rail Joints	
34 11 23	Special Trackwork	
34 11 23.13	Ballasted Special Track Rail	
34 11 23.16	Direct-Fixation Track	
34 11 23.23	Running Rail	
34 11 23.26	Precurved Running Rail	
34 11 26	Ballasted Track Rail	
34 11 26.13	Track Rail Ballast	

NUMBER	TITLE	EXPLANATION
34 11 26.16	Track Rail Subballast	
34 11 29	Embedded Track Rail	
34 11 33	Track Cross Ties	
34 11 33.13	Concrete Track Cross Ties	
34 11 33.16	Timber Track Cross Ties	
34 11 33.19	Resilient Track Cross Ties	
34 11 36	Track Rail Fasteners	
34 11 36.13	Direct-Fixation Fasteners	
34 11 39	Track Collector Pans	
34 11 39.13	Fiberglass Track Collector Pans	
34 11 93	Track Appurtenances and Accessories	
<b>34 12 00</b>	<b>Monorails</b>	
		Includes: single rail for vehicles which are wider than the guideway. Vehicles are either suspended from or straddle the guideway. Fabricated metal items for monorail, joint bars, bolts, rail anchors, appurtenances, and accessories.
		See: 31 24 00 for embankments. 32 11 00 for base courses. 34 11 00 for rail tracks. 34 13 13 for inclined railway.
34 12 13	Elevated Monorails	
34 12 16	On-Grade Monorails	
34 12 19	Below-Grade Monorails	
34 12 23	Maglev Monorail	
34 12 63	Monorail Track	
<b>34 13 00</b>	<b>Funiculars</b>	
		Includes: steep cable railways in which ascending cars counterbalance descending cars. Track, cable, and operating equipment, appurtenances, and accessories.
		See: 34 11 00 for rail tracks. 34 12 00 for monorails. 34 14 00 for other cable transportation systems.
34 13 13	Inclined Railway	

NUMBER	TITLE	EXPLANATION
<b>34 14 00</b>	<b>Cable Transportation</b>	Includes: transportation systems for steep slopes which utilize a moving cable. Cable, support structures, operating equipment, appurtenances, and accessories.  Alternate Terms/Abbreviations: chairlifts: ski lifts. Surface lifts: ski tows.  See: 05 15 00 for non-structural wire rope assemblies. 05 16 00 for structural cabling. 13 31 23 for tensioned fabric structures. 14 82 00 for rope climbers. 34 13 00 for funiculars.
34 14 13	Aerial Tramways	
34 14 19	Gondolas	
34 14 26	Funitels	
34 14 33	Chairlifts	
34 14 39	Surface Lifts	
34 14 46	Ropeway Tows	
34 14 53	Cable Car Systems	
<b>34 20 00</b>	<b>Traction Power</b>	Includes: transportation system with electric power distributed continuously along rail system to provide power for rail vehicles.
<b>34 21 00</b>	<b>Traction Power Distribution</b>	See: 26 11 00 for facility substations. 26 12 00 for medium-voltage transformers. 26 13 00 for medium-voltage switchgear. 33 70 00 for electrical utilities. 33 72 00 for utility substations.
34 21 13	High Power Static Frequency Converters	
34 21 16	Traction Power Substations	
34 21 16.13	AC Traction Power Substations	
34 21 16.16	DC Traction Power Substations	
34 21 19	Traction Power Switchgear	
34 21 19.13	AC Traction Power Switchgear	
34 21 19.16	DC Traction Power Switchgear	
34 21 19.23	Frequency Changer	
34 21 23	Traction Power Transformer-Rectifier Units	

NUMBER	TITLE	EXPLANATION
<b>34 23 00</b>	<b>Overhead Traction Power</b>	Includes: electric power distributed to rail vehicles along rail system by means of an overhead cable.  See: 33 71 13 for electrical transmission towers. 33 71 16 for electrical utility poles. 33 81 13 for communication transmission towers. 33 81 19 for communication utility poles. 34 21 00 for traction power distribution.
34 23 13	Traction Power Poles	
34 23 16	Overhead Cable Suspension	
34 23 23	Overhead Traction Power Cables	
<b>34 24 00</b>	<b>Third Rail Traction Power</b>	Includes: electric power distributed to rail vehicles along rail system by means of an electrified third rail.  See: 34 11 00 for rail tracks. 34 21 00 for traction power distribution.
34 24 13	Bottom-Contact Third Rail	
34 24 16	Side-Contact Third Rail	
34 24 19	Top-Contact Third Rail	
<b>34 40 00</b>	<b>Transportation Signaling and Control Equipment</b>	Includes: signaling and control equipment used to monitor, direct, and control traffic, safety, and environmental conditions in transportation systems.  See: 33 80 00 for communications utilities. 34 50 00 for transportation fare collection equipment. 35 10 00 for waterway and marine signaling and control equipment.
<b>34 41 00</b>	<b>Roadway Signaling and Control Equipment</b>	See: 10 14 53 for traffic signage. 34 71 00 for roadway construction. 34 75 00 for roadway equipment.
34 41 13	Traffic Signals	
34 41 16	Traffic Control Equipment	
34 41 23	Roadway Monitoring Equipment	
34 41 33	In Roadway Warning Lights	See: 32 17 29 for non-roadway use such as campuses or other site work.

NUMBER	TITLE	EXPLANATION
<b>34 42 00</b>	<b>Railway Signaling and Control Equipment</b>	See: 34 10 00 for guideways/railways. 34 72 00 for railway construction. 34 76 00 for railway equipment. 41 64 00 for rail vehicles.
34 42 13	Railway Signals	
34 42 13.13	General Railway Signal Requirements	
34 42 13.16	Signal Solid State Coded Track Circuits	
34 42 16	Train Control Wires and Cables	
34 42 19	Vital Interlocking Logic Controllers	
34 42 23	Railway Control Equipment	
34 42 23.13	Mainline Train Control Room Equipment	
34 42 23.16	Yard Train Control Room Equipment	
34 42 23.19	Integrated Control Equipment	
34 42 23.23	Interlocking Railway Control Equipment	
34 42 26	Rail Network Equipment	
34 42 29	Station Agent Equipment	
34 42 33	Yard Management Equipment	
34 42 36	Supervisory Control and Data Acquisition	
<b>34 43 00</b>	<b>Airfield Signaling and Control Equipment</b>	Alternate Terms/Abbreviations: airfield: airport. ODALS: omni-directional approach lighting system. PAPI: precision approach path indicator.  See: 13 53 00 for meteorological instrumentation. 26 55 33 for hazard warning lighting. 26 55 36 for obstruction lighting. 26 55 39 for helipad lighting. 26 56 00 for general airfield exterior lighting. 34 73 00 for airfield construction. 34 73 23 for manufactured airfield control towers. 34 77 00 for transportation equipment.
34 43 13	Airfield Signals and Lighting	
34 43 13.09	Airport Rotating Beacons	
34 43 13.10	Hazard Beacons	
34 43 13.11	Airport Beacon Towers	
34 43 13.12	Airport Obstruction Lights	
34 43 13.13	Airfield Runway Identification Lights	
34 43 13.16	Airfield Runway and Taxiway Inset Lighting	
34 43 13.19	Adhesive for Inset Lighting and Wiring	
34 43 13.23	Airfield Short-Approach Lighting Equipment	
34 43 13.26	Airfield Omni-Directional-Approach Lighting Equipment	
34 43 13.29	Airfield Low-Intensity-Approach Lighting Equipment	
34 43 13.33	Airfield High-Intensity-Approach Lighting Equipment	
34 43 13.36	Airfield Precision-Approach Path Indicator Equipment	
34 43 16	Airfield Landing Equipment	
34 43 16.13	Microwave Airfield Landing Equipment	
34 43 16.16	Instrument Airfield Landing Equipment	
34 43 16.19	Airfield Visual-Approach Slope Indicator Equipment	

NUMBER	TITLE	EXPLANATION
34 43 19	Airfield Traffic Control Tower Equipment	
34 43 23	Weather Observation Equipment	
34 43 23.13	Automatic Weather Observation Equipment	
34 43 23.16	Airfield Wind Cones	
34 43 26	Airfield Control Equipment	
34 43 26.13	Airfield Lighting Control Equipment	
34 43 26.16	Airfield Lighting PLC Control Equipment	
34 43 26.19	Airfield Lighting Regulator Assembly	
<b>34 48 00</b>	<b>Bridge Signaling and Control Equipment</b>	See: 05 12 33 for structural steel for bridges. 34 80 00 for bridges. 34 81 00 for bridge machinery. 34 82 00 for bridge specialties.
34 48 13	Operating Bridge Signals	
34 48 16	Operating Bridge Control Equipment	
<b>34 50 00</b>	<b>Transportation Fare Collection Equipment</b>	See: 34 40 00 for transportation signaling and control equipment.
<b>34 52 00</b>	<b>Vehicle Fare Collection</b>	Includes: equipment associated with the control of movement of vehicles on roadways. Integrated system with equipment to dispense tickets and collect fares for vehicles.  See: 11 12 00 for parking control equipment. 11 12 13 for parking key and card control units. 11 12 16 for parking ticket dispensers. 11 12 26 for parking fee collection equipment. 11 12 33 for parking gates. 13 34 23 for fabricated control booths. 28 10 00 for access control. 28 19 00 for access control vehicle identification systems. 28 20 00 for video surveillance. 28 30 00 for security detection, alarm, and monitoring. 34 41 00 for roadway signaling and control equipment.
34 52 16	Vehicle Ticketing Equipment	
34 52 16.13	Vehicle Ticket Vending Machines	
34 52 26	Vehicle Fare Collection Equipment	
34 52 26.13	Vehicle Coin Fare Collection Equipment	
34 52 26.16	Vehicle Electronic Fare Collection Equipment	
34 52 33	Vehicle Fare Gates	

NUMBER	TITLE	EXPLANATION
<b>34 54 00</b>	<b>Passenger Fare Collection</b>	<p>Includes: equipment associated with the control of movement of passengers. Integrated system with equipment to dispense tickets and collect fares for passengers.</p> <p>May Include: money-changing machines.</p> <p>See: 11 14 00 for pedestrian control equipment.  11 14 13 for pedestrian gates.  11 14 26 for self-contained pedestrian fare collection equipment.  11 14 43 for pedestrian detection equipment.  11 14 53 for pedestrian security equipment.  28 10 00 for access control.  28 20 00 for video surveillance.  28 30 00 for security detection, alarm, and monitoring.</p> <p>See Also: 11 14 16 for money-changing equipment.</p>
34 54 16	Passenger Ticketing Equipment	
34 54 16.13	Passenger Ticket Vending Machines	
34 54 16.16	Passenger Addfare Machines	
34 54 16.23	Passenger Intermodal Transfer Machines	
34 54 26	Passenger Fare Collection Equipment	
34 54 26.13	Passenger Coin Fare Collection Equipment	
34 54 26.16	Passenger Electronic Fare Collection Equipment	
34 54 33	Passenger Fare Gates	
<b>34 70 00</b>	<b>Transportation Construction and Equipment</b>	
<b>34 71 00</b>	<b>Roadway Construction</b>	<p>Includes: construction specifically intended for roadways.</p> <p>See: 03 37 23 for roller-compacted concrete.  10 14 53 for traffic signage.  10 73 43 for transportation stop shelters.  26 56 00 for exterior lighting.  31 24 13 for roadway embankments.  32 10 00 for bases, ballasts, and paving.  32 13 13 for roller-compacted concrete paving.  32 17 00 for paving specialties.  34 41 00 for roadway signaling and control equipment.  34 75 00 for roadway equipment.  34 75 13 for active vehicle barriers.</p>
34 71 13	Vehicle Barriers	
34 71 13.13	Vehicle Median Barriers	
34 71 13.16	Vehicle Crash Barriers	
34 71 13.19	Vehicle Traffic Barriers	
34 71 13.26	Vehicle Guide Rails	

NUMBER	TITLE	EXPLANATION
34 71 13.29	Vehicle Barrier Fenders	
34 71 16	Impact Attenuating Devices	
34 71 19	Vehicle Delineators	
34 71 19.13	Fixed Vehicle Delineators	
34 71 19.16	Flexible Vehicle Delineators	

## 34 72 00 Railway Construction

Includes: construction specifically intended for railways.

See: 10 73 43 for transportation stop shelters.

31 24 16 for railway embankments.

32 11 00 for railway base courses.

34 10 00 for guideways/railways.

34 42 00 for railway signaling and control equipment.

34 76 00 for railway equipment.

41 64 00 for rail vehicles.

34 72 13	Railway Line
34 72 16	Railway Siding

## 34 73 00 Airfield Construction

Includes: construction specifically intended for airfields.

Alternate Terms/Abbreviations: airfield: airport.

See: 03 37 23 for roller-compacted concrete.

26 56 00 for airfield exterior lighting.

32 10 00 for airfield bases, ballasts, and paving.

32 13 13 for roller-compacted concrete paving.

32 35 16 for sound barriers.

33 52 00 for hydrocarbon transmission and distribution.

33 56 43 for aviation fuel storage tanks.

33 79 00 for site grounding.

34 43 00 for airfield signaling and control equipment.

34 43 19 for airfield traffic control tower equipment.

34 77 00 for transportation equipment.

34 73 13	Aircraft Tiedowns
34 73 16	Airfield Grounding
34 73 16.13	Aircraft Static Grounding
34 73 19	Jet Blast Barriers
34 73 23	Manufactured Airfield Control Towers
34 73 26	Manufactured Helipads



NUMBER	TITLE	EXPLANATION
<b>34 75 00</b>	<b>Roadway Equipment</b>	Includes: operating equipment for roadways.  See: 10 14 53 for traffic signage. 10 73 43 for transportation stop shelters. 34 41 00 for roadway signaling and control equipment. 34 71 00 for roadway construction. 34 71 13 for vehicle barriers.
34 75 13	Operable Roadway Equipment	
34 75 13.13	Active Vehicle Barriers	
<b>34 76 00</b>	<b>Railway Equipment</b>	Includes: operating equipment for railways.  See: 10 73 43 for transportation stop shelters. 34 10 00 for guideways/railways. 34 42 00 for railway signaling and control equipment. 34 72 00 for railway construction. 41 64 00 for rail vehicles.
34 76 13	Roadway Crossing Control Equipment	
<b>34 77 00</b>	<b>Transportation Equipment</b>	Includes: operating equipment for transportation systems.  Alternate Terms/Abbreviations: passenger boarding bridges: jetways.  See: 10 73 43 for transportation stop shelters. 10 88 00 for scales. 11 14 00 for pedestrian control equipment. 11 14 43 for pedestrian detection equipment. 11 14 53 for pedestrian security equipment. 14 30 00 for escalators and moving walks. 28 18 00 for security access detection equipment. 34 43 00 for airfield signaling and control equipment. 34 73 00 for airfield construction. 41 14 36 for weigh scales. 41 21 23 for piece material conveyors. 41 24 36 for metal detectors.
34 77 13	Passenger Boarding Bridges	
34 77 13.13	Fixed Aircraft Passenger Boarding Bridges	
34 77 13.16	Movable Aircraft Passenger Boarding Bridges	
34 77 13.23	Ship Passenger Boarding Bridges	
34 77 33	Baggage Scanning Equipment	
34 77 36	Baggage Scales	
34 77 39	Baggage Conveying Equipment	

NUMBER	TITLE	EXPLANATION
<b>34 78 00</b>	<b>Weighing Equipment</b>	
34 78 13	Truck Scales	
34 78 16	Weighbridges	
34 78 23	Railroad Car Scales	
34 78 33	Crane Scales	
<b>34 80 00</b>	<b>Bridges</b>	
		See: 03 30 00 for bridges constructed of cast-in-place concrete. 03 40 00 for bridges constructed of precast concrete. 05 10 00 for bridges constructed of structural metal framing. 05 12 33 for structural steel for bridges. 05 16 33 for bridge cabling. 06 11 00 for bridges constructed of wood framing. 06 13 00 for bridges constructed of heavy timber. 32 34 00 for fabricated bridges.
<b>34 81 00</b>	<b>Bridge Machinery</b>	
		Includes: machinery for operating bridges.
		See: 07 95 63 for bridge expansion joint cover assemblies. 34 48 00 for bridge signaling and control equipment. 34 82 00 for bridge specialties.
34 81 13	Single-Swing Bridge Machinery	
34 81 16	Double-Swing Bridge Machinery	
34 81 19	Cantilever Bridge Machinery	
34 81 23	Lift Bridge Machinery	
34 81 26	Sliding Bridge Machinery	
34 81 29	Pontoon Bridge Machinery	
34 81 32	Bascule Bridge Machinery	
<b>34 82 00</b>	<b>Bridge Specialties</b>	
		Includes: manufactured or fabricated accessory items for bridges.
		See: 07 95 63 for bridge expansion joint cover assemblies. 34 48 00 for bridge signaling and control equipment. 34 81 00 for bridge machinery. 35 43 00 for waterway scour protection.
34 82 13	Bridge Vibration Dampers	
34 82 13.13	Visco Elastic Bridge Vibration Dampers	
34 82 13.16	Tuned-Mass Bridge Vibration Dampers	
34 82 19	Bridge Pier Protection	
34 82 19.13	Bridge Pier Ice Shields	

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NUMBER	TITLE	EXPLANATION
<b>DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION</b>		
<b>35 00 00</b>	<b>Waterway and Marine Construction</b>	May be used as Division level Section title.

<b>35 01 00</b>	<b>Operation and Maintenance of Waterway and Marine Construction</b>	Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of waterway and marine construction.  Level 4 Numbering Recommendation: Level 4 titles for waterway and marine construction are provided as examples for user's creation of more detailed titles for other subjects as required. Following Level 4 numbering is recommended: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.
35 01 30	Operation and Maintenance of Coastal Construction	
35 01 40	Operation and Maintenance of Waterway Construction	
35 01 40.51	Waterway Dredging	
35 01 40.92	Preservation of Water Courses	
35 01 50	Operation and Maintenance of Marine Construction	
35 01 50.51	Marine Dredging	
35 01 50.71	Channel Excavation, Cleaning and Deepening	
35 01 70	Operation and Maintenance of Dams	
<b>35 05 00</b>	<b>Common Work Results for Waterway and Marine Construction</b>	Includes: subjects common to multiple titles in Division 35.  See: 01 80 00 for performance requirements of subjects common to multiple titles.
35 05 05	Selective Demolition for Waterway and Marine Construction	See: 02 41 19 for selective demolition for whole structure demolition.
35 05 30	Common Work Results for Coastal Construction	
35 05 40	Common Work Results for Waterway Construction	
35 05 50	Common Work Results for Marine Construction	

NUMBER	TITLE	EXPLANATION
35 05 70	Common Work Results for Dams	
<b>35 06 00</b>	<b>Schedules for Waterway and Marine Construction</b>	Includes: schedules of items common to multiple titles in Division 35.
35 06 30	Schedules for Coastal Construction	
35 06 40	Schedules for Waterway Construction	
35 06 50	Schedules for Marine Construction	
35 06 70	Schedules for Dams	
<b>35 08 00</b>	<b>Commissioning of Waterway and Marine Construction</b>	Includes: commissioning of items common to multiple titles in Division 35.  See: 01 91 00 for commissioning of subjects common to multiple Divisions.
35 08 30	Commissioning of Coastal Construction	
35 08 40	Commissioning of Waterway Construction	
35 08 50	Commissioning of Marine Construction	
35 08 70	Commissioning of Dams	
<b>35 10 00</b>	<b>Waterway and Marine Signaling and Control Equipment</b>	Includes: signaling and control equipment used to monitor, direct, and control boat and ship traffic along waterways and ocean shorelines.  See: 33 80 00 for communications utilities. 34 40 00 for transportation signaling and control equipment.
<b>35 11 00</b>	<b>Signaling and Control Equipment for Waterways</b>	See: 35 40 00 for waterway construction and equipment.
35 11 13	Signaling Equipment for Waterways	
35 11 53	Control Equipment for Waterways	
<b>35 12 00</b>	<b>Marine Signaling and Control Equipment</b>	See: 35 50 00 for marine construction and equipment. 35 59 00 for marine specialties.
35 12 13	Marine Signaling Equipment	
35 12 13.13	Lighthouse Equipment	
35 12 33	Marine Navigation Equipment	
35 12 53	Marine Control Equipment	

NUMBER	TITLE	EXPLANATION
<b>35 13 00</b>	<b>Signaling and Control Equipment for Dams</b>	See: 35 70 00 for dam construction and equipment.
35 13 13	Signaling Equipment for Dams	
35 13 53	Control Equipment for Dams	
<b>35 20 00</b>	<b>Waterway and Marine Construction and Equipment</b>	Includes: construction within waterways such as rivers, streams, canals, and similar surface water bodies.  See: 35 10 00 for waterway and marine signaling and control. 35 30 00 for coastal construction, including shoreline protection. 35 40 00 for waterway onshore construction, including levees and scour protection. 35 50 00 for in-water and underwater construction. 35 70 00 for dams.
<b>35 21 00</b>	<b>General Fabrications for Waterways</b>	Includes: fabricated items for controlling water flow within waterways and at dams, hydroelectric, and irrigation projects.  See: 33 40 00 for stormwater utilities, including stormwater equipment and stormwater management facilities. 35 49 23 for waterway locks. 35 70 00 for dam construction and equipment. 46 21 00 for screening equipment used in water and wastewater treatment, including trash raking equipment. 48 13 00 for hydroelectric facility electrical power generation equipment.
35 21 13	Hydraulic Bifurcation Panels	
35 21 16	Hydraulic Bulkheads	
35 21 19	Hydraulic Manifolds	
35 21 23	Penstocks	
35 21 33	Trash Racks	
35 21 36	Debris Cages	

NUMBER	TITLE	EXPLANATION
<b>35 22 00</b>	<b>Hydraulic Gates</b>	Includes: large gates and valves used as floodgates, in dams and hydroelectric plants, in irrigation facilities, and access through levees.  See: 35 21 13 for penstocks. 35 21 19 for hydraulic manifolds. 35 49 23 for waterway locks. 35 70 00 for dam construction and equipment. 40 05 00 for large-diameter valves for flow control and energy dissipation. 40 05 59 for hydraulic gates for controlling flow in open channels, such as slide gates and sluice gates. 48 13 00 for hydroelectric facility electrical power generation equipment.
35 22 13	Spillway Crest Gates	
35 22 19	Hydraulic Head Gates	
35 22 26	Sluice Gates	
35 22 33	Miter Gates	
35 22 39	Sector Gates	
35 22 46	Tainter Gates	
35 22 53	Vertical Lift Hydraulic Gates	
35 22 59	Hydraulic Closure Gates	
35 22 63	Through-Levee Access Gates	
<b>35 24 00</b>	<b>Dredging</b>	Includes: excavation and removal of underwater material from within a body of water such as a river, stream, canal, harbor, or other surface water body.  See: 02 60 00 for contaminated site material removal. 31 23 19 for dewatering of excavated spoil. 33 01 10 for water utility intake structure cleaning and water supply reservoir cleaning. 35 53 00 for underwater construction.
35 24 13	Suction Dredging	
35 24 13.11	Training Suction Dredging	
35 24 13.13	Cutter Suction Dredging	
35 24 13.16	Auger Suction Dredging	
35 24 13.23	Jet-Lift Dredging	
35 24 13.26	Air-Lift Dredging	
35 24 21	Bucket Dredging	
35 24 23	Clamshell Dredging	
35 24 26	Backhoe/Dipper Dredging	
35 24 33	Water Injection Dredging	
35 24 36	Pneumatic Dredging	
35 24 43	Bed-Levelling Dredging	

NUMBER	TITLE	EXPLANATION
35 24 46	Krabbelaar Dredging	Alternate Terms/Abbreviations: krabbelaar: scratcher dredging.
35 24 53	Waterway Snag Removal	
<b>35 30 00</b>	<b>Coastal Construction</b>	
<b>35 31 00</b>	<b>Shoreline Protection</b>	Includes: construction along shorelines to prevent erosion, protect shipping channels, and other purposes.
35 31 16	Seawalls	Includes: vertical wall structure built along and parallel to a shoreline to prevent erosion or separate land from water.  Alternate Terms/Abbreviations: seawalls: bulkheads.  See: 35 31 19 for revetments.
35 31 16.13	Concrete Seawalls	
35 31 16.16	Segmental Seawalls	
35 31 16.19	Steel Sheet Piling Seawalls	
35 31 16.23	Timber Seawalls	
35 31 16.40	Stone Seawalls	
35 31 19	Revetments	Includes: armoring of shoreline slope to prevent erosion.  See: 31 36 00 for gabions. 32 32 36 for gabion retaining walls. 35 31 16 for seawalls. 35 31 26 for gabion jetties. 35 31 29 for gabion groins. 35 42 36 for gabion bank protection. 35 43 36 for gabion scour protection.
35 31 19.13	Sacked Cement-Sand Revetments	
35 31 19.16	Concrete Unit Masonry Revetments	
35 31 19.36	Gabion Revetments	
35 31 19.40	Stone Revetments	
35 31 23	Breakwaters	Includes: structures built offshore parallel to the shoreline, above or below the water to dissipate the energy of incoming waves.
35 31 23.13	Rubble Mound Breakwaters	
35 31 23.16	Precast Breakwater Modules	



DIVISION 35

NUMBER	TITLE	EXPLANATION
35 31 26	Jetties	Includes: long structures built perpendicular to the shoreline and extending out into the ocean to protect a shipping channel filling with sedimentation or storm waves.  See: 31 36 00 for gabions. 32 32 36 for gabion retaining walls. 35 31 19 for gabion revetments. 35 31 29 for gabion groins. 35 42 36 for gabion bank protection. 35 43 36 for gabion scour protection.
35 31 26.13	Concrete Jetties	
35 31 26.16	Concrete Unit Masonry Jetties	
35 31 26.36	Gabion Jetties	
35 31 26.40	Stone Jetties	
35 31 29	Groins	Includes: long structures built perpendicular to the shoreline and extending out into the ocean to control sand movement caused by shore currents.  See: 31 36 00 for gabions. 32 32 36 for gabion retaining walls. 35 31 19 for gabion revetments. 35 31 26 for gabion jetties. 35 42 36 for gabion bank protection. 35 43 36 for gabion scour protection.
35 31 29.13	Concrete Groins	
35 31 29.16	Concrete Unit Masonry Groins	
35 31 29.26	Steel Groins	
35 31 29.36	Gabion Groins	
35 31 29.40	Stone Groins	
<b>35 32 00</b>	<b>Artificial Reefs</b>	Includes: placing stable materials on an area of the ocean bottom offshore to create a hard substrate for the purpose of increasing marine life at ocean bottom.  See: 35 53 00 for underwater construction.
35 32 13	Scrap Material Artificial Reefs	
35 32 13.13	Scrap Concrete Artificial Reefs	
35 32 13.19	Scrap Steel Artificial Reefs	
35 32 13.33	Sunken Ship Artificial Reefs	
35 32 16	Constructed Artificial Reefs	
35 32 16.13	Constructed Concrete Artificial Reefs	
35 32 16.19	Constructed Steel Artificial Reefs	

NUMBER	TITLE	EXPLANATION
<b>35 40 00</b>	<b>Waterway Construction and Equipment</b>	See: 35 11 00 for signaling and control equipment for waterways.
<b>35 41 00</b>	<b>Levees</b>	Includes: embankments constructed to prevent a river or stream from flooding adjacent lands.  See: 31 23 19 for dewatering. 31 24 00 for embankments. 31 56 00 for slurry walls for cutoff trenches. 35 49 13 for floodwalls.
35 41 13	Landside Levee Berms	
35 41 13.13	Stability Landside Levee Berms	
35 41 13.16	Seepage Landside Levee Berms	
35 41 16	Levee Cutoff Trenches	
35 41 19	Levee Relief Wells	
<b>35 42 00</b>	<b>Waterway Bank Protection</b>	Includes: construction at stream banks to prevent erosion from water movement.  See: 31 34 00 for soil reinforcement. 31 35 00 for slope protection. 31 36 00 for gabions. 31 37 00 for riprap. 32 32 36 for gabion retaining walls. 35 31 19 for gabion revetments. 35 31 26 for gabion jetties. 35 31 29 for gabion groins. 35 43 00 for scour protection.
35 42 13	Piling Bank Protection	
35 42 13.19	Steel Sheet Piling Bank Protection	
35 42 13.23	Timber Piling Bank Protection	
35 42 13.26	Plastic Piling Bank Protection	
35 42 29	Grout-Bag Bank Protection	
35 42 34	Soil Reinforcement Bank Protection	
35 42 35	Slope Protection Bank Protection	
35 42 36	Gabion Bank Protection	
35 42 37	Riprap Bank Protection	
35 42 53	Wall Bank Protection	
35 42 53.16	Concrete Unit Masonry Wall Bank Protection	
35 42 53.19	Segmental Wall Bank Protection	
35 42 53.40	Stone Wall Bank Protection	

NUMBER	TITLE	EXPLANATION
<b>35 43 00</b>	<b>Waterway Scour Protection</b>	Includes: protection against scour by flowing water in streams around in-channel structures.  See: 31 34 00 for soil reinforcement. 31 35 00 for slope protection. 31 36 00 for gabions. 31 37 00 for riprap. 32 32 36 for gabion retaining walls. 34 82 19 for bridge pier protection. 35 31 19 for gabion revetments. 35 31 26 for gabion jetties. 35 31 29 for gabion groins. 35 42 00 for bank protection.
35 43 29	Grout-Bag Scour Protection	
35 43 34	Soil Reinforcement Scour Protection	
35 43 35	Slope Protection Scour Protection	
35 43 36	Gabion Scour Protection	
35 43 37	Riprap Scour Protection	
35 43 53	Wall Scour Protection	
35 43 53.13	Concrete Unit Masonry Wall Scour Protection	
35 43 53.16	Segmental Wall Scour Protection	
35 43 53.40	Stone Wall Scour Protection	
<b>35 49 00</b>	<b>Waterway Structures</b>	Includes: structures to control the flow of water in waterways. Flood walls to prevent flooding of surrounding areas. Locks to allow for the movement of vessels vertically in waterways.  See: 35 21 00 for general fabrications for waterways. 35 22 00 for hydraulic gates. 35 41 00 for levees. 35 70 00 for dam construction and equipment.
35 49 13	Floodwalls	
35 49 13.13	Concrete Floodwalls	
35 49 13.16	Masonry Floodwalls	
35 49 23	Waterway Locks	
35 49 23.13	Concrete Waterway Locks	
35 49 23.23	Piling Waterway Locks	
35 49 26	Floodgate Machinery	
<b>35 50 00</b>	<b>Marine Construction and Equipment</b>	See: 35 12 00 for marine signaling and control equipment.

NUMBER	TITLE	EXPLANATION
<b>35 51 00</b>	<b>Floating Construction</b>	Includes: construction which floats on the water. Anchoring of floating construction.  See: 06 13 33 for heavy timber fixed pier construction. 35 52 00 for offshore platform construction. 35 52 33 for floating offshore platform construction. 35 53 00 for underwater construction.
35 51 13	Floating Piers	
35 51 13.23	Floating Wood Piers	
35 51 13.26	Floating Plastic Piers	
35 51 23	Pontoons	
<b>35 52 00</b>	<b>Offshore Platform Construction</b>	Includes: platforms built above the waterline at sea for a variety of purposes.  See: 35 51 00 for floating construction. 35 51 13 for floating piers. 35 53 00 for underwater construction.
35 52 13	Fixed Offshore Platform Construction	
35 52 23	Semi-Submersible Offshore Platform Construction	
35 52 33	Floating Offshore Platform Construction	
<b>35 53 00</b>	<b>Underwater Construction</b>	Includes: construction built under the water surface.  See: 03 37 26 for underwater placed concrete. 31 52 00 for cofferdams. 31 63 26 for concrete caissons for marine construction. 31 64 00 for caissons. 33 71 00 for underwater electrical transmission and distribution. 35 24 00 for dredging. 35 32 00 for artificial reefs. 35 51 00 for floating construction. 35 52 00 for offshore platform construction. 35 52 23 for semi-submersible offshore platform construction.
35 53 23	Underwater Harbor Deepening	
35 53 33	Underwater Pipeline Construction	
35 53 43	Underwater Foundation Construction	
35 53 53	Underwater Structures Construction	
35 53 63	Underwater Waterproofing	

NUMBER	TITLE	EXPLANATION
<b>35 59 00</b>	<b>Marine Specialties</b>	Includes: manufactured specialties for marine uses.  See: 35 12 00 for marine signaling and control equipment. 35 51 13 for floating piers. 35 52 00 for offshore platform construction.
35 59 13	Marine Fenders	
35 59 13.13	Prestressed Concrete Marine Fender Piling	
35 59 13.16	Resilient Foam-Filled Marine Fenders	
35 59 13.19	Rubber Marine Fenders	
35 59 23	Buoys	
35 59 23.13	Mooring Buoys	
35 59 23.16	Anchor Pendant Buoys	
35 59 23.19	Navigation Buoys	
35 59 29	Mooring Devices	
35 59 29.13	Quick-Release Mooring Hooks	
35 59 29.16	Laser Docking Systems	
35 59 29.19	Capstans	
35 59 33	Marine Bollards and Cleats	
35 59 33.13	Cast-Steel Marine Bollards and Cleats	
35 59 33.16	Cast-Iron Marine Bollards and Cleats	
35 59 33.19	Stainless-Steel Marine Bollards and Cleats	
35 59 33.23	Plastic Marine Bollards and Cleats	
35 59 93	Marine Chain and Accessories	
35 59 93.13	Marine Chain	
35 59 93.16	Marine Shackles	
35 59 93.19	Marine Chain Tensioners	

NUMBER	TITLE	EXPLANATION
<b>35 70 00</b>	<b>Dam Construction and Equipment</b>	<p>Includes: barriers across streams or rivers to obstruct the flow of water.</p> <p>See: 35 13 00 for signaling and control equipment for dams.  35 21 00 for general fabrications for waterways.  35 22 00 for hydraulic gates.  48 13 00 for hydroelectric plant electrical power generation equipment.</p> <p>See Also: 33 05 05 for installation of buried piping.  33 05 19 for ductile iron utility pipe.  33 05 24 for steel pipe in utility service.  33 05 39 for various types of concrete utility pipe.  33 42 00 for stormwater conveyance piping.  33 46 00 for stormwater ponds and outlet structures.  35 21 36 for penstocks, hydraulic manifolds, trash racks, and debris cages.  35 22 00 for large hydraulic gates used in flood control and large dams.  40 05 00 for various types of valves.  40 05 19 for ductile iron pipe.  40 05 24 for steel pipe for liquid service.  40 05 39 for concrete pipe.  40 05 57 for actuators for hydraulic gates and valves.  40 05 59 for hydraulic gates and stop logs used in a facility.</p>
<b>35 71 00</b>	<b>Gravity Dams</b>	<p>Includes: dams which resist the horizontal thrust of the water entirely by their own weight.</p> <p>See: 03 30 00 for cast-in-place concrete.  04 20 00 for unit masonry.</p>
35 71 13	Concrete Gravity Dams	
35 71 16	Masonry Gravity Dams	
35 71 19	Rockfill Gravity Dams	
<b>35 72 00</b>	<b>Arch Dams</b>	<p>Includes: curved dams which are dependent upon arch action for their strength.</p> <p>See: 03 30 00 for cast-in-place concrete.</p>
35 72 13	Concrete Arch Dams	

DIVISION 35

NUMBER	TITLE	EXPLANATION
<b>35 73 00</b>	<b>Embankment Dams</b>	Includes: embankments with waterproof core covered with earth or rock fill.  See: 31 24 00 for embankments. 31 34 00 for embankment dams with soil reinforcement. 31 35 00 for embankment dams with slope protection.
35 73 13	Earth Embankment Dams	
35 73 16	Rock Embankment Dams	
<b>35 74 00</b>	<b>Buttress Dams</b>	Includes: dams with face held up by a series of supports. Face may be flat or curved.  See: 03 30 00 for cast-in-place concrete.
35 74 13	Concrete Buttress Dams	
<b>35 79 00</b>	<b>Auxiliary Dam Structures</b>	Includes: structures with auxiliary purposes associated with dams.  See: 48 13 00 for hydroelectric plant electrical power generation equipment.
35 79 13	Fish Ladders	Includes: artificial step pools to enable fish to travel upstream at dams or other in-stream barriers.  See: 03 30 00 for cast-in-place concrete.
35 79 13.13	Concrete Fish Ladders	

# SPECIFICATIONS GROUP

## PROCESS EQUIPMENT SUBGROUP

DIVISION 40 – PROCESS INTERCONNECTIONS

DIVISION 41 – MATERIAL PROCESSING AND HANDLING EQUIPMENT

DIVISION 42 – PROCESS HEATING, COOLING, AND DRYING EQUIPMENT

DIVISION 43 – PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT

DIVISION 44 – POLLUTION AND WASTE CONTROL EQUIPMENT

DIVISION 45 – INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

DIVISION 46 – WATER AND WASTEWATER EQUIPMENT

*Division 47 – Reserved for Future Expansion*

DIVISION 48 – ELECTRICAL POWER GENERATION

*Division 49 – Reserved for Future Expansion*



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NUMBER

TITLE

EXPLANATION

# DIVISION 40 – PROCESS INTERCONNECTIONS

**40 00 00**

## **Process Interconnections**

May be used as Division level Section title.

Includes: work results that interconnect various processes together, including process piping systems, process instrumentation and controls, and miscellaneous work results for process equipment common among various divisions of the Process Equipment Subgroup.

See: 25 00 00 for integrated automation related to building systems and non-process systems. 27 00 00 for communications between remotely located process sites.

**40 01 00**

## **Operation and Maintenance of Process Interconnections**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of process integration.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

40 01 10

Operation and Maintenance of Gas and Vapor Process Piping

40 01 20

Operation and Maintenance of Liquids Process Piping

40 01 30

Operation and Maintenance of Solid and Mixed Materials Piping and Chutes

40 01 40

Operation and Maintenance of Process Piping and Equipment Protection

40 01 60

Operation and Maintenance of Process Control and Process Facility Enterprise Management Systems

40 01 70

Operation and Maintenance of Instrumentation for Process Systems

40 01 90

Operation and Maintenance of Primary Control Devices

NUMBER	TITLE	EXPLANATION
<b>40 05 00</b>	<b>Common Work Results for Process Interconnections</b>	<p>Includes: common work results for process equipment. Equipment and devices for piping systems, and for regulating and controlling the flow of liquids and gases in conduits, including pipe, valves, and appurtenances. Hydraulic gates and appurtenances for controlling open-channel flow at a facility.</p> <p>Alternate Terms/Abbreviations: anti-cavitation valve: energy-dissipating valve. Cast-iron slide gates: cast-iron sluice gates. ABS: Acrylonitrile butadiene styrene. AWWA: American Water Works Association. CCFRPM: centrifugally cast fiberglass-reinforced polymer mortar. CPVC: chlorinated polyvinyl chloride. FRP: fiberglass-reinforced plastic. HDPE: high-density polyethylene. PTFE: polytetrafluoroethylene. PVC: polyvinyl chloride. PVDF: polyvinylidene fluoride.</p> <p>Notes: the term "process" used herein includes potable water and other process applications. Work results designated as "water" are typically covered under the standards of the American Water Works Association (AWWA).</p> <p>See: 21 00 00 for piping associated with fire-suppression systems.  22 00 00 for piping associated with plumbing systems.  23 00 00 for piping associated with HVAC systems.  32 80 00 for irrigation.  33 00 00 for utility piping.  35 22 00 for hydraulic gates.  40 05 59 for instrumentation and controls related to valves and hydraulic gates.  40 10 00 for process piping systems.  40 91 00 for primary process control valves for instrumentation/control-related systems.</p>
40 05 04	Selective Demolition for Process Interconnections	
40 05 05	Exposed Piping Installation	
40 05 06	Couplings, Adapters, and Specials for Process Piping	
40 05 07	Hangers and Supports for Process Piping	
40 05 09	Wall Pipes, Floor Pipes, and Pipe Sleeves	
40 05 11	Aluminum Process Pipe	
40 05 12	Brass Process Pipe	
40 05 13	Bronze Process Pipe	
40 05 17	Copper Process Pipe and Tubing	
40 05 19	Ductile Iron Process Pipe	
40 05 21	High-Alloy Nickel Process Pipe and Tubing	
40 05 23	Stainless Steel Process Pipe and Tubing	
40 05 23.13	Duplex and Super-Duplex Stainless Steel Process Pipe	
40 05 23.23	300- and 400-Series Stainless Steel Process Pipe	
40 05 23.33	Special-Fabrication Stainless Steel Process Pipe and Tubing	
40 05 24	Steel Process Pipe	

NUMBER	TITLE	EXPLANATION
40 05 24.13	Steel Pipe and Tubing for Air and Gas Service	
40 05 24.23	Steel Pipe for Water Service	
40 05 24.26	Steel Pipe and Tubing for Process Liquid Service	
40 05 24.33	Steel Pipe for Bulk Materials Conveyance	
40 05 26	Other Metals Process Pipe	
40 05 26.13	Titanium Process Pipe	
40 05 26.23	Tantalum Process Pipe	
40 05 26.33	Zirconium Process Pipe	
40 05 31	Thermoplastic Process Pipe	
40 05 31.13	Polyvinyl Chloride Process Pipe	
40 05 31.23	Chlorinated Polyvinyl Chloride Process Pipe	
40 05 31.33	ABS Process Pipe	
40 05 31.43	Polypropylene Process Pipe	
40 05 31.53	PVDF Process Pipe	
40 05 31.63	High-Purity Plastic Process Pipe	
40 05 31.83	Flexible Plastic Tubing	
40 05 33	High-Density Polyethylene Process Pipe	
40 05 36	Fiberglass-Reinforced Plastic Process Pipe	
40 05 36.13	Fiberglass-Reinforced Plastic Pipe for Process Air, Gas, and Odor Service	
40 05 36.23	Fiberglass-Reinforced Plastic Pipe for Process Liquid Service	
40 05 37	Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Process Pipe	
40 05 38	PTFE Process Pipe	
40 05 39	Concrete Pipe	
40 05 39.13	Concrete Pressure Water Pipe	
40 05 39.23	Concrete Gravity and Drainage Process Pipe	
40 05 51	Common Requirements for Process Valves	
40 05 53	Process Valves Four-inch Diameter and Larger	
40 05 56	Process Valves, Smaller than Four-inch Diameter	
40 05 57	Actuators for Process Valves and Gates	
40 05 57.13	Manual Actuators	
40 05 57.23	Electric Motor Actuators	
40 05 57.33	Hydraulic Cylinder Actuators	
40 05 57.43	Hydraulic Actuator Systems	
		Includes: oil-accumulator hydraulic systems.
40 05 57.53	Pneumatic Actuators	
40 05 59	Hydraulic Gates	
40 05 59.13	Stop Plates	
40 05 59.16	Stop Logs	
40 05 59.21	Aluminum Slide Gates	
40 05 59.23	Stainless Steel Slide Gates	
40 05 59.26	Fiberglass-Reinforced Plastic Slide Gates	
40 05 59.33	Cast Iron Slide Gates	
40 05 59.43	Butterfly Gates	
40 05 61	Gate Valves	
40 05 61.13	Solid Wedge Metal-Seated Gate Valves	
40 05 61.16	Double Disc Metal-Seated Gate Valves	
40 05 61.23	Resilient-Seated Gate Valves	
40 05 61.43	Knife Gate Valves	
40 05 62	Plug Valves	
40 05 62.13	Eccentric Plug Valves for Gas Service	
40 05 62.16	Eccentric Plug Valves for Liquid Service	
40 05 63	Ball Valves	
40 05 63.13	AWWA Metal-Seated Ball Valves	

## DIVISION 40

NUMBER	TITLE	EXPLANATION
40 05 63.16	AWWA Resilient-Seated Ball Valves	
40 05 63.33	Metallic Ball Valves	
40 05 63.43	Plastic Ball Valves	
40 05 64	Butterfly Valves	
40 05 64.13	Metal-Seated Butterfly Valves	
40 05 64.16	AWWA Resilient-Seated Butterfly Valves	
40 05 64.23	Metallic Industrial Butterfly Valves	
40 05 64.26	Plastic Industrial Butterfly Valves	
40 05 64.33	Butterfly Valves in Air or Gas Service	
40 05 64.36	High-Performance Butterfly Valves in Air or Gas Service	
40 05 64.43	Dampers for Corrosive Gas Service	
40 05 65	Valves for Pump Control and Check Service	
40 05 65.11	Angle Valves	
40 05 65.13	Cone Valves	
40 05 65.16	Globe Valves	
40 05 65.23	Swing Check Valves	
40 05 65.26	Tilting Disc Check Valves	
40 05 65.29	Double-Disk Check Valves	
40 05 67	Specialized Pressure and Flow-Control Valves	
40 05 67.13	Reduced-Pressure Zone Backflow Preventers for Process Service	
40 05 67.16	Double Check Valve Assembly Backflow Preventers for Process Service	
40 05 67.23	Pressure Vacuum Breaker Backflow Preventers	
40 05 67.26	Atmospheric Vacuum Breaker Backflow Preventers	
40 05 67.29	Hose Connection Vacuum Breaker Backflow Preventers	
40 05 67.33	Backpressure Valves	
40 05 67.36	Pressure-Regulating Valves	
40 05 67.39	Pressure-Relief Valves	
40 05 67.41	Direct-Acting Surge Relief Valves for Water Service	
40 05 67.43	Pilot-Operated Surge Relief Valves for Water Service	
40 05 67.44	Pilot-Operated Surge Arrestor Valves for Water Service	
40 05 67.46	Electronic Surge Anticipator Valves for Water Service	
40 05 67.47	Surge Relief Valves for Wastewater Service	
40 05 67.49	Electronic Surge Anticipator Valves for Wastewater Service	
40 05 71	Solids Handling Valves	
40 05 71.13	Duckbill Check Valves	
40 05 71.16	Flap Gates	
40 05 71.23	Mud Valves	
40 05 71.33	Telescoping Valves	
40 05 73	Special-Application Process Valves	
40 05 73.13	Altitude Valves	
40 05 73.16	Float Valves	
40 05 73.23	Anti-Cavitation Valves	
40 05 74	Flexible-Closure Valves	
40 05 74.13	Diaphragm Valves	
40 05 74.23	Pinch Valves	
40 05 76	Hot-Tapping Valves and Appurtenances	
40 05 76.13	Tapping Sleeves and Valves	
40 05 76.16	Tapping Machines	
40 05 76.23	Line Stops	
40 05 78	Air Valves for Water and Wastewater Service	
40 05 78.11	Air Release Valves for Water Service	
40 05 78.13	Air/Vacuum Valves for Water Service	
40 05 78.16	Vacuum-Breaking Valves for Water Service	
40 05 78.19	Combination Air Valves for Water Service	
40 05 78.21	Air Release Valves for Wastewater Service	

NUMBER	TITLE	EXPLANATION
40 05 78.23	Air/Vacuum Valves for Wastewater Service	
40 05 78.26	Vacuum-Breaking Valves for Wastewater Service	
40 05 78.29	Combination Air Valves for Wastewater Service	
40 05 81	Hydrants and Hose Bibbs for Process Service	
40 05 81.13	Fire Hydrants	
40 05 81.23	Yard Hydrants	
40 05 81.26	Freeze-Proof Yard Hydrants	
40 05 81.33	Hose Bibbs	
40 05 82	Solenoid Valves for Process Service	
40 05 89	Valve Accessories	
40 05 89.13	Basket Strainers for Process Service	
40 05 89.23	Needle Valves	
40 05 89.33	Quick-Connect Couplers	
40 05 93	Common Motor Requirements for Process Equipment	
40 05 96	Vibration and Seismic Controls for Process Equipment	
40 05 97	Identification for Process Equipment	

## **40 06 00 Schedules for Process Interconnections**

Includes: schedules of items common to multiple titles in Division 40.

Notes: a schedule may be included on drawings, or in the project manual.

See: 40 61 93 for process control system input/output list.

40 06 10	Schedules for Gas and Vapor Process Piping and Ductwork
40 06 20	Schedules for Liquids Process Piping
40 06 30	Schedules for Solid and Mixed Materials Piping and Chutes
40 06 40	Schedules for Process Piping and Equipment Protection
40 06 60	Schedules for Process Control and Process Facility Enterprise Management Systems
40 06 70	Schedules of Instrumentation for Process Systems
40 06 90	Schedules for Primary Control Devices

## **40 10 00 Gas and Vapor Process Piping and Ductwork**

Includes: pipe, fittings, valves, ductwork, dampers, supports, and ancillary equipment for gas and vapor systems.

See: 23 31 00 for HVAC ductwork.

40 20 00 for industrial liquids process piping.

40 30 00 for industrial solid and mixed materials process piping.

40 40 00 for piping heat tracing, insulation, and corrosion protection.

NUMBER	TITLE	EXPLANATION
<b>40 11 00</b>	<b>Steam Process Piping</b>	Includes: steam and condensate piping for industrial processes.  See: 23 22 00 for facility steam and condensate piping and pumps. 33 63 00 for site steam energy distribution. 42 11 00 for process boilers.
40 11 13	Low-Pressure Steam Process Piping	
40 11 16	Intermediate-Pressure Steam Process Piping	
40 11 19	High-Pressure Steam Process Piping	
40 11 23	Condensate Process Piping for Process Applications	
<b>40 12 00</b>	<b>Compressed Air Process Piping</b>	Includes: compressed air piping for industrial processes.  Notes: low-pressure compressed air is at a pressure of zero to twenty-five to forty pounds per square inch, gauge (PSIG). High-pressure compressed air is at a pressure of twenty-five to forty PSIG and higher.  See: 22 15 00 for general service compressed air systems. 22 61 13 for compressed air piping for laboratory and healthcare facilities. 43 10 00 for process air and gas blowers, compressors, filtering equipment, and appurtenances.
40 12 13	Compressed Air Process Piping for Breathing Service	
40 12 23	Low-Pressure Compressed Air Process Piping	
40 12 53	High-Pressure Compressed Air Process Piping	
<b>40 13 00</b>	<b>Process Ductwork</b>	Includes: ductwork for air and gases for industrial processes.  See: 23 31 00 for HVAC ductwork. 43 10 00 for process air and gas blowers, compressors, filtering equipment, and appurtenances.
<b>40 15 00</b>	<b>Combustion System Gas Piping</b>	Includes: industrial combustion process gases piping.  See: 23 24 00 for internal-combustion engine piping. 23 35 16 for engine exhaust systems. 23 51 00 for HVAC-related breechings, chimneys, and stacks. 42 00 00 for process heating, cooling, and drying equipment. 44 60 00 for waste thermal processing equipment. 46 78 00 for thermal treatment of wastewater residuals.

NUMBER	TITLE	EXPLANATION
40 15 13	Combustion Air Piping	
40 15 16	Oxygen Combustion System Gas Piping	
40 15 19	Flue-Gas Combustion System Piping	
40 15 23	Exothermic-Gas Combustion System Piping	
40 15 26	Endothermic-Gas Combustion System Piping	
40 15 29	Dissociated-Ammonia-Gas Combustion System Piping	
<b>40 16 00</b>	<b>Specialty and High-Purity Gases Piping</b>	Includes: piping for special and high-purity gases for industrial processes not included elsewhere.  See: 22 63 00 for gas systems for laboratory and healthcare facilities. 22 63 13 for nitrous-oxide gas and oxygen gas piping for laboratory and healthcare facilities. 40 15 16 for oxygen combustion system gas piping. 40 17 23 for oxygen welding and cutting piping.
40 16 13	Ammonia Gas Piping	
40 16 16	Boron Gas Piping	
40 16 17	Chlorine Gas Piping	
40 16 26	Diborane Gas Piping	
40 16 29	Fluorine Gas Piping	
40 16 33	Hydrogen Sulfide Gas Piping	
40 16 36	Nitrous-Oxide Gas Process Piping	
40 16 37	Oxygen Gas Process Piping	
40 16 39	Ozone Gas Process Piping	
40 16 43	Phosphine Gas Piping	
40 16 46	Silane Gas Piping	
40 16 49	Sulfur-Dioxide Gas Piping	
40 16 53	Specialty Gas Mixtures Piping	
40 16 56	High-Purity Gas Piping Components	
<b>40 17 00</b>	<b>Welding and Cutting Gases Piping</b>	Includes: piping for metal joining and cutting gas systems for industrial processes.  Alternate Terms/Abbreviations: MAPP: methylacetylene-propadiene.  See: 11 57 00 for vocational shop equipment. 41 36 19 for joining equipment. 41 36 23 for cutting equipment.
40 17 13	Acetylene Welding and Cutting Piping	
40 17 16	Acetylene-Hydrogen Mix Welding and Cutting Piping	
40 17 19	Methylacetylene-Propadiene Welding and Cutting Piping	
40 17 23	Oxygen Welding and Cutting Piping	
40 17 26	Inert Gas Welding and Cutting Piping	



NUMBER	TITLE	EXPLANATION
<b>40 18 00</b>	<b>Vacuum Systems Process Piping</b>	<p>Includes: piping for low- and high-vacuum systems for industrial processes.</p> <p>Definitions: low-vacuum: system operating pressures greater than or equal to 10 torr. High-vacuum: system operating pressures less than 10 torr. Torr: a unit of pressure used in measuring partial vacuums.</p> <p>See: 22 62 00 for vacuum systems for laboratory and healthcare facilities.</p>
40 18 13	Low-Vacuum Systems Process Piping	
40 18 23	Chlorine Gas Vacuum System Piping	
40 18 53	High-Vacuum Systems Process Piping	
<b>40 20 00</b>	<b>Liquids Process Piping</b>	<p>Includes: pipe, fittings, and components for industrial liquid service.</p> <p>See: 21 00 00 for piping associated with fire-suppression systems.  22 00 00 for piping associated with plumbing systems.  23 00 00 for piping associated with HVAC systems.  32 80 00 for irrigation.  33 00 00 for utility piping.  40 10 00 for industrial gas and vapor process piping.  40 30 00 for industrial solid and mixed materials process piping.  40 40 00 for piping heat tracing, insulation, and corrosion protection.</p>
<b>40 21 00</b>	<b>Liquid Fuel Process Piping</b>	<p>Includes: piping for liquids commonly used as fuels for industrial processes.</p> <p>Alternate Terms/Abbreviations: biodiesel: FAME: fatty-acid methyl ester. Gasoline: petrol. No. 1 fuel-oil: coal oil: stove oil: range oil. No. 2 fuel-oil: home heating oil: diesel fuel. No. 4 fuel-oil: commercial heating oil. No. 5 fuel-oil: residual-type industrial heating oil: bunker B. No. 6 fuel-oil: high-viscosity residual oil: RFO: residual fuel-oil: bunker C. Kerosene: paraffin: jet fuel: rocket fuel. Tar: bitumen.</p> <p>See: 23 11 00 for facility fuel piping.  23 11 13 for facility fuel-oil piping.  23 11 16 for facility gasoline piping.  33 52 00 for hydrocarbon transmission and distribution.  33 52 00 for site liquid fuel distribution.</p>

NUMBER	TITLE	EXPLANATION
40 21 13	Bio Fuels Process Piping	
40 21 13.13	Bioalcohols Process Piping	Includes: ethanol, propanol, and butanol.
40 21 13.23	Biodiesel Fuel Process Piping	
40 21 13.26	Green Diesel Fuel Process Piping	
40 21 13.33	Biomass-to-Liquid (BTL) Fuel Process Piping	
40 21 13.43	Gas-to-Liquid (GTL) Fuel Process Piping	
40 21 16	Gasoline Process Piping	
40 21 19	Diesel Process Piping	Includes: petrodiesel fuels, including ultra-low-sulfur diesel (ULSD) fuels; diesel engine road vehicle (DERV) fuel, railroad engine diesel fuel, and other types of petroleum-derived diesel fuels other than No. 2 fuel-oil and those derived from biological sources.
40 21 23	Fuel-Oils Process Piping	
40 21 23.13	No. 1 Fuel-Oil Process Piping	
40 21 23.23	No. 2 Fuel-Oil Process Piping	
40 21 23.26	Kerosene Process Piping	
40 21 23.29	Tar Fuels Process Piping	Includes: those derived from oil sands, tar sands, bituminous sands.
40 21 23.43	No. 4 Fuel-Oil Process Piping	
40 21 23.53	No. 5 Fuel-Oil Process Piping	
40 21 23.63	No. 6 Fuel-Oil Process Piping	
<b>40 22 00</b>	<b>Petroleum Products Piping</b>	Includes: piping for heavy-fractions and light-fractions petroleum products.  Definitions: heavy fractions: well oil, tars, etc. Light fractions: benzene, naphtha, etc.  See: 23 11 00 for facility fuel piping. 33 52 00 for site liquid fuels distribution.
40 22 10	Heavy-Fractions Petroleum Products Piping	
40 22 13	Liquefied Petroleum Gas (LPG) Process Piping	
40 22 16	Lubricating Oils Process Piping	
40 22 23	Petrochemicals Process Piping	
40 22 50	Light-Fractions Petroleum Products Piping	

NUMBER	TITLE	EXPLANATION
<b>40 23 00</b>	<b>Water and Wastewater Process Piping</b>	<p>Includes: piping for water and wastewater processes, including raw water to treated water processes and various liquid process sidestreams resulting from water and wastewater treatment.</p> <p>Alternate Terms/Abbreviations: DI: deionized. RO: reverse osmosis.</p> <p>See: 22 11 00 for facility water distribution.  22 67 00 for processed water systems for laboratory and healthcare facilities.  22 67 13 for distilled-water, reverse-osmosis water, and deionized-water piping for laboratory and healthcare facilities.  33 14 00 for water utility transmission and distribution.  43 20 00 for process liquid pumping equipment.  43 32 29 for electronic deionization purification units in industrial applications.  43 32 56 for reverse-osmosis purification units in industrial applications.  43 40 00 for manufactured process tanks.  46 00 00 for water and wastewater treatment equipment.</p>
40 23 13	Deionized Water Process Piping	
40 23 16	Distilled-Water Process Piping	
40 23 19	Non-Potable Plant Water Process Piping	
40 23 23	Potable Water Process Piping	
40 23 29	Recirculated Water Process Piping	
40 23 33	Reverse-Osmosis Water Process Piping	
40 23 40	Sanitary Wastewater Process Piping	
40 23 41	Grit Process Piping	
40 23 43	Scum and Floatables Process Piping	
40 23 44	Primary Sludge Process Piping	
40 23 46	Waste Sludge Process Piping	
40 23 48	Thickened Sludge Process Piping	
<b>40 24 00</b>	<b>Specialty Liquid Chemicals Piping</b>	<p>Includes: piping for liquid chemicals for industrial processes not included elsewhere.</p>
40 24 13	Alcohol Piping	
40 24 14	Liquid Chlorine and Sodium Hypochlorite Piping	
40 24 16	Gel Piping	
40 24 19	Slurries Process Piping	
40 24 23	Thixotropic Liquid Piping	
<b>40 25 00</b>	<b>Liquid Acids and Bases Piping</b>	<p>Includes: piping for acid and base liquids for industrial processes.</p>

NUMBER	TITLE	EXPLANATION
40 25 10	Liquid Acids Piping	
40 25 50	Liquid Bases Piping	
<b>40 26 00</b>	<b>Liquid Polymer Piping</b>	Includes: piping for liquid polymers for industrial processes.
<b>40 30 00</b>	<b>Solid and Mixed Materials Piping and Chutes</b>	Includes: pipe, fittings, and components for industrial bulk materials service.  See: 40 10 00 for industrial gas and vapor process piping. 40 20 00 for industrial liquids process piping. 40 40 00 for piping heat tracing, insulation, and corrosion protection. 41 10 00 for bulk material processing equipment.
<b>40 32 00</b>	<b>Bulk Materials Piping and Chutes</b>	Includes: piping and chutes for bulk abrasive and non-abrasive solid materials for industrial processes.  See: 14 91 00 for facility chutes. 41 10 00 for bulk material processing equipment.
40 32 10	Abrasive Materials Piping and Chutes	
40 32 50	Nonabrasive Materials Piping and Chutes	
<b>40 33 00</b>	<b>Bulk Materials Valves</b>	Includes: valves regulating the flow of bulk solid materials for industrial processes.  See: 40 05 00 for common work results for process valves. 41 13 23 for airlock bulk material feeders.
40 33 13	Airlock Bulk Materials Valves	
40 33 16	Blind Bulk Materials Valves	
40 33 26	Diverter Bulk Materials Valves	
40 33 29	Double or Single Dump Bulk Materials Valves	
40 33 39	Swing Bulk Materials Valves	
40 33 43	Specialty Bulk Materials Valves	
<b>40 34 00</b>	<b>Pneumatic Conveying Lines</b>	Includes: dense and dilute phase piping, fittings, hoses, and supports for industrial processes.  See: 41 12 19 for pneumatic conveyors.
40 34 10	Dense Phase Pneumatic Conveying Lines	
40 34 50	Dilute Phase Pneumatic Conveying Lines	

NUMBER	TITLE	EXPLANATION
<b>40 40 00</b>	<b>Process Piping and Equipment Protection</b>	Includes: heating/cooling, thermal insulation, and corrosion protection for industrial piping and process equipment.  See: 40 10 00 for industrial gas and vapor process piping. 40 20 00 for industrial liquids process piping. 40 30 00 for industrial solid and mixed materials process piping.
<b>40 41 00</b>	<b>Process Piping and Equipment Heat Tracing</b>	Includes: protective heat tracing of industrial process piping and equipment.  See: 21 05 33 for heat tracing for fire-suppression piping. 22 05 33 for heat tracing for plumbing piping. 23 05 33 for heat tracing for HVAC piping.
40 41 13	Process Piping Heat Tracing	
40 41 13.13	Process Piping Electrical Resistance Heat Tracing	
40 41 13.16	Process Piping Electrical Conductance Heat Tracing	
40 41 13.19	Process Piping Gas Heat Tracing	
40 41 13.23	Process Piping Steam Heat Tracing	
40 41 13.26	Process Piping Thermal Fluids Heat Tracing	
40 41 23	Process Equipment Heat Tracing	
40 41 23.13	Process Equipment Electrical Resistance Heat Tracing	
40 41 23.16	Process Equipment Electrical Conductance Heat Tracing	
40 41 23.19	Process Equipment Gas Heat Tracing	
40 41 23.23	Process Equipment Steam Heat Tracing	
40 41 23.26	Process Equipment Thermal Fluids Heat Tracing	
<b>40 42 00</b>	<b>Process Piping and Equipment Insulation</b>	Includes: thermal insulation of industrial process piping and equipment.  See: 07 21 00 for thermal insulation for buildings and structures. 21 07 00 for fire-suppression insulation. 22 07 00 for plumbing insulation. 23 07 00 for HVAC insulation.
40 42 13	Process Piping Insulation	
40 42 13.13	Cryogenic Temperature Process Piping Insulation	
40 42 13.16	Low Temperature Process Piping Insulation	
40 42 13.19	Intermediate Temperature Process Piping Insulation	
40 42 13.23	High Temperature Process Piping Insulation	
40 42 13.26	Process Piping Insulation for Specialty Applications	
40 42 23	Process Equipment Insulation	
40 42 23.13	Cryogenic Temperature Process Equipment Insulation	
40 42 23.16	Low Temperature Process Equipment Insulation	
40 42 23.19	Intermediate Temperature Process Equipment Insulation	
40 42 23.23	High Temperature Process Equipment Insulation	

NUMBER	TITLE	EXPLANATION
40 42 23.26	Process Equipment Insulation for Specialty Applications	
<b>40 46 00</b>	<b>Process Corrosion Protection</b>	Includes: corrosion protection for industrial process piping and equipment.
40 46 16	Coatings and Wrappings for Process Corrosion Protection	
40 46 42	Cathodic Process Corrosion Protection	
<b>40 47 00</b>	<b>Refractories</b>	Includes: silica, alumina, and carbon-based refractory materials for industrial processes.  See: 04 50 00 for refractory masonry. 23 51 00 for breechings, chimneys, and stacks for HVAC. 42 00 00 for process heating, cooling, and drying equipment. 44 60 00 for waste thermal processing equipment. 46 78 00 for thermal treatment of wastewater residuals.
40 47 13	Silica Refractories	
40 47 16	Alumina Refractories	
40 47 19	Carbon and Graphite Refractories	
40 47 23	Castable Refractories	
40 47 26	Rammed Refractories	
40 47 29	Refractory Concrete	
<b>40 60 00</b>	<b>Process Control and Enterprise Management Systems</b>	Includes: computer, control system, and networking hardware and software for process control systems and enterprise management systems.  Alternate Terms/Abbreviations: DCS: distributed control system. I and C: instrumentation and controls. I/O: input/output. SCADA: supervisory control and data acquisition.  See: 21 09 00 for instrumentation and control for fire-suppression systems. 22 09 00 for instrumentation and control for plumbing. 23 09 00 for instrumentation and control for HVAC. 25 50 00 for integrated automation facility controls. 26 09 00 for instrumentation and control for electrical systems. 33 09 00 for instrumentation and control for utilities.

NUMBER	TITLE	EXPLANATION
<b>40 61 00</b>	<b>Process Control and Enterprise Management Systems General Provisions</b>	Includes: requirements for supplier qualifications, coordination meetings, shipping, installation, submittals, service conditions, input/output lists, process control descriptions, training, and testing.
40 61 13	Process Control System General Provisions	
40 61 16	Enterprise Management System General Provisions	
40 61 21	Process Control System Testing	
40 61 26	Process Control System Training	
40 61 93	Process Control System Input/Output List	
40 61 96	Process Control Descriptions	
<b>40 62 00</b>	<b>Computer System Hardware and Ancillaries</b>	Includes: computer equipment, computer operating systems, display systems, and printers.  Alternate Terms/Abbreviations: HMI: human-machine interface.  See: 27 22 00 for computer equipment for data centers.
40 62 13	Server Computers	
40 62 16	Operator Workstation Computers	
40 62 19	Industrial Computers	
40 62 21	Desktop Computers	
40 62 23	Mobile Computers	
40 62 26	Laptop Computers	
40 62 29	Tablet Computers and Mobile Devices	
40 62 33	Printers	
40 62 43	Large Display Screens	
40 62 63	Operator Interface Terminals (OIT)	
<b>40 63 00</b>	<b>Control System Equipment</b>	Includes: processors, communication modules, power supplies, I/O modules, chassis, and programming software for the monitoring and control of process systems. Data acquisition and data transmission for remote sites in supervisory control and data acquisition (SCADA) systems.  Alternate Terms/Abbreviations: DCU: distributed control unit. PLC: programmable logic controller. RTU: remote terminal unit.  See: 25 14 00 for integrated automation local control units.
40 63 13	Distributed Process Control Systems	
40 63 43	Programmable Logic Controllers	
40 63 83	Remote Terminal Units	

NUMBER	TITLE	EXPLANATION
<b>40 66 00</b>	<b>Network and Communication Equipment</b>	Includes: devices for LAN, WAN, and radio security and communications.  Alternate Terms/Abbreviations: LAN: local area network. WAN: wide area network. MAS: multiple address system.  See: 25 10 00 for integrated automation network equipment. 27 21 00 for network equipment for data centers.
40 66 13	Switches and Routers	
40 66 16	Firewall Hardware	
40 66 19	Media Converters	
40 66 23	Frame Relay Equipment	
40 66 26	Device Network Equipment	
40 66 33	Metallic and Fiber-Optic Communication Cabling and Connectors	
40 66 36	Process Instrumentation Networks	
40 66 43	Wireless Network Systems	
40 66 53	Multiple Address Radio Equipment	
40 66 56	Point-to-Point Radio Equipment	
40 66 63	Antennas	
40 66 66	Monopoles and Towers	
40 66 73	Satellite Communication Equipment	
<b>40 67 00</b>	<b>Control System Equipment Panels and Racks</b>	Includes: racks and consoles for control room equipment and panels for field-mounted process control equipment.  Alternate Terms/Abbreviations: UPS: uninterruptible power supply.  See: 26 27 16 for electrical enclosures. 26 33 00 for stand-alone battery systems and uninterruptible power supplies. 33 81 29 for communications system utility enclosures. 40 78 00 for panel-mounted instruments and devices.
40 67 13	Computer Equipment Racks	
40 67 16	Free-Standing Panels	
40 67 19	Wall-Mounted Panels	
40 67 23	Control System Consoles	
40 67 33	Panel Wiring	
40 67 63	Control Panel-Mounted Uninterruptible Power Supply	



NUMBER	TITLE	EXPLANATION
<b>40 68 00</b>	<b>Process Control Software</b>	Includes: software for process control and management of process facilities.  Alternate Terms/Abbreviations: HMI: human-machine interface.  See: 25 15 00 for integrated automation software. 27 26 00 for data communications software. 27 34 00 for call accounting software. 40 68 93 for process computer operating systems software.
40 68 13	Process Control (HMI) Software	
40 68 23	Reporting Software	
40 68 26	Online Performance Monitoring Systems Software	
40 68 33	Maintenance Management Software	
40 68 36	Laboratory Information System Software	
40 68 39	Energy Management Software	
40 68 43	Load Management Software	
40 68 63	Configuration of HMI Software	
40 68 66	Programming of Controller Software	
40 68 93	Computer Operating Systems Software	
<b>40 69 00</b>	<b>Packaged Control Systems</b>	Includes: complete, packaged systems configured to perform specialized functions as indicated by their title.  Alternate Terms/Abbreviations: packaged control systems: dedicated control systems.  See: 25 14 00 for integrated automation local control units. 40 63 00 for control system equipment such as distributed control units, programmable logic controllers, and remote terminal units.
40 69 13	Control System Simulators	
40 69 23	Burner Management Systems	
40 69 26	Safety Instrumented Control Systems	
40 69 33	Fire and Gas Monitoring/Protection Systems for Industrial Applications	
<b>40 70 00</b>	<b>Instrumentation for Process Systems</b>	Includes: instruments for measurement of process variables.  See: 23 09 13 for instrumentation and control devices for HVAC. 25 30 00 for integrated automation instrumentation and terminal devices. 41 36 29 for manufacturing measurement and testing equipment.

NUMBER	TITLE	EXPLANATION
<b>40 71 00</b>	<b>Flow Measurement</b>	Includes: closed pipe and open-channel flow metering devices. Vane-actuated, thermal flow switches.  See: 23 09 13 for flow switches for HVAC. 28 46 24 for fire detection and alarm emergency control function interfaces.
40 71 13	Magnetic Flow Meters	
40 71 13.13	Inline Magnetic Flow Meters	
40 71 13.23	Insertion-Type Magnetic Flow Meters	
40 71 23	Differential Pressure-Type Flow Meters	
40 71 23.13	Venturi Flow Meters	
40 71 23.16	Flow Tubes	
40 71 23.19	Flow Nozzle-Type Flow Meters	
40 71 23.23	Orifice Plate Flow Meters	
40 71 23.26	Integral Orifice Flow Meters	
40 71 23.29	Orifice Meter Runs	
40 71 23.33	Elbow Flow Meters	
40 71 23.36	Pitot Tube and Averaging Pitot Flow Meters	
40 71 23.39	V-Cone Flow Meters	
40 71 23.43	Differential Pressure-Type Flow Transmitters	
40 71 23.46	Flow Computers	
40 71 33	Propeller Flow Meters	
40 71 36	Turbine Flow Meters	
40 71 43	Variable Area Flow Meters	
40 71 46	Target Flow Meters	
40 71 49	Vortex-Shedding Flow Meters	
40 71 53	Positive Displacement Flow Meters	
40 71 63	Doppler Flow Meters	
40 71 66	Transit Time Flow Meters	
40 71 69	Open Channel Flow Meters	
40 71 73	Coriolis Flow Meters	
40 71 76	Thermal Flow Meters	
40 71 79	Flow Switches	
40 71 83	Sight Flow Indicators	
40 71 86	Flow Metering Weirs	
<b>40 72 00</b>	<b>Level Measurement</b>	Includes: contact and non-contact level metering devices. Level switches. Level gauges.  Alternate Terms/Abbreviations: RF: radio frequency.  See: 28 46 12 for other initiating devices
40 72 13	Ultrasonic Level Meters (Continuous and Point-Type)	
40 72 23	Radar Level Meters	
40 72 26	Laser Level Meters	
40 72 29	Nuclear Level Meters	
40 72 33	Capacitance Type Level Meters (Continuous and Point Type)	

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NUMBER	TITLE	EXPLANATION
40 72 36	RF Admittance Level Meters (Continuous and Point Type)	
40 72 43	Pressure and Differential Pressure Type Level Meters	
40 72 46	Bubbler Systems	
40 72 53	Magnetic and Magnetostrictive Level Meters	
40 72 63	Displacement-Type Level Meters	
40 72 73	Sight Level Gauges	
40 72 76	Level Switches	
40 72 83	Leak Detection Systems	

**40 73 00 Pressure, Strain, and Force Measurement**

Includes: devices for measuring absolute, gauge, and differential pressure, static forces, and weight. Multi-variable instruments that combine both pressure and temperature in the same transducer.

See: 13 51 00 for instrumentation for measuring stress in structures.

23 09 43 for pressure switches for HVAC.

28 46 12 for other initiating devices.

40 73 13	Pressure and Differential Pressure Gauges	
40 73 16	Manometers	
40 73 23	Absolute-Pressure Transmitters	
40 73 26	Gauge-Pressure Transmitters	
40 73 29	Differential Pressure Transmitters	
40 73 33	Multi-Variable Pressure/Temperature Transmitters	
40 73 36	Pressure and Differential Pressure Switches	
40 73 43	Force Measurement Devices	
40 73 46	Load Cells	
40 73 53	Torque Measurement Devices	
40 73 63	Diaphragm Seals	

**40 74 00 Temperature Measurement**

Includes: devices for measuring temperature for industrial applications.

See: 23 09 13 for temperature sensors for HVAC.

40 74 13	Resistance Temperature Devices	
40 74 16	Thermocouples	
40 74 23	Radiation Pyrometers	
40 74 33	Thermistors	
40 74 36	Diode Temperature Measurement Devices	
40 74 43	Bimetallic Thermometers	
40 74 46	Fluid Expansion Thermometers	
40 74 49	Change-of-State Temperature Measurement Devices	
40 74 53	Cryogenic Temperature Sensors	
40 74 63	Temperature Transmitters	
40 74 66	Temperature Switches	
40 74 69	Thermowells, Protection Tubes, and Test Thermowells	

NUMBER	TITLE	EXPLANATION
<b>40 75 00</b>	<b>Process Liquid Analytical Measurement</b>	Includes: devices for measurement of chemical and physical properties of liquids in industrial applications.  Alternate Terms/Abbreviations: organics analyzer: UV 254 absorbing compounds analyzer. ORP: oxidation reduction potential. pH: measure of the activity of the solvated hydrogen ion.  See: 40 76 00 for devices used for analysis of gases.
40 75 05	Multi-Parameter Analyzer Systems	
40 75 13	PH/ORP Analyzers	
40 75 16	Conductivity Analyzers	
40 75 19	Moisture Analyzers	
40 75 21	Chlorine Analyzers	
40 75 21.13	Free-Chlorine Analyzers	
40 75 21.23	Residual-Chlorine Analyzers	
40 75 23	Chlorine Dioxide Analyzer	
40 75 26	Dissolved Chlorine Dioxide Analyzers	
40 75 29	Dissolved Ammonia Analyzers	
40 75 33	Fluoride Analyzers	
40 75 43	Dissolved Oxygen Analyzers	
40 75 46	Dissolved Ozone Analyzers	
40 75 53	Turbidity Analyzers	
40 75 56	Suspended Solids/Sludge Density Analyzers	
40 75 59	Liquid Density Analyzers	
40 75 63	Monochloramine Analyzers	
40 75 66	Nitrogen Analyzers	
40 75 69	Phosphorous Analyzers	
40 75 73	Particle Counters	
40 75 76	Total Organic Carbon Analyzers	
40 75 79	Total Organics Analyzers	
40 75 83	Hardness Analyzers	
40 75 86	Alkalinity Analyzers	
<b>40 76 00</b>	<b>Process Gas Analytical Measurement</b>	Includes: devices for measurement of gases in process streams. Devices for measurement of gas concentrations for safety systems.  Alternate Terms/Abbreviations: CEMS: continuous emissions monitoring systems. NOx: mono-nitrogen oxide (NO and NO2). THC: total hydrocarbons.  See: 23 09 13 for humidity measurement in HVAC. 40 75 00 for devices used for analysis of liquids.
40 76 05	Continuous Emissions Monitoring Systems	
40 76 13	Oxygen Gas Analyzers	

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NUMBER	TITLE	EXPLANATION
40 76 16	Ozone Analyzers	
40 76 23	Combustible Gas Monitors	
40 76 26	Chlorine Gas Analyzers	
40 76 29	Ammonia Gas Analyzers	
40 76 33	Hydrogen Sulfide Monitors	
40 76 36	Sulfur Dioxide Analyzers	
40 76 39	Carbon Dioxide Analyzers	
40 76 43	Carbon Monoxide Analyzers	
40 76 53	Dewpoint/Moisture Analyzers	
40 76 56	Gas Density Analyzers	
40 76 63	Flue Gas Analyzers	
40 76 66	NO/NOX Analyzers	
40 76 73	Hydrocarbon Analyzers	
40 76 76	Gas Chromatograph Analyzers	
40 76 79	Vapor Pressure Analyzers	
40 76 83	Mass Spectrometers	

**40 77 00 Position and Motion Measurement**

Includes: devices for the measurement of acceleration, vibration, and position in industrial applications.

See: 13 52 00 for seismic instrumentation.

40 77 13	Acceleration Measurement Devices	
40 77 16	Proximity Measurement Devices	
40 77 19	Vibration Velocity Measurement Devices	
40 77 23	Vibration Monitoring Systems	
40 77 26	Position, Speed, and Motion Measurement Devices	

**40 78 00 Panel Mounted Instruments**

Includes: devices that are mounted on panel fronts and within panels for industrial applications.

See: 40 67 00 for control panels and racks.

40 73 13 for pressure gauges and differential pressure gauges.

40 78 13	Indicators and Meters	
40 78 16	Indicating Lights	
40 78 19	Switches and Push Buttons	
40 78 23	Potentiometers and Manual Controllers	
40 78 26	Chart Recorders	
40 78 33	Annunciators	
40 78 43	Single-Loop Controllers	
40 78 53	Relays	
40 78 56	Isolators, Intrinsically-Safe Barriers, and Surge Suppressors	
40 78 59	Power Supplies	
40 78 63	Alarm Dialers	

NUMBER	TITLE	EXPLANATION
<b>40 79 00</b>	<b>Miscellaneous Instruments, Calibration Equipment, Instrument Valves, and Fittings</b>	<p>Includes: devices for measuring mass flow on belts and similar conveyors. Instrument calibrators. Signal converters and conditions. Tubing, valves, and fittings for instruments.</p> <p>Alternate Terms/Abbreviations: I/P: current-to-pressure. V/P: voltage-to-pressure.</p> <p>See: 26 09 00 for instrumentation for electrical systems.</p>
40 79 13	Nuclear Mass-Measuring Scales	
40 79 23	Instrument Calibration Equipment	
40 79 26	Instrument Programming Equipment	
40 79 33	Current-to-Pressure Converters	
40 79 36	Voltage-to-Pressure Converters	
40 79 39	Signal Conditioners and Converters	
40 79 43	Deadweight Testers	
40 79 46	Flame Scanners	
40 79 63	Instrument Tubing	
40 79 66	Instrument Valve Manifolds, Valves, and Fittings	

## **40 80 00 Commissioning of Process Systems**

Includes: commissioning of process system as a total system.

Notes: field quality control testing of a particular system or equipment item is typically specified in the specification section(s) associated with the equipment item or system. Use 40 80 00 for more extensive, systematic commissioning requirements affecting work results under multiple process equipment divisions.

See: 01 91 00 for procedural and administrative requirements for commissioning.

41 08 00 for separate commissioning of material processing and handling equipment.

42 08 00 for separate commissioning of heating, cooling, and drying equipment.

43 08 00 for separate commissioning of gas and liquid handling, purification, and storage equipment.

44 08 00 for separate commissioning of pollution control equipment.

45 08 00 for separate commissioning of industry-specific manufacturing equipment.

46 08 00 for separate commissioning of water and wastewater equipment.

48 08 00 for separate commissioning of electrical power generation systems.

NUMBER	TITLE	EXPLANATION
<b>40 90 00</b>	<b>Primary Control Devices</b>	<p>Includes: devices that adjust industrial process variables.</p> <p>Notes: work results under 40 90 00 are typically for projects where the entire project has a distinct, process instrumentation/controls orientation.</p> <p>See: 40 79 13 for current-to-pressure converters. 40 79 26 for voltage-to-pressure converters.</p>
<b>40 91 00</b>	<b>Primary Control Valves</b>	<p>Includes: control valves in instrumentation/control-related service in industrial applications.</p> <p>See: 25 35 19 for integrated automation control valves. 40 05 00 for process valves and gates.</p>
40 91 13	Electrically-Operated Primary Control Valves	
40 91 16	Hydraulically-Operated Primary Control Valves	
40 91 19	Pneumatically-Operated Primary Control Valves	
40 91 23	Solenoid Primary Control Valves	
40 91 26	Specialty Primary Control Valves	
<b>40 92 00</b>	<b>Self-Contained Flow Controllers</b>	
<b>40 93 00</b>	<b>Linear Actuators and Positioners</b>	<p>Includes: linear actuators and positioners in instrumentation/control-related applications.</p> <p>See: 23 09 13 for actuators and operators for HVAC. 25 35 13 for integrated automation actuators and operators. 40 05 57 for actuators for process valves and hydraulic gates.</p>
<b>40 94 00</b>	<b>Self-Contained Pressure Regulators</b>	
<b>40 95 00</b>	<b>Rotary Actuators</b>	<p>Includes: panels and associated system hardware to control industrial processes.</p> <p>Alternate Terms/Abbreviations: I/O: input/output.</p> <p>See: 25 10 00 for integrated automation network equipment. 25 13 00 for integrated automation control and monitoring network. 25 14 00 for integrated automation local control units.</p>

NUMBER	TITLE	EXPLANATION
<b>40 96 00</b>	<b>Saturable Core Reactors</b>	Includes: saturable core reactors in instrumentation/control-related applications.
		Alternate Terms/Abbreviations: SCR: saturable core reactors: silicon-controlled rectifiers
		See: 40 97 00 for variable frequency drives in instrumentation/control-related applications.
<b>40 97 00</b>	<b>Variable Frequency Drives</b>	Includes: variable frequency drives in instrumentation/control-related applications.
		Alternate Terms/Abbreviations: AFD: adjustable frequency drive. ASD: adjustable speed drive. VFD: variable frequency drive. VSD: variable speed drive.
		See: 26 10 00 for medium-voltage motor controllers, including medium-voltage variable frequency drives. 26 29 00 for low-voltage controllers for contactors and motors, including low-voltage variable frequency drives. 40 96 00 for saturable core reactors.



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NUMBER	TITLE	EXPLANATION
<b>DIVISION 41 – MATERIAL PROCESSING AND HANDLING EQUIPMENT</b>		
<b>41 00 00</b>	<b>Material Processing and Handling Equipment</b>	May be used as Division level Section title.  See: 40 90 00 for instrumentation for process systems.
<b>41 01 00</b>	<b>Operation and Maintenance of Material Processing and Handling Equipment</b>	Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of material processing and handling equipment.  Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.
41 01 52	Operation and Maintenance of Bulk Materials Storage	
41 01 52.13	Storage Bin and Hopper Cleaning	
41 01 52.16	Silo Cleaning	
<b>41 05 00</b>	<b>Common Work Results for Material Processing and Handling Equipment</b>	
41 05 05	Selective Demolition for Material Processing and Handling Equipment	See: 02 41 19 selective demolition for whole structure demolition.
<b>41 06 00</b>	<b>Schedules for Material Processing and Handling Equipment</b>	Includes: schedules of items common to multiple titles in Division 41.  Notes: a schedule may be included on drawings, in the project manual, or a project book.
41 06 10	Schedules for Bulk Material Processing Equipment	
41 06 20	Schedules for Piece Material Handling Equipment	
41 06 30	Schedules for Manufacturing Equipment	
41 06 40	Schedules for Container Processing and Packaging	
41 06 50	Schedules for Material Storage	

NUMBER	TITLE	EXPLANATION
41 06 60	Schedules for Mobile Plant Equipment	
<b>41 08 00</b>	<b>Commissioning of Material Processing and Handling Equipment</b>	Includes: separate commissioning of material processing and handling equipment.  See: 40 80 00 for commissioning of process systems as a total system.
41 08 10	Commissioning of Bulk Material Processing Equipment	
41 08 20	Commissioning of Piece Material Handling Equipment	
41 08 30	Commissioning of Manufacturing Equipment	
41 08 40	Commissioning of Container Processing and Packaging	
41 08 50	Commissioning of Material Storage	
41 08 60	Commissioning of Mobile Plant Equipment	
<b>41 10 00</b>	<b>Bulk Material Processing Equipment</b>	Includes: equipment for handling and processing of bulk solid materials for industrial processes.  See: 41 08 10 for commissioning of bulk material processing equipment.
<b>41 11 00</b>	<b>Bulk Material Sizing Equipment</b>	Includes: bulk material size reduction, agglomeration, and segregation equipment for industrial processes.  See: 41 24 33 for magnetic separators. 43 22 23 for liquid centrifuges.
41 11 13	Bulk Material Agglomerators	
41 11 16	Bulk Material Air Mill Classifiers	
41 11 19	Bulk Material Centrifuges	
41 11 23	Bulk Material Crushers	
41 11 26	Bulk Material Cyclones	
41 11 29	Bulk Material Fluid Bed Separators	
41 11 33	Bulk Material Grinders	
41 11 36	Bulk Material Homogenizers	
41 11 39	Bulk Material Lump Breakers	
41 11 43	Bulk Material Mills	
41 11 46	Bulk Material Pulverizers	
41 11 49	Bulk Material Screens	
41 11 53	Bulk Material Shredders	
41 11 56	Bulk Material Sieves	

NUMBER	TITLE	EXPLANATION
<b>41 12 00</b>	<b>Bulk Material Conveying Equipment</b>	Includes: bulk material transport/delivery equipment for industrial processes.
		See: 40 34 00 for pneumatic conveying lines. 41 13 23 for screw bulk material feeders. 41 13 23 for vibratory bulk material feeders. 41 21 23 for piece material conveyors. 42 32 16 for conveyor material dryers.
41 12 13	Bulk Material Conveyors	
41 12 13.13	Airslide Bulk Material Conveyors	
41 12 13.16	Auger Bulk Material Conveyors	
41 12 13.19	Belt Bulk Material Conveyors	
41 12 13.23	Container Bulk Material Conveyors	
41 12 13.26	Drag Chain Bulk Material Conveyors	
41 12 13.29	Hopper Bulk Material Conveyors	
41 12 13.33	Reciprocating Bulk Material Conveyors	
41 12 13.36	Screw Bulk Material Conveyors	
41 12 13.39	Stacking and Reclaim Bulk Material Conveyors	
41 12 13.43	Trough Bulk Material Conveyors	
41 12 13.46	Tube Bulk Material Conveyors	
41 12 13.49	Vibratory Bulk Material Conveyors	
41 12 13.53	Weigh-Belt Bulk Material Conveyors	
41 12 16	Bucket Elevators	
41 12 19	Pneumatic Conveyors	
41 12 19.13	Dense Phase Pneumatic Conveyors	
41 12 19.16	Dilute Phase Pneumatic Conveyors	
<b>41 13 00</b>	<b>Bulk Material Feeders</b>	Includes: bulk material transport feeding equipment for industrial processes.
		See: 40 33 13 for airlock bulk materials valves. 41 12 13 for screw bulk material conveyors. 41 12 13 for vibratory bulk material conveyors. 41 21 39 for piece material feeders. 43 22 39 for liquid feeders.
41 13 13	Bin Activators/Live Bin Bottoms	
41 13 23	Feeders	
41 13 23.13	Airlock Bulk Material Feeders	
41 13 23.16	Apron Bulk Material Feeders	
41 13 23.19	Rotary-Valve Bulk Material Feeders	
41 13 23.23	Screw Bulk Material Feeders	
41 13 23.26	Vibratory Bulk Material Feeders	
41 13 23.29	Volumetric Bulk Material Feeders	
41 13 23.33	Weigh Bulk Material Feeders	

NUMBER	TITLE	EXPLANATION
<b>41 14 00</b>	<b>Batching Equipment</b>	Includes: bulk material batching (recipe) equipment for industrial processes.  See: 10 88 00 for scales. 34 77 36 for baggage scales. 41 36 29 for test weigh scales. 43 13 13 for process gas blenders. 43 13 19 for process gas mixers. 43 22 19 for liquid blenders. 43 22 56 for liquid process mixers.
41 14 13	Bag-Handling Batching Equipment	
41 14 16	Batch Cars/Transports	
41 14 19	Batch Hoppers	
41 14 23	Bulk Bag-Handling Batching Equipment	
41 14 26	Blenders	
41 14 29	Drum-Handling Batching Equipment	
41 14 33	Mixers	
41 14 36	Weigh Scales	
<b>41 20 00</b>	<b>Piece Material Handling Equipment</b>	Includes: equipment for the handling and processing of discrete pieces of material.  See: 41 08 20 for commissioning of piece material processing equipment.
<b>41 21 00</b>	<b>Conveyors</b>	Includes: automatic guided vehicles, conveyors, diverters, and chutes. Postal conveyors, diverters, and chutes.  Alternate Terms/Abbreviations: AGV: automatic guided vehicle.  See: 10 55 00 for postal specialties. 11 29 00 for postal, packaging, and shipping equipment. 11 43 16 for food delivery conveyors. 14 70 00 for turntables. 34 77 39 for baggage conveying equipment. 41 12 13 for bulk material conveyors. 41 24 46 for postal sorting machines. 42 32 16 for conveyor material dryers. 43 22 39 for liquid feeders.
41 21 13	Automatic Guided Vehicle Systems	
41 21 23	Piece Material Conveyors	
41 21 23.13	Belt Piece Material Conveyors	
41 21 23.16	Container Piece Material Conveyors	
41 21 23.19	Drag-Chain Piece Material Conveyors	

NUMBER	TITLE	EXPLANATION
41 21 23.23	Hopper Piece Material Conveyors	
41 21 23.26	Monorail Piece Material Conveyors	
41 21 23.29	Power and Free Piece Material Conveyors	
41 21 23.33	Reciprocating Piece Material Conveyors	
41 21 23.36	Roller Piece Material Conveyors	
41 21 23.39	Vibratory Piece Material Conveyors	
41 21 23.43	Walking-Beam Piece Material Conveyors	
41 21 23.46	Weigh-Belt Piece Material Conveyors	
41 21 23.53	Postal Conveyors	
41 21 26	Piece Material Diverter Gates	
41 21 29	Piece Material Gravity Slides	
41 21 33	Piece Material Transfer Cars	
41 21 36	Piece Material Turntables	
41 21 39	Piece Material Feeders	
41 21 39.13	Piece Material Vibratory Feeders	

## 41 22 00 Cranes and Hoists

Includes: crane rails, hoisting towers, overhead cranes, stationary cranes, top-running overhead cranes, underslung overhead cranes. Air-powered hoists, electric hoists, manual hoists, material hoists, motor-operated hoists, traveling hoists, trolley hoists.

See: 01 54 16 for temporary hoists.  
01 54 19 for temporary cranes.  
14 84 23 for window washing hoists.  
41 23 00 for lifting devices.

41 22 13	Cranes
41 22 13.13	Bridge Cranes
41 22 13.16	Gantry Cranes
41 22 13.19	Jib Cranes
41 22 13.23	Mobile Cranes
41 22 13.26	Tower Cranes
41 22 13.29	Specialty Cranes
41 22 23	Hoists
41 22 23.13	Fixed Hoists
41 22 23.16	Portable Hoists
41 22 23.19	Monorail Hoists
41 22 23.23	Specialty Hoists
41 22 33	Derricks

## 41 23 00 Lifting Devices

Includes: devices for lifting/handling piece materials.

See: 41 22 00 for cranes and hoists.

41 23 13	Clamps
41 23 16	Grabs
41 23 19	Hooks
41 23 23	Lifts

DIVISION 41

NUMBER	TITLE	EXPLANATION
41 23 26	Slings	
41 23 29	Spreader Bars/Beams	
41 23 33	Tongs	

**41 24 00 Specialty Material Handling Equipment**

Includes: specialty material handling equipment not included elsewhere.

See: 10 55 00 for postal specialties.  
 11 11 19 for vehicle lubrication equipment.  
 11 29 00 for postal, packaging, and shipping equipment.  
 28 18 00 for security access detection equipment.  
 34 77 33 for baggage scanning equipment.  
 34 77 39 for baggage conveying equipment.  
 41 21 23 for postal conveyors.  
 41 64 00 for rail vehicles.  
 41 64 16 for mobile railcar movers.  
 43 22 13 for liquid aeration devices.

41 24 13	Aeration Devices
41 24 16	Bin Vibrators
41 24 19	Dehydrators
41 24 23	Hydrators
41 24 26	Hydraulic Power Systems
41 24 29	Lubrication Systems
41 24 33	Magnetic Separators
41 24 36	Metal Detectors
41 24 39	Railcar Movers
41 24 43	Turnheads/Distributors
41 24 46	Sorting Machines
41 24 46.13	Postal Sorting Machines

**41 30 00 Manufacturing Equipment**

Includes: equipment for general manufacturing processes.

See: 41 08 30 for commissioning of manufacturing equipment.  
 Division 45 for industry-specific manufacturing equipment.

**41 31 00 Manufacturing Lines and Equipment**

Includes: fully integrated manufacturing lines of equipment performing multiple functions.

See: 41 32 39 for extruding equipment.  
 41 33 00 for machining equipment.  
 41 34 00 for finishing equipment.  
 41 34 23 for coating equipment.  
 41 35 33 for molds.  
 41 36 00 for assembly and testing equipment.

NUMBER	TITLE	EXPLANATION
41 31 13	Manufacturing Lines	
41 31 13.13	Assembly Lines	
41 31 13.16	Casting Lines	
41 31 13.19	Coating Lines	
41 31 13.23	Converting Lines	
41 31 13.26	Disassembly Lines	
41 31 13.29	Extrusion Lines	
41 31 13.33	Machining Lines	
41 31 13.36	Molding Lines	
41 31 13.39	Finishing/Painting Lines	
41 31 13.43	Painting Lines	
41 31 13.46	Pickling Lines	
41 31 13.49	Plating Lines	
41 31 13.53	Polishing Lines	
41 31 13.56	Press Lines	
41 31 13.59	Rolling/Calendaring Lines	
41 31 13.63	Web Processing Lines	
41 31 16	Pick and Place Systems	
41 31 19	Manufacturing-Line Robots	
41 31 23	Specialty Assembly Machines	

## **41 32 00      Forming Equipment**

Includes: shaping, forming, and casting equipment.

See: 41 31 13 for extrusion manufacturing line.

41 32 13	Bending Equipment
41 32 16	Blow-Molding Equipment
41 32 19	Brake-Forming Equipment
41 32 23	Cold-Forming Equipment
41 32 26	Die-Casting Equipment
41 32 29	Drawing Equipment
41 32 33	Electroforming Equipment
41 32 36	Forging Equipment
41 32 39	Extruding Equipment
41 32 43	Metal-Spinning Equipment
41 32 46	Piercing Equipment
41 32 49	Powder Metal-Forming Equipment
41 32 53	Pressing Equipment
41 32 56	Roll-Forming Equipment
41 32 59	Shearing Equipment
41 32 63	Spinning Equipment
41 32 66	Stretching/Leveling Equipment
41 32 69	Swaging Equipment

## **41 33 00      Machining Equipment**

Includes: machines for specific machining operations.

See: 41 31 13 for machining manufacturing line.

41 33 13	Automatic Screw Machining Equipment
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DIVISION 41

NUMBER	TITLE	EXPLANATION
41 33 16	Boring Equipment	
41 33 19	Broaching Equipment	
41 33 23	Drilling Equipment	
41 33 26	Electro-Discharge Machining Equipment	
41 33 29	Grinding Equipment	
41 33 33	Hobbing Equipment	
41 33 36	Lapping Equipment	
41 33 39	Lathe Equipment	
41 33 43	Leveling Equipment	
41 33 46	Machining Center Equipment	
41 33 53	Milling Equipment	
41 33 53.13	Horizontal Milling Equipment	
41 33 53.16	Vertical Milling Equipment	
41 33 60	Multi-Axis Machine Equipment	
41 33 63	Planing Equipment	
41 33 66	Reaming Equipment	
41 33 69	Routing Equipment	
41 33 73	Sawing Equipment	
41 33 76	Shaping Equipment	
41 33 79	Threading Equipment	

**41 34 00 Finishing Equipment**

Includes: equipment for finishing of materials and/or products.

See: 41 31 00 for manufacturing lines and equipment.

41 31 13 for coating manufacturing lines.

41 31 13 for finishing/painting and polishing manufacturing lines.

41 34 13	Anodizing Equipment	
41 34 16	Barrel Tumbling Equipment	
41 34 23	Coating Equipment	
41 34 23.13	Diffusion Coating Equipment	
41 34 23.16	Dipping Coating Equipment	
41 34 23.19	Film Coating Equipment	
41 34 23.23	Phosphatizing Coating Equipment	
41 34 23.26	Plasma Coating Equipment	
41 34 23.29	Hardface Welding Coating Equipment	
41 34 23.33	Spray Painting Booth	
41 34 26	Deburring Equipment	
41 34 36	Electroplating Equipment	
41 34 46	Grinding Equipment	
41 34 49	Honing Equipment	
41 34 53	Lapping Equipment	
41 34 56	Shot Peening Equipment	
41 34 59	Superfinishing/Polishing Equipment	

NUMBER	TITLE	EXPLANATION
<b>41 35 00</b>	<b>Dies and Molds</b>	Includes: dies and molds for shaping and forming of materials and/or products.  See: 41 31 13 for molding manufacturing lines.
41 35 13	Dies	
41 35 13.13	Drawing Dies	
41 35 13.16	Extrusion Dies	
41 35 13.19	Press Dies	
41 35 13.23	Rotary Dies	
41 35 13.26	Rule Dies	
41 35 33	Molds	
<b>41 36 00</b>	<b>Assembly and Testing Equipment</b>	Includes: joining equipment, cutting equipment, assembly tools, and test equipment.  See: 10 88 00 for facility use scales. 40 17 00 for welding and cutting gases piping. 40 91 00 for primary process measurement devices. 41 14 36 for weigh scales. 41 31 13 for assembly manufacturing lines. 41 31 23 for specialty assembly machines. 41 65 19 for mobile welders.
41 36 13	Applicators	
41 36 13.13	Adhesive Applicators	
41 36 13.16	Lubricant Applicators	
41 36 13.19	Sealer Applicators	
41 36 16	Fixtures and Jigs	
41 36 19	Joining Equipment	
41 36 19.13	Adhesive Joining Equipment	
41 36 19.16	Arc-Welding Equipment	
41 36 19.19	Brazing Equipment	
41 36 19.23	Resistance-Welding Equipment	
41 36 19.26	Riveting Equipment	
41 36 19.29	Sintering Equipment	
41 36 19.33	Soldering Equipment	
41 36 23	Cutting Equipment	
41 36 23.13	Cutting Torches	
41 36 23.16	High-Pressure Water Cutting Equipment	
41 36 23.19	Laser Cutting Equipment	
41 36 23.23	Plasma Cutting Equipment	
41 36 26	Process Tools	
41 36 26.13	Air Process Tools	
41 36 26.16	Electric Process Tools	
41 36 26.19	Hydraulic Process Tools	
41 36 26.23	Manual Process Tools	
41 36 29	Manufacturing Measurement and Testing Equipment	
41 36 29.13	Gauges, Rules, and Blocks	
41 36 29.16	Penetrant Measurement and Testing Equipment	

DIVISION 41

NUMBER	TITLE	EXPLANATION
41 36 29.19	Laser Measurement and Testing Equipment	
41 36 29.23	Magnaflux Measurement and Testing Equipment	
41 36 29.26	Optical Comparators	
41 36 29.29	Profilometers	
41 36 29.33	Radiograph Measurement and Testing Equipment	
41 36 29.36	Surface Tables	
41 36 29.39	Ultrasonic Measurement and Testing Equipment	
41 36 29.43	Test Weigh Scales	

## 41 40 00 Container Processing and Packaging

Includes: equipment for filling, capping, sealing, packing, and shipping of containers for bulk and piece materials.

See: 11 29 00 for postal, packaging, and shipping equipment for normal operations of professional, commercial, and institutional operations.

41 08 40 for commissioning of container processing and packaging equipment.

## 41 41 00 Container Filling and Sealing

Includes: equipment to fill, cap, and seal containers.

See: 41 42 00 for container packing equipment.

41 42 19 for carton packers.

41 42 23 for carton sealers.

41 43 00 for shipping packaging.

41 41 13	Bulk Container Fillers/Packers
41 41 16	Container Cappers
41 41 19	Container Fillers
41 41 19.13	Bag Fillers
41 41 19.16	Box Fillers
41 41 19.19	Bottle Fillers
41 41 23	Container Sealers

## 41 42 00 Container Packing Equipment

Includes: equipment to create, load, and pack cartons to receive containers.

See: 41 41 00 for container filling and sealing.

41 41 19 for container fillers.

41 41 23 for container sealers.

41 43 00 for shipping packaging.

41 42 13	Box Packing Equipment
41 42 13.13	Box Makers
41 42 13.16	Box Packers
41 42 16	Bulk Material Loaders
41 42 16.13	Container Bulk Material Loaders
41 42 16.23	Truck Bulk Material Loaders

NUMBER	TITLE	EXPLANATION
41 42 16.26	Railcar Bulk Material Loaders	
41 42 16.29	Ship Bulk Material Loaders	
41 42 16.33	Barge Bulk Material Loaders	
41 42 19	Carton Packers	
41 42 23	Carton Sealers	
41 42 26	Carton Shrink Wrappers	
41 42 29	Carton Stackers	
<b>41 43 00</b>	<b>Shipping Packaging</b>	Includes: shipping, labeling, and wrapping equipment.  See: 11 29 00 for commercial postal, packaging, and shipping equipment. 41 41 00 for container filling and sealing. 41 42 00 for container packing equipment.
41 43 13	Banding/Strapping Equipment	
41 43 16	Barcode Equipment	
41 43 16.13	Barcode Readers	
41 43 16.16	Barcode Printers	
41 43 19	Labeling Equipment	
41 43 23	Pallet Stacking/Wrapping Equipment	
<b>41 50 00</b>	<b>Material Storage</b>	Includes: bulk solid, liquid, and piece material storage equipment.  See: 41 08 50 for commissioning of material storage.
<b>41 51 00</b>	<b>Automatic Material Storage</b>	Includes: automated storage systems for industrial processes.  Alternate Terms/Abbreviations: AS/RS: automatic storage/automatic retrieval.
41 51 13	Automatic Storage/Automatic Retrieval Systems	

NUMBER	TITLE	EXPLANATION
<b>41 52 00</b>	<b>Bulk Material Storage</b>	Includes: bins, hoppers, silos, and similar storage facilities for industrial processes, such as storage of fly-ash, cement, coal, grain, gypsum, solid (powdered) chemicals such as borax and lime, and other types of bulk materials.  See: 05 51 33 for metal ladders for accessing bins and silos. 09 97 00 for storage vessel coatings. 21 41 00 for storage tanks for facility fire-suppression water. 22 12 00 for potable water storage tanks for a facility. 23 13 00 for fuel storage tanks for a facility. 33 16 00 for water utility storage tanks. 33 34 00 for onsite wastewater disposal. 33 56 00 for field-erected fuel storage tanks. 40 12 00 for compressed air (pneumatic) piping systems used with bulk materials fluidizing systems. 40 30 00 for piping, chutes, and valves for bulk materials. 40 72 00 for level measurement for bulk materials storage. 41 12 00 for bulk materials conveying equipment. 43 40 00 for gas and liquid storage at a process facility. 44 11 00 for particulate and dust control equipment used with storage bins and silos. 46 36 00 for dry chemical feed equipment used in water and wastewater treatment. 46 78 33 for ash handling equipment associated with sludge incinerators.
41 52 13	Bins and Hoppers	
41 52 13.13	Fixed Bins and Hoppers	
41 52 13.23	Portable Bins and Hoppers	
41 52 13.33	Bulk Material Containers	
41 52 13.43	Returnable Bins and Hoppers	
41 52 13.53	Throwaway Bins and Hoppers	
41 52 16	Silos	
41 52 16.13	Concrete Flat-Bottom Silos	
41 52 16.16	Concrete Masonry Flat-Bottom Silos	
41 52 16.23	Concrete Cone-Bottom Silos	
41 52 16.26	Concrete Masonry Cone-Bottom Silos	
41 52 16.29	Steel Cone-Bottom Silos	
41 52 19	Bulk Materials Storage Tanks	
41 52 19.13	Stationary Bulk Materials Storage Tanks	
41 52 19.33	Mobile Bulk Materials Storage Tanks	
41 52 41	Pneumatic, Block-Distributed Materials Fluidizing System for Flat-Bottom Bins and Silos	
41 52 43	Aerated Trough Materials Fluidizing System for Flat-Bottom Bins and Silos	Alternate Terms/Abbreviations: aerated trough: aerated canal: aerated duct.
41 52 46	Pad-Mounted Aerated Disc Materials Fluidizing System for Cone-Bottom Bins and Silos	

NUMBER	TITLE	EXPLANATION
<b>41 53 00</b>	<b>Storage Equipment and Systems</b>	Includes: cabinets, files, and racks for industrial processes.  See: 10 56 00 for facility storage assemblies. 12 51 19 for commercial filing cabinets. 13 44 00 for facility modular mezzanines.
41 53 13	Storage Cabinets	
41 53 16	Container Storage Systems	
41 53 19	Flat Files	
41 53 23	Storage Racks	
41 53 23.13	Mobile Storage Racks	
41 53 26	Mezzanine Storage Systems	
<b>41 60 00</b>	<b>Mobile Plant Equipment</b>	Includes: equipment designed to move material, equipment, or personnel to work locations, and for maintenance of the mobile devices.  See: 41 08 60 for commissioning of mobile plant equipment.
<b>41 61 00</b>	<b>Mobile Earth Moving Equipment</b>	Includes: mobile equipment for earth moving operations.  See: 31 20 00 for earth moving.
41 61 13	Backhoes	
41 61 16	Bulldozers	
41 61 19	Compactors	
41 61 23	Excavators	
41 61 26	Graders	
41 61 29	Payloaders	
41 61 33	Trenchers	
<b>41 62 00</b>	<b>Trucks</b>	Includes: bulk and piece material transport vehicles.  See: 03 30 00 for cast-in-place concrete.
41 62 13	Cement Mixer Trucks	
41 62 16	Dump Trucks	
41 62 19	Flatbed Trucks	
41 62 23	Forklift Trucks	
41 62 26	Pickup Trucks	
41 62 29	Tank Trucks	

NUMBER	TITLE	EXPLANATION
<b>41 63 00</b>	<b>General Vehicles</b>	Includes: miscellaneous plant vehicles.  See: 41 66 23 for mobile sweepers/vacuums. 41 67 00 for plant maintenance equipment.
41 63 13	Bicycles	
41 63 16	Carts	
41 63 19	Maintenance Vehicles	
41 63 23	Utility Vehicles	
41 63 26	Vans	
41 63 29	Wagons	
<b>41 64 00</b>	<b>Rail Vehicles</b>	Includes: plant vehicles that operate on tracks.  See: 34 10 00 for guideways/railways. 34 42 00 for railway signaling and control equipment. 34 72 00 for railway construction. 34 76 00 for railway equipment. 41 24 39 for railcar movers.
41 64 13	Locomotives	
41 64 13.13	Diesel Locomotives	
41 64 13.23	Electric Locomotives	
41 64 16	Mobile Railcar Movers	
<b>41 65 00</b>	<b>Mobile Support Equipment</b>	Includes: movable equipment to support plant operations.  See: 41 36 19 for joining equipment.
41 65 13	Mobile Air Compressors	
41 65 16	Mobile Generators	
41 65 19	Mobile Welders	
<b>41 66 00</b>	<b>Miscellaneous Mobile Equipment</b>	Includes: movable equipment not included elsewhere.  See: 02 32 13 for subsurface drilling and sampling. 14 83 00 for facility fixed elevating platforms. 32 12 00 for flexible paving. 32 13 00 for rigid paving.
41 66 13	Mobile Boring and Drilling Rigs	
41 66 16	Mobile Lifts and Cherrypickers	
41 66 19	Mobile Paving Equipment	
41 66 23	Mobile Sweepers/Vacuums	

NUMBER	TITLE	EXPLANATION
<b>41 67 00</b>	<b>Plant Maintenance Equipment</b>	Includes: equipment for common plant maintenance activities.  See: 41 63 19 for maintenance vehicles. 41 66 23 for mobile sweepers/vacuums.
41 67 13	Plant Lube Oil System	
41 67 16	Plant Fall Protection Equipment	
41 67 19	Plant Safety Equipment	
41 67 23	Plant Maintenance Tools	
41 67 26	Plant Maintenance Washing Equipment	



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NUMBER	TITLE	EXPLANATION
<b>DIVISION 42 – PROCESS HEATING, COOLING, AND DRYING EQUIPMENT</b>		
<b>42 00 00</b>	<b>Process Heating, Cooling, and Drying Equipment</b>	<p>May be used as Division level Section title.</p> <p>See: 40 90 00 for instrumentation for process systems.</p>
<b>42 01 00</b>	<b>Operation and Maintenance of Process Heating, Cooling, and Drying Equipment</b>	<p>Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of heating, cooling, and drying equipment.</p> <p>Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles: .51-.59 for maintenance. .61-.69 for repair. .71-.79 for rehabilitation. .81-.89 for replacement. .91-.99 for restoration.</p>
42 01 10	Operation and Maintenance of Process Heating Equipment	
42 01 20	Operation and Maintenance of Process Cooling Equipment	
42 01 30	Operation and Maintenance of Process Drying Equipment	
<b>42 05 00</b>	<b>Common Work Results for Process Heating, Cooling, and Drying Equipment</b>	
42 05 05	Selective Demolition for Process Heating, Cooling, and Drying Equipment	See: 02 41 19 for selective demolition for whole structure demolition.
<b>42 06 00</b>	<b>Schedules for Process Heating, Cooling, and Drying Equipment</b>	<p>Includes: schedules of items common to multiple titles in Division 42.</p> <p>Notes: a schedule may be included on drawings, in the project manual, or a project book.</p>
42 06 10	Schedules for Process Heating Equipment	

NUMBER	TITLE	EXPLANATION
42 06 20	Schedules for Process Cooling Equipment	
42 06 30	Schedules for Process Drying Equipment	
<b>42 08 00</b>	<b>Commissioning of Process Heating, Cooling, and Drying Equipment</b>	Includes: separate commissioning of heating, cooling, and drying equipment.  See: 40 80 00 for commissioning of process systems as a total system.
42 08 10	Commissioning of Heating Equipment	
42 08 20	Commissioning of Cooling Equipment	
42 08 30	Commissioning of Drying Equipment	
<b>42 10 00</b>	<b>Process Heating Equipment</b>	Includes: boilers, heaters, heat exchangers, industrial furnaces, and ovens.  See: 23 50 00 for central heating equipment. 42 08 10 for commissioning of heating equipment. 42 20 00 for process cooling equipment. 42 30 00 for process drying equipment.
<b>42 11 00</b>	<b>Process Boilers</b>	Includes: boilers for water and other industrial process fluids.  Definitions: low pressure: less than 100 pounds per square inch gauge (PSIG). Intermediate pressure: 100-500 PSIG. High pressure: greater than 500 PSIG.  See: 23 52 00 for heating boilers.
42 11 13	Low-Pressure Process Boilers	
42 11 16	Intermediate-Pressure Process Boilers	
42 11 19	High-Pressure Process Boilers	
42 11 23	Specialty Process Boilers	

NUMBER	TITLE	EXPLANATION
<b>42 12 00</b>	<b>Process Heaters</b>	Includes: heaters for industrial process fluids, solids, and equipment.  See: 22 33 30 for residential, collector-to-tank, solar-electric domestic water heaters. 23 56 00 for solar energy heating equipment. 23 82 36 for finned-tube radiation heaters. 23 82 39 for unit heaters. 26 31 00 for photovoltaic collectors. 42 13 26 for industrial solar radiation heat exchangers. 48 14 00 for solar energy electrical power generation equipment.
42 12 13	Electric Process Heaters	
42 12 16	Fuel-Fired Process Heaters	
42 12 19	Thermoelectric Process Heaters	
42 12 23	Solar Process Heaters	
42 12 26	Specialty Process Heaters	
<b>42 13 00</b>	<b>Industrial Heat Exchangers and Recuperators</b>	Includes: convective, conductive, and radiation heat exchangers/recuperators for industrial processes.  See: 22 33 30 for residential, collector-to-tank, heat-exchanger-coil, solar-electric domestic water heaters. 23 56 00 for solar energy heating equipment. 23 57 00 for heat exchangers for HVAC. 26 31 00 for photovoltaic collectors. 42 12 23 for solar process heaters. 48 14 00 for solar energy electrical power generation equipment.
42 13 13	Industrial Gas-to-Gas Heat Exchangers	
42 13 16	Industrial Liquid-to-Gas/Gas-to-Liquid Heat Exchangers	
42 13 19	Industrial Liquid-to-Liquid Heat Exchangers	
42 13 23	Industrial Gas Radiation Heat Exchangers	
42 13 26	Industrial Solar Radiation Heat Exchangers	
<b>42 14 00</b>	<b>Industrial Furnaces</b>	Includes: thermal industrial processing furnaces for temperatures generally greater than 260 degrees C.  See: 23 54 00 for facility heating furnaces.
42 14 13	Annealing Furnaces	
42 14 16	Atmosphere Generators	
42 14 19	Industrial Baking Furnaces	
42 14 23	Industrial Brazing Furnaces	

NUMBER	TITLE	EXPLANATION
42 14 26	Industrial Calcining Furnaces	
42 14 29	Industrial Heat-Treating Furnaces	
42 14 33	Industrial Melting Furnaces	
42 14 33.13	Ceramics and Glass Melting Furnaces	
42 14 33.16	Ferrous Melting Furnaces	
42 14 33.19	Non-Ferrous Melting Furnaces	
42 14 36	Primary Refining Furnaces	
42 14 43	Reactor Furnaces	
42 14 46	Industrial Reheat Furnaces	
42 14 53	Industrial Sintering Furnaces	
42 14 56	Industrial Vacuum Furnaces	

## 42 15 00 Industrial Ovens

Includes: thermal industrial processing ovens for temperatures generally greater than 260 degrees C.

See: 11 44 16 for food cooking ovens.

42 15 13	Industrial Drying Ovens	
42 15 16	Industrial Curing Ovens	
42 15 19	Industrial Specialty Ovens	

## 42 20 00 Process Cooling Equipment

Includes: cooling towers, chillers, condensers, evaporators/humidifiers for industrial processes.

See: 23 60 00 for facility central cooling equipment.  
 42 08 20 for commissioning of cooling equipment.  
 42 10 00 for process heating equipment.  
 42 30 00 for process drying equipment.

## 42 21 00 Process Cooling Towers

Includes: open- and closed-circuit cooling towers with natural and/or forced draft for industrial processes.

See: 23 65 00 for facility cooling towers.

42 21 13	Open-Circuit Process Cooling Towers	
42 21 16	Closed-Circuit Process Cooling Towers	

## 42 22 00 Process Chillers and Coolers

Includes: mechanical and thermoelectric chillers for industrial processes.

See: 23 64 00 for facility packaged water chillers.  
 23 64 16 for facility centrifugal water chillers.  
 23 64 19 for facility reciprocating water chillers.  
 23 64 26 for facility rotary-screw water chillers.

NUMBER	TITLE	EXPLANATION
42 22 13	Centrifugal Process Chillers and Coolers	
42 22 16	Reciprocating Process Chillers and Coolers	
42 22 19	Refrigerant Process Chillers and Coolers	
42 22 23	Rotary Process Chillers and Coolers	
42 22 26	Thermoelectric Process Chillers and Coolers	
<b>42 23 00</b>	<b>Process Condensers and Evaporators</b>	Includes: vapor condensers, fluid evaporators, and humidifiers for industrial processes.  See: 23 63 00 for facility refrigerant condensers. 23 76 00 for facility evaporative air-cooling equipment. 23 84 13 for facility humidifiers.
42 23 13	Process Condensers	
42 23 16	Process Cooling Evaporators	
42 23 19	Process Humidifiers	
<b>42 30 00</b>	<b>Process Drying Equipment</b>	Includes: gas and solid/bulk material dryer for industrial processes.  See: 42 08 30 for commissioning of drying equipment. 42 10 00 for process heating equipment. 42 20 00 for process cooling equipment.
<b>42 31 00</b>	<b>Gas Dryers and Dehumidifiers</b>	Includes: equipment for removing liquids from gases for industrial processes.  See: 23 84 16 for facility dehumidifiers.
42 31 13	Drying Evaporators	
42 31 16	Desiccant Equipment	
42 31 19	Regenerative Dryers	
42 31 23	Refrigerant Dryers	
<b>42 32 00</b>	<b>Material Dryers</b>	Includes: equipment for removing liquids from solid/bulk materials for industrial processes.
42 32 13	Centrifugal Material Dryers	
42 32 16	Conveyor Material Dryers	
42 32 19	Flash Material Dryers	
42 32 23	Fluid-Bed Material Dryers	
42 32 26	Material Roasters	
42 32 29	Rotary-Kiln Material Dryers	
42 32 33	Spray Material Dryers	

DIVISION 42

NUMBER	TITLE	EXPLANATION
42 32 36	Tower Material Dryers	
42 32 39	Vacuum Material Dryers	
42 32 43	Specialty Material Dryers	

NUMBER	TITLE	EXPLANATION
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## DIVISION 43 – PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT

### 43 00 00 Process Gas and Liquid Handling, Purification, and Storage Equipment

May be used as Division level Section title.

Includes: process equipment for handling, purifying, and storing gases and liquids not specific to a particular industry.

See: 40 00 00 for process piping.  
40 90 00 for instrumentation for process systems.  
46 00 00 for water and wastewater equipment.

### 43 01 00 Operation and Maintenance of Process Gas and Liquid Handling, Purification, and Storage Equipment

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of gas and liquid handling, purification, and storage equipment.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

43 01 10	Operation and Maintenance of Gas Handling Equipment
43 01 10.13	Gas Blowers Maintenance and Rehabilitation
43 01 10.16	Gas Compressors Maintenance and Rehabilitation
43 01 20	Operation and Maintenance of Liquid Handling Equipment
43 01 20.13	Liquid Pumps Maintenance and Rehabilitation
43 01 20.16	Liquid Process Equipment Maintenance and Rehabilitation
43 01 30	Operation and Maintenance of Gas and Liquid Hi-Purification Equipment
43 01 40	Operation and Maintenance of Gas and Liquid Storage
43 01 40.13	Non-pressurized Tanks Cleaning, Maintenance, and Rehabilitation
43 01 40.16	Pressurized Tanks Cleaning, Maintenance, and Rehabilitation



DIVISION 43

NUMBER	TITLE	EXPLANATION
<b>43 05 00</b>	<b>Common Work Results for Process Gas and Liquid Handling, Purification, and Storage Equipment</b>	Includes: common work results for process gas and liquid handling, purification, and storage equipment.
43 05 05	Selective Demolition for Process Gas and Liquid Handling, Purification, and Storage Equipment.	See: 02 41 19 for selective demolition for whole structure demolition.
43 05 10	Common Work Results for Gas Handling Equipment	
43 05 20	Common Work Results for Liquid Handling Equipment	
43 05 30	Common Work Results for Gas and Liquid Hi-Purification Equipment	
43 05 40	Common Work Results for Gas and Liquid Storage	
<b>43 06 00</b>	<b>Schedules for Process Gas and Liquid Handling, Purification, and Storage Equipment</b>	Includes: schedules of items common to multiple titles in Division 43. Schedules applicable to the subject of one title should be included in the associated Section.  Notes: a schedule may be included on the drawings, in the project manual, or elsewhere in the construction contract documents.
43 06 10	Schedules for Gas Handling Equipment	
43 06 20	Schedules for Liquid Handling Equipment	
43 06 30	Schedules for Gas and Liquid Hi-Purification Equipment	
43 06 40	Schedules for Gas and Liquid Storage	
<b>43 08 00</b>	<b>Commissioning of Process Gas and Liquid Handling, Purification, and Storage Equipment</b>	Includes: separate commissioning of gas and liquid handling, purification, and storage equipment.  See: 40 80 00 for commissioning of process systems as a total system.
43 08 10	Commissioning of Gas Handling Equipment	
43 08 20	Commissioning of Liquid Handling Equipment	
43 08 30	Commissioning of Gas and Liquid Purification Equipment	
43 08 40	Commissioning of Gas and Liquid Storage	

NUMBER	TITLE	EXPLANATION
<b>43 10 00</b>	<b>Gas Handling Equipment</b>	Includes: fans, blowers, pumps, compressors, and ancillary equipment for industrial, commercial, and municipal processes.  See: 43 08 10 for commissioning of gas handling equipment. 43 20 00 for liquid handling equipment. 43 30 00 for gas and liquid purification equipment. 43 40 00 for gas and liquid storage.
<b>43 11 00</b>	<b>Gas Fans, Blowers, Pumps and Boosters</b>	Includes: fans, blowers, gas pumps, gas boosters that increase the discharge pressure of the air or gas by no more than approximately twenty-five to forty pounds per square inch (PSI).  Alternate Terms/Abbreviations: direct-drive integral-shaft single-stage centrifugal blower: turbo blower.  See: 23 34 00 for HVAC fans. 40 05 00 for process valves used with blowers, fans, and similar equipment. 40 90 00 for process instrumentation and controls. 43 12 00 for gas compressors. 43 15 00 for air and gas filters. 46 51 00 for air and gas diffusers used in water and wastewater treatment.
43 11 11	Direct Drive Single Stage Centrifugal Blowers	
43 11 12	Integrally Geared Single Stage Centrifugal Blowers	
43 11 13	Separately Geared Single Stage Centrifugal Blowers	
43 11 14	Direct Drive Integral Shaft Single Stage Centrifugal Blowers	
43 11 17	Horizontally Split Multistage Centrifugal Blowers	
43 11 18	Vertically Split Multistage Centrifugal Blowers	
43 11 19	Centrifugal Fans	
43 11 23	Axial Blowers	
43 11 26	Axial Fans	
43 11 31	Rotary Helical Screw Blowers	
43 11 33	Rotary Lobe Blowers	
43 11 34	Regenerative Rotary Blowers	
43 11 36	Rotary Vane Blowers	
43 11 41	Gas-handling Venturi Jet Pumps	
43 11 43	Gas-handling Vacuum Pumps	
43 11 46	Gas Boosters	

NUMBER	TITLE	EXPLANATION
<b>43 12 00</b>	<b>Gas Compressors</b>	Includes: gas compressors that increase the discharge pressure of the gas by more than 25 to 40 pounds per square inch (psi).  See: 22 15 19 for plumbing general service packaged air compressors. 22 61 00 for compressed air systems for laboratory and healthcare facilities. 23 60 00 for HVAC compressors. 40 05 00 for process valves used with compressors and similar equipment. 40 90 00 for process instrumentation and controls. 41 65 13 for mobile compressors. 43 11 00 for gas fans, blowers, pumps, and boosters. 43 15 00 for air and gas filters.
43 12 11	Centrifugal Compressors	
43 12 13	Diagonal or Mixed-flow Compressors	
43 12 16	Axial-flow Compressors	
43 12 33	Single-acting Reciprocating Compressors	
43 12 34	Double-acting Reciprocating Compressors	
43 12 37	Diaphragm Reciprocating Compressors	
43 12 51	Rotary Screw Compressors	
43 12 53	Rotary Vane Compressors	
43 12 56	Rotary Liquid-ring Compressors	
43 12 57	Rotary Scroll Compressors	
<b>43 13 00</b>	<b>Gas Process Equipment</b>	Includes: equipment for blending, metering, recovering, and mixing process gases for industrial processes.  See: 40 90 00 for gas meters. 43 22 59 for liquid process pressure regulators. 43 32 39 for gas purification scrubbers, including digester gas. 44 11 00 for air pollution control equipment. 45 00 00 for industry-specific manufacturing equipment. 46 73 00 for digester gas mixing systems.
43 13 13	Gas Blenders	
43 13 19	Gas Mixers	
43 13 23	Gas Pressure Regulators	
43 13 31	Gas Separation Equipment	
43 13 33	Gas Dehydration Equipment	
43 13 36	Combined Gas Separation and Dehydration Equipment	
43 13 39	Gas Recovery and Condensing Equipment	
43 13 43	Waste Gas Burner System	
43 13 46	Gas Control and Safety Equipment	

NUMBER	TITLE	EXPLANATION
<b>43 15 00</b>	<b>Process Air and Gas Filters</b>	Includes: filters for blower and compressor intakes, and other process air and gas applications.  See: 23 41 00 for HVAC-type particulate air filtration. 23 42 00 for gas-phase air filtration. 43 11 00 for gas fans, blowers, pumps, and boosters. 43 12 00 for gas compressors. 43 31 00 for gas and liquid purification filtration equipment. 44 11 00 for air pollution control equipment.
43 15 13	Blower Intake and Turbine Air Filters	
43 15 13.13	Static Prefilters	
43 15 13.16	Static Final Filters	
43 15 13.19	Static HEPA Filters	
43 15 13.23	Pulse Filters	
43 15 33	Grease Filters	
43 15 43	Mist Eliminators	
43 15 63	High-temperature Air Filters	
43 15 73	Multiple-application Air Filters	
43 15 73.11	Air Filter Media	
43 15 73.12	Permanent Washable Filters	
43 15 73.13	Poly-ring Air Filters	
43 15 73.15	Rigid Cell Filters	
43 15 73.17	Automatic Roll-type Air Filters	
43 15 76	Chemical Media for Air and Gas Filters	
<b>43 20 00</b>	<b>Liquid Handling Equipment</b>	Includes: pumps and ancillary equipment for the transporting and handling of liquids for industrial, commercial, and municipal processes.  See: 40 05 59 for liquid piping, valves, and hydraulic gates. 43 08 20 for commissioning of liquid handling equipment. 43 10 00 for gas handling equipment. 43 30 00 for gas and liquid purification equipment. 43 40 00 for gas and liquid storage.

NUMBER	TITLE	EXPLANATION
<b>43 22 00</b>	<b>Liquid Process Equipment</b>	Includes: equipment for handling and general processing of liquids for industrial processes.  See: 23 53 00 for heating boiler feedwater equipment. 23 53 16 for deaerators for boiler feedwater equipment. 40 90 00 for process instrumentation and control. 41 24 13 for specialty material aeration devices. 43 27 00 for process liquid filters. 46 00 00 for water and wastewater treatment equipment. 46 21 00 for screening equipment associated with water and wastewater treatment. 46 25 00 for oil and grease separation and removal equipment associated with wastewater treatment. 46 31 00 for evaporators associated with gas chemical feed equipment for water and wastewater treatment. 46 33 00 for liquid chemical feed equipment associated with water and wastewater treatment. 46 41 00 for mixing equipment associated with water and wastewater treatment. 46 43 00 for clarifiers associated with water and wastewater treatment. 46 51 00 for air and gas diffusion equipment associated with water and wastewater aeration. 46 61 00 for filtration equipment associated with water and wastewater treatment. 46 71 36 and 46 76 33 for centrifuges associated with water and wastewater residuals thickening and dewatering. 46 76 00 for residuals dewatering equipment associated with water and wastewater treatment.
43 22 11	Process Water Electronic Conditioning Equipment	
43 22 13	Liquid Aeration Devices	
43 22 16	Liquid Agitators	
43 22 19	Liquid Blenders	
43 22 23	Liquid Centrifuges	
43 22 26	Liquid Deaerators	
43 22 29	Drum Handling Liquid Process Equipment	
43 22 33	Liquid Emulsifiers	
43 22 36	Liquid Evaporators	
43 22 39	Liquid Feeders	
43 22 56	Liquid Process Mixers	
43 22 59	Liquid Process Pressure Regulators	
43 22 63	Liquid Separation Towers	
43 22 66	Liquid Weigh Systems	
43 22 69	Liquid Grease Receiving and Dewatering Systems	
43 22 73	Liquid Fillers	
43 22 76	Liquid Screeners	
43 22 79	Liquid Clarifiers	
43 22 83	Liquid Classifiers	

NUMBER	TITLE	EXPLANATION
43 22 86	Liquid Homogenizers	
43 22 89	Liquid Presses	
43 22 96	Liquid Versators	
43 22 99	Liquid Votators	

NUMBER	TITLE	EXPLANATION
<b>43 23 00</b>	<b>Dry Location Liquid Pumps</b>	<p data-bbox="600 231 1433 567">Includes: pumps and ancillary equipment for conveying and handling liquids for industrial, commercial, and municipal processes, where the pump is installed at a location not subject to flooding, submergence, or immergence. Includes various types of centrifugal, positive displacement, and reciprocating pumps. Level 2 numbers from 43 23 00 through 43 26 99.99 include pumps for conveying and/or compressing liquids for various types of processes. Centrifugal (rotodynamic) pumps may include open, semi-open, or enclosed impellers, recessed impellers, screw centrifugal impellers, or disc impellers.</p> <p data-bbox="600 609 1433 945">Alternate Terms/Abbreviations: centrifugal pump: rotodynamic pump; volute pump. Overhung pump: end-suction pump (referring to overhung-impeller design). Flexibly coupled: pump employing flexible coupling on shaft. Rigidly coupled: pump employing rigid coupling on shaft. Foot-mounted: not frame-mounted. Between-bearings pump: split-case pump (referring to pumps with the impeller installed between bearings). Axially split pump: split-case pump (casing split parallel to pump shaft). Radially split pump: split-case pump (casing split perpendicular to pump shaft). Gear pump: lobe pump.</p> <p data-bbox="600 976 1433 1879">See: 21 30 00 for fire pumps.  22 11 23 for domestic water pumps.  22 13 00 for plumbing sanitary wastewater pumps and ejectors.  22 14 29 for plumbing sump pumps and facility stormwater pumps.  22 51 16 for swimming pool pumps.  22 52 16 for fountain pumps.  23 12 00 for facility fuel pumps.  23 13 13 for fuel-oil storage tank pumps.  23 20 00 for HVAC pumps.  23 53 13 for boiler feed water pumps.  23 57 33 for ground source (geothermal energy) heat pumps.  32 82 00 for irrigation pumps.  33 14 43 for packaged pumping systems for water utility service.  33 32 00 for wastewater utility pumping stations.  33 32 19 for septic tank effluent pumps.  33 44 11 for field-erected stormwater pumping stations.  33 44 13 for packaged stormwater pumping stations.  33 52 00 for liquid fuel distribution pumps.  40 00 00 for process instrumentation and controls.  40 05 00 for pump control valves.  43 20 00 for liquid handling equipment.  43 24 00 for suspended process liquid pumps.  43 25 00 for submersible/immersible process liquid pumps.  43 26 00 for specialized process liquid pumps.  46 33 00 for liquid chemical metering pumps.</p>

NUMBER	TITLE	EXPLANATION
43 23 13	Overhung Horizontal Centrifugal Pumps	
43 23 13.13	Overhung Flexibly-coupled Horizontal Axial Flow Centrifugal Pumps	
43 23 13.14	Overhung Flexibly-coupled Horizontal Frame-mounted Centrifugal Pumps	
43 23 13.17	Overhung Flexibly-coupled Horizontal Foot-mounted Centrifugal Pumps	
43 23 13.19	Overhung Flexibly-coupled Horizontal Foot-mounted Self-priming Centrifugal Pumps	
43 23 13.21	Overhung Flexibly-coupled Horizontal Centerline-mounted Centrifugal Pumps	
43 23 13.23	Overhung Flexibly-coupled, Magnetic Drive, Sealless Horizontal Centrifugal Pumps	
43 23 13.24	Overhung Close-coupled High-speed Integral Gear Centrifugal Pumps	
43 23 13.27	Overhung Close-coupled Horizontal Centrifugal Pumps	
43 23 13.29	Overhung Close-coupled Sealless with Canned Motor Horizontal Centrifugal Pumps	
43 23 21	Between-Bearings Impeller Centrifugal Pumps	
43 23 21.13	Between-bearings Impeller, One- and Two-stage Axially-split Centrifugal Pumps	
43 23 21.14	Between-bearings Impeller, One- and Two-stage, Radially-split Centrifugal Pumps	
43 23 21.17	Between-bearings Impeller, Multiple-stage, Axially-split Centrifugal Pumps	
43 23 21.19	Between-bearings Impeller, Multiple-stage, Radially-split Centrifugal Pumps	
43 23 21.21	Between-bearings Impeller, Multiple-stage, Radially-split, Single Casing Centrifugal Pumps	
43 23 21.23	Between-bearings Impeller, Multiple-stage, Radially-split, Double Casing Centrifugal Pumps	
43 23 31	Vertical Centrifugal Pumps	
43 23 31.13	Overhung Flexibly-coupled Vertical Centrifugal Pumps	
43 23 31.14	Overhung Flexibly-coupled Vertical Inline Centrifugal Pumps	
43 23 31.17	Overhung Flexibly-coupled Vertical End-suction Centrifugal Pumps	
43 23 31.19	Overhung Flexibly-coupled, Magnetic Drive, Sealless Vertical Centrifugal Pumps	
43 23 31.21	Overhung Close-coupled Vertical Inline Centrifugal Pumps	
43 23 31.23	Overhung Close-coupled Vertical End Suction Centrifugal Pumps	
43 23 31.24	Overhung Close-coupled Sealless with Canned Motor Vertical Centrifugal Pumps	
43 23 31.27	Overhung Rigidly-coupled Vertical Inline Centrifugal Pumps	
43 23 31.29	Overhung Close-coupled Vertical Centrifugal Pumps	
43 23 51	Vane Pumps	
43 23 53	Piston Pumps	
43 23 53.13	Piston Axial Rotary Pumps	
43 23 53.23	Piston Radial Rotary Pumps	
43 23 53.33	Circumferential Single-Piston Rotary Pumps	
43 23 53.36	Circumferential Multiple-Piston Rotary Pumps	
43 23 54	Flexible Member Pumps	
43 23 54.13	Flexible Tube Rotary Pumps	
43 23 54.23	Flexible Vane Rotary Pumps	
43 23 54.33	Flexible Liner Rotary Pumps	
43 23 56	Gear Pumps	
43 23 56.13	External Gear Rotary Pumps	
43 23 56.23	Internal Gear Rotary Pumps	
43 23 57	Progressing Cavity Pumps	
43 23 58	Lobe Pumps	
43 23 58.13	Single-Lobe Rotary Pumps	
43 23 58.23	Multiple-Lobe Rotary Pumps	
43 23 59	Screw Pumps	
43 23 59.13	Single-Screw Rotary Pumps	
43 23 59.23	Multiple-Screw Rotary Pumps	
43 23 71	Air-Operated Diaphragm Reciprocating Pumps	
43 23 71.13	Air-Operated Diaphragm Simplex Single-Acting Reciprocating Pumps	
43 23 71.23	Air-Operated Diaphragm Simplex Double-Acting Reciprocating Pumps	
43 23 71.33	Air-Operated Diaphragm Duplex Single-acting Reciprocating Pumps	
43 23 71.43	Air-Operated Diaphragm Duplex Double-acting Reciprocating Pumps	
43 23 72	Air-Operated Bellows Reciprocating Pumps	



## DIVISION 43

NUMBER	TITLE	EXPLANATION
43 23 72.13	Air-Operated Bellows Simplex Single-Acting Reciprocating Pumps	
43 23 72.23	Air-Operated Bellows Simplex Double-Acting Reciprocating Pumps	
43 23 72.33	Air-Operated Bellows Duplex Single-Acting Reciprocating Pumps	
43 23 72.43	Air-Operated Bellows Duplex Double-Acting Reciprocating Pumps	
43 23 73	Air-Operated Piston Reciprocating Pumps	
43 23 73.13	Air-Operated Piston Simplex Single-Acting Reciprocating Pumps	
43 23 73.23	Air-Operated Piston Simplex Double-Acting Reciprocating Pumps	
43 23 73.33	Air-Operated Piston Duplex Single-Acting Reciprocating Pumps	
43 23 73.43	Air-Operated Piston Duplex Double-Acting Reciprocating Pumps	
43 23 74	Steam Horizontal Reciprocating Pumps	
43 23 74.13	Steam Horizontal Double-Acting Piston Simplex Reciprocating Pumps	
43 23 74.23	Steam Horizontal Double-Acting Piston Duplex Reciprocating Pumps	
43 23 74.33	Steam Horizontal Double-Acting Plunger Simplex Reciprocating Pumps	
43 23 74.43	Steam Horizontal Double-Acting Plunger Duplex Reciprocating Pumps	
43 23 75	Steam Vertical Reciprocating Pumps	
43 23 75.13	Steam Vertical Double-Acting Piston Simplex Reciprocating Pumps	
43 23 75.23	Steam Vertical Double-Acting Piston Duplex Reciprocating Pumps	
43 23 75.33	Steam Vertical Double-Acting Plunger Simplex Reciprocating Pumps	
43 23 75.43	Steam Vertical Double-acting Plunger Duplex Reciprocating Pumps	
43 23 76	Power Horizontal Reciprocating Pumps	
43 23 76.11	Power Horizontal Single-Acting Piston Simplex Reciprocating Pumps	
43 23 76.12	Power Horizontal Single-Acting Piston Duplex Reciprocating Pumps	
43 23 76.13	Power Horizontal Single-Acting Piston Multiplex Reciprocating Pumps	
43 23 76.21	Power Horizontal Single-Acting Plunger Simplex Reciprocating Pumps	
43 23 76.22	Power Horizontal Single-Acting Plunger Duplex Reciprocating Pumps	
43 23 76.23	Power Horizontal Single-Acting Plunger Multiplex Reciprocating Pumps	
43 23 76.31	Power Horizontal Double-Acting Piston Simplex Reciprocating Pumps	
43 23 76.32	Power Horizontal Double-Acting Piston Duplex Reciprocating Pumps	
43 23 76.33	Power Horizontal Double-Acting Piston Multiplex Reciprocating Pumps	
43 23 76.41	Power Horizontal Double-Acting Plunger Simplex Reciprocating Pumps	
43 23 76.42	Power Horizontal Double-Acting Plunger Duplex Reciprocating Pumps	
43 23 76.43	Power Horizontal Double-Acting Plunger Multiplex Reciprocating Pumps	
43 23 77	Power Vertical Reciprocating Pumps	
43 23 77.11	Power Vertical Single-Acting Piston Simplex Reciprocating Pumps	
43 23 77.12	Power Vertical Single-Acting Piston Duplex Reciprocating Pumps	
43 23 77.13	Power Vertical Single-Acting Piston Multiplex Reciprocating Pumps	
43 23 77.21	Power Vertical Single-Acting Plunger Simplex Reciprocating Pumps	
43 23 77.22	Power Vertical Single-Acting Plunger Duplex Reciprocating Pumps	
43 23 77.23	Power Vertical Single-Acting Plunger Multiplex Reciprocating Pumps	
43 23 77.31	Power Vertical Double-Acting Piston Simplex Reciprocating Pumps	
43 23 77.32	Power Vertical Double-Acting Piston Duplex Reciprocating Pumps	
43 23 77.33	Power Vertical Double-Acting Piston Multiplex Reciprocating Pumps	
43 23 77.41	Power Vertical Double-Acting Plunger Simplex Reciprocating Pumps	
43 23 77.42	Power Vertical Double-Acting Plunger Duplex Reciprocating Pumps	
43 23 77.43	Power Vertical Double-Acting Plunger Multiplex Reciprocating Pumps	
43 23 78	Controlled Volume Horizontal Reciprocating Pumps	
43 23 78.11	Controlled Volume Horizontal Packed Plunger Simplex Reciprocating Pumps	
43 23 78.12	Controlled Volume Horizontal Packed Plunger Duplex Reciprocating Pumps	
43 23 78.13	Controlled Volume Horizontal Packed Plunger Multiplex Reciprocating Pumps	
43 23 78.21	Controlled Volume Horizontal Packed Piston Simplex Reciprocating Pumps	
43 23 78.22	Controlled Volume Horizontal Packed Piston Duplex Reciprocating Pumps	
43 23 78.23	Controlled Volume Horizontal Packed Piston Multiplex Reciprocating Pumps	
43 23 78.31	Controlled Volume Horizontal Mechanically-Coupled Diaphragm Simplex Reciprocating Pumps	

NUMBER	TITLE	EXPLANATION
43 23 78.32	Controlled Volume Horizontal Mechanically-Coupled Diaphragm Duplex Reciprocating Pumps	
43 23 78.33	Controlled Volume Horizontal Mechanically-Coupled Diaphragm Multiplex Reciprocating Pumps	
43 23 78.34	Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Simplex Reciprocating Pumps	
43 23 78.35	Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Duplex Reciprocating Pumps	
43 23 78.36	Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Multiplex Reciprocating Pumps	
43 23 79	Controlled Volume Vertical Reciprocating Pumps	
43 23 79.11	Controlled Volume Vertical Packed Plunger Simplex Reciprocating Pumps	
43 23 79.12	Controlled Volume Vertical Packed Plunger Duplex Reciprocating Pumps	
43 23 79.13	Controlled Volume Vertical Packed Plunger Multiplex Reciprocating Pumps	
43 23 79.21	Controlled Volume Vertical Packed Piston Simplex Reciprocating Pumps	
43 23 79.22	Controlled Volume Vertical Packed Piston Duplex Reciprocating Pumps	
43 23 79.23	Controlled Volume Vertical Packed Piston Multiplex Reciprocating Pumps	
43 23 79.31	Controlled Volume Vertical Mechanically-Coupled Diaphragm Simplex Reciprocating Pumps	
43 23 79.32	Controlled Volume Vertical Mechanically-Coupled Diaphragm Duplex Reciprocating Pumps	
43 23 79.33	Controlled Volume Vertical Mechanically-Coupled Diaphragm Multiplex Reciprocating Pumps	
43 23 79.34	Controlled Volume Vertical Hydraulically-Coupled Diaphragm Simplex Reciprocating Pumps	
43 23 79.35	Controlled Volume Vertical Hydraulically-Coupled Diaphragm Duplex Reciprocating Pumps	
43 23 79.36	Controlled Volume Vertical Hydraulically-Coupled Diaphragm Multiplex Reciprocating Pumps	

NUMBER	TITLE	EXPLANATION
<b>43 24 00</b>	<b>Suspended Liquid Pumps</b>	<p>Includes: pumps and ancillary equipment for conveying and handling liquids for industrial, commercial, and municipal processes, where the pumping element is submerged or immersed, and the pump driver is located in an area not subject to submergence or immergence. Includes various types of centrifugal and Archimedes screw-type pumps. Level 2 numbers from 43 23 00 through 43 26 99.99 include pumps for conveying and/or compressing liquids for various types of processes. Centrifugal (rotodynamic) pumps may include open, semi-open, or enclosed impellers, recessed impellers, screw centrifugal impellers, or disc impellers.</p> <p>Alternate Terms/Abbreviations: centrifugal pump: rotodynamic pump. Suspended vertical pump: vertical turbine pump: vertical lineshaft pump.</p> <p>Notes: double-casing pumps have the suspended vertical pump installed in a vertically oriented "suction barrel" or "suction can."</p> <p>See: 21 30 00 for fire pumps.  22 11 23 for domestic water pumps.  23 20 00 for HVAC pumps.  23 57 33 for ground source (geothermal energy) heat pumps.  32 82 00 for irrigation pumps.  33 14 43 for packaged pumping systems for water utility service.  33 32 00 for wastewater utility pumping stations.  33 44 11 for field-erected stormwater pumping stations.  33 44 13 for packaged stormwater pumping stations.  40 00 00 for process instrumentation and controls.  40 05 00 for pump control valves.  43 20 00 for liquid handling equipment.  43 23 00 for dry location process liquid pumps.  43 25 00 for submersible/immersion process liquid pumps.  43 26 00 for specialized effect process liquid pumps.</p>
43 24 11	Vertically Suspended Single-Casing Submersible Centrifugal Pumps	
43 24 13	Vertically Suspended Single-Casing Discharge-through-column Centrifugal Pumps	
43 24 13.13	Vertically Suspended Single-Casing Discharge-through-column Diffuser Centrifugal Pumps	
43 24 13.23	Vertically Suspended Single-Casing Discharge-through-column Volute Centrifugal Pumps	
43 24 13.33	Vertically Suspended Single-Casing Discharge-through-column Axial Flow Centrifugal Pumps	
43 24 16	Vertically Suspended Single-casing Separate Discharge (Sump) Centrifugal Pumps	
43 24 16.13	Vertically Suspended Single-Casing Separate Discharge (Sump) Line Shaft Centrifugal Pumps	

NUMBER	TITLE	EXPLANATION
43 24 16.23	Vertically Suspended Single-Casing Separate Discharge (Sump) Cantilever Centrifugal Pumps	
43 24 21	Vertically Suspended Double-Casing Centrifugal Pumps	
43 24 21.13	Vertically Suspended Double-Casing Diffuser Centrifugal Pumps	
43 24 21.23	Vertically Suspended Double-Casing Volute Centrifugal Pumps	
43 24 26	Vertically Suspended Inline Casing Diffuser Centrifugal Pumps	
43 24 41	Archimedes Screw Pumps	
43 24 41.13	Positive-Displacement Inclined Open Archimedes Screw-type Pumps	
43 24 41.23	Positive-Displacement Inclined Closed-casing Archimedes Screw-type Pumps	

## 43 25 00 Submersible/Immersible Liquid Pumps

Includes: pumps and ancillary equipment for conveying and handling liquids for industrial, commercial, and municipal processes, where the pumping element and pump driver are submerged on a continuous basis or immersed on a non-continuous basis. Includes various types of centrifugal and positive displacement pumps. Level 2 numbers from 43 23 00 through 43 26 99.99 include pumps for conveying and/or compressing liquids for various types of processes. Centrifugal (rotodynamic) pumps may include open, semi-open, or enclosed impellers, recessed impellers, screw centrifugal impellers, or disc impellers.

Alternate Terms/Abbreviations: centrifugal pump: rotodynamic pump.

See: 22 13 00 for plumbing sanitary wastewater pumps and ejectors.

22 14 29 for plumbing sump pumps and facility stormwater pumps.

22 51 16 for swimming pool pumps.

22 52 16 for fountain pumps.

23 12 00 for facility fuel pumps.

23 13 13 for fuel-oil storage tank pumps.

32 82 00 for irrigation pumps.

33 32 00 for wastewater utility pumping stations.

33 32 19 for septic tank effluent pumps.

33 44 11 for field-erected stormwater pumping stations.

33 44 13 for packaged stormwater pumping stations.

33 52 00 for liquid fuel distribution pumps.

40 00 00 for process instrumentation and controls.

40 05 00 for pump control valves.

43 20 00 for liquid handling equipment.

43 23 00 for dry location process liquid pumps.

43 24 00 for suspended process liquid pumps.

43 26 00 for specialized process liquid pumps.

43 25 13	Overhung Close-Coupled Submersible Centrifugal Pumps
43 25 13.13	Overhung Close-Coupled Submersible Diffuser Centrifugal Pumps
43 25 13.23	Overhung Close-Coupled Submersible Volute Centrifugal Pumps
43 25 50	Positive Displacement Submersible Liquid Pumps

NUMBER	TITLE	EXPLANATION
<b>43 26 00</b>	<b>Specialized Liquid Pumps</b>	Includes: pumps and ancillary equipment for conveying and handling liquids for industrial, commercial, and municipal processes, for specialized pumping conditions, often in industrial applications. Includes various types of centrifugal, regenerative, and other types of specialized pumps.  See: 32 82 00 for irrigation pumps. 33 14 43 for packaged pumping systems for water utility service. 33 32 00 for wastewater utility pumping stations. 33 32 19 for septic tank effluent pumps. 33 44 11 for field-erected stormwater pumping stations. 33 44 13 for packaged stormwater pumping stations. 40 00 00 for process instrumentation and controls. 40 05 00 for pump control valves. 43 20 00 for liquid handling equipment. 43 23 00 for dry location process liquid pumps. 43 24 00 for suspended process liquid pumps. 43 25 00 for submersible/immersion process liquid pumps. 46 33 00 for liquid chemical metering pumps.
43 26 13	Submersible Grinder Pumps	
43 26 30	Regenerative Centrifugal Pumps	
43 26 30.13	Overhung Impeller Regenerative Turbine Pumps	
43 26 30.21	Overhung Impeller Single-Stage Regenerative Turbine Pumps	
43 26 30.23	Overhung Impeller Two-Stage Regenerative Turbine Pumps	
43 26 30.26	Between-Bearings Impeller Regenerative Turbine Pumps	
43 26 30.27	Between-Bearings Impeller Single-Stage Regenerative Turbine Pumps	
43 26 30.29	Between-Bearings Impeller Two-Stage Regenerative Turbine Pumps	
43 26 40	Regenerative Turbine Pumps	
43 26 60	Regenerative Vacuum Pumps	
43 26 70	Rotating-Case Pumps	
<b>43 27 00</b>	<b>Process Liquid Filters</b>	Includes: liquid filtration equipment for industrial applications.  See: 40 90 00 for process instrumentation and control. 43 31 00 for gas and liquid purification filtration equipment. 46 61 00 for filtration equipment associated with water and wastewater treatment.
43 27 13	Cyclonic Liquid Filters	
43 27 16	Centrifugal Horizontal Pressure Leaf Liquid Filters	
43 27 19	Press Liquid Filters	
43 27 23	Liquid Bag Filters	
43 27 33	Mechanically Cleaned Liquid Filters	
43 27 43	Tubular Backwashing Liquid Filters	
43 27 53	Vacuum Belt Liquid Filters	

NUMBER	TITLE	EXPLANATION
43 27 63	Woven Media Liquid Filters	
43 27 63.13	Disc Liquid Filters	
43 27 63.23	Rotating Drum Liquid Filters	
43 27 63.33	Layer Liquid Filters	
43 27 63.43	Candle Liquid Filters	
43 27 63.53	Vertical Leaf Liquid Filters	
43 27 73	Nonwoven Media Liquid Filters	
43 27 73.13	Surface Liquid Filters	
43 27 73.23	Depth Liquid Filters	

## 43 30 00 Gas and Liquid Purification Equipment

Includes: equipment for purifying liquids and gases for industrial applications.

See: 40 90 00 for process instrumentation and control.  
 43 08 30 for commissioning of gas and liquid purification equipment.  
 43 10 00 for gas handling equipment.  
 43 20 00 for liquid handling equipment.  
 43 40 00 for gas and liquid storage.  
 44 40 00 for water pollution control equipment.  
 46 00 00 for water and wastewater treatment equipment.

## 43 31 00 Gas and Liquid Purification Filtration Equipment

Includes: chemical reaction, membrane, and media filtration equipment for industrial processes.

See: 43 15 00 for process air and gas filters.  
 43 27 00 for process liquid filters.  
 43 40 00 for gas and liquid storage.  
 46 61 00 for filtration equipment associated with water and wastewater treatment, including microfiltration and ultrafiltration.

43 31 13	Gas and Liquid Purification Filters	
43 31 13.13	Activated Carbon-Gas and Liquid Purification Filters	
43 31 13.16	Gas and Liquid Purification Filter Presses	
43 31 13.19	High-Purity Cartridge Gas and Liquid Purification Filters	
43 31 13.23	Membrane Diaphragm Gas and Liquid Purification Filters	
43 31 13.26	Multimedia Gas and Liquid Purification Filters	
43 31 13.29	Pretreatment Cartridge Gas and Liquid Purification Filters	
43 31 13.33	Ultrafilter Units	

NUMBER	TITLE	EXPLANATION
<b>43 32 00</b>	<b>Gas and Liquid Purification Process Equipment</b>	Includes: ion exchange, chemical, and mechanical purification equipment for industrial processes.  Alternate Terms/Abbreviations: DI: deionized. RO: reverse-osmosis.  See: 02 51 16 for reverse-osmosis site decontamination. 40 23 13 for deionized water process piping. 40 23 33 for reverse-osmosis water process piping. 43 40 00 for gas and liquid storage. 44 10 00 for air pollution control equipment, including scrubbers. 46 30 00 for chemical feed equipment associated with water and wastewater treatment, including equipment for gas, liquid, and dry chemicals. 46 63 00 for demineralization equipment associated with water and wastewater treatment, including ion exchange and reverse-osmosis/nanofiltration equipment. 46 66 00 for ultraviolet equipment associated with water and wastewater treatment.
43 32 13	Gas and Liquid Purification Process Beds	
43 32 13.13	Anion-Gas and Liquid Purification Process Beds	
43 32 13.16	Cation-Gas and Liquid Purification Process Beds	
43 32 23	Gas and Liquid Purification Process Clarifier Systems	
43 32 26	Gas and Liquid Purification Decarbonators	
43 32 29	Electronic Deionization Purification Units	
43 32 33	External Regeneration Systems	
43 32 36	Mixed-Bed Ion-Exchange Vessels	
43 32 39	Gas and Liquid Purification Mixed Beds	
43 32 39.13	Externally Regenerable Gas and Liquid Purification Mixed Beds	
43 32 39.16	In-Situ Regenerable Gas and Liquid Purification Mixed Beds	
43 32 53	Packed-Bed Ion-Exchange Vessels	
43 32 56	Reverse-Osmosis Purification Units	
43 32 59	Gas and Liquid Purification Scrubbers	
43 32 63	Ultraviolet Sterilizers	
43 32 66	Vacuum Degasifiers	
43 32 69	Chemical Feed Systems	
43 32 73	Ozonation Equipment	
43 32 76	Chlorination Equipment	

NUMBER	TITLE	EXPLANATION
<b>43 40 00</b>	<b>Gas and Liquid Storage</b>	<p>Includes: pressurized and non-pressurized storage/processing vessels for gases and liquids for industrial, commercial, and municipal processes.</p> <p>Notes: certain tanks, such as (but not limited to) clarifiers and biological reactor tanks associated with water and wastewater treatment processes for both non-pressurized and pressurized service, are typically under the Division of the associated tank material or work result (such as Division 03, Concrete). Tanks for such purposes would be under 43 40 00 when the tank is fabricated at a site other than the tank's final installation location.</p> <p>See: 40 90 00 for process instrumentation and control.  43 08 40 for commissioning of gas and liquid storage.  43 10 00 for gas handling equipment.  43 20 00 for liquid handling equipment.  43 30 00 for liquid and gas purification for industrial processes.  46 00 00 for water and wastewater equipment.</p>
<b>43 41 00</b>	<b>Non-pressurized Tanks and Vessels</b>	<p>Includes: non-pressurized tanks and vessels for liquid or gas storage and/or processing for industrial, commercial, and municipal processes.</p> <p>Alternate Terms/Abbreviations: FRP: fiberglass-reinforced plastic. GRP: glass-fiber-reinforced plastic. PVC: polyvinyl chloride.</p> <p>See: 21 41 00 for storage tanks for fire-suppression water.  22 12 00 for facility potable water storage tanks.  23 13 00 for facility fuel storage tanks.  33 16 00 for water utility storage tanks.  33 34 00 for onsite wastewater disposal.  33 56 00 for fuel storage tanks.  41 52 19 for bulk material storage tanks.  43 42 00 for pressurized tanks and vessels.  46 07 00 for tanks integral with packaged water and wastewater treatment equipment.  46 33 00 for liquid chemical feed equipment used in water and wastewater treatment.</p>
43 41 11	Bolted Steel Tanks	
43 41 13	Welded Steel Tanks	
43 41 13.13	Glass-lined Welded Steel Tanks	
43 41 13.23	Rubber-lined Welded Steel Tanks	
43 41 13.33	Epoxy-lined Welded Steel Tanks	
43 41 13.43	Ceramic-lined Welded Steel Tanks	
43 41 23	Stainless Steel Tanks	



DIVISION 43

NUMBER	TITLE	EXPLANATION
43 41 26	Aluminum Tanks	
43 41 31	Metallic Specialty Tanks	
43 41 41	Polyvinyl Chloride Tanks	
43 41 43	Polyethylene Tanks	
43 41 45	Fiberglass Reinforced Plastic Tanks	
43 41 53	Wood Stave Tanks	
43 41 63	Precast Concrete Tanks	
43 41 73	Ceramic Tanks	
43 41 83	Non-metallic Specialty Tanks	

**43 42 00      Pressurized Tanks and Vessels**

Includes: pressurized tanks and vessels for liquid or gas storage and/or processing for industrial, commercial, and municipal processes.

Alternate Terms/Abbreviations: FRP: fiberglass-reinforced plastic. GRP: glass-fiber-reinforced plastic.

See: 23 13 00 for facility fuel storage tanks.  
 43 41 00 for non-pressurized tanks and vessels.  
 46 31 43 for storage tanks for carbon dioxide gas used in water and wastewater treatment.  
 46 31 56 for liquid oxygen storage and feed equipment associated with ozone systems.  
 46 51 63 for storage tanks used with pure-oxygen generating equipment.

43 42 11	Cast Iron Pressure Tanks	
43 42 13	Ductile Iron Pressure Tanks	
43 42 21	Welded Steel Pressure Tanks	
43 42 23	Glass-lined Steel Pressure Tanks	
43 42 26	Welded Steel Gas Storage Sphere	
43 42 33	Stainless Steel Pressure Tanks	
43 42 36	Aluminum Pressure Tanks	
43 42 41	Metallic Specialty Pressure Tanks	
43 42 53	Fiberglass Reinforced Plastic Pressure Tanks	
43 42 83	Non-metallic Specialty Pressure Tanks	

NUMBER

TITLE

EXPLANATION

# DIVISION 44 – POLLUTION AND WASTE CONTROL EQUIPMENT

## 44 00 00 Pollution and Waste Control Equipment

May be used as Division level Section title.

Includes: municipal, industrial, institutional, commercial, campus, and other pollution and waste control equipment other than water and wastewater treatment equipment. Division includes equipment for air pollution control, noise pollution control, odor control, water pollution control, solid waste control, and waste thermal processing. Water and wastewater treatment are located in Division 46. Water pollution control equipment in this Division is limited to equipment used for preventing and containing pollutants and treating pollutants without transporting the water elsewhere for treatment.

See: 02 50 00 for contaminated soils remediation.  
40 90 00 for instrumentation and control for process systems.  
46 00 00 for equipment used in water and wastewater treatment.

## 44 01 00 Operation and Maintenance of Pollution and Waste Control Equipment

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation of pollution control equipment.

Level 4 Numbering Recommendation: following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

44 01 10	Operation and Maintenance of Air Pollution Control
44 01 20	Operation and Maintenance of Noise Pollution Control
44 01 30	Operation and Maintenance of Odor Control Equipment
44 01 40	Operation and Maintenance of Water Pollution Control Equipment

DIVISION 44

NUMBER	TITLE	EXPLANATION
44 01 50		Operation and Maintenance of Solid Waste Control and Reuse
44 01 60		Operation and Maintenance of Waste Thermal Processing Equipment
<b>44 05 00</b>	<b>Common Work Results for Pollution and Waste Control Equipment</b>	Includes: common work results for pollution control equipment.
44 05 05	Selective Demolition for Pollution and Waste Control Equipment	See: 02 41 19 for selective demolition for whole structure demolition.
<b>44 06 00</b>	<b>Schedules for Pollution and Waste Control Equipment</b>	Includes: schedules of items common to multiple titles in Division 44. Schedules applicable to the subject of one title should be included in the associated Section.  Notes: a schedule may be included on the drawings, in the project manual, or in a project book.
44 06 10	Schedules for Air Pollution Control	
44 06 20	Schedules for Noise Pollution Control	
44 06 30	Schedules for Odor Control Equipment	
44 06 40	Schedules for Water Pollution Control Equipment	
44 06 50	Schedules for Solid Waste Control and Reuse	
44 06 60	Schedules for Waste Thermal Processing Equipment	
<b>44 08 00</b>	<b>Commissioning of Pollution and Waste Control Equipment</b>	Includes: separate commissioning for pollution control equipment.  See: 40 80 00 for commissioning of process systems as a total system.
44 08 10	Commissioning of Air Pollution Control	
44 08 20	Commissioning of Noise Pollution Control	
44 08 30	Commissioning of Odor Control Equipment	
44 08 40	Commissioning Water Pollution Control Equipment	
44 08 50	Commissioning Solid Waste Control and Reuse	
44 08 60	Commissioning of Waste Thermal Processing Equipment	

NUMBER	TITLE	EXPLANATION
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## 44 10 00 Air Pollution Control

Includes: equipment for reducing air pollution in exhaust gas streams by removal of gross and fine particulates, removal of gases, and vapor recovery.

See: 02 24 13 for air assessment.

23 30 00 for building ventilation and air distribution.

23 40 00 for HVAC air cleaning and filtration systems.

40 05 00 and 40 10 00 for piping and ducting associated with air pollution control.

40 90 00 for process instrumentation and controls associated with air pollution control.

43 10 00 for process air and process gas blowers, fans, process air and gas filtration, and other process air and gas equipment used with air pollution control systems.

43 30 00 for purification equipment used for industrial process gases.

44 08 10 for commissioning of air pollution control.

44 20 00 for noise pollution control.

44 30 00 for odor control.

44 40 00 for water pollution control equipment.

44 50 00 for solid waste control and reuse.

44 60 00 for waste thermal processing equipment.

NUMBER	TITLE	EXPLANATION
<b>44 11 00</b>	<b>Particulate Control Equipment</b>	<p>Includes: mechanical, chemical, inertial, gravitational, filtration, or electrostatic means of controlling emission of particulates. 44 11 10 through 44 11 19 includes permanently installed equipment and systems for reducing fugitive dust emissions from a site, and permanently installed equipment for monitoring ambient, atmospheric air quality. Fugitive dust control includes dust control and soil stabilization using foams, chemicals, water, or other means, and atmospheric air quality monitoring equipment. 44 11 20 includes equipment that uses gravitational force to separate particles. 44 11 30 through 44 11 39 includes equipment that employs water or other liquid to collect particles. 44 11 50 through 44 11 59 includes equipment that employs planar media to separate particles from gas flowing through the media, by inertial impaction, interception, diffusion, or sieving. 44 11 70 through 44 11 79 includes equipment that employs means other than planar filtration media to collect particles through inertial impaction, interception, or impingement. 44 11 90 through 44 11 99 includes equipment that employs electrostatic force to collect particles.</p> <p>Alternate Terms/Abbreviations: electrostatic precipitator: ESP.</p> <p>See: 01 56 16 for temporary dust barriers used during construction.  01 57 00 for temporary fugitive dust control during construction.  02 24 13 for air assessment.  23 35 13 for facility dust collection systems, including sawdust collection.  43 15 00 for process air and process gas filtration equipment.  43 32 59 for gas purification scrubbers used in industrial applications.  44 13 00 for gaseous air pollution control equipment.</p>
44 11 13	Fugitive Dust Control	
44 11 16	Fugitive Dust Barrier Systems	
44 11 19	Atmospheric Air Quality Monitoring Equipment	
44 11 20	Gravitational Separators	
44 11 31	Venturi Scrubbing Equipment	
44 11 33	Spray Tower/Chamber Scrubbing Equipment	
44 11 36	Cyclone Scrubbing Equipment	
44 11 51	Pulse Jet Fabric Filtration Equipment	
44 11 53	Reverse Flow Fabric Filtration Equipment	
44 11 54	Shake/Deflate Fabric Filtration Equipment	
44 11 56	Cartridge Filtration Equipment	
44 11 59	Disposable Dry Filtration Equipment	
44 11 71	Cyclone Dust Collection Equipment	
44 11 73	Multicyclone Dust Collection Equipment	
44 11 76	Mist Elimination Equipment	
44 11 93	Wet Electrostatic Precipitator Equipment	

NUMBER	TITLE	EXPLANATION
44 11 96	Dry Plate Electrostatic Precipitator Equipment	
<b>44 13 00</b>	<b>Gaseous Air Pollution Control Equipment</b>	Includes: mechanical, chemical, thermal, or biological means of controlling emission of gases and recovering vapors. 44 13 10 through 44 13 19 includes equipment employing absorption with or without chemical reaction to collect gaseous pollutants. 44 13 20 includes equipment for vacuum extraction of pollutants from an exhaust gas stream. 44 13 30 through 44 13 39 includes equipment employing adsorption with or without chemical reaction to collect gaseous pollutants. 44 13 50 through 44 13 59 includes equipment that promotes chemical oxidation of pollutants. 44 13 70 through 44 13 79 includes equipment that promotes chemical reduction (e.g., SCR for controlling emissions of nitrous oxides) reactions of pollutants. 44 13 80 through 44 13 89 includes equipment that collects gaseous pollutants by temperature reduction or pressure increase to promote condensation. 44 13 90 through 44 13 99 includes equipment that removes pollutants through biological reaction.
		Alternate Terms/Abbreviations: SCR: selective catalytic reduction.
		See: 43 10 00 for fans and blowers. 43 30 00 for gas purification equipment used in industrial processes. 43 32 00 for gas purification equipment associated with industrial process applications. 43 32 59 for gas purification scrubbers used in industrial applications. 44 11 00 for particulate control equipment. 44 31 21 for biological odor control equipment, including odor control biofilters and biotrickling filters. 44 31 41 for odor control vapor combustion equipment. 46 31 26 for emergency gas treatment systems associated with gas chemical feed systems. 46 53 00 for equipment for biological treatment of wastewater, including trickling filters. 46 78 00 for afterburners associated with sludge incineration. 46 78 46 for regenerative thermal oxidizers used in wastewater residuals treatment.
44 13 11	Spray Tower/Chamber Absorption Equipment	
44 13 13	Packed Tower/Chamber Absorption Equipment	
44 13 14	Tray Tower Absorption Equipment	
44 13 16	Jet Bubbling Reactor Equipment	
44 13 17	Venturi Absorption Equipment	
44 13 20	Vacuum Extraction Systems	
44 13 31	Powdered Injection Adsorption Equipment	

NUMBER	TITLE	EXPLANATION
44 13 33	Fluidized Bed Adsorption Equipment	
44 13 34	Fixed Bed Adsorption Equipment	
44 13 36	Rotary Bed Adsorption Equipment	
44 13 39	Radial Bed Adsorption Equipment	
44 13 51	Thermal Oxidation Equipment	
44 13 53	Catalytic Oxidation Equipment	
44 13 56	Flare Oxidation Equipment	
44 13 59	Claus Sulfur Recovery Equipment	
44 13 71	Thermal Reduction Equipment	
44 13 73	Catalytic Reduction Equipment	
44 13 76	Non-catalytic Reduction Equipment	
44 13 77	Selective Non-catalytic Reduction Equipment	
44 13 81	Condensation Systems	
44 13 83	Contact Condensing Equipment	
44 13 86	Solvent Recovery Equipment	
44 13 91	Biofilter Media	
44 13 93	Fixed Bed Biofilter Equipment	
44 13 96	Fixed Bed Biotrickling Filter Equipment	
44 13 97	Fixed Bed Bioscrubbing Equipment	

## 44 20 00 Noise Pollution Control

Includes: noise reduction equipment and systems not integral to other equipment or processes.

See: 44 08 20 for commissioning of noise pollution control.  
 44 10 00 for air pollution control.  
 44 30 00 for odor control.  
 44 40 00 for water pollution control equipment.  
 44 50 00 for solid waste control and reuse.  
 44 60 00 for waste thermal processing equipment.  
 46 00 00 for water and wastewater equipment.

## 44 21 00 Noise Pollution Control Equipment

Includes: barriers, silencers, and electronic frequency canceling devices for noise reduction.

See: 02 22 16 for acoustic assessment.  
 07 92 19 for acoustic sealants.  
 09 80 00 for acoustic treatment.  
 13 21 48 for sound-conditioned rooms.  
 13 48 00 for sound, vibration, and seismic control.  
 32 35 16 for sound barriers associated with site improvements.  
 34 70 00 for sound barriers associated with highways, railroads, and other modes of transportation.

44 21 13	Fixed Noise Abatement Barriers
44 21 16	Flexible Noise Abatement Barriers
44 21 19	Portable Noise Abatement Barriers
44 21 23	Noise Pollution Silencers

NUMBER	TITLE	EXPLANATION
44 21 26	Frequency Cancellers	
<b>44 30 00</b>	<b>Odor Control</b>	<p>Includes: equipment and systems for reducing, treating, controlling, dispersing, or masking odor emissions.</p> <p>See: 13 34 23 for fabricated structures and covers used for odor containment.  23 31 00 for HVAC ducts and casings used in conveying odorous air.  40 05 00 and 40 10 00 for piping and ductwork used in conveying odorous air or gases.  43 11 00 for fans and blowers associated with odor control systems.  44 08 30 for commissioning of odor control.  44 10 00 for air pollution control equipment.  44 20 00 for noise pollution control equipment.  44 40 00 for water pollution control equipment.  44 50 00 for solid waste control and reuse.  44 60 00 for waste thermal processing equipment.  46 00 00 for water and wastewater equipment.</p>
<b>44 31 00</b>	<b>Odor Treatment Equipment</b>	<p>Includes: equipment and systems for treating odors via combustion, adsorption, chemical means, biological means, and other methods of odor treatment.</p> <p>Alternate Terms/Abbreviations: containment: cover: odor encapsulation system. Chemical mist system: odor neutralization equipment: odor atomizing system: odor fogging system.</p> <p>See: 43 32 69 for equipment used for chemical oxidation and chemical precipitation of odors in industrial applications.  44 13 00 for biological air pollution control equipment, including biofilters and biotrickling filters.  44 50 00 for solid waste processing and composting equipment and systems.  46 31 00 for equipment used for chemical oxidation and chemical precipitation of odors in water and wastewater treatment.  46 50 00 for odor control accomplished using wastewater treatment biological systems, including trickling filters and diffusers associated with biological aeration tanks.  46 78 00 for afterburners associated with sludge incineration.</p>
44 31 11	Wet Chemical Packed Tower Odor Control Equipment	
44 31 13	Chemical Mist System Odor Control Equipment	
44 31 16	Activated Carbon Adsorption Odor Control Equipment	



DIVISION 44

NUMBER	TITLE	EXPLANATION
44 31 19	Packaged Odor Control Systems	
44 31 21	Odor Control Biofilters	
44 31 28	Odor Control Biofilter Aeration Floor	
44 31 29	Odor Control Biofilter Media	
44 31 31	Odor Control Biotrickling Filter Equipment	
44 31 33	Odor Control Bioscrubbing Equipment	
44 31 41	Odor Control Vapor Combustion Equipment	
44 31 83	Adjusting and Balancing Odor Control Systems	

**44 32 00 Odor Dispersing and Masking/Counteracting Equipment**

Includes: odor dispersion devices and equipment, and odor masking/counteracting equipment.

See: 23 51 19 for fabricated stacks for HVAC.  
 43 11 00 for fans and blowers associated with odor control.  
 43 32 69 for chemical feed systems for purification applications associated with odor control.  
 43 40 00 for chemical storage tanks associated with odor control.  
 46 30 00 for chemical feed systems associated with water and wastewater systems.  
 46 51 00 for wastewater treatment air and gas diffusers used for odor control.

44 32 13	Odor Dispersing Exhaust Stacks	
44 32 13.13	Fan-equipped Odor Dispersing Exhaust Stacks	
44 32 23	Odor Masking/Counteracting Equipment	

**44 40 00 Water Pollution Control Equipment**

Includes: equipment for controlling water pollution without conveyance to a treatment facility, and equipment for reducing the potential for water pollution.

See: 44 08 40 for commissioning of water pollution control.  
 44 10 00 for air pollution control.  
 44 20 00 for noise pollution control.  
 44 30 00 for odor control.  
 44 50 00 for solid waste control and reuse.  
 44 60 00 for waste thermal processing equipment.  
 46 00 00 for water and wastewater equipment.

NUMBER	TITLE	EXPLANATION
<b>44 41 00</b>	<b>Water Pollution Containment and Cleanup Equipment</b>	Includes: booms for containing oil spill and other pollutants, and fabricated containment structures.  Alternate Terms/Abbreviations: collapsible storage tanks: bladder tanks: pillow tanks.  Notes: 44 41 13 Spill Cleanup includes spill cleanup kits, spill cleanup absorbents and sorbents, and spill dispersants.  See: 01 56 16 for temporary barriers used during construction. 01 57 13 for temporary erosion and sediment control during construction. 03 00 00 for concrete used in concrete containment structures. 13 34 00 for fabricated, corrosion-resistant structures for hazardous materials containment. 31 24 00 for earthen berms and embankments. 31 25 00 for erosion and sediment controls. 33 30 00 for in-water containment booms and structures for wastewater overflow control, including combined sewer overflow controls. 35 41 13 for landside levees and earthen berms along waterways. 46 00 00 for water and wastewater treatment equipment. 46 25 00 for oil-water and oil-grease separation equipment used in water and wastewater treatment.
44 41 13	Spill Cleanup	
44 41 21	Containment Booms	
44 41 23	Marine Spill Accessories	
44 41 31	Spill Decks	
44 41 32	Drum Containment Units	
44 41 33	Containment Pallets	
44 41 34	Prefabricated Spill Containment Curbing	
44 41 36	Prefabricated Spill Containment Berms	
44 41 37	Prefabricated Berms for Tank Containment	
44 41 41	Collapsible Storage Tanks	

NUMBER	TITLE	EXPLANATION
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**44 50 00 Solid Waste Control and Reuse**

Includes: equipment for collecting, handling, and processing solid waste materials at a facility with the primary purpose of solid waste control, processing, reuse, composting, or storage.

See: 11 82 00 for manufactured solid waste handling, treatment, processing, or reuse equipment at a single facility with a primary purpose other than solid waste handling or processing.

44 08 50 for commissioning of solid waste control, treatment, or reuse.

44 10 00 for air pollution control.

44 20 00 for noise pollution control.

44 30 00 for odor control.

44 40 00 for water pollution control equipment.

44 60 00 for waste thermal processing equipment.

46 70 00 for water and wastewater residuals processing equipment.

**44 51 00 Solid Waste Collection, Transfer, and Hauling Equipment**

Includes: containers and equipment for collecting, transferring, and hauling solid waste.

See: 02 60 00 for contaminated site material removal.

11 82 13 for solid waste bins for use at other than a solid waste handling and processing facility.

34 70 00 for truck scales, railroad scales, and transport vehicle load-weighing equipment used for weighing solid waste transfer vehicles.

41 10 00 for bulk material processing equipment.

41 12 00 for belt conveyors and other bulk material conveying equipment for conveying solid waste and recyclables.

41 60 00 for solid waste collection vehicles and mobile equipment used in transporting and handling solid waste.

44 53 11 for live-floor storage bins.

44 53 13 for refuse cranes.

- 44 51 13 Solid Waste Portable Containers
- 44 51 16 Solid Waste Stationary Containers
- 44 51 23 Solid Waste Transfer Trailers

NUMBER	TITLE	EXPLANATION
<b>44 53 00</b>	<b>Solid Waste Processing Equipment</b>	<p>Includes: screens, shears, shredders, separation, sorting, compaction baling, and other equipment used for processing solid waste for disposal or recycling. 44 53 13, refuse cranes and accessories, includes knuckle boom cranes for solid waste, grapplers, and other types of cranes and accessories specially constructed for solid waste handling. 44 53 26, shredders and grinders, includes chippers, maulers, hammermills, and other shredding and grinding equipment. 44 53 43, ferrous metals separation equipment, includes belt magnets, drum magnets, head pulley magnets, cross-belt magnets, and other equipment for separating ferrous metals from a solid waste stream. 44 53 63, solid waste baling equipment, includes fluffing equipment, bale wire-tying equipment, can densifiers, and other equipment associated with the baling of solid waste.</p> <p>See: 11 82 23 for manufactured solid waste handling and recycling equipment at a single facility with a primary purpose other than solid handling and processing.  40 91 00 for weighing scales used after solid waste is off-loaded to the processing facility, and other primary sensors and measurement devices.  41 10 00 for bulk material processing equipment.  41 12 00 for belt conveyors and other bulk material conveying equipment for conveying solid waste and recyclables.  41 22 13 for cranes other than refuse cranes.  42 32 00 for materials dryers.  44 51 00 for equipment used for transporting, transferring, and hauling solid waste.  44 55 00 for composting equipment, including windrow turning equipment, compost screening equipment, compost shredding equipment, and other composting equipment.  44 61 00 for solid waste processing and handling equipment associated with waste-to-energy facilities.  46 24 00 for grinding and shredding equipment used in water and wastewater treatment.</p>
44 53 11	Live-floor Storage Bins	
44 53 13	Refuse Cranes and Accessories	
44 53 16	Solid Waste Screens	
44 53 21	Car Crushers	
44 53 23	Shears and Guillotines	
44 53 26	Shredders and Grinders	
44 53 27	Perforators	
44 53 31	Bag Breakers	
44 53 33	Granulators	
44 53 36	Crumb Rubber Systems	
44 53 39	Briquetters	
44 53 41	Vibratory Table Separation Equipment	
44 53 43	Ferrous Metals Separation Equipment	

DIVISION 44

NUMBER	TITLE	EXPLANATION
44 53 44	Eddy Current Separators	
44 53 46	Single-stream Materials Separation Equipment	
44 53 49	Ballistic Separators	
44 53 51	Air Classifying Equipment	
44 53 52	Air Knives	
44 53 53	Optical Sorting Equipment	
44 53 56	Packaged Sorting Stations	
44 53 59	Packaged Reclaimer Stations	
44 53 61	Solid Waste Compactors	
44 53 63	Solid Waste Baling Equipment	
44 53 64	Bagging Equipment	
44 53 66	Wrappers	
44 53 73	Solid Waste Liquid Extraction Equipment	

**44 55 00 Composting Equipment**

Includes: equipment for composting yard waste, biodegradable municipal solid waste, residuals from water and wastewater treatment, and of other biodegradable materials.

Alternate Terms/Abbreviations: compost liquid: compost tea.

See: 11 82 29 for composting equipment dedicated to a facility with a primary purpose other than waste or residuals composting.

40 05 00 and 40 10 00 for aeration piping used in composting.

40 90 00 for process controls associated with composting.

40 91 00 for primary sensors and instruments used in composting.

41 12 00 for screw conveyors, belt conveyors, and other bulk material conveying equipment used in composting.

41 60 00 for vehicles and equipment for handling compost and yard waste, such as payloaders, backhoes, and trucks.

43 11 00 for air blowers used in composting.

44 30 00 for odor control equipment used with composting.

44 53 64 for compost bagging equipment.

46 73 00 for wastewater residuals stabilization equipment other than composting.

44 55 11	Electromechanical Composters	
44 55 13	Compost Screening Equipment	
44 55 16	Compost Shredding Equipment	
44 55 23	Compost Pile Turning Equipment	
44 55 26	Compost Mixing and Blending Equipment	
44 55 33	In-vessel Composting Equipment	
44 55 43	Compost Pad System	
44 55 73	Compost Liquid Extraction Equipment	

NUMBER	TITLE	EXPLANATION
<b>44 60 00</b>	<b>Waste Thermal Processing Equipment</b>	Includes: equipment for incinerating or thermally processing solid or liquid waste at a facility with the primary purpose of waste thermal processing.  Alternate Terms/Abbreviations: MSW: municipal solid waste.  See: 11 82 19 for packaged incinerators used at a facility with a primary purpose other than waste processing. 40 47 00 for refractories. 40 90 00 for process controls associated with waste thermal processing systems and appurtenances. 40 91 00 for weight scales after waste is off-loaded to the processing facility, and other primary sensors and instruments. 41 12 00 for conveying equipment such as belt conveyors and screw conveyors. 42 13 00 for industrial heat exchangers and recuperators. 42 14 00 for furnaces for industrial applications. 44 08 60 for commissioning of waste thermal processing equipment. 44 10 00 for air pollution control equipment. 44 20 00 for noise pollution control equipment. 44 30 00 for odor control equipment. 44 40 00 for water pollution control equipment. 44 50 00 for solid waste handling and processing equipment. 46 73 00 for wastewater sludge digestion and pasteurization. 46 76 00 for thermal sludge dryers. 46 78 00 for equipment and systems used in thermal treatment of wastewater sludge.
<b>44 61 00</b>	<b>Waste-to-Energy Plants</b>	Includes: equipment, systems, and appurtenances for facilities with the primary purpose of combusting waste to produce electricity, reusable heat, combustible fuels, or other energy.  Alternate Terms/Abbreviations: EFW: energy-from-waste. RDF: Refused-derived fuel. WTE: Waste-to-energy.  See: 43 00 00 for process liquid and gas handling, purification, and storage equipment, including processes for producing fermentation byproducts such as ethanol, hydrogen, and other materials using non-thermal processes. 44 10 00 for air pollution control equipment. 44 64 00 for gasification equipment. 44 65 00 for pyrolysis equipment. 46 78 00 for thermal treatment of wastewater sludge. 48 00 00 for electrical power-generating equipment.
44 61 13	Waste Receiving, Management, and Feed Equipment	

NUMBER	TITLE	EXPLANATION
44 61 16	Mass Burn Combustion Equipment	
44 61 23	Refuse-derived Fuel Feed Equipment	
44 61 26	Refuse-derived Fuel Combustion Equipment	
44 61 29	Modular Combustion System Equipment	
44 61 31	Ash Handling Equipment	
44 61 33	Post-combustion Ferrous Metals Recovery Equipment	
44 61 36	Post-combustion Non-ferrous Metals Recovery Equipment	
<b>44 62 00</b>	<b>Fluidized Bed Combustion Equipment</b>	<p>Includes: equipment, systems, and appurtenances for fluidized bed combustion used for thermal processing of MSW and other wastes, other than wastewater sludge.</p> <p>See: 42 32 23 for fluidized bed material dryers used in industrial production processes. 44 64 33 for fluidized bed gasification equipment. 46 78 23 for fluidized bed incinerators used for thermal processing of wastewater treatment sludge.</p>
<b>44 63 00</b>	<b>Rotary Kiln Incinerators</b>	<p>Includes: equipment, systems, and appurtenances for rotary kiln incinerators used for the disposal of MSW and other wastes.</p> <p>See: 42 32 29 for rotary kiln material dryers used in industrial production processes.</p>
<b>44 64 00</b>	<b>Gasification Equipment</b>	<p>Includes: equipment, systems, and appurtenances for gasification faculties and related systems. Gasification is a process that converts carbonaceous materials such as coal, petroleum, biofuel, or biomass into carbon monoxide and hydrogen by reacting the raw material, such as organic elements of MSW or compost, at high temperatures with a controlled amount of oxygen and/or steam, to produce synthesis gas.</p> <p>Alternate Terms/Abbreviations: counter-current fixed bed gasification: updraft gasification co-current fixed bed gasification: downdraft gasification.</p> <p>See: 44 61 00 for waste-to-energy equipment. 44 62 00 for fluidized bed combustors for MSW and other waste. 44 68 00 for synthesis gas cleanup and handling equipment. 46 78 23 for fluidized bed incinerators used for thermal processing of wastewater sludge.</p>
44 64 13	Counter-current Fixed Bed Gasification Equipment	

NUMBER	TITLE	EXPLANATION
44 64 23	Co-current Fixed Bed Gasification Equipment	
44 64 33	Fluidized Bed Gasification Equipment	
44 64 43	Entrained Flow Gasification Equipment	
44 64 53	Plasma Arc Gasification Equipment	
<b>44 65 00</b>	<b>Pyrolysis Equipment</b>	Includes: equipment, systems, and appurtenances for pyrolysis facilities, including vacuum pyrolysis, flash pyrolysis, and thermal depolymerization. Pyrolysis is the chemical decomposition of organic substances by heating without oxygen or air, producing gas and liquid products and a solid residue rich in carbon.  See: 44 61 00 for waste-to-energy equipment. 44 68 00 for synthesis gas cleanup and handling equipment. 46 73 00 for anaerobic digestion of wastewater sludge.
<b>44 66 00</b>	<b>Hazardous Waste and Medical Waste Incinerators</b>	Includes: equipment, systems, and appurtenances for incinerating hazardous waste or medical waste.  Alternate Terms/Abbreviations: medical waste: clinical waste.  See: 02 62 00 for hazardous waste recovery processes. 11 82 19 for packaged incinerators used at a facility with a primary purpose other than waste processing.
<b>44 67 00</b>	<b>Heat Recovery Equipment for Waste Thermal Processing</b>	Includes: equipment, systems, and appurtenances for recovering heat from waste thermal systems.  See: 42 13 00 for industrial heat exchangers and recuperators. 44 61 00 for waste-to-energy equipment. 46 78 41 for recuperative air preheating equipment used for thermal processing of wastewater sludge. 46 78 46 for regenerative thermal oxidizers used for thermal processing of wastewater sludge. 46 78 47 for waste heat recovery boilers used for thermal processing of wastewater sludge. 46 78 49 for waste heat recovery heat exchangers used for thermal processing of wastewater sludge.



NUMBER	TITLE	EXPLANATION
<b>44 68 00</b>	<b>Synthesis Gas Cleanup and Handling Equipment</b>	<p>Includes: specialized equipment, systems, and appurtenances used in syngas applications and not generally included under Division 43 except for compressors.</p> <p>Alternate Terms/Abbreviations: synthesis gas: syngas.</p> <p>See: 43 12 00 for gas compressors. 43 13 00 for gas processing equipment, including mixers, blenders, regulators, burners, and gas safety equipment. 43 30 00 for Fischer-Tropsch process equipment. 43 40 00 for gas purification equipment. 43 42 00 for pressurized storage tanks and storage vessels.</p>

NUMBER

TITLE

EXPLANATION

# DIVISION 45 – INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

## 45 00 00 Industry-Specific Manufacturing Equipment

May be used as Division level Section title.

Includes: NAICS Group 339 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of other manufacturing equipment. User can specify industry-specific equipment in this Division that does not fit in any other process Division.

Alternate Terms/Abbreviations:  
NAICS: North American Industry Classification System.

Notes: user-defined industry-specific manufacturing equipment titles in Division 45 may be specified at any number 45 XX 10 through 45 XX 99.

See: 40 90 00 for instrumentation and control for process systems.  
41 30 00 for manufacturing equipment.

### 45 05 00 Common Work Results for Industry-Specific Manufacturing Equipment

45 05 05 Selective Demolition for Industry-Specific Manufacturing Equipment  
See: 02 41 19 for selective demolition for whole structure demolition.

### 45 08 00 Commissioning of Industry-Specific Manufacturing Equipment

Includes: separate commissioning of industry-specific manufacturing equipment.

See: 40 80 00 for commissioning of process systems as a total system.

### 45 11 00 Oil and Gas Extraction Equipment

Includes: NAICS Group 211 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of gas and oil extraction equipment.

DIVISION 45

NUMBER	TITLE	EXPLANATION
45 11 01	Operation and Maintenance of Oil and Gas Extraction Equipment	
45 11 06	Schedules for Oil and Gas Extraction Equipment	
<i>45 11 10 to 45 12 99 User-Defined Oil and Gas Extraction Equipment</i>		
<b>45 13 00</b>	<b>Mining Machinery and Equipment</b>	Includes: NAICS Groups 212 and 213 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of mining machinery and equipment.
45 13 01	Operation and Maintenance of Mining Machinery and Equipment	
45 13 06	Schedules for Mining Machinery and Equipment	
<i>45 13 10 to 45 14 99 User-Defined Mining Machinery and Equipment</i>		
<b>45 15 00</b>	<b>Food Manufacturing Equipment</b>	Includes: NAICS Group 311 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of food manufacturing equipment.
45 15 01	Operation and Maintenance of Food Manufacturing Equipment	
45 15 06	Schedules for Food Manufacturing Equipment	
<i>45 15 10 to 45 16 99 User-Defined Food Manufacturing Equipment</i>		
<b>45 17 00</b>	<b>Beverage and Tobacco Manufacturing Equipment</b>	Includes: NAICS Group 312 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of beverage and tobacco manufacturing equipment.
45 17 01	Operation and Maintenance of Beverage and Tobacco Manufacturing Equipment	
45 17 06	Schedules for Beverage and Tobacco Manufacturing Equipment	
<i>45 17 10 to 45 18 99 User-Defined Beverage and Tobacco Manufacturing Equipment</i>		
<b>45 19 00</b>	<b>Textiles and Apparel Manufacturing Equipment</b>	Includes: NAICS Groups 313, 314, and 315 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of textiles and apparel manufacturing equipment.
45 19 01	Operation and Maintenance of Textiles and Apparel Manufacturing Equipment	
45 19 06	Schedules for Textiles and Apparel Manufacturing Equipment	
<i>45 19 10 to 45 20 99 User-Defined Textiles and Apparel Manufacturing Equipment</i>		
<b>45 21 00</b>	<b>Leather and Allied Product Manufacturing Equipment</b>	Includes: NAICS Group 316 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of leather and allied product manufacturing equipment.
45 21 01	Operation and Maintenance of Leather and Allied Product Manufacturing Equipment	

NUMBER	TITLE	EXPLANATION
45 21 06	Schedules for Leather and Allied Product Manufacturing Equipment	
45 21 10 to 45 22 99	<i>User-Defined Leather and Allied Product Manufacturing Equipment</i>	
<b>45 23 00</b>	<b>Wood Product Manufacturing Equipment</b>	Includes: NAICS Group 321 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of wood product manufacturing equipment.
45 23 01	Operation and Maintenance of Wood Product Manufacturing Equipment	
45 23 06	Schedules for Wood Product Manufacturing Equipment	
45 23 10 to 45 24 99	<i>User-Defined Wood Product Manufacturing Equipment</i>	
<b>45 25 00</b>	<b>Paper Manufacturing Equipment</b>	Includes: NAICS Group 322 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of paper manufacturing equipment.
45 25 01	Operation and Maintenance of Paper Manufacturing Equipment	
45 25 06	Schedules for Paper Manufacturing Equipment	
45 25 10 to 45 26 99	<i>User-Defined Paper Manufacturing Equipment</i>	
<b>45 27 00</b>	<b>Printing and Related Manufacturing Equipment</b>	Includes: NAICS Group 323 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of printing and related manufacturing equipment.
45 27 01	Operation and Maintenance of Printing and Related Manufacturing Equipment	
45 27 06	Schedules for Printing and Related Manufacturing Equipment	
45 27 10 to 45 28 99	<i>User-Defined Printing and Related Manufacturing Equipment</i>	
<b>45 29 00</b>	<b>Petroleum and Coal Products Manufacturing Equipment</b>	Includes: NAICS Group 324 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of petroleum and coal products manufacturing equipment.
45 29 01	Operation and Maintenance of Petroleum and Coal Products Manufacturing Equipment	
45 29 06	Schedules for Petroleum and Coal Products Manufacturing Equipment	
45 29 10 to 45 30 99	<i>User-Defined Petroleum and Coal Products Manufacturing Equipment</i>	
<b>45 31 00</b>	<b>Chemical Manufacturing Equipment</b>	Includes: NAICS Group 325 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of chemical manufacturing equipment.
45 31 01	Operation and Maintenance of Chemical Manufacturing Equipment	
45 31 06	Schedules for Chemical Manufacturing Equipment	
45 31 10 to 45 32 99	<i>User-Defined Chemical Manufacturing Equipment</i>	

NUMBER	TITLE	EXPLANATION
<b>45 33 00</b>	<b>Plastics and Rubber Manufacturing Equipment</b>	Includes: NAICS Group 326 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of plastics and rubber manufacturing equipment.
45 33 01	Operation and Maintenance of Plastics and Rubber Manufacturing Equipment	
45 33 06	Schedules for Plastics and Rubber Manufacturing Equipment	
45 33 10 to 45 34 99	<i>User-Defined Plastics and Rubber Manufacturing Equipment</i>	
<b>45 35 00</b>	<b>Nonmetallic Mineral Product Manufacturing Equipment</b>	Includes: NAICS Group 327 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of nonmetallic mineral product manufacturing equipment.
45 35 01	Operation and Maintenance of Nonmetallic Mineral Product Manufacturing Equipment	
45 35 06	Schedules for Nonmetallic Mineral Product Manufacturing Equipment	
45 35 10 to 45 36 99	<i>User-Defined Nonmetallic Mineral Product Manufacturing Equipment</i>	
<b>45 37 00</b>	<b>Primary Metal Manufacturing Equipment</b>	Includes: NAICS Group 331 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of primary metal manufacturing equipment.
45 37 01	Operation and Maintenance of Primary Metal Manufacturing Equipment	
45 37 06	Schedules for Primary Metal Manufacturing Equipment	
45 37 10 to 45 38 99	<i>User-Defined Primary Metal Manufacturing Equipment</i>	
<b>45 39 00</b>	<b>Fabricated Metal Product Manufacturing Equipment</b>	Includes: NAICS Group 332 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of fabricated metal product manufacturing equipment.
45 39 01	Operation and Maintenance of Fabricated Metal Product Manufacturing Equipment	
45 39 06	Schedules for Fabricated Metal Product Manufacturing Equipment	
45 39 10 to 45 40 99	<i>User-Defined Fabricated Metal Product Manufacturing Equipment</i>	
<b>45 41 00</b>	<b>Machinery Manufacturing Equipment</b>	Includes: NAICS Group 333 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of machinery manufacturing equipment.
45 41 01	Operation and Maintenance of Machinery Manufacturing Equipment	
45 41 06	Schedules for Machinery Manufacturing Equipment	
45 41 10 to 45 42 99	<i>User-Defined Machinery Manufacturing Equipment</i>	

NUMBER	TITLE	EXPLANATION
<b>45 43 00</b>	<b>Computer and Electronic Product Manufacturing Equipment</b>	Includes: NAICS Group 334 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of computer and electronic product manufacturing equipment.
45 43 01	Operation and Maintenance of Computer and Electronic Product Manufacturing Equipment	
45 43 06	Schedules for Computer and Electronic Product Manufacturing Equipment	
<i>45 43 10 to 45 44 99 User-Defined Computer and Electronic Product Manufacturing Equipment</i>		
<b>45 45 00</b>	<b>Electrical Equipment, Appliance, and Component Manufacturing Equipment</b>	Includes: NAICS Group 335 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of electrical equipment, appliance, and component manufacturing equipment.
45 45 01	Operation and Maintenance of Electrical Equipment, Appliance, and Component Manufacturing Equipment	
45 45 06	Schedules for Electrical Equipment, Appliance, and Component Manufacturing Equipment	
<i>45 45 10 to 45 46 99 User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment</i>		
<b>45 47 00</b>	<b>Transportation Manufacturing Equipment</b>	Includes: NAICS Group 336 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of transportation manufacturing equipment.
45 47 01	Operation and Maintenance of Transportation Manufacturing Equipment	
45 47 06	Schedules for Transportation Manufacturing Equipment	
<i>45 47 10 to 45 48 99 User-Defined Transportation Manufacturing Equipment</i>		
<b>45 49 00</b>	<b>Furniture and Related Product Manufacturing Equipment</b>	Includes: NAICS Group 337 equipment. Maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of furniture and related product manufacturing equipment.
45 49 01	Operation and Maintenance of Furniture and Related Product Manufacturing Equipment	
45 49 06	Schedules for Furniture and Related Product Manufacturing Equipment	
<i>45 49 10 to 45 51 99 User-Defined Furniture and Related Product Manufacturing Equipment</i>		
<b>45 52 00</b>	<b>User-Defined Other Manufacturing Equipment</b>	
<i>45 52 10 to 45 52 99 User-Defined Other Manufacturing Equipment</i>		
<b>45 53 00</b>	<b>Biopharmaceutical Manufacturing Equipment</b>	
<i>45 53 10 to 45 53 99 User-Defined Biopharmaceutical Manufacturing Equipment</i>		

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NUMBER	TITLE	EXPLANATION
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## DIVISION 46 – WATER AND WASTEWATER EQUIPMENT

### 46 00 00 Water and Wastewater Equipment

May be used as Division level Section title.

Includes: equipment and work results for water treatment, wastewater treatment, and water reuse systems and processes, and related systems and equipment.

See: 33 30 00 for in-water containment booms and structures for wastewater overflow control, including combined sewer overflow controls.

40 90 00 for process instrumentation and control.

43 20 00 for liquid pumps used for conveying water, wastewater, and liquids other than chemicals.

44 40 00 for water pollution control equipment used for reducing the potential for water pollution and for treating polluted water without conveyance to a treatment facility.

### 46 01 00 Operation and Maintenance of Water and Wastewater Equipment

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation of water and wastewater equipment.

Level 4 Numbering Recommendation: following Level 4 numbering is recommended:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

46 01 07	Operation and Maintenance of Packaged Treatment Equipment
46 01 20	Operation and Maintenance of Preliminary Treatment Equipment
46 01 30	Operation and Maintenance of Chemical Feed Equipment
46 01 40	Operation and Maintenance of Clarification and Mixing Equipment
46 01 50	Operation and Maintenance of Secondary Treatment Equipment
46 01 60	Operation and Maintenance of Advanced Treatment Equipment
46 01 70	Operation and Maintenance of Residuals Handling and Treatment



NUMBER	TITLE	EXPLANATION
<b>46 05 00</b>	<b>Common Work Results for Water and Wastewater Equipment</b>	<p>Includes: common work results for water, wastewater, and water reuse equipment.</p> <p>See: 40 00 00 for process piping, valves, instrumentation, and controls.  43 12 00 for air and gas compressors and blowers, liquid pumps, and tanks and storage vessels.  44 30 00 for air, noise, water, and solid waste pollution control equipment and odor control equipment.</p>
46 05 05	Selective Demolition for Water and Wastewater Equipment	See: 02 41 19 for selective demolition for whole structure demolition.
<b>46 06 00</b>	<b>Schedules for Water and Wastewater Equipment</b>	<p>Includes: schedules of items common to multiple titles in Division 46. Schedules applicable to the subject of one title should be included in the associated Section.</p> <p>Notes: a schedule may be included on the drawings, in the project manual, or elsewhere in the construction contract documents.</p>
46 06 07	Schedules for Packaged Treatment Equipment	
46 06 20	Schedules for Preliminary Treatment Equipment	
46 06 30	Schedules for Chemical Feed Equipment	
46 06 40	Schedules for Clarification and Mixing Equipment	
46 06 50	Schedules for Secondary Treatment Equipment	
46 06 60	Schedules for Advanced Treatment Equipment	
46 06 70	Schedules for Residuals Handling and Treatment	
<b>46 07 00</b>	<b>Packaged Water and Wastewater Treatment Equipment</b>	<p>Includes: packaged water treatment plants and packaged wastewater treatment plants, usually involving more than one equipment item and more than one treatment process. Packaged equipment for individual treatment processes should be under the appropriate Section number and title from 46 10 00 to 46 99 99.99.</p> <p>See: 46 43 66 for ballasted high-rate clarifier equipment.  46 43 67 for high-rate clarification/thickening equipment.</p>
46 07 13	Packaged Water Treatment Equipment	
46 07 53	Packaged Wastewater Treatment Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 08 00</b>	<b>Commissioning of Water and Wastewater Equipment</b>	Includes: separate commissioning for water and wastewater equipment.  See: 40 80 00 for commissioning of process systems as a total system.
46 08 07	Commissioning of Packaged Treatment Equipment	
46 08 20	Commissioning of Preliminary Treatment Equipment	
46 08 30	Commissioning of Chemical Feed Equipment	
46 08 40	Commissioning of Clarification and Mixing Equipment	
46 08 50	Commissioning of Secondary Treatment Equipment	
46 08 60	Commissioning of Advanced Treatment Equipment	
46 08 70	Commissioning of Residuals Handling and Treatment	
<b>46 20 00</b>	<b>Water and Wastewater Preliminary Treatment Equipment</b>	Includes: water and wastewater equipment included in headworks, influent forebays, and other preliminary treatment areas. Equipment used for preliminary treatment of a process stream prior to discharging to a treatment process.  See: 40 90 00 for process instrumentation and controls. 41 12 00 for belt conveyors, screw conveyors, and other bulk material conveying equipment. 43 20 00 for liquid pumps used for conveying water, wastewater, and liquids other than chemicals. 43 26 00 for physical controls of open-channel flow, such as sluice gates, slide gates, stop gates, and stop logs. 44 30 00 for odor control equipment.

NUMBER	TITLE	EXPLANATION
<b>46 21 00</b>	<b>Screening Equipment</b>	<p>Includes: mechanical screening equipment and appurtenances used for removing coarse to fine solids from liquid process flow streams.</p> <p>Alternate Terms/Abbreviations: spiral screen: auger screen: screw screen. Wedge wire screen: wire mesh screen.</p> <p>See: 05 50 00 for materials and work results for fabricated, manually cleaned bar screens and trash racks.  33 30 00 for sewer overflow treatment equipment, including netting systems.  40 90 00 for process controls, flow metering, and level measurement instrumentation.  41 12 00 for belt conveyors, screw conveyors, and other bulk material conveying equipment.  44 53 16 for solid waste screening equipment.  44 55 13 for compost screening equipment.  46 24 36 for modular grinding-screening-compacting equipment.  46 61 73 for automatic straining equipment.</p>
46 21 11	Climber-type Bar Screens	
46 21 13	Chain-and-Rake Bar Screens	
46 21 16	Flexible Rake Bar Screens	
46 21 17	Catenary Bar Screens	
46 21 19	Continuous Belt Screens	
46 21 23	Cylindrical Bar Screens	
46 21 26	Step Screens	
46 21 33	Rotary Drum Screens	
46 21 39	Spiral Screens	
46 21 43	Band Screens	
46 21 46	Disc Screens	
46 21 51	Traveling Water Screens	
46 21 53	Perforated Plate Screens	
46 21 56	Wedge Wire Screens	
46 21 57	Element Screens	
46 21 71	Trash Raking Equipment	
46 21 73	Screenings Washing and Compacting Equipment	
46 21 76	Vacuum Screenings Conveying Equipment	
46 21 79	Screenings Storage Containers	
46 21 83	Septage Receiving Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 23 00</b>	<b>Grit Removal and Handling Equipment</b>	Includes: equipment for trapping, removing, classifying, washing, and storing grit in treatment plant influent and other process streams.  See: 40 05 00 for pipe with coatings compatible with grit conveyance, and valves suitable for grit service. 40 30 00 for slurry piping. 40 90 00 for process controls and control panels. 40 91 00 for flow metering and level measurement instrumentation. 41 12 00 for belt conveyors, screw conveyors, and other bulk material conveying equipment. 43 20 00 for slurry-conveying pumps. 46 43 14 for traveling bridge sludge collection equipment.
46 23 13	Chain-and-Bucket Grit Removal Equipment	
46 23 16	Chain-and-Flight Grit Removal Equipment	
46 23 23	Vortex Grit Removal Equipment	
46 23 27	Cyclone Degritters	
46 23 33	Aerated Grit Removal Equipment	
46 23 43	Inline Baffled Grit Removal Equipment	
46 23 53	Traveling Bridge Grit Removal Equipment	
46 23 63	Grit Classifying and Washing Equipment	
46 23 66	Grit Storage Containers	
<b>46 24 00</b>	<b>Grinding and Shredding Equipment</b>	Includes: equipment for grinding and shredding solids in a process stream, including equipment for closed piping and for open channels.  See: 40 90 00 for process controls, and flow metering and level measurement instrumentation. 44 53 26 for solid waste grinding and shredding equipment. 44 55 16 for residuals compost shredding equipment.
46 24 13	Macerators	
46 24 16	Comminutors	
46 24 23	Inline Grinders	
46 24 33	Open-channel Grinders	
46 24 36	Modular Grinding-Screening-Compacting Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 25 00</b>	<b>Oil and Grease Separation and Removal Equipment</b>	Includes: equipment and traps for separating oil, grease, or petroleum from water.  Alternate Terms/Abbreviations: API: American Petroleum Institute.  See: 40 05 00 for telescopic skimming valves. 40 90 00 for process controls, and flow metering and level measurement instrumentation. 44 41 00 for spill-control oil-water separation and cleanup equipment. 46 23 53 for traveling bridge grease and grit removal equipment. 46 43 63 for dissolved air flotation for water treatment. 46 71 23 for dissolved air flotation residuals thickening equipment.
46 25 13	Coalescing Oil-Water Separators	
46 25 16	API Oil-Water Separators	
46 25 23	Grease Traps	
46 25 33	Dissolved Air Flotation Grease and Oil Separation Equipment	
46 25 41	Helical Scum Skimming and Removal Equipment	
46 25 43	Tipping Trough Scum Skimming and Removal Equipment	
46 25 46	Chain and Flight Scum Collection and Removal Equipment	
46 25 47	Floating Scum Skimming and Removal Equipment	

## **46 30 00 Water and Wastewater Chemical Feed Equipment**

Includes: equipment and systems for generating, metering, and feeding gaseous, liquid, and dry chemicals.

See: 43 32 69 for chemical feed systems associated with gas and liquid purification used for industrial processes.

NUMBER	TITLE	EXPLANATION
<b>46 31 00</b>	<b>Gas Chemical Feed Equipment</b>	<p>Includes: equipment for storing, handling, evaporating, metering, and injecting gaseous chemicals such as chlorine gas, sulfur dioxide, ammonia, chlorine dioxide, carbon dioxide, and other gaseous chemicals, into a liquid process stream. Gas feed equipment may include evaporators, gas-control equipment such as chlorinators or sulfonators, rotameters, ejectors, and similar equipment. 46 31 43, carbon-dioxide gas feed equipment, may include storage tank, refrigeration unit, vaporizer, vapor heater, gas regulator, controls, and related equipment. 46 31 53, ozone generating equipment, may include ozone system integration, ozone generators, ozone dissolution system, ozone destruct system, supplemental air system, sampling system and accessories, and ozone system testing. 46 31 56, liquid oxygen storage and feed equipment, may include liquid oxygen tanks and vaporizers associated with ozone systems.</p> <p>See: 40 10 00 for gas process piping.  40 90 00 for process controls, and flow metering and chemical residual measurement instrumentation.  43 20 00 for booster water pumps.  43 32 76 for chlorination equipment for industrial processes.  46 41 00 for mixing equipment associated with water and wastewater treatment.  46 41 16 for induction-type rapid mixing equipment.  46 51 63 for pure-oxygen generating and feed equipment.</p>
46 31 11	Chlorine Gas Feed Equipment	
46 31 13	Sulfur Dioxide Gas Feed Equipment	
46 31 16	Ammonia Gas Feed Equipment	
46 31 23	Gas Storage, Weighing, and Leak Detection Equipment	
46 31 26	Emergency Gas Treatment Systems	
46 31 33	Chlorine Dioxide Reactors	
46 31 43	Carbon Dioxide Gas Feed Equipment	
46 31 53	Ozone Generating and Feed Equipment	
46 31 56	Liquid Oxygen Storage and Feed Equipment	
46 31 59	Cleaning Requirements for Oxygen Service	
46 31 83	Gas Chemical Feed Accessories and Safety Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 33 00</b>	<b>Liquid Chemical Feed Equipment</b>	<p>Includes: equipment for generating, handling, blending, metering, and feeding to a liquid process stream liquid chemicals such as sodium hypochlorite, liquid chlorine, Mannich polymers, emulsion polymers, sodium bisulfite, ferric chloride, ferric sulfate, hydrofluosilicic acid, other liquid acids, caustic soda (sodium hydroxide), other liquid alkaline chemicals, and other liquid chemicals. 46 33 41, liquid chemical feed system coordination and integration, may include requirements for coordinating and integrating liquid chemical pumps and feed equipment. 46 33 42, diaphragm-type metering pumps, may include electric motor-driven equipment, solenoid pumps, and other types of diaphragm-type metering pumps.</p> <p>See: 40 20 00 for liquid chemical process piping.  40 90 00 for process controls, and flow metering, level measurement, and chemical residual measurement instrumentation.  43 20 00 for liquid pumps other than chemical metering pumps.  43 41 00 for liquid chemical storage tanks and day tanks at atmospheric pressure.  44 41 33 for prefabricated curbing and containment pallets.  46 41 00 for mixing equipment associated with water and wastewater treatment.</p>
46 33 13	Sodium Hypochlorite Generating Equipment	
46 33 23	Liquid Chemical Weighing Equipment	
46 33 33	Polymer Blending and Feed Equipment	
46 33 41	Liquid Chemical Feed System Coordination and Integration	
46 33 42	Diaphragm-type Metering Pumps	
46 33 44	Peristaltic Metering Pumps	
46 33 46	Progressing Cavity Metering Pumps	
46 33 48	Lobe Metering Pumps	
46 33 53	Drum Pumps	
46 33 66	Liquid Chemical Transfer Pumps	
46 33 73	Liquid Chemical Diffusers	
46 33 83	Liquid Chemical Feed Accessories and Safety Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 36 00</b>	<b>Dry Chemical Feed Equipment</b>	<p>Includes: equipment for storing, handling, blending, metering, and feeding dry chemicals, such as dry (solid or granular) chlorine, lime, powdered activated carbon, permanganate, dry polymer, and other chemicals handled and used in dry solid or dry powder form, to a liquid process stream or semi-solid residuals stream. 46 36 11, Dry Chemical Feed System Coordination and Integration, may include requirements for coordinating and integrating dry chemical feed systems and equipment.</p> <p>Alternate Terms/Abbreviations: dry chemical: solid chemical: powder-form chemical.</p> <p>See: 40 20 00 for liquid chemical process piping.  40 90 00 for process controls, and flow metering and chemical residual measurement instrumentation.  41 10 00 for bulk material processing equipment, including bulk material sizing, conveying, feeding, and batching equipment.  41 52 00 for bulk materials storage, including silos for storing materials other than dry chemicals.  46 33 00 for metering pumps, diffusers, and feed equipment for chemicals in liquid/solution form.  46 73 00 for wastewater residuals stabilization equipment.</p>
46 36 11	Dry Chemical Feed System Coordination and Integration	
46 36 13	Storage Silos	
46 36 23	Dry Chemical Weighing Equipment	
46 36 33	Volumetric Feed Equipment	
46 36 36	Gravimetric Feed Equipment	
46 36 43	Lime Slaking Equipment	
46 36 53	Chemical Tablet Feeding Equipment	
46 36 83	Dry Chemical Feed Accessories and Safety Equipment	

## **46 40 00 Water and Wastewater Clarification and Mixing Equipment**

Includes: equipment and systems for sedimentation/clarification, sludge collection and removal, and mixing, whether used as the primary treatment or in conjunction with a biological or secondary treatment process.

Alternate Terms/Abbreviations: sludge: residuals (in water and wastewater treatment): sediment (in water and wastewater treatment): biosolids (in wastewater treatment).



NUMBER	TITLE	EXPLANATION
<b>46 41 00</b>	<b>Mixing Equipment</b>	<p>Includes: flocculators and mixers used in water and wastewater treatment. Mixers and agitators used for mixing the contents of open-topped tanks, closed vessels, and in pipelines. Mixers and agitators with axial-flow, circular flow, or radial flow impellers.</p> <p>Alternate Terms/Abbreviations: rapid mixers: vertical flash mixers. Tank mixers: agitators.</p> <p>See: 40 90 00 for process controls.  43 23 56 for liquid process mixers used for industrial processes.  45 00 00 for ribbon mixers, batch mixers, and other industrial mixing equipment.  46 33 73 for liquid chemical diffusers.  46 51 00 for air and gas diffusion equipment used in secondary treatment processes.</p>
46 41 11	Rapid Mixers	
46 41 13	Inline Blender-type Rapid Mixers	
46 41 16	Induction-type Rapid Mixing Equipment	
46 41 17	Inline Static Mixers	
46 41 21	Jet Mixing Equipment	
46 41 23	Submersible Mixers	
46 41 26	Floating Mechanical Mixers	
46 41 27	Paddle Mixers	
46 41 29	Pin Mixers	
46 41 31	Vertical Reel Flocculation Equipment	
46 41 33	Horizontal Reel Flocculation Equipment	
46 41 34	Vertical Turbine Flocculation Equipment	
46 41 36	Walking-beam Flocculation Equipment	
46 41 38	Horizontal Oscillating Flocculation Equipment	
46 41 41	Top-entering Tank Mixers	
46 41 43	Side-entry Tank Mixers	
46 41 46	Portable Tank Mixers	

NUMBER	TITLE	EXPLANATION
<b>46 43 00</b>	<b>Clarifier Equipment</b>	<p>Includes: sludge removal and skimming removal equipment, and other equipment usually associated with circular or rectangular clarifiers and sedimentation tanks, for water treatment and wastewater treatment. Sludge collection equipment and systems not typically associated with traditional clarifiers, sedimentation tanks, or retention tanks; includes dissolved air flotation equipment used in water treatment. Circular clarifier equipment may include cage drive, shaft drive, or rim drive types; sludge collection using segmented plows, spiral rake, suction pipes, or suction header; center-feed or peripheral-feed equipment, flocculating clarifier variations, and various types of scum removal equipment.</p> <p>Notes: tanks associated with clarifier equipment are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, Atmospheric Tanks and Vessels, or any other appropriate Division.</p> <p>See: 06 80 00 for fiberglass or thermoplastic weirs, troughs, and baffles.  13 34 23 for fabricated structures and covers used for odor containment.  40 90 00 for process controls, and sediment blanket level measurement and flow measurement instrumentation.  43 32 23 for gas and liquid purification process clarifier systems for industrial applications.  44 30 00 for odor control equipment.  46 23 53 for traveling bridge grit removal and grease removal equipment.  46 25 33 for dissolved air flotation grease and oil separation and removal equipment.  46 71 23 for dissolved air flotation residuals thickening equipment.  46 71 53 for continuous, flow-through scum concentrating equipment.</p>
46 43 11	Chain-and-Flight Clarifier Equipment	
46 43 14	Traveling Bridge Clarifier Equipment	
46 43 16	Differential Head Clarifier Equipment	
46 43 18	Oscillating Scraper-type Clarifier Equipment	
46 43 21	Circular Clarifier Equipment	
46 43 53	Solids Contact Clarifier Equipment	
46 43 61	Flocculating Clarifier, Pulsating Sludge Blanket Type	
46 43 63	Dissolved Air Flotation Equipment for Water Treatment	
46 43 66	Ballasted High-rate Clarifier Equipment	
46 43 67	High Rate Clarification/Thickening Equipment	
46 43 73	Tube Settlers	
46 43 76	Inclined Plate Settlers	

NUMBER	TITLE	EXPLANATION
<b>46 46 00</b>	<b>Sediment Removal Equipment</b>	<p>Includes: sediment removal equipment not typically associated with clarifiers or sedimentation tanks, including equipment for washing residuals out of equalization tanks or retention tanks such as combined sewer overflow retention tanks, stormwater retention tanks, and others.</p> <p>Alternate Terms/Abbreviations: water cannon: monitor.</p> <p>Notes: tanks associated with sediment removal equipment are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, Atmospheric Tanks and Vessels, or other appropriate Division.</p> <p>See: 33 30 00 for overflow control and treatment equipment, such as swirl concentrators, netting systems, end-of-pipe in-water storage systems. 40 90 00 for process controls, and level sensing and sediment blanket level measurement instrumentation.</p>
46 46 13	Tipping Sediment Flushing Tanks	
46 46 16	Flushing Gates	
46 46 23	Water Cannon	
46 46 26	Nozzle Systems	

## **46 50 00 Water and Wastewater Secondary Treatment Equipment**

Includes: equipment typically used following primary treatment. Biological treatment systems and other secondary treatment equipment.

NUMBER	TITLE	EXPLANATION
<b>46 51 00</b>	<b>Air and Gas Diffusion Equipment</b>	<p>Includes: equipment for diffusing air or gas into water and wastewater. Mechanical aerators, diffusers, and other diffusion equipment used in the activated sludge process and other aeration applications.</p> <p>Notes: tanks in which air and gas diffusion equipment are installed are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 40 00, Gas and Liquid Storage, or any other appropriate Division.</p> <p>See: 31 35 00 for earth moving and slope protection associated with aerated ponds and treatment lagoons.  40 05 00 and 40 10 00 for piping and valves used for conveying low-pressure air, gas, and vapors.  40 90 00 for process controls, and flow metering of air and pure-oxygen, and dissolved oxygen measurement instrumentation.  43 11 00 for blowers and intake filters.  43 12 00 for pure-oxygen compressors and related equipment.  43 13 00 for gas process equipment.  43 22 13 for liquid aeration devices for industrial processes.  43 42 00 for pressurized storage tanks suitable for pure-oxygen.  46 31 56 for liquid oxygen storage and feed equipment.  46 41 21 for jet mixing equipment.</p>
46 51 11	Fixed Mechanical Aerators	
46 51 13	Floating Mechanical Aerators	
46 51 16	Submersible Aspirating Aerator Equipment	
46 51 17	Jet Aeration Equipment	
46 51 21	Coarse Bubble Diffusers	
46 51 23	Swing-type Channel Aeration Equipment	
46 51 26	Shear Box Diffusers	
46 51 31	Flexible Membrane Tube Diffusers	
46 51 33	Flexible Membrane Disc Diffusers	
46 51 36	Ceramic Disc Fine Bubble Diffusers	
46 51 43	Floating Membrane Diffusers	
46 51 46	Membrane Diffusers	
46 51 53	Cascading Aerators	
46 51 63	Pure-oxygen Generating Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 53 00</b>	<b>Biological Treatment Systems</b>	Includes: fixed-film process equipment and equipment for suspended-growth processes other than activated sludge.
		Alternate Terms/Abbreviations: RBC: rotating biological contactor. MBBR: moving bed biological reactor. IFAS: integrated fixed-film activated sludge. BAF: biologically activated filter. MBR: membrane biological reactor. SBR: sequencing batch reactor.
		Notes: tanks associated with biological treatment systems are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, Atmospheric Tanks and Vessels, or any other appropriate Division.
		See: 40 90 00 for process controls, and flow metering and dissolved oxygen measurement instrumentation.
46 53 13	Rotating Biological Contactors	
46 53 23	Trickling Filter Rotary Distributor Equipment	
46 53 24	Trickling Filter Media	
46 53 26	Bio-towers	
46 53 33	Moving-bed Biological Reactors	
46 53 36	Integrated Fixed-film Activated Sludge Equipment	
46 53 41	Intermittent Sand Filters for Wastewater Treatment	
46 53 43	Deep-bed Denitrification Filters	
46 53 46	Biologically Activated Filters	
46 53 49	Membrane Biological Reactors	
46 53 53	Sequencing Batch Reactors	
46 53 61	Oxidation Ditch Equipment	
46 53 63	Vertical Loop Reactors	
<b>46 60 00</b>	<b>Water and Wastewater Advanced Treatment Equipment</b>	Includes: equipment and systems for advanced treatment, including liquid filters, demineralization equipment, and non-chemical disinfection equipment.
		See: 43 22 13 for air strippers and liquid aeration devices.
		43 31 00 for adsorption equipment such as granular activated carbon beds.
		43 32 00 for gas and liquid purification process equipment used in industrial applications.
		46 30 00 for disinfection equipment employing chlorine or other chemicals.

NUMBER	TITLE	EXPLANATION
<b>46 61 00</b>	<b>Filtration Equipment</b>	<p>Includes: gravity and pressure filtration of liquids using conventional media such as sand, anthracite, granular activated carbon, garnet, diatomaceous earth, and greensand. Cloth filters, membrane filtration, mechanical straining, and filtering.</p> <p>Notes: filter underdrain systems are included under the individual filter types.</p> <p>See: 06 80 00 for fiberglass or thermoplastic weirs, troughs, and baffles other than filter manufacturer-fabricated wash water troughs. 40 90 00 for process controls, and flow metering and turbidity measurement instrumentation. 46 63 23 for reverse-osmosis and nanofiltration membrane equipment.</p>
46 61 13	Filter Media	
46 61 16	Filter Surface Wash Agitators	
46 61 17	Filter Air Scour Equipment	
46 61 19	Wash Water Troughs	
46 61 21	Pressure Filters	
46 61 23	Gravity Filters	
46 61 26	High-rate Sand Filters	
46 61 29	Traveling Bridge Filters	
46 61 33	Microfiltration and Ultrafiltration Membrane Equipment	
46 61 41	Disc Cloth Filters	
46 61 43	Rotary Drum Cloth Filters	
46 61 46	Automatic Backwash Cloth Filter Equipment	
46 61 53	Cartridge Filters	
46 61 63	Bag Filters	
46 61 73	Automatic Straining Equipment	
<b>46 63 00</b>	<b>Demineralization Equipment</b>	<p>Includes: desalination, softening, and other types of demineralization equipment for water and wastewater treatment.</p> <p>Alternate Terms/Abbreviations: EDR: electrodialysis reversal. RO: reverse-osmosis.</p> <p>See: 40 90 00 for process controls, and flow measurement instrumentation. 43 32 00 for industrial water purification equipment such as ion exchange vessels, reverse-osmosis, and electronic deionization equipment.</p>
46 63 11	Ion-exchange Vessel Media	
46 63 13	Mixed Bed Ion-exchange Vessel Systems	

DIVISION 46

NUMBER	TITLE	EXPLANATION
46 63 16	Packed Bed Ion-exchange Vessel Systems	
46 63 17	Electrodialysis Reversal Equipment	
46 63 23	Reverse-Osmosis and Nanofiltration Membrane Equipment	
46 63 31	Multiple-effect Distillation Equipment	
46 63 32	Water Vapor Compression Distillation Equipment	Includes: vapor compression evaporation equipment.
46 63 33	Desalination Mechanical Vapor Compression Equipment	
46 63 34	Desalination Thermal Vapor Compression Equipment	
46 63 36	Desalination Multi-stage Flash Equipment	
46 63 41	Desalination Falling Film Evaporators	
46 63 43	Desalination Rising Film Evaporators	
46 63 53	Desalination Forced-circulation Crystallizing Equipment	
46 63 63	Desalination Spray Dry Evaporation Equipment	
46 63 73	Demineralization Energy Recovery Equipment	
<b>46 66 00</b>	<b>Ultraviolet Equipment</b>	Includes: ultraviolet disinfection systems and equipment. Vertically oriented equipment and horizontally oriented equipment. Low-pressure and medium-pressure equipment of low or high intensities. Equipment with and without automatic cleaning.  Alternate Terms/Abbreviations: UV: ultraviolet.  Notes: tanks in which open-channel ultraviolet lamps are installed are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, Atmospheric Tanks and Vessels, or any other appropriate Division.  See: 40 90 00 for process controls, and flow measurement instrumentation. 43 32 63 for ultraviolet sterilizers used in industrial applications. 46 30 00 for disinfection equipment employing chlorine or other chemicals.
46 66 13	Closed-vessel Low-pressure/Low-intensity Ultraviolet Treatment Equipment	
46 66 16	Closed-vessel Low-pressure/High-intensity Ultraviolet Treatment Equipment	
46 66 23	Closed-vessel Medium-pressure Ultraviolet Treatment Equipment	
46 66 53	Open-channel Low-pressure/Low-intensity Ultraviolet Treatment Equipment	
46 66 56	Open-channel Low-pressure/High-intensity Ultraviolet Treatment Equipment	
46 66 63	Open-channel Medium-pressure Ultraviolet Treatment Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 70 00</b>	<b>Water and Wastewater Residuals Handling and Treatment</b>	<p>Includes: equipment and systems for volumetric reduction and treatment of residuals produced during water and wastewater treatment.</p> <p>Alternate Terms/Abbreviations: sludge (in water and wastewater treatment); biosolids (in wastewater treatment).</p>
<b>46 71 00</b>	<b>Residuals Thickening Equipment</b>	<p>Includes: equipment and systems for thickening of residuals by removal of water by gravity, centrifugal, or other applied forces.</p> <p>Notes: tanks in which certain types of residual thickening equipment are installed are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, Atmospheric Tanks and Vessels, or other appropriate Division.</p> <p>See: 13 34 23 for fabricated structures and covers used for odor containment.  40 90 00 for process controls, and flow measurement instrumentation.  44 30 00 for odor control systems and equipment.  46 25 33 for dissolved air flotation grease and oil separation equipment.  46 43 63 for dissolved air flotation for water treatment.  46 76 33 for dewatering centrifuges.</p>
46 71 13	Circular Gravity Thickeners	
46 71 16	Gravity Belt Thickeners	
46 71 23	Dissolved Air Flotation Thickening Equipment	
46 71 33	Rotary Drum Thickening Equipment	
46 71 36	Centrifuge Thickening Equipment	
46 71 43	Disc Thickeners	
46 71 46	Thickening Screw Press	
46 71 53	Scum Concentrator Equipment	



NUMBER	TITLE	EXPLANATION
<b>46 73 00</b>	<b>Residuals Stabilization</b>	<p>Includes: sludge digestion, sludge pasteurization, and other types of residuals stabilization. 46 73 19 may include sediment traps (condensate pots), digester vacuum and pressure relief equipment not included in 43 33 33, sampling hatches, access hatches, and other items integral to a digester system. 46 73 33, confined gas mixing systems, may include gas lift systems and gas piston systems. 46 73 34, unconfined gas mixing systems, may include lance type gas mixing systems and bottom diffuser systems. 46 73 41 may include digester heat exchangers and combination boiler/heat exchanger systems, and appurtenances.</p> <p>Alternate Terms/Abbreviations: ATAD: autothermal thermophilic aerobic digestion.</p> <p>Notes: tanks associated with certain types of sludge digestion and sludge stabilization are typically under the Division of the associated tank material or work result (such as Division 03, Concrete), or in 43 41 00, atmospheric tanks and vessels, or any other appropriate Division.</p> <p>See: 23 50 00 for boilers and appurtenances for digester heating.  40 90 00 for process controls, and flow measurement instrumentation.  42 11 00 for process boilers for industrial processes.  42 13 00 for industrial heat exchangers and recuperators.  43 11 00 for blowers used in aerobic digestion.  43 12 00 for digester gas compressors.  43 13 00 for digester gas processing equipment.  43 42 26 for digester gas storage spheres.  44 30 00 for odor control equipment.  44 55 00 for composting equipment for water and wastewater residuals, yard waste, and other biodegradable materials.  46 36 00 for dry chemical feed equipment for lime stabilization and other dry chemicals used in alkaline stabilization.  46 41 00 for mechanical mixing equipment for digesters.  46 41 21 for jet mixing equipment.  46 76 00 for sludge drying and thermal stabilization equipment.  46 78 73 for thermal oxidation equipment.</p>
46 73 11	Radial Beam Fixed Digester Covers	
46 73 12	Dual Deck Truss-type Fixed Digester Covers	
46 73 14	Radial Beam Floating Digester Covers	
46 73 16	Dual Deck Truss-type Floating Digester Covers	
46 73 17	Radial Beam Floating Gas-holding Digester Covers	
46 73 18	Dual Deck Truss-type Floating Gas-holding Digester Covers	
46 73 19	Digester Appurtenances	
46 73 21	Aerobic Digester Aeration Equipment	

NUMBER	TITLE	EXPLANATION
46 73 24	Autothermal Thermophilic Aerobic Digestion Equipment	
46 73 26	Egg-shaped Digesters	
46 73 31	External Draft Tube Digester Mixing System	
46 73 32	Internal Draft Tube Digester Mixing System	
46 73 33	Confined Gas Mixing System	
46 73 34	Unconfined Gas Mixing System	
46 73 41	Digester Heating Equipment	
46 73 63	Residuals Pasteurization Equipment	

## **46 76 00 Residuals Dewatering Equipment**

Includes: equipment for volumetric reduction of residuals to solid or semi-solid state via removal of water. Various types of sludge drying equipment, including flash dryers and pelletizers, including low-temperature belt dryers and thermal dryers using various types of heating.

Notes: sludge drying beds are typically under the Division of the associated material or work result (such as Division 03, Concrete); drying bed media is typically under 32 11 16 (for granular fill and aggregates) or other appropriate designation; drying bed underdrain piping is typically under 33 46 16 or 40 00 00; drying bed vacuum pumps are typically under 43 20 00; drying bed roof truss systems are typically under 05 44 00 or 06 17 00.

See: 40 90 00 for process controls, and flow measurement instrumentation.

41 11 19 for bulk materials centrifuges.

41 12 00 for sludge cake conveying equipment, including belt conveyors and screw conveyors.

41 60 00 for vehicles and equipment for handling sludge cake, such as payloaders, backhoes, and trucks.

42 32 00 for material dryers for industrial processes.

43 22 23 for liquid centrifuges used in industrial applications.

44 30 00 for odor control systems and equipment.

46 71 36 for centrifuge thickening equipment.

46 76 13	Vacuum Filters	
46 76 21	Belt Filter Presses	
46 76 23	Plate-and-Frame Filter Presses	
46 76 26	Rotary Presses	
46 76 27	Screw Presses	
46 76 33	Dewatering Centrifuges	
46 76 53	Belt Dryers	
46 76 60	Direct-heat Residuals Drying Equipment	
46 76 70	Indirect-heat Residuals Drying Equipment	

NUMBER	TITLE	EXPLANATION
<b>46 78 00</b>	<b>Thermal Treatment of Residuals</b>	<p>Includes: equipment and systems for thermal treatment and thermal destruction of residuals, including incinerators and related heat recovery equipment, and other thermal treatment systems. Incinerators may include afterburners.</p> <p>See: 40 47 00 for refractories.            40 90 00 for process controls, cake weight scales, and other primary sensors and flow measurement instrumentation.            41 12 00 for sludge cake conveying equipment such as belt conveyor and screw conveyors.            42 13 00 for industrial heat exchangers and recuperators.            42 14 00 for industrial furnaces for industrial applications.            42 32 23 for fluidized bed material dryers used in industrial production processes.            44 10 00 for air pollution control equipment.            44 60 00 for systems and equipment for thermal processing of waste other than wastewater sludge, including co-incineration of sludge with solid waste and other wastes.            46 73 00 for sludge digestion and pasteurization.            46 76 00 for sludge dryers.</p>
46 78 13	Multiple-hearth Sludge Incinerators	
46 78 23	Fluidized-bed Sludge Incinerators	
46 78 33	Ash Handling Equipment	
46 78 41	Recuperative Air Preheating Equipment	
46 78 46	Regenerative Thermal Oxidizers	
46 78 47	Waste Heat Recovery Boilers	
46 78 49	Waste Heat Recovery Heat Exchangers	
46 78 73	Thermal Oxidation Equipment	

NUMBER	TITLE	EXPLANATION
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# DIVISION 48 – ELECTRICAL POWER GENERATION

**48 00 00 Electrical Power Generation** May be used as Division level Section title.

**48 01 00 Operation and Maintenance for Electrical Power Generation**

Includes: maintenance, repair, rehabilitation, replacement, restoration, preservation, etc. of electrical power generation.

Level 4 Numbering Recommendation: following numbering is recommended for the creation of Level 4 titles:

.51-.59 for maintenance.

.61-.69 for repair.

.71-.79 for rehabilitation.

.81-.89 for replacement.

.91-.99 for restoration.

48 01 10 Operation and Maintenance of Electrical Power Generation Equipment

48 01 70 Operation and Maintenance of Electrical Power Generation Testing

**48 05 00 Common Work Results for Electrical Power Generation**

Includes: subjects common to multiple titles in Division 48.

See: 01 80 00 for performance requirements of subjects common to multiple titles.

48 05 05 Selective Demolition for Electrical Power Generation

See: 02 41 19 for selective demolition for whole structure demolition.

**48 06 00 Schedules for Electrical Power Generation**

Includes: schedules of items common to multiple titles in Division 48.

Notes: a schedule may be included on drawings, in the project manual, or a project book.

48 06 10 Schedules for Electrical Power Generation Equipment

48 06 70 Schedules for Electrical Power Generation Testing

NUMBER	TITLE	EXPLANATION
<b>48 08 00</b>	<b>Commissioning of Electrical Power Generation</b>	<p>Includes: commissioning of items common to multiple titles in Division 48.</p> <p>See: 01 91 00 for commissioning of subjects common to multiple divisions.  26 08 00 for commissioning of electrical systems.  33 08 70 for commissioning of electrical utilities.  40 80 00 for commissioning of process systems as a total system.</p>
<b>48 09 00</b>	<b>Instrumentation and Control for Electrical Power Generation</b>	<p>Includes: instrumentation and control associated with electrical power generation.</p> <p>See: 13 50 00 for special instrumentation.  26 09 00 for instrumentation and control for electrical systems.  33 09 00 for instrumentation and control for utilities.  40 90 00 for instrumentation and control for process systems.</p>
<b>48 10 00</b>	<b>Electrical Power Generation Equipment</b>	<p>Includes: power plant primary generating equipment with a variety of energy sources.</p> <p>See: 26 30 00 for power generating and storing equipment for facilities.  33 70 00 for electrical utilities.</p>
<b>48 11 00</b>	<b>Fossil Fuel Plant Electrical Power Generation Equipment</b>	<p>Includes: fossil fuel power plant primary generating equipment, microturbines.</p> <p>See: 26 32 16 for steam-turbine generators.  48 19 00 for electrical power control equipment.  48 71 00 for electrical power generation test equipment.</p> <p>See Also: 26 32 13 for engine generators.</p>
48 11 13	Fossil Fuel Electrical Power Plant Boilers	
48 11 16	Fossil Fuel Electrical Power Plant Condensers	
48 11 19	Fossil Fuel Electrical Power Plant Steam Turbines	
48 11 23	Fossil Fuel Electrical Power Plant Gas Turbines	
48 11 26	Fossil Fuel Electrical Power Plant Generators	

NUMBER	TITLE	EXPLANATION
<b>48 12 00</b>	<b>Nuclear Fuel Plant Electrical Power Generation Equipment</b>	Includes: nuclear fuel power plant primary generating equipment.  See: 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 12 13	Nuclear Fuel Reactors	
48 12 13.13	Nuclear Fuel Fission Reactors	
48 12 13.16	Nuclear Fuel Fusion Reactors	
48 12 23	Nuclear Fuel Electrical Power Plant Steam Generators	
48 12 26	Nuclear Fuel Electrical Power Plant Condensers	
48 12 29	Nuclear Fuel Electrical Power Plant Turbines	
48 12 33	Nuclear Fuel Electrical Power Generators	
<b>48 13 00</b>	<b>Hydroelectric Plant Electrical Power Generation Equipment</b>	Includes: hydroelectric power plant primary generating equipment.  See: 26 32 19 for hydro-turbine generators. 35 70 00 for dam construction and equipment. 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 13 13	Hydroelectric Power Plant Water Turbines	
48 13 16	Hydroelectric Power Plant Electrical Power Generators	
<b>48 14 00</b>	<b>Solar Energy Electrical Power Generation Equipment</b>	Includes: solar power plant primary generating equipment.  See: 13 53 13 for solar instrumentation. 22 33 30 for residential, collector-to-tank, solar-electric domestic water heaters. 23 56 00 for solar energy heating equipment. 26 31 00 for photovoltaic collectors. 42 12 23 for solar process heaters. 42 13 26 for industrial solar radiation heat exchangers. 48 19 00 for electrical power control equipment. 48 19 19 for electrical power generation solar tracking equipment. 48 71 00 for electrical power generation test equipment.
48 14 13	Solar Energy Collectors	
48 14 13.13	Amorphous Solar Energy Collectors	
48 14 13.16	Plate Cell Solar Energy Collectors	
48 14 13.19	Vacuum Tube Solar Energy Collectors	

NUMBER	TITLE	EXPLANATION
<b>48 15 00</b>	<b>Wind Energy Electrical Power Generation Equipment</b>	Includes: wind power plant primary generating equipment.  See: 13 53 23 for wind instrumentation. 26 32 23 for wind energy equipment for packaged generator assemblies. 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 15 13	Wind Turbines	
48 15 16	Wind Energy Electrical Power Generators	
<b>48 16 00</b>	<b>Geothermal Energy Electrical Power Generation Equipment</b>	Includes: geothermal power plant primary generating equipment.  See: 23 57 33 for direct geoexchange heat exchanger. 23 71 00 for thermal storage of energy. 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 16 13	Geothermal Energy Heat Pumps	
48 16 16	Geothermal Energy Condensers	
48 16 19	Geothermal Energy Steam Turbines	
48 16 23	Geothermal Energy Electrical Power Generators	
<b>48 17 00</b>	<b>Electrochemical Energy Electrical Power Generation Equipment</b>	Includes: electrochemical power plant primary generating equipment.  See: 26 33 00 for battery equipment. 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 17 13	Electrical Power Generation Batteries	
<b>48 18 00</b>	<b>Fuel Cell Electrical Power Generation Equipment</b>	Includes: fuel cell power plant primary generating equipment.  See: 26 33 00 for battery equipment. 48 19 00 for electrical power control equipment. 48 71 00 for electrical power generation test equipment.
48 18 13	Electrical Power Generation Fuel Cells	
48 18 16	Hydrogen Control Equipment	

NUMBER	TITLE	EXPLANATION
<b>48 19 00</b>	<b>Electrical Power Control Equipment</b>	Includes: primary electrical power control equipment.  See: 13 53 13 for solar instrumentation. 48 11 00 for fossil fuel plant electrical power generation equipment. 48 12 00 for nuclear fuel plant electrical power generation equipment. 48 13 00 for hydroelectric plant electrical power generation equipment. 48 14 00 for solar energy electrical power generation equipment. 48 15 00 for wind energy electrical power generation equipment. 48 16 00 for geothermal energy electrical power generation equipment. 48 17 00 for electrochemical energy electrical power generation equipment. 48 18 00 for fuel cell electrical power generation equipment. 48 71 00 for electrical power generation test equipment.
48 19 13	Electrical Power Generation Battery Charging Equipment	
48 19 16	Electrical Power Generation Inverters	
48 19 19	Electrical Power Generation Solar Tracking Equipment	
48 19 23	Electrical Power Generation Transformers	
48 19 26	Electrical Power Generation Voltage Regulators	
<b>48 30 00</b>	<b>Combined Heat and Power Generation</b>	
<b>48 31 00</b>	<b>Combustion Combined Heat and Power Generation</b>	
48 31 13	Natural Gas-Fueled Combined Heat and Power Generation	
48 31 16	Biomass-Fueled Combined Heat and Power Generation	
<b>48 70 00</b>	<b>Electrical Power Generation Testing</b>	



NUMBER	TITLE	EXPLANATION
<b>48 71 00</b>	<b>Electrical Power Generation Test Equipment</b>	Includes: test equipment for electrical power generating plants.
		See: 48 11 00 for fossil fuel plant electrical power generation equipment.
		48 12 00 for nuclear fuel plant electrical power generation equipment.
		48 13 00 for hydroelectric plant electrical power generation equipment.
		48 14 00 for solar energy electrical power generation equipment.
		48 15 00 for wind energy electrical power generation equipment.
		48 16 00 for geothermal energy electrical power generation equipment.
		48 17 00 for electrochemical energy electrical power generation equipment.
		48 18 00 for fuel cell electrical power generation equipment.
		48 19 00 for electrical power control equipment.
48 71 13	Electrical Power Generation Corona Test Equipment	
48 71 16	Electrical Power Generation Current Test Equipment	
48 71 19	Electrical Power Generation Power Test Equipment	
48 71 23	Electrical Power Generation Resistance Test Equipment	
48 71 26	Electrical Power Generation Voltage Test Equipment	

# KEYWORD INDEX

The following alphabetical subject list will enable the user of **MasterFormat** to find a proper location for the construction work results listed in **MasterFormat**. The references within this index are to **MasterFormat** Level 2 or Level 3 numbers. They provide a convenient means to bring the user's attention to the proper grouping of titles.

The alphabetical index does not include eight-digit numbers for Level 4 titles. Subjects which relate to a Level 4 title are referenced to the appropriate Level 3 number.

Commonly used abbreviations are included in the list. The meanings of the abbreviations can be found at the locations of the abbreviations in the six-digit number column or in the Explanation column of the master listing of titles and numbers under **Alternate Terms/Abbreviations**.

Non-preferred terms in the index are addressed by **See** references to the preferred terminology. The reference to the **MasterFormat** location is listed with the preferred term.

Important points to remember:

- The alphabetical listing refers to the title and number.
- Once the user has found the proper group for a subject, a decision must be made about what level title should be used. Titles at Levels 2, 3, or 4 may be used as appropriate.

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**A**

**abatement**  
02 82 13 asbestos  
02 80 00 hazardous materials  
01 66 13 hazardous materials,  
procedures  
02 63 00 hazardous materials, site  
02 83 00 lead  
02 84 00 PCB  
01 42 13 abbreviations  
**aboveground storage tanks**  
33 56 43 aviation fuel storage  
33 56 13 fuel, utility  
23 13 23 fuel-oil, facility  
33 56 13 hydrocarbon  
23 13 26 liquefied-petroleum gas,  
facility  
09 96 13 abrasion-resistant coatings  
**abrasive aggregates**  
03 05 00 concrete  
09 60 00 flooring  
32 10 00 paving  
09 66 00 terrazzo flooring  
40 32 10 abrasive materials piping and  
chutes  
05 55 00 abrasive metal treads and  
nosings  
09 60 00 abrasive safety floors  
09 30 00 abrasive tile  
23 64 13 absorption water chillers  
26 32 00 AC generators  
40 77 13 acceleration measurement  
03 05 00 accelerators, concrete  
00 65 19 acceptance certificate  
01 71 16 acceptance of conditions  
01 64 00 acceptance of products  
01 23 00 acceptance procedures for  
alternate bids  
01 75 00 acceptance testing  
**28 13 00 access control**  
28 13 11 application services  
28 31 20 area and perimeter  
detection  
28 15 11 biometric identity devices  
28 15 11 card readers  
28 15 13 cards  
28 13 15 cloud services  
28 15 11 combination reader devices  
28 17 15 contractor and vendor  
management systems  
28 15 13 credentials  
28 14 13 door controllers  
28 15 27 electronic turnstiles and  
mobility systems  
28 14 19 enclosures  
28 15 11 entry management  
28 18 15 explosive detection  
equipment  
08 74 00 hardware  
28 15 00 hardware devices  
28 17 00 identification management  
systems

28 16 00 interfaces  
28 11 00 global applications  
28 14 15 inputs and outputs  
28 15 11 integrated credential  
readers  
28 15 11 keypads  
28 19 11 loading dock systems  
28 18 11 metal detectors  
28 17 17 mobile access identification  
management systems  
28 13 11 mobile applications  
28 14 11 network controllers  
28 13 11 operating systems  
28 19 13 parking garages  
11 14 00 pedestrian traffic  
28 19 15 perimeter  
28 05 07 power sources  
28 14 17 printers and encoders  
28 15 19 remote devices  
28 17 13 self check-in and kiosk  
visitor systems  
28 18 17 sniffing equipment  
28 13 11 software  
28 12 01 system requirements  
28 05 09 surge protection  
28 14 00 system hardware  
28 19 00 vehicle identification  
systems  
28 17 11 visitor management  
systems  
28 15 13 wireless key fobs  
28 18 13 x-ray equipment  
**08 31 13 access doors**  
23 33 33 ductwork  
07 72 33 roof hatches  
09 69 00 access flooring  
07 72 33 access hatches, roof  
**08 31 13 access panels**  
23 33 33 ductwork  
01 14 13 access restriction, site  
01 55 13 access roads, temporary  
01 14 13 access to site  
02 22 23 accessibility assessment  
01 41 00 accessibility code  
conformance  
09 50 00 accessible ceilings  
..... accessible floor - see access  
flooring  
**accessories**  
09 69 53 access flooring  
27 41 23 audio-video  
10 28 16 bath  
09 30 13 ceramic tile  
03 15 00 concrete  
12 41 13 desk  
23 33 00 ductwork  
33 71 83 electrical utility  
10 44 43 fire extinguisher  
21 34 00 fire pump  
10 32 00 fireplace  
12 46 00 furnishings  
08 85 00 glazing

08 70 79 hardware  
10 28 26 hygiene and custodial  
12 40 00 interior decorating  
12 92 43 interior landscaping  
11 53 43 laboratory  
10 28 23 laundry  
04 05 23 masonry  
12 41 00 office  
32 94 00 planting  
09 65 13 resilient flooring  
07 72 00 roof  
13 11 46 swimming pool  
12 42 00 table  
10 28 13 toilet  
**accordion folding**  
08 35 13 doors  
08 35 16 grilles  
10 22 39 panel partitions  
40 17 13 acetylene welding piping  
40 17 16 acetylene-hydrogen mix  
welding piping  
**acid etching**  
03 35 00 concrete  
08 81 00 glass  
12 17 13 glass artwork  
**acid-resistant**  
04 61 00 brick  
09 96 35 coatings  
09 62 35 flooring  
08 81 00 glass  
04 05 13 mortar  
**acoustic**  
02 22 16 assessment  
00 31 19 available information  
09 83 16 ceiling coating  
09 83 22 draperies  
09 83 00 finishes  
09 62 48 flooring  
09 84 00 room components  
09 05 71 underlayment  
09 83 13 wall coating  
**acoustical**  
23 32 48 air plenums  
09 51 00 ceilings  
09 24 13 cement plastering  
04 22 23 concrete masonry units  
13 48 00 control  
05 34 00 decking  
08 34 73 doors  
23 33 53 duct liners  
09 23 13 gypsum plastering  
13 48 00 isolation  
07 92 19 joint sealants  
09 84 00 space units  
09 53 00 suspension  
**acoustical barriers**  
09 81 00 interior  
32 35 16 site construction  
**09 53 00 acoustical ceiling  
suspension systems**  
09 51 00 part of acoustical ceiling  
09 51 00 acoustical ceilings

09 81 00	<b>acoustical insulation</b>	09 20 00	bonding agents, plastering	32 11 26	aggregate-bituminous base course
09 21 00	plaster and gypsum board assemblies	09 68 00	carpeting	32 11 33	aggregate-cement base course
23 33 53	mechanical	09 60 00	flooring	07 44 13	aggregate-surfaced wall panels
05 34 00	acoustical metal decking	09 29 00	gypsum board	43 22 16	agitators, liquid, process
09 80 00	<b>acoustical treatment</b>	07 20 00	insulation	00 52 00	<b>agreement</b>
09 51 00	ceilings	21 07 00	insulation, fire suppression	00 52 23	construction management
21 05 48	fire suppression	23 07 00	insulation, HVAC	00 52 33	construction manager at risk – stipulated sum
09 23 13	gypsum plastering	22 07 00	insulation, plumbing	00 72 00	general conditions
23 05 48	HVAC	09 65 00	resilient flooring	00 52 96	between single-purpose entity and owner – integrated project delivery
22 05 48	plumbing	04 05 19	stone	00 52 97	between single-purpose entity and non-owner – integrated project delivery
09 24 13	acoustical plastering	09 30 00	tiling	00 52 98	between single-purpose entity and consultant – integrated project delivery
06 16 26	acoustical underlayment	09 72 00	wall coverings	00 52 52	preliminary services – owner design/builder
01 42 13	acronyms	06 05 23	wood, plastics, and composites	00 52 51	public-private partnership
	<b>acrylic</b>	11 13 00	adjustable dock ramps	00 52 63	purchase contract
07 92 00	joint sealants	01 75 00	adjusting systems, procedures	00 52 13	stipulated sum (single-prime contract)
09 25 13	plastering	01 31 00	administration, job site	00 52 52	agreement for preliminary services – owner design/builder
07 19 13	water repellents	01 31 00	administration of subcontractors	00 52 96	agreement between single-purpose entity and owner – integrated project delivery
09 91 00	acrylic latex paint	01 30 00	administrative requirements	00 52 97	agreement between single-purpose entity and non-owner – integrated project delivery
	<b>acrylic plastic</b>		<b>admixtures</b>	00 52 52	preliminary services – owner design/builder
06 60 00	fabrications	03 05 00	concrete	00 52 51	public-private partnership
08 84 00	glazing	04 05 13	masonry mortar	00 52 63	purchase contract
10 14 00	signage	09 20 00	plastering	00 52 13	stipulated sum (single-prime contract)
08 60 00	skylights	09 25 26	adobe finish	00 52 52	agreement for preliminary services – owner design/builder
09 64 23	acrylic-impregnated wood flooring	04 24 00	adobe unit masonry	00 52 96	agreement between single-purpose entity and owner – integrated project delivery
07 16 13	acrylic-modified cement waterproofing	00 11 13	advertisement for bids	00 52 97	agreement between single-purpose entity and non-owner – integrated project delivery
	<b>activated-carbon</b>	00 11 15	advertisement for prequalification of bidders	00 52 98	agreement between single-purpose entity and consultant – integrated project delivery
23 42 13	air filtration	10 43 13	AED	00 52 00	<b>agreement forms</b>
43 31 13	gas and liquid filters		<b>aeration equipment</b>	00 52 26	construction manager as agent or adviser – cost-plus
	<b>actuating device</b>	43 22 13	liquid, process	00 52 23	construction manager as agent or adviser – stipulated sum
08 71 00	door	41 24 13	specialty material handling	00 52 36	construction manager at risk – cost-plus
23 09 13	HVAC	33 81 23	aerial cable installation hardware	00 52 33	construction manager at risk – stipulated sum
25 35 13	HVAC, integrated automation	34 14 13	aerial tramways	00 52 16	cost-plus (design/bid/build or design/negotiate/build)
25 30 00	integrated automation	33 34 23	aerobic equipment, onsite	00 52 93	multi-party – integrated project delivery
10 71 00	sun control	02 54 13	aerobic processes, site remediation	00 52 56	owner – design/builder – cost-plus
08 75 00	window		<b>affidavits</b>	00 52 53	owner – design/builder – stipulated sum
40 05 57	actuators for process valves and gates	00 45 19	noncollusion	00 52 63	purchase – stipulated price
00 91 13	addenda	00 45 00	required of bidder	00 52 13	stipulated sum (design/bid/build or design/negotiate/build)
34 54 26	addfare machines, fare collection	00 62 00	required of contractor	00 54 00	supplements
00 73 00	additional articles, contract conditions	01 43 26	agencies, testing		
01 35 00	additions, project procedures	09 30 33	agglomerate tiling		
	<b>additives</b>	23 43 16	agglomerator electronic air cleaners		
03 05 00	concrete	41 11 13	agglomerators, bulk material		
04 05 13	masonry mortar		<b>aggregate</b>		
09 20 00	plastering	32 11 23	base courses		
26 09 43	addressable fixture light control	03 05 00	concrete		
04 20 00	adhered masonry veneer	04 22 00	concrete masonry units for earthwork		
07 50 00	adhered single-ply roofing	31 05 16	for exterior improvements		
41 36 13	adhesive applicators, manufacturing	32 05 16	masonry mortar		
41 36 19	adhesive joining equipment, manufacturing	04 05 13	paving		
	<b>adhesives</b>	32 10 00	plastering		
09 51 53	acoustical tile	09 20 00	roofing		
03 05 00	bonding agents, concrete	07 50 00	subbases		
		32 11 16	surfacing		
		32 15 00	terrazzo flooring		
		09 66 00	wall coatings		
		09 96 66			

11 92 00	agricultural equipment	23 74 00	packaged outdoor	08 42 00	entrances
32 86 00	agricultural irrigation systems	41 22 23	air-powered hoists	08 41 13	entrances and storefronts
01 54 00	aids, construction	23 81 43	air-source heat pumps	07 71 19	fasciae, manufactured
23 64 23	air-cooled water chillers	13 31 13	air-supported structures	08 12 16	frames, door
02 62 13	air and steam stripping, hazardous waste recovery	23 72 00	air-to-air energy recovery equipment	08 12 16	frames, fire-rated
<b>07 27 00</b>	<b>air barriers</b>	23 81 43	air-to-air heat pumps, unitary	10 82 00	grilles
07 27 36	sprayed foam	34 77 13	aircraft passenger boarding	05 25 00	joists
01 56 13	temporary	<b>airfield</b>		10 14 19	letters
23 31 00	air casings	34 73 00	construction	10 11 16	markerboards
	<b>air circuit breakers</b>	34 43 26	control equipment	09 91 00	paint
33 75 13	high-voltage	34 43 00	instrumentation	07 40 00	panels
33 77 13	medium-voltage	26 56 00	lighting	10 14 16	plaques
23 40 00	air cleaning devices	34 43 16	lighting equipment	08 11 63	screen and storm doors
23 82 16	air coils	32 10 00	paving	07 31 16	shingles
	<b>air compressors</b>	34 43 13	signals and lighting	07 46 16	siding
22 15 19	general service	34 43 19	airfield traffic control tower equipment	08 32 13	sliding glass doors
40 12 00	industrial	41 13 23	airlock bulk material feeders	08 43 13	storefronts
22 61 19	laboratory	40 33 13	airlock bulk material valves	05 14 00	structural
23 09 43	pneumatic controls, HVAC	.....	airport - see airfield	33 05 11	utility pipe
14 92 00	pneumatic tube system	01 35 13	airport project procedures	08 51 13	windows
23 34 33	air curtains	41 12 13	airslide bulk material conveyors	05 15 13	wire rope
23 30 00	air distribution, HVAC	08 39 13	airtight doors	10 11 00	writing surfaces
.....	air doors - see air curtains	28 40 00	alarm and detection systems		<b>aluminum downspouts and gutters</b>
<b>23 31 00</b>	<b>air ducts</b>		<b>alarm annunciation</b>	07 62 00	custom
23 33 00	accessories	22 09 63	medical gas	07 71 23	manufactured
03 05 00	air entrainment, concrete	40 78 63	alarm dialers		<b>aluminum louvers</b>
	<b>air exhausters</b>	40 24 13	alcohol piping	08 91 26	door
23 34 00	fans	09 91 00	alkyd paint	08 91 00	wall
23 41 00	air filters		<b>all-glass</b>		<b>aluminum roofing</b>
41 11 16	air mill classifiers, bulk material	08 42 26	entrances	07 61 00	custom
23 37 00	air outlets and inlets	08 41 26	entrances and storefronts	07 41 13	manufactured
23 32 00	air plenums and chases	10 28 19	shower enclosures	07 41 16	insulated
<b>44 10 00</b>	<b>air pollution controls</b>	08 43 26	storefronts	08 52 13	aluminum-clad wood windows
23 51 43	heat generation equipment	<b>01 21 00</b>	<b>allowances</b>	32 01 90	amending soils, maintenance
22 15 16	air pressure regulating valves	00 24 00	bidding requirements	<b>01 26 43</b>	<b>amendments</b>
41 36 26	air process tools, manufacturing	00 54 21	part of agreement	00 63 43	forms
23 21 13	air purgers	00 43 21	part of bid	00 93 43	record
23 36 00	air terminal units	00 54 21	schedule	API	American Petroleum Institute
26 41 00	air terminals, lightning protection	01 35 16	alteration project procedures	40 16 13	ammonia gas piping measurement
23 40 00	air treatment	00 24 13	alternate bid descriptions	48 14 13	amorphous solar collectors, power generation
23 33 23	air turning vanes, ductwork	<b>01 23 00</b>	<b>alternates</b>	00 54 21	amounts of allowances, part of agreement
40 05 78	air valves for water and wastewater service	00 43 23	part of bid	13 14 23	amusement park rides
23 21 13	air vents, hydronic piping	26 32 00	alternating current generators	02 54 16	anaerobic processes, site remediation
	<b>air-conditioners</b>	05 51 33	alternating tread ladders	01 32 16	analysis schedules, network
23 70 00	central	05 51 17	alternating tread stairs	28 21 13	analytic packages for IP cameras
23 81 00	decentralized	.....	alternatives - see alternates		<b>analyzers</b>
23 75 16	rooftop, custom-packaged	09 61 00	alumina cements	40 75 86	alkalinity
23 63 13	air-cooled refrigerant condensers	40 47 16	alumina refractories	40 76 29	ammonia gas
23 62 13	air-cooled refrigerant compressor and condenser units	10 11 13	aluminum	40 76 39	carbon dioxide
23 76 00	air-cooling equipment, evaporative	07 62 00	chalkboards	40 76 43	carbon monoxide
	<b>air-handling units</b>	08 44 13	copings, custom	40 75 21	chlorine
23 75 00	custom-packaged outdoor	05 33 00	curtain walls, glazed	40 75 23	chlorine dioxide
23 73 00	indoor central station	05 70 00	decking	40 76 26	chlorine gas
		08 13 16	decorative	40 75 16	conductivity
		08 11 16	doors	40 76 53	dew point/moisture
		23 31 13	doors and frames	40 75 29	dissolved ammonia
		33 42 26	ductwork		
			end sections, stormwater piping		

40 75 26	dissolved chlorine dioxide	27 53 19	antenna systems, internal	06 40 00	<b>architectural woodwork</b>
40 75 43	dissolved oxygen	33 79 16	antenna tower grounding	06 01 40	cleaning
40 75 46	dissolved ozone	33 81 16	antenna towers	06 01 40	refinishing
40 76 63	flue gas	40 66 63	<b>antennas</b>	06 01 40	restoration
40 75 33	fluoride	33 83 17	microwave	27 41 13	architecturally integrated audio-video equipment
40 76 76	gas chromatograph	33 83 23	radio	05 12 13	architecturally-exposed structural steel
40 76 56	gas density	33 83 23	UHF/VHF	28 05 29	archival systems for electronic safety and security
40 75 83	hardness	09 96 23	anti-graffiti coatings	10 22 23	area dividers
40 76 73	hydrocarbon	23 05 63	anti-microbial coatings, HVAC		<b>area drains</b>
40 75 59	liquid density	23 05 66	anti-microbial ultraviolet emitters, HVAC	22 14 26	facility
40 75 19	moisture	44 00 00	anti-pollution	09 21 16	area separation walls
40 75 63	monochloramine	00 73 53	anti-pollution measures	27 41 16	arena audio-video
40 75 66	nitrogen	09 65 36	anti-static resilient flooring	13 28 19	arena football boards
40 76 66	no/nox	22 11 19	anti-siphon equipment	12 63 00	arena seating
40 76 13	oxygen gas	21 13 26	antifreeze fire sprinklers	05 53 00	areaway gratings
40 76 16	ozone	13 42 33	apartment unit modules	.....	areaways - see window wells
40 75 13	pH/ORP	07 52 13	APP modified bituminous roofing	03 35 00	armored floors
40 75 69	phosphorous	11 53 00	apparatus, laboratory	31 35 00	armoring, embankment
40 76 36	sulfur dioxide	11 30 13	appliances, residential	26 18 19	arresters, lightning
40 75 56	suspended solids/sludge density	01 73 13	application		<b>arresters, spark</b>
40 75 79	total organics	25 14 16	application control panels, integrated automation	23 51 00	chimney
40 75 76	total organic carbon	27 26 19	application development, communications	10 32 00	manufactured fireplace
40 75 53	turbidity	27 25 16	application suite software, communications		<b>arresters, surge</b>
40 76 79	vapor pressure	00 31 43	applications, permit	33 75 39	high-voltage, utility
05 05 23	anchor bolts	01 29 76	<b>applications for payment</b>	33 77 39	medium-voltage, utility
35 59 23	anchor pendant buoys	00 62 76	forms	26 35 00	power conditioners
31 51 00	anchor tiebacks, excavation support	41 36 13	applicators, manufacturing assembly	12 10 00	<b>art</b>
	<b>anchorage</b>	07 81 00	applied fire protection	12 17 00	glass
04 05 19	masonry	.....	approved equal - see substitution procedures	12 19 00	religious
03 40 00	prestressing	41 13 23	apron bulk material feeders	00 73 00	articles, additional, to contract
31 66 16	anchored foundation walls	13 13 00	aquariums	12 92 13	artificial plants
03 60 00	anchoring device grouts	23 09 13	aquastats	35 32 00	artificial reefs
	<b>anchors</b>	13 14 00	aquatic sports equipment	.....	artificial stone - see manufactured stone
03 15 00	concrete	35 72 00	arch dams	12 10 00	artwork
31 68 00	foundation	41 36 19	arch-welding equipment, manufacturing	.....	as-built documents - see project record documents
04 05 19	masonry		<b>arches</b>		<b>asbestos</b>
03 40 00	precast concrete	06 60 00	decorative, plastic	02 82 13	abatement
31 51 16	rock, excavation support	06 18 00	glued-laminated wood	02 26 23	assessment
31 68 13	rock, foundation	09 22 36	lath	00 31 26	available information
31 51 13	soil	05 10 00	metal	02 82 00	remediation
04 05 19	stone	04 20 00	unit masonry	10 32 00	ash dumps, fireplace
05 05 23	structural steel		<b>architectural</b>	23 51 00	ash handling equipment
10 32 00	andirons	06 44 00	ornamentation, wood	12 46 13	ash receptacles, tobacco
13 21 48	anechoic chambers	06 43 13	stairwork		<b>asphalt</b>
11 72 00	anesthetic systems	04 21 29	terra cotta	32 18 13	athletic surfacing
	<b>animal cages</b>	03 11 16	architectural CIP concrete forms	32 11 26	base courses
13 19 00	aviaries		<b>architectural concrete</b>	32 05 23	cement, for exterior improvements
13 19 00	kennels	03 33 00	cast-in-place	32 16 13	curbs
11 53 00	laboratory equipment	03 45 00	precast	07 11 13	dampproofing
13 19 00	animal shelters		<b>architectural meshes</b>	09 62 13	flooring
13 19 19	animal washing tubs	05 70 00	decorative metal	09 91 00	paints
11 92 23	animal waste handling equipment	10 82 00	grilles and screens	07 31 13	shingles
43 32 13	anion-gas and liquid purification process beds	06 41 00	architectural wood casework	31 32 13	soil stabilization
42 14 13	annealing furnaces, industrial			09 65 19	tile flooring
40 78 33	annunciators				<b>asphalt joint fillers</b>
05 05 13	anodic coatings			03 15 00	concrete accessories
05 05 13	<b>anodizing</b>				
41 34 13	equipment, manufacturing				

07 91 26	joint sealant components	41 36 00	assembly equipment, manufacturing	27 05 11	cameras
<b>32 12 16</b>	<b>asphalt paving</b>	41 31 13	assembly lines, manufacturing	11 52 00	equipment
32 11 26	base courses	<b>02 20 00</b>	<b>assessment</b>	12 56 52	furniture
32 12 73	joint sealants	02 24 00	environmental	12 20 00	shades and blinds
32 12 13	prime coats	02 22 00	existing conditions	13 21 48	audiometric rooms
32 12 36	seal coats	02 25 00	existing material	27 41 16	auditorium audio-video
32 12 13	tack coats	02 26 00	hazardous material	11 61 00	auditorium equipment
32 12 19	wearing courses	00 73 26	assigned contracts	<b>12 60 00</b>	<b>auditorium seating</b>
	<b>asphalt roofing</b>	08 71 00	astragals	12 61 00	fixed
07 51 13	built-up	13 34 56	astronomical observatories, fabricated	12 62 00	portable
07 51 13	cold-applied	APP	atactic-polypropylene	41 12 13	auger bulk material conveyors
07 55 56	hot-applied rubberized		<b>athletic</b>	31 63 16	auger cast grout piles
07 52 00	modified bituminous	13 28 33	court walls	<b>31 63 00</b>	<b>augered piles</b>
07 55 51	protected roofing, built-up	11 68 33	field equipment	31 08 13	load tests
07 55 52	protected roofing, modified	10 51 00	lockers	31 63 13	test piles
07 58 00	roll	13 24 66	rooms	.....	auguring - see microtunneling
32 14 23	asphalt unit paving	<b>11 66 00</b>	<b>athletic equipment</b>	27 33 16	auto attendant, communications
	<b>asphalt waterproofing</b>	11 66 53	gymnasium dividers	11 71 00	autoclaves
07 12 13	built-up	11 68 00	outdoor	11 51 13	automated book storage and retrieval
07 14 00	fluid-applied	13 11 00	swimming pools	AED	automated external defibrillators
07 14 13	hot-applied rubberized	32 12 16	<b>athletic surfacing</b>	10 43 13	automated external defibrillators
07 13 13	sheet	13 28 66	asphalt paving		<b>automatic</b>
07 65 13	asphalt-coated copper flashing	32 18 23	demountable	25 50 00	building controls
32 12 16	asphalt-rubber paving	32 18 23	equestrian	27 35 16	call distributors, communications
07 22 13	asphaltic concrete insulation	09 67 66	exterior	23 21 29	condensate pumps
07 22 13	asphaltic perlite concrete decking	09 65 66	fluid-applied	08 71 00	door bottoms
	<b>assemblies</b>	09 64 66	resilient	10 75 13	flagpoles
09 53 00	acoustical suspension	42 14 16	wood	32 31 00	gates
26 15 00	bus, medium-voltage		atmosphere generators, industrial	08 42 29	entrance doors
05 16 13	cable bow truss	44 11 19	<b>atmospheric</b>	08 74 00	locks
13 42 73	ceiling, integrated	13 53 00	air quality monitoring equipment	41 51 00	material storage, process
06 72 00	composite structural	43 41 16	monitoring instrumentation	26 36 23	transfer switches
06 72 23	composite stair	22 40 00	tanks and vessels, process	41 21 13	transport systems, material handling
08 17 00	door opening	00 54 00	vacuum breakers	08 75 13	window equipment
26 25 00	enclosed bus, low-voltage	13 48 13	attachments to agreement form		<b>automatic door operators</b>
07 95 13	expansion joint cover	23 33 19	attenuation panels, sound	08 42 29	automatic entrances
13 42 73	floor, integrated	23 34 00	attenuators, sound	25 50 00	door control systems
26 32 00	generator	.....	attic exhaust fans	08 71 13	door hardware
09 21 16	gypsum board	.....	attic stairs - see retractable stairs	AGV	automatic guided vehicle
09 58 00	integrated ceiling	31 56 16	attic stock - see extra stock	41 21 13	automatic guided vehicle systems
05 45 00	metal support		attipulgite slurry walls, excavation support	41 33 13	automatic screw machining equipment, manufacturing
09 21 13	plaster	12 61 00	<b>audience seating</b>	11 21 33	automatic storage and retrieval, coats and hats
06 52 00	plastic structural	12 62 00	fixed	AS/RS	automatic storage/retrieval systems
05 35 00	raceway decking	27 41 16	portable	41 51 13	automatic storage/retrieval systems
09 64 53	resilient wood flooring	28 37 00	audio equipment for broadcast studio		ATM
07 40 00	roof panel	<b>27 40 00</b>	audio monitoring	25 50 00	automation systems
12 68 00	seat and table		<b>audio-video</b>		<b>automobile</b>
08 44 33	sloped glazing	27 51 00	communications	14 45 00	lifts
08 34 73	sound control door	27 42 00	distributed	11 12 00	parking equipment
13 48 23	sound and vibration control	27 41 00	electronic digital systems	11 11 00	service equipment
04 40 00	stone	27 41 23	<b>audio-video systems</b>	11 78 00	autopsy equipment
10 56 00	storage	27 24 23	accessories		
05 17 00	structural rod		devices		
33 72 26	substation bus		<b>audio-visual</b>		
08 45 00	translucent				
13 42 73	wall, integrated				
07 40 00	wall panel				
07 72 63	waste containment				
08 46 00	window wall				
05 15 00	wire rope				



35 79 00 auxiliary dam structures  
 00 31 00 available project information  
 02 58 16 avalanche control, snow  
 13 19 00 aviaries  
**aviation**  
 33 56 43 fuel storage tanks  
 34 43 13 signals and lighting  
 ..... awning windows - see  
 windows  
 10 73 13 awnings  
 23 34 13 axial fans  
 43 12 16 axial-flow compressors,  
 process

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11 46 13 backbar units  
 27 13 00 backbone cabling,  
 communications  
 23 33 13 backdraft dampers  
 07 91 23 backer rods  
 31 23 23 backfill  
 22 11 19 backflow preventers  
 09 68 00 backing, carpet  
 09 28 00 backing boards  
 04 21 19 backing tile, clay  
**backboxes**  
 27 05 33 communications  
 25 05 28 integrated automation  
 21 23 23 backfill  
 41 61 13 backhoes, plant equipment  
**backstops**  
 32 31 13 baseball/softball  
 11 66 23 basketball  
 23 34 00 backward inclined fans  
 11 53 00 bacteriological equipment  
 11 66 23 badminton equipment  
 **baffles**  
 09 80 00 acoustical treatment  
 13 48 13 sound  
 13 21 48 sound, audiometric room  
 23 33 19 sound, duct  
 41 41 19 bag fillers, container  
 processing  
 41 14 13 bag-handling batching  
 equipment, bulk material  
 22 32 13 bag-type filters, domestic  
 water  
 34 77 00 baggage conveying,  
 dispensing, and scanning  
 11 93 29 baggers, horticultural  
 44 53 63 baling equipment, solid waste  
 11 44 16 bakery equipment  
 42 14 19 baking furnaces, industrial  
 08 42 36 balanced entrance doors  
 08 75 00 balances, sash  
 23 33 13 balancing dampers  
 23 21 13 balancing valves, hydronic  
 piping  
**ballast**  
 32 10 00 paving  
 07 55 00 protected membrane  
 roofing

07 50 00 roofing  
 07 50 00 ballasted single-ply roofing  
 34 11 26 ballasted track rail  
 26 50 00 ballasts for electrical lamps  
 08 88 56 ballistics-resistant glazing  
 ..... balustrades - see railings  
 09 64 36 bamboo flooring  
**11 61 13 band shells**  
 13 34 00 fabricated  
 41 43 13 banding/strapping equipment,  
 container processing  
 bank casework  
 bank vaults - see vaults  
 11 22 00 banking equipment  
 10 83 16 banners  
 11 91 13 baptisteries  
 12 64 23 banquet seating  
 11 46 19 bar and soda fountain  
 equipment  
 11 46 13 bar equipment  
 ..... bar joists - see steel joists  
 12 54 00 bar stools  
 03 21 00 bar supports, reinforcement  
 11 30 00 bar units, residential  
**11 44 00 barbecue grilles**  
 11 30 00 residential  
 11 21 53 barber shop equipment  
 41 43 16 barcode equipment, container  
 processing  
 26 05 00 bare conductors, electrical  
 41 42 16 barge bulk material loaders  
 09 20 00 barium sulphate plastering  
 13 34 00 barns, fabricated  
 23 33 13 barometric dampers  
 41 34 16 barrel tumbling equipment,  
 manufacturing  
 01 56 23 barricades, temporary  
 34 71 13 barrier fenders, vehicles  
**barriers**  
 09 81 00 acoustical  
 32 35 16 acoustical, site construction  
 07 27 00 air  
 01 56 13 air, temporary  
 32 35 26 blast  
 34 71 13 crash  
 32 35 23 fire  
 10 71 19 flood  
 34 73 19 jet blast  
 34 71 13 median  
 44 21 00 noise abatement  
 32 17 13 parking bumpers  
 11 12 33 parking gate  
 07 87 00 smoke containment  
 09 81 00 sound  
 01 56 00 temporary  
 03 15 21 termite  
 34 71 13 vehicle  
 07 25 00 weather  
**bars**  
 11 30 00 breakfast, residential  
 03 21 21 composite reinforcement  
 23 33 38 duct security

11 46 00 food service  
 10 28 00 grab  
 11 46 13 liquor  
 04 05 19 masonry reinforcing  
 03 21 19 reinforcement steel  
 11 30 33 residential  
 10 28 16 towel  
 12 12 00 bas-relief  
**base**  
 09 30 13 ceramic tile  
 09 63 00 masonry  
 09 65 13 resilient  
 09 63 00 stone  
 09 66 00 terrazzo flooring  
 09 30 00 tile  
 06 46 19 wood, custom  
 06 22 13 wood, standard pattern  
 32 11 00 base courses, paving  
**base flashing**  
 07 50 00 bituminous  
 07 51 00 built-up roof  
 07 50 00 elastomeric  
 07 62 00 metal  
**base plates**  
 05 14 00 aluminum  
 05 12 00 steel  
 07 50 00 base sheets, roofing  
 11 68 33 baseball equipment  
 32 18 23 baseball field surfacing  
**23 83 00 baseboard radiation**  
 23 83 33 electric  
 23 83 16 hot water  
 22 42 00 basins, mop and shower  
 10 51 00 basket lockers  
 11 66 23 basketball equipment  
 10 32 00 baskets, fireplace log  
 41 14 16 batch cars/transport, bulk  
 material  
 41 14 19 batch hoppers, bulk material  
 41 14 00 batching equipment, bulk  
 material  
**bath**  
 12 35 30 casework, manufactured  
 12 44 00 furnishings  
 12 44 13 linens  
 22 40 00 plumbing fixtures  
**10 28 16 bath accessories**  
 09 30 13 ceramic  
 13 24 26 baths, steam  
 22 40 00 bathtubs  
 ..... batt insulation - see blanket  
 insulation  
**batten seam roofing**  
 07 61 16 custom  
 07 41 13 manufactured  
 11 61 33 battens, theater  
**26 33 13 batteries**  
 48 17 13 electrochemical power  
 generation  
 33 72 33 substation  
**battery**  
 26 33 00 equipment

26 33 46 monitoring  
 25 36 23 monitors, integrated automation  
 26 33 16 racks  
 26 33 19 units  
**26 33 43 battery chargers**  
 48 19 13 power generation  
 14 83 13 battery-operated telescoping platforms  
**beads**  
 09 29 00 corner, gypsum board  
 09 22 36 corner, plastering  
 14 81 13 beam scaffolding  
 12 59 19 beam system furniture  
**beams**  
 05 14 00 aluminum  
 06 18 13 glued-laminated wood  
 06 13 00 heavy timber  
 06 51 00 plastic  
 03 41 00 precast concrete  
 05 12 00 steel  
 06 13 00 timber  
 06 11 00 wood  
**bearing piles**  
 31 63 00 bored  
 31 62 00 driven  
**bearings**  
 07 95 63 bridge  
 07 95 53 slide  
 11 21 53 beauty salon equipment  
 10 26 16 bed bumpers  
 12 45 13 bed linens  
 12 58 00 bed screens  
 12 45 00 bedroom furnishings  
**beds**  
 12 55 13 detention  
 12 58 29 furniture, residential  
 04 05 13 masonry setting  
 12 58 29 residential  
 09 30 00 tile setting  
 12 58 00 bedside screens  
**bedside units**  
 12 56 70 healthcare furniture  
 27 52 23 nurses' call  
 11 62 13 bell simulators  
 10 32 00 bellows, fireplace  
**bells**  
 28 10 00 alarm, security  
 26 27 73 door  
 11 62 13 musical  
**below-grade**  
 10 74 43 egress assemblies  
 34 12 19 monorails  
 13 11 13 swimming pools  
 41 12 13 belt bulk material conveyors  
 41 21 23 belt piece material conveyors  
**benches**  
 32 33 43 exterior  
 12 67 23 indoor  
 10 51 53 locker room  
 12 57 13 welding  
 41 32 13 bending equipment, manufacturing  
 33 37 13 bending weirs  
 08 81 00 bent glass  
**bentonite**  
 31 35 26 containment barriers  
 31 56 13 slurry walls, excavation support  
 07 17 00 waterproofing  
 40 22 50 benzene piping  
 08 50 00 between-glass louver blinds, window  
 07 46 00 bevel siding  
 45 17 00 beverage and tobacco manufacturing  
**beverage**  
 11 41 13 coolers  
 11 46 00 dispensers  
 11 21 23 vending machines  
 09 30 13 bicottura tile  
 12 93 13 bicycle racks  
 32 33 15 bicycle shelters  
 41 63 13 bicycles, plant equipment  
**bid**  
 00 11 00 advertisement for  
 00 11 16 invitation to  
 00 11 15 prequalification advertisement  
 00 43 13 bid bonds  
**00 41 00 bid forms**  
 00 41 23 construction management  
 00 41 33 cost-plus-fee  
 00 41 63 purchase contract  
 00 41 13 stipulated price  
 00 43 00 supplements  
 00 41 43 unit price  
 00 31 00 bid information  
 ..... bid items - see alternates  
 00 91 16 bid modifications  
 00 45 13 bid prequalification forms  
 00 91 16 bid revisions  
 00 24 13 bid scopes  
 00 43 13 bid security forms  
 00 10 00 bid solicitation  
 00 43 93 bid submittal checklists  
 00 45 13 bidder qualification status certifications  
**bidders**  
 00 31 00 information available to  
 00 21 13 instructions to  
 00 22 13 supplementary instructions to  
 00 11 15 bidder's prequalification, advertisement  
 00 45 13 bidder's qualification forms  
 00 11 53 bidder's qualification requirements  
 22 40 00 bidets  
 00 24 16 bids, scopes of  
**bifolding doors**  
 08 16 76 composite doors  
 08 71 00 hardware  
 08 13 76 metal doors  
 08 15 76 plastic doors  
 08 14 76 wood doors  
 11 67 43 billiard tables  
 41 13 13 bin activators, bulk material  
 41 52 40 bin fluidizers  
 41 24 16 bin vibrators, specialty material handling  
**bins**  
 10 56 00 storage  
 11 82 13 waste handling  
 40 21 13 bio fuels process piping  
 31 56 26 bio-polymer trench drain  
 02 54 19 bio-remediation  
 02 87 00 biohazard remediation  
**biological**  
 02 72 16 decontamination, water  
 02 54 00 processes, site remediation  
 11 53 53 safety cabinets  
 08 74 19 biometric identity access control hardware  
 45 53 00 biopharmaceutical manufacturing equipment  
 ..... biparting entrances - see automatic entrances  
**bird control**  
 10 81 13 devices  
 08 87 26 film  
 13 19 00 bird enclosures  
**07 51 00 bitumen-surfaced felts**  
 07 58 00 roll roofing  
**bituminous**  
 07 11 13 dampproofing  
 07 92 00 joint sealants  
 09 91 00 paints  
 07 26 00 vapor retarders  
 ..... bituminous concrete - see asphalt paving  
 ..... bituminous paving - see asphalt paving  
**bituminous roofing**  
 07 51 00 built-up  
 07 51 00 cold-applied  
 07 56 00 fluid-applied  
 07 01 50 maintenance and repair  
 07 52 00 modified  
 07 55 51 protected, built-up  
 07 55 52 protected, modified  
**bituminous waterproofing**  
 07 12 00 built-up  
 07 14 00 fluid-applied  
 07 13 13 sheet  
 32 11 26 bituminous-stabilized base courses  
 32 11 13 bituminous-treated subgrades  
 12 21 26 black-out blinds  
 ..... blackboards - see chalkboards  
 ..... blacktop - see asphalt paving  
**07 21 16 blanket insulation**  
 09 81 16 acoustical  
**12 45 13 blankets**  
 32 91 16 planting soil stabilization

**blast-resistant**  
 08 39 53 doors  
 08 55 23 windows  
 03 35 00 blasted concrete finishes  
**blasting**  
 04 01 00 masonry surface  
 04 01 00 sand, to clean masonry  
**bleachers**  
 13 34 16 fabricated structures  
 12 66 13 telescoping  
 09 93 00 bleaches, wood  
**blenders**  
 41 14 26 bulk material batching  
 11 42 00 food  
 42 13 13 gas, process  
 43 22 19 liquid, process  
 40 33 16 blind bulk materials valves  
 12 21 13 blinds, horizontal louver  
**12 21 00 blinds, windows**  
 08 60 00 between-glass, skylight  
 08 50 00 between-glass, window  
 06 49 16 blinds, wood  
 09 91 00 block fillers  
 09 64 16 block flooring, wood  
 08 95 16 block vents, wall  
**blocks**  
 32 14 23 asphalt paver  
 11 42 00 chopping, food  
 04 23 00 glass  
 09 64 16 industrial flooring, wood  
 09 76 00 plastic  
 13 49 00 x-ray protective  
 11 72 00 blood bank equipment  
 41 32 16 blow-molding equipment, manufacturing  
**blowers**  
 11 62 19 organ  
 43 11 00 process  
 07 21 26 blown insulation  
 ..... bluestone - see stone  
**board**  
 07 27 23 air barriers  
 07 82 00 fire protection  
 06 26 00 paneling  
 07 46 00 siding  
 07 40 00 board and batten roof and wall panels  
**07 21 13 board insulation**  
 09 81 13 acoustical  
 07 22 16 roof  
 07 27 23 board product air barriers  
 27 41 16 board room audio-video  
**boards**  
 13 11 46 diving  
 23 07 13 duct insulating  
 09 29 00 gypsum  
 07 20 00 insulating  
 07 24 00 insulating, EIFS  
 07 10 00 protection, for waterproofing  
 06 10 00 wood  
 23 53 00 boiler feedwater equipment

**boilers**  
 48 11 13 electrical power generation  
 23 52 00 heating  
 42 11 00 process  
**bollards**  
 35 59 33 marine  
 32 39 13 metal security  
 03 48 13 precast concrete  
 05 05 23 bolting, metal  
**bolts**  
 05 05 23 anchor  
 08 70 00 door and window  
 05 05 23 expansion  
 31 51 16 rock anchors, excavation support  
 31 68 13 rock anchors, foundation  
 08 79 00 window cleaners  
 32 01 26 bonded overlays, concrete  
 09 66 13 bonded terrazzo flooring  
**bonding**  
 27 05 26 communications  
 26 05 26 electrical  
 25 05 26 integrated automation  
 05 05 23 metals  
 03 05 00 bonding agents, concrete  
 26 41 00 bonding for lightning protection  
**00 61 00 bonds**  
 00 43 13 bid  
 00 61 13 labor and material payment  
 00 61 19 maintenance  
 00 61 13 performance  
 01 78 33 product  
 00 61 23 retainage  
 00 61 00 bonds required of the contractor  
**book**  
 11 51 16 depositories  
 14 10 00 lifts  
 12 56 51 shelves  
 11 51 13 storage and retrieval systems  
 11 51 19 theft protection equipment  
 11 51 23 stacks  
**book conveyors**  
 11 51 00 library equipment  
 41 21 23 material handling equipment  
 12 50 00 bookcases  
 22 15 19 booster compressors  
 22 11 23 booster pumps, plumbing  
**booths**  
 11 59 00 exhibit  
 13 22 00 office  
 13 26 00 fabricated  
 12 64 13 furnishings  
 10 17 16 telephone  
 12 64 00 booths and tables  
 31 63 19 bored and socketed piles  
**31 63 00 bored piles**  
 31 01 63 repairs  
 31 08 13 load tests  
 31 63 13 test piles

**boring**  
 00 31 32 exploratory, available to bidders  
 02 32 13 exploratory, by contractor  
 31 70 19 tunnel  
 00 31 32 boring data, soil  
 41 33 16 boring equipment, manufacturing  
 33 05 23 boring conduits  
 40 16 16 boron gas piping  
**borrowed light**  
 08 12 00 frames, metal  
 06 48 16 frames, wood  
 08 81 00 glazing  
 10 22 00 partitions  
 13 34 13 botanical gardens, fabricated  
 41 41 19 bottle fillers, container processing  
 11 41 00 bottle racks  
 34 24 13 bottom-contact third rail  
 02 21 13 boundary markers  
 11 67 13 bowling alley equipment  
 12 46 16 bowls  
**bowstring trusses**  
 05 10 00 metal  
 06 17 53 wood  
**box beams**  
 05 10 00 metal  
 06 17 00 plywood  
 31 64 13 box caissons  
 41 41 19 box fillers, container processing  
**box girders**  
 05 10 00 metal  
 06 17 00 plywood  
**box gutters**  
 07 62 00 custom  
 07 71 23 manufactured  
 10 51 00 box lockers  
**41 42 13 box packing equipment**  
 41 42 13 box makers  
 41 42 13 box packers  
**boxes**  
 26 28 00 circuit breaker  
 26 05 33 electrical  
 10 55 23 mail  
 31 41 00 bracing and shoring  
 31 48 19 bracket piers, underpinning  
**brackets**  
 12 22 16 drapery  
 12 63 00 stadium seat  
 41 32 19 brake-forming equipment, manufacturing  
**brass**  
 05 70 00 decorative  
 05 70 00 plating, decorative metal  
 33 05 12 utility pipe  
 22 35 36 brazed-plate heat exchangers, domestic water  
**05 05 23 brazing**  
 41 36 19 equipment, manufacturing  
 42 14 23 furnaces, industrial

11 46 00	<b>bread toasters</b>	08 11 23	doors and frames		<b>bulk material</b>
11 30 13	residential	08 42 00	entrances	41 42 16	loaders
01 29 73	breakdown of costs	08 41 16	entrances and storefronts	41 01 52	operation and maintenance
35 31 23	breakwaters	08 12 23	frames, door	40 32 00	pipng and chutes
10 44 33	breathing air replenishment systems (BARS)	10 14 16	plaques	41 52 00	storage, process
23 07 00	breeching insulation	12 14 00	sculpture	40 33 00	valves
23 51 16	breechings	08 43 16	storefronts	<b>41 10 00</b>	<b>bulk material processing equipment</b>
45 17 00	brewery equipment	08 51 16	windows	41 14 00	batching
<b>04 21 13</b>	<b>brick</b>		<b>broom finishes</b>	41 12 00	conveying
04 61 00	acid-resisting	03 35 00	CIP concrete	41 13 00	feeders
04 05 19	anchors	32 13 13	concrete paving	41 11 00	sizing
04 71 13	calcium silicate	09 90 00	brushes, paint	.....	bulkheads - see seawalls
04 61 00	chemical-resistant	26 22 16	buck-boost transformers, low-voltage	41 61 16	bulldozers, plant equipment
04 54 00	chimneys		41 12 16	.....	bullet-resistant - see ballistics-resistant
04 01 20	cleaning	41 12 16	bucket elevators	.....	bulletin boards - see tackboards
04 05 23	expansion joints	00 31 16	budget information, project	10 26 16	bumper guards
09 63 13	flooring	.....	builders hardware - see hardware		<b>bumpers</b>
04 71 00	manufactured	.....	building automation - see integrated automation	10 26 16	bed
12 11 23	murals		<b>building</b>	11 13 13	dock
12 11 36	panels, sculptured	04 21 00	brick	08 71 00	door
04 54 00	refractory	02 41 16	demolition	32 17 13	parking
04 05 19	ties	07 21 00	insulation	35 59 23	buoys
32 14 16	brick unit paving	26 41 13	lightning protection	28 16 00	burglar alarm and detection devices
.....	brick vents - see wall vents	13 42 00	modules, fabricated		<b>bus assemblies, electrical</b>
03 45 13	brick-faced architectural precast concrete	07 40 00	panels, composite	26 05 00	bars, open, facility
	<b>bridge</b>	07 84 53	perimeter firestopping	26 18 29	enclosed, medium-voltage, facility
05 16 33	cabling	04 40 00	stone	33 72 26	substation, electrical utility
41 22 13	cranes	13 34 19	systems, fabricated metal	26 25 00	bus ducts
07 95 63	expansion control	01 41 13	building code conformance	.....	bus stop shelters - see transportation stop shelters
03 41 00	girders, precast	00 54 36	building information modeling exhibit	26 25 00	bus tap boxes, low-voltage
34 81 00	machinery		<b>building paper</b>	03 35 00	bushhammered concrete
34 82 19	pier protection	07 27 00	as air barrier		<b>busways</b>
34 48 00	signaling and control equipment	06 16 00	sheathing assembly	26 25 13	low-voltage
34 82 00	specialties	07 30 00	roof underlayment	26 15 13	medium-voltage
34 82 13	vibration dampers	06 10 00	rough carpentry	12 36 19	butcher block countertops
<b>34 80 00</b>	<b>bridges</b>		<b>buildings</b>	11 42 00	butchers' blocks
32 34 00	fabricated	13 31 23	cold storage	08 71 00	butt hinges
11 13 00	loading dock	00 31 21	description of existing	35 74 00	buttress dams
34 77 13	passenger boarding	13 34 23	fabricated		<b>butyl rubber</b>
01 53 13	temporary	13 34 23	portable and mobile	08 85 00	glazing compounds
	<b>bridging</b>	10 28 23	built-in ironing boards, residential	07 65 23	sheet flashing
05 10 00	metal framing		11 81 00	07 13 00	sheet waterproofing
05 20 00	metal joists		facility maintenance equipment	07 14 00	waterproofing, fluid-applied
06 17 00	shop-fabricated wood		<b>built-up</b>	08 71 00	weatherstripping
06 11 00	wood framing	07 51 13	asphalt roofing		
10 71 00	brise-soleil	07 12 13	asphalt waterproofing		
41 33 19	broaching equipment, manufacturing	07 51 00	bituminous roofing		
	<b>broadcast</b>	07 55 51	bituminous roofing, protected		
11 61 00	equipment	07 12 00	bituminous waterproofing		
26 55 83	lighting	07 51 16	coal tar roofing		
33 83 23	transmission and reception	07 12 16	coal tar waterproofing		
27 41 00	studio equipment		<b>bulb-tees</b>		
.....	broadloom - see carpeting	03 50 00	cast deck		
11 44 00	broilers, food	05 12 00	structural steel		
	<b>bronze</b>	32 93 23	bulbs, plant		
08 44 16	curtain walls, glazed	41 14 23	bulk bag-handling batching equipment		
08 13 23	doors	41 41 13	bulk container fillers/packers		

## C

	<b>cab finishes, elevator</b>
14 27 13	custom
14 21 00	electric traction
14 24 00	hydraulic
<b>06 41 00</b>	<b>cabinet hardware</b>
12 30 00	manufactured casework
23 82 39	cabinet unit heaters
.....	cabinets - see casework
	<b>cabinets</b>
27 11 16	communications

11 53 29	controlled-environment	11 53 00	animal, laboratory equipment	09 68 00	<b>carpeting</b>
10 43 13	defibrillator	31 64 00	<b>caissons</b>	09 68 00	backing
26 27 16	electrical	31 63 26	drilled	09 68 00	cushions
12 51 19	filing	42 14 26	calcining furnaces, industrial	09 73 00	wall
10 44 13	fire protection	07 82 13	calcium-silicate board fire protection	09 68 00	carpet-laying accessories
10 43 16	first aid	04 70 00	calcium silicate masonry	.....	carports – see car shelters
10 28 16	medicine	.....	calking - see joint sealants	12 56 51	carrels, study
11 32 00	unit kitchen	27 34 00	call accounting, communications	14 81 16	carriage scaffolding
11 46 00	warming, food service	27 35 00	call management, communications	22 40 00	carriers, plumbing fixtures
05 16 13	cable bow truss assemblies	27 52 23	call stations, nurses'	14 10 00	cart lifts
26 05 00	cable buses	27 35 19	call status displays, communications	<b>carton</b>	
34 14 53	cable car systems	28 20 00	camera-equipped alarms	41 42 19	packers
27 11 23	cable management rack, communications	28 21 11	<b>cameras</b>	41 42 23	sealers
33 82 46	cable pressurization equipment	27 05 11	analog	41 42 26	shrink wrappers
<b>27 05 13</b>	<b>cable services</b>	28 21 17	audio-visual systems	41 42 29	stackers
27 13 43	cabling	28 21 21	housings	<b>carts</b>	
26 05 29	cable supports, electrical	28 21 13	illuminators	11 43 13	dish
08 88 23	cable suspended glazing	28 21 19	Ip	11 43 13	food
26 05 00	cable terminations, electrical	28 21 13	mounts	11 72 00	healthcare
33 82 00	cable transmission and reception	28 21 13	panoramic Ip	11 81 16	housekeeping
34 14 00	cable transportation	28 21 13	specialty	12 56 00	institutional furniture
<b>cable trays</b>		28 21 15	surveillance	41 63 16	plant equipment
26 05 36	electrical	28 21 00	candy vending machines	10 14 16	carved plaques
25 05 28	integrated automation	11 21 23	canning equipment, commercial	12 14 13	carved sculpture
33 72 33	substation	45 15 00	canopies	08 14 13	carved wood doors
.....	cable TV - see community antenna television	10 73 16	canopies, glazed	<b>carving</b>	
26 25 16	cablebus, low-voltage	08 65 00	cantilever bridge machinery	04 40 00	stone
26 15 16	cablebus, medium-voltage	34 81 19	cantilever needle beams	06 40 00	wood
<b>cables</b>		31 46 13	<b>cants</b>	.....	casement windows - see windows
27 10 00	communications, structured	07 50 00	roof	<b>12 30 00</b>	<b>casework</b>
26 05 23	electrical, control-voltage	07 22 00	roof insulation	12 35 13	bank
26 05 19	electrical, low-voltage	06 10 00	wood	12 35 70	dental
26 05 13	electrical, medium-voltage	07 30 91	canvas roofing	06 41 00	display, architectural woodwork
25 05 13	integrated automation	07 62 00	cap flashing	12 35 59	display, mercantile
05 15 00	metal assemblies	40 72 33	capacitance type level meters (continuous and point type)	12 35 30	dormitory casework
26 05 00	modular terminations for post-tensioning	33 71 26	capacitor banks, electrical utility	12 35 50	educational
03 38 00	pothead termination for radiant heating	32 01 13	cape seal, flexible paving	12 35 00	food service
23 83 13	snow melting	02 41 13	capping existing site utilities	12 35 70	healthcare
23 83 13	snow melting	35 59 29	capstans	12 35 25	hotel
05 16 00	structural	10 73 23	car shelters	12 35 53	laboratory
34 23 23	traction power	40 47 19	carbon and graphite refractories	12 35 50	library
26 05 00	undercarpet	21 21 00	carbon dioxide fire extinguishing	12 30 00	manufactured
<b>cabling</b>		22 32 23	carbon filters, domestic water	12 31 00	metal
27 13 00	backbone, communications	11 51 00	card catalog units, library	12 35 25	motel
05 16 33	bridge	28 13 00	card key access control hardware	12 34 00	plastic
26 05 44	electrical, sleeves and sleeve seals	11 62 16	carillons	11 21 63	refrigerated display
27 15 00	horizontal, communications	06 20 00	<b>carpentry</b>	11 41 13	refrigerated food storage
27 10 00	structured, communications	06 10 00	finish	12 35 91	religious
05 16 00	structural	12 48 00	rough	12 35 30	residential
.....	cadaver lifts – see mortuary lifts	09 68 13	carpet mats	12 35 25	restaurant
.....	cafeteria equipment – see food service equipment		carpet tile	12 35 50	school
12 54 00	cafeteria furniture			12 35 00	specialty
<b>cages</b>				12 34 19	solid surface
13 19 00	animal, kennels			12 35 70	veterinary

	<b>casings</b>				
31 64 00	caisson	08 31 00	access doors and panels	09 97 26	coatings
09 29 00	gypsum board	09 01 50	assembly restoration	07 11 16	dampproofing
23 31 19	HVAC	23 37 13	diffusers	07 81 16	fire protection
14 24 00	hydraulic elevator	23 34 00	fans	03 61 00	grouting
09 22 36	plastering	11 30 00	fans, residential	06 16 63	sheathing
06 46 13	wood, custom	23 32 33	plenums, air distribution	07 42 46	wall panels
06 22 13	wood, standard pattern	.....	ceiling domes - see skylights	07 16 00	waterproofing
03 50 00	cast deck form boards	<b>09 22 26</b>	<b>ceiling suspension</b>		<b>cementitious coatings</b>
03 50 00	cast decks	09 50 00	part of ceiling assemblies	09 97 23	concrete and masonry
10 82 00	cast grilles and screens	<b>09 50 00</b>	<b>ceilings</b>	07 81 16	fire protection
<b>05 56 00</b>	<b>cast iron</b>	09 51 00	acoustical	09 96 00	high performance
23 52 23	boilers	09 58 00	integrated	06 12 13	cementitious reinforced panels
05 74 00	decorative	09 54 21	metal pan	03 51 13	cementitious wood fiber planks
05 56 00	fabrications	09 57 00	special function		<b>central</b>
<b>05 56 00</b>	<b>cast metal</b>	09 54 00	specialty	26 33 23	battery equipment
05 74 00	decorative	09 54 29	suspended, plastic	27 53 13	clock systems
10 82 00	grilles and screens	09 56 00	textured	23 09 00	control equipment, HVAC
10 14 16	plaques	13 49 00	x-ray protective	27 30 00	dictation systems
12 14 16	sculpture	05 59 63	cells, detention	26 09 33	dimming controls
	<b>cast ornaments</b>	31 52 00	cellular cofferdams	23 70 00	HVAC equipment
05 74 00	metal	<b>03 52 00</b>	<b>cellular concrete</b>	10 55 13	mail delivery boxes
09 27 00	plastering	03 52 16	lightweight	27 41 16	music systems
06 60 00	cast plastic fabrications		<b>cellular deck units</b>		<b>central-station air-handling units</b>
03 50 00	cast roof decks	03 41 13	concrete	23 73 00	indoor
12 14 16	cast sculpture	05 35 00	metal	23 75 13	outdoor, custom
04 72 00	cast stone	27 53 19	cellular systems, internal	23 74 00	outdoor, packaged
03 54 00	cast underlayment	07 20 00	cellulose insulation		<b>centrifugal</b>
03 15 19	cast-in concrete anchors	<b>03 05 00</b>	<b>cement</b>	43 11 00	blowers, process
<b>03 30 00</b>	<b>cast-in-place concrete</b>	09 51 53	acoustical tile	42 22 13	chillers and coolers, process
03 11 00	forms	09 28 13	backing boards		fans
31 62 13	piles	32 05 23	bituminous	23 34 16	gas compressors, process
32 32 13	retaining walls	03 05 00	for concrete	43 12 00	material dryers, process
31 75 13	shaft linings	31 05 23	for earthwork	42 32 13	refrigerant compressors
31 74 13	tunnel linings	32 05 23	for exterior improvements	23 61 13	water chillers, HVAC
09 66 00	cast-in-place terrazzo flooring	09 23 00	gypsum, plastering	23 64 16	
40 47 23	castable refractories	03 51 16	gypsum, roof deck		<b>centrifugal pumps</b>
04 53 00	castable refractory masonry	32 05 23	hydraulic, for exterior improvements	22 11 23	domestic water
12 50 00	caster pads		improvements	21 31 00	fire
41 31 13	casting lines, manufacturing	04 05 13	masonry mortar	33 32 00	wastewater
<b>05 56 00</b>	<b>castings, metal</b>	09 24 33	parging	41 11 19	centrifuges, bulk material
05 74 00	decorative	03 61 00	portland, grout	43 22 23	centrifuges, liquid, process
23 42 19	catalytic-adsorption air filtration	09 24 00	plastering	08 81 00	ceramic coated glass
		07 50 00	roofing	09 96 00	ceramic coatings
03 62 16	catalyzed metallic grouts	31 32 00	soil stabilization	04 21 16	ceramic glazed clay unit masonry
08 71 00	catches, door	09 24 23	stucco	12 11 26	ceramic mosaic murals, custom work
<b>14 47 13</b>	<b>cathodic protection</b>	09 66 00	terrazzo flooring		ceramic tile faced panels
40 46 42	process	09 30 00	tile setting	<b>09 30 13</b>	<b>ceramic tiling</b>
43 32 13	purification-gas and liquid purification process beds	31 73 13	tunnel grouting	09 30 13	accessories
27 05 13	CATV	07 81 13	cement aggregate fire protection	12 11 26	murals
	<b>catwalks</b>	04 05 13	cement and lime mortar	07 32 14	roof
11 51 23	bookstack	09 51 13	cement fiber acoustical ceiling panels	12 42 13	ceramics, table accessories
05 51 36	metal walkways	03 51 13	cement fiber roof decks	42 14 33	ceramics and glass melting furnaces
05 53 00	metal grating	32 01 16	cement-based base course rehabilitation		<b>00 62 00</b>
.....	caulking - see joint sealants			00 62 00	<b>certificates</b>
07 84 00	cavity firestopping	04 05 13	cement-lime masonry mortar	00 62 00	required of contractor
04 05 19	cavity wall anchor	32 11 33	cement-stabilized open graded base course	00 45 00	required with bids
07 21 00	cavity wall insulation		base course	01 33 13	submittal
04 27 23	cavity masonry walls	32 11 33	cement-treated base courses	<b>01 29 76</b>	<b>certificates for payment form</b>
<b>28 23 00</b>	<b>CCTV ceiling</b>	09 28 13	<b>cementitious</b>	00 62 76	
			backing boards		

	<b>certificates of</b>				
00 65 19	compliance	00 94 00	to contract terms, record	04 50 00	masonry
00 65 19	final completion	CSU/DSU	channel service unit/data	04 50 00	refractory
00 62 16	insurance		service unit	12 42 00	chinaware
00 65 16	substantial completion	03 41 00	channel slabs	32 01 13	chip seal, flexible paving
00 45 00	certification to comply with		<b>channels</b>	.....	chipboard - see oriented
	specific requirements	09 22 13	furring		strand board
	<b>certifications</b>	05 43 00	metal, lightgage	CPE	chlorinated polyethylene
00 45 36	equal employment	05 10 00	metal, structural	09 96 00	chlorinated rubber coatings
	opportunity	09 21 00	metal furring	43 32 76	chlorination equipment, liquid
00 45 39	minority business	26 33 43	chargers, battery		and gas, process
	enterprise	11 11 36	charging unit, vehicle		<b>chlorinators</b>
00 45 33	non-segregated facilities	40 78 26	chart recorders, process	22 31 00	domestic water
00 01 05	certifications page	23 32 00	chases, air		conditioning
<b>05 50 00</b>	<b>chain</b>	05 54 00	checker plate	CSPE	chlorosulfonated polyethylene
35 59 93	marine	11 21 13	checkout equipment, retail	26 35 16	chokes, electrical
03 81 26	chain concrete wall sawing	01 75 13	checkout procedures	11 61 23	choral risers
	<b>chain link</b>	11 21 33	checkroom equipment	<b>14 91 00</b>	<b>chutes</b>
32 31 13	backstops	08 71 00	checks, door	40 32 00	bulk material
32 31 13	fences and gates		<b>chemical</b>	14 91 13	coal
10 22 43	sliding partitions	03 05 00	admixtures, concrete	14 91 23	escape
22 40 00	chair carriers, plumbing	05 05 23	bonding, metals	14 91 33	laundry or linen
12 66 23	chair platforms, telescoping	02 72 13	decontamination, water	10 55 91	mail
	<b>chair rails</b>	45 31 00	manufacturing equipment	14 91 82	trash
06 46 23	custom wood	02 52 13	precipitation,	11 21 23	cigarette vending machines
05 70 00	decorative metal		decontamination	.....	cinder blocks - see concrete
06 22 13	standard pattern wood	33 79 83	rod grounding		masonry units
<b>34 14 33</b>	<b>chairlifts</b>	02 52 00	treatment, site remediation	32 15 13	cinder surfacing
14 41 19	stairway	31 73 16	tunnel grouting		<b>cinema equipment</b>
<b>12 52 13</b>	<b>chairs</b>	22 66 00	waste systems	11 61 00	broadcast, theater, and
12 62 00	auditorium	02 24 23	chemical sampling and		stage
11 21 53	barber		analysis, site remediation	11 52 00	commercial
12 60 00	classroom	23 25 00	chemical water treatment,	11 52 00	portable
11 74 00	dental		heating and cooling	11 52 16	projection room
12 62 13	folding		<b>chemical-resistant</b>	26 13 13	circuit breaker switchgear,
12 62 16	interlocking	04 61 00	brick		medium-voltage
13 11 46	lifeguard, swimming pool	09 63 13	brick flooring		<b>circuit breakers</b>
12 62 00	portable audience	09 96 35	coatings	33 74 00	extra-high-voltage
03 21 00	reinforcement bar support	04 05 16	grout, for masonry	33 75 00	high-voltage electrical utility
12 58 16	residential	04 60 00	masonry	26 28 16	low-voltage electrical
12 62 19	stacking	22 66 00	pipe	26 13 13	medium-voltage switchgear
10 22 00	chalkboard partitions	09 65 00	resilient flooring	33 77 00	medium-voltage, utility
10 11 13	chalkboards	09 35 00	tiling	26 18 00	circuit protection, medium-
<b>13 20 00</b>	<b>chambers</b>		<b>chemical-resistant mortar</b>		voltage
13 21 48	anechoic	04 05 13	for masonry	22 35 23	circulating domestic water heat
04 50 00	combustion	09 35 00	for tiling		exchangers
13 21 00	environmental control	23 42 16	chemically-impregnated	33 16 00	cisterns
11 53 00	growth		adsorption air filtration	<b>07 40 00</b>	<b>cladding, wall</b>
03 11 00	chamfer strips	08 81 00	chemically-strengthened glass	07 64 00	sheet metal
26 51 00	chandeliers	41 66 16	cherrypickers, plant	07 64 13	standing seam
11 21 24	change machines, money		<b>chilled-water</b>	07 64 16	batten seam
<b>01 26 57</b>	<b>change order requests</b>	33 61 00	distribution	07 64 19	flat seam
00 63 57	forms	23 07 19	pipe insulation	07 05 43	support systems
00 93 57	record	23 21 13	pipng	07 46 00	clapboard siding
<b>01 26 63</b>	<b>change orders</b>	23 71 16	thermal storage	41 23 13	clamps, lifting devices
00 63 63	forms	23 64 00	chillers, HVAC	<b>01 26 19</b>	<b>clarifications</b>
00 94 63	record	42 22 00	chillers and coolers, process	00 63 19	forms
00 93 00	change proposals, record	26 27 73	chimes, door	00 93 19	record
	<b>changes</b>	05 58 00	chimney hoods		<b>clarifiers</b>
01 26 00	in contract sum	04 01 50	chimney restoration	43 32 23	gas and liquid purification
01 26 00	in contract time		<b>chimneys</b>	43 22 79	liquid process
01 26 00	in scope	23 51 00	heat generation equipment	<b>26 54 00</b>	<b>classified location lighting</b>
		10 31 13	manufactured, fireplaces	26 54 13	incandescent

26 54 16	fluorescent	12 46 19	interior	07 81 00	fire protection
26 54 19	LED	10 25 16	part of service walls	32 01 13	flexible paving
12 56 33	classroom furniture	01 77 00	closeout procedures	05 05 13	fluoropolymer
31 35 26	clay containment barriers	01 78 00	closeout submittals	03 11 00	form
32 18 23	clay courts	42 21 16	closed-circuit cooling towers, process	05 05 13	galvanizing
04 62 00	clay liner plates, vitrified			09 96 59	glazed, high-build
	<b>clay tile</b>			09 96 00	high-performance
04 21 23	backing	CCTV	closed-circuit television	07 21 63	insulative, fluid-applied
04 21 19	facing	08 71 00	closers, door	09 96 46	intumescent
09 30 00	flooring	<b>10 57 23</b>	<b>closet shelving</b>	07 81 23	intumescent fire protection
07 32 13	roof	10 57 33	hardware	09 01 90	maintenance
04 21 19	unit masonry	10 57 00	closet specialties	09 97 23	masonry
04 21 00	clay unit masonry	13 26 00	closets, fabricated	05 05 13	metal
07 17 00	clay waterproofing, bentonite		<b>clothes dryers</b>	09 97 00	metal protective
13 21 13	clean rooms	10 28 23	clothes drying racks	05 05 13	porcelain enamel
21 22 00	clean-agent fire extinguishing	12 44 00	clothes hampers	05 05 13	powder
11 24 19	cleaners, central vacuum	12 55 26	clothes hooks, safety, detention	09 97 13	steel, field-applied
08 79 00	cleaners' hooks, windows		<b>clothes racks</b>	05 05 13	steel, prefinished
	<b>cleaning</b>	10 57 00	closet specialties	09 96 63	textured plastic
09 01 50	ceilings	12 50 00	furniture	07 18 00	traffic-bearing
01 74 00	construction	10 57 23	clothes rods	33 01 30	underground pipeline re- lining
01 74 23	final	28 05 27	cloud based storage for electronic safety and security	07 19 00	water repellent
XX 01 00	maintenance			07 14 00	waterproof
04 01 00	masonry	04 22 00	CMU	07 18 00	waterproof, traffic-bearing
05 01 00	metal	02 51 13	coagulation, site remediation		<b>coaxial cabling</b>
01 74 00	procedures	14 91 13	coal chutes	27 13 33	backbone, communications
41 01 52	silo	23 10 00	coal handling and storage	33 82 33	communications
04 01 40	stone		<b>coal tar</b>		distribution
09 01 60	terrazzo flooring	07 51 16	roofing	27 15 33	horizontal, communications
09 01 30	tile	32 12 36	seal coats, flexible paving		<b>cocks</b>
33 01 00	underground piping	07 12 16	waterproofing	22 11 19	water
04 01 20	unit masonry	23 54 00	coal-fired furnaces	12 58 00	cocktail tables
09 01 70	wall finishes	35 30 00	coastal construction	12 48 13	cocoa fiber entrance mats
06 01 00	wood	11 21 33	coat checking equipment	27 52 23	code blue systems
33 82 53	cleaning, lubrication	<b>10 57 13</b>	<b>coat racks</b>	01 41 13	code conformance, regulatory
	chemicals, communications	11 21 33	checkroom	01 41 23	code fees applicable to project
	<b>cleaning concrete</b>	12 50 00	furniture	27 21 16	codexs, communications
03 30 00	new CIP	07 57 00	coated foamed roofing	12 58 23	coffee tables, residential
03 40 00	new precast	08 81 00	coated glass	11 46 00	coffee urns
03 01 00	rehabilitation	41 34 23	coating equipment, manufacturing	11 21 23	coffee vending machines
	<b>cleaning equipment</b>	41 31 13	coating lines, manufacturing	31 52 00	cofferdams
13 13 00	aquariums		<b>coatings</b>		<b>coiling</b>
11 81 23	façade access	09 96 13	abrasion-resistant	08 33 00	doors
11 48 00	food service and disposal	09 83 00	acoustic	08 33 00	grilles
13 11 49	swimming pool	05 05 13	anodic	10 22 23	partitions
13 17 00	tubs and pools	09 96 23	anti-graffiti		<b>coils</b>
11 81 19	vacuum	09 97 26	cementitious	23 82 16	air
	<b>cleanouts</b>	09 96 35	chemical-resistant	23 82 00	chilled-water cooling
22 05 76	drainage piping, facility	09 97 23	concrete	23 62 00	coils and fan units
10 32 00	fireplaces	03 39 00	concrete curing		<b>coin collection equipment</b>
22 13 19	waste and vent piping	03 11 00	concrete form	11 12 26	parking
33 39 23	sanitary sewerage, utility	03 05 00	concrete surface treatments	34 54 26	passenger fare
31 11 00	clearing and grubbing		corrosion protection, process	11 14 26	pedestrian
35 59 33	cleats, marine	40 46 16	dry erase	34 52 26	vehicle fare
.....	cleft-face stone - see stone		dustproofing	10 51 00	coin-operated lockers
25 12 23	client-server information network gateways	09 97 35	elastomeric	11 46 00	cold dish tables
11 67 33	climbing walls	03 35 00	elastomeric, traffic-bearing	32 01 16	cold in-place reused asphalt paving
11 72 00	clinic equipment, healthcare	09 96 53	epoxy	32 17 23	cold plastic pavement markings
27 53 13	clock systems	07 18 00	fire-retardant		
	<b>clocks</b>	09 96 56			
10 74 13	exterior	09 96 43			



13 34 23	cold storage buildings, fabricated	48 31 16	heat and power generation, biomass- fueled	42 08 00	process heating, cooling, and drying
<b>08 34 13</b>	<b>cold storage doors</b>			40 08 00	process systems
13 21 26	part of fabricated room	48 31 00	heat and power generation, combustion	13 08 00	special construction
07 21 00	cold storage insulation			10 08 00	specialties
03 05 00	cold weather procedures, concrete	48 31 13	heat and power generation, natural gas- fueled	33 08 40	stormwater utilities
07 51 00	cold-applied bituminous roofing			07 08 00	thermal and moisture protection
07 51 00	cold-applied mastic roof membrane	40 15 13	combustion air piping	34 08 00	transportation
	<b>cold-formed</b>	23 24 00	combustion engine piping, internal	33 08 00	utilities
05 40 00	metal framing	23 51 00	combustion exhaust equipment	35 08 00	waterway and marine
05 42 00	metal joists	40 15 00	combustion system gas piping, process	06 08 00	wood, plastics, and composites
05 44 00	metal trusses			01 91 00	commissioning summary
41 32 23	cold-forming equipment, manufacturing	12 45 13	comforters	40 05 93	common motor requirements for process equipment
32 12 16	cold-mix asphalt paving		<b>commercial</b>	<b>common work results for</b>	
32 11 26	cold-reused bituminous base course	22 33 36	domestic water heaters, electric	27 05 00	communications
.....	collected stone - see stone	22 34 36	domestic water heaters, gas	03 05 00	concrete
10 55 16	collection boxes, postal specialties	22 31 16	domestic water softeners	14 05 00	conveying equipment
	<b>collectors</b>	22 42 39	faucets	31 05 00	earthwork
23 40 00	dust, air distribution	27 51 23	intercommunications	26 05 00	electrical
44 11 00	dust, industrial	22 42 00	plumbing fixtures	48 05 00	electrical power generation
11 82 00	facility solid waste handling equipment	10 28 13	toilet accessories	28 05 00	electronic safety and security
48 14 13	solar, power generation	<b>11 20 00</b>	<b>commercial equipment</b>	11 05 00	equipment
23 56 13	solar, heating	45 15 00	canning	02 05 00	existing conditions
11 82 00	solid waste	11 21 73	laundry	32 05 00	exterior improvements
03 05 00	color hardeners	11 52 16	projection	09 05 00	finishes
03 35 19	colored concrete finishes	12 12 13	commissioned paintings	21 05 00	fire suppression
	<b>coloring agents</b>	<b>01 91 00</b>	<b>commissioning of</b>	12 05 00	furnishings
03 05 00	concrete	27 08 00	communications	43 05 00	gas handling and storage, process
32 13 13	concrete paving	03 08 00	concrete	23 05 00	HVAC
04 05 13	masonry mortar	14 08 00	conveying equipment	45 05 00	industry-specific manufacturing equipment
09 20 00	plastering	31 08 00	earthwork	25 05 00	integrated automation
09 66 00	terrazzo flooring	26 08 00	electrical	43 05 00	liquid handling and storage, process
10 26 13	column guards	48 08 00	electrical power generation	04 05 00	masonry
22 42 00	column showers	28 08 00	electronic safety and security	41 05 00	material processing and handling equipment
	<b>columns</b>	11 08 00	equipment	05 05 00	metals
05 14 00	aluminum	02 08 00	existing conditions	08 05 00	openings
05 70 00	decorative metal	32 08 00	exterior improvements	04 03 05	period masonry
06 18 16	glued-laminated wood	01 91 00	facility	06 03 05	period wood
06 60 00	ornamental plastic	09 08 00	finishes	22 05 00	plumbing
06 44 39	ornamental wood	21 08 00	fire suppression	42 05 00	process heating, cooling, and drying equipment
03 41 00	precast concrete	12 08 00	furnishings	40 05 00	process interconnections
05 12 00	steel	23 08 00	HVAC	13 05 00	special construction
06 11 00	structural wood	33 08 50	hydrocarbon utilities	10 05 00	specialties
06 13 00	timber	45 08 00	industry-specific manufacturing	07 05 00	thermal and moisture protection
	<b>combination</b>	25 08 00	integrated automation	34 05 00	transportation
21 13 23	dry-pipe and pre-action fire sprinklers	01 91 26	integrated system	33 05 00	utilities
23 33 13	fire and smoke dampers	04 08 00	masonry	35 05 00	waterway and marine
21 13 23	fire sprinkler systems	41 08 00	materials process equipment	06 05 00	wood, plastics, and composites
33 40 00	storm drain and underdrain	05 08 00	metals	01 61 00	common product requirements
	<b>combined</b>	08 08 00	openings	40 05 51	common requirements for process valves
23 76 19	direct and indirect evaporative air coolers	22 08 00	plumbing		
48 30 00	heat and power generation	44 08 00	pollution control equipment		
		43 08 00	process gas and liquid equipment		

27 00 00	<b>communications</b>	10 22 19	demountable partitions	27 22 00	equipment, communications
28 05 41	antennas	08 16 00	doors	11 28 16	printers
27 40 00	audio-video	32 31 32	exterior fences and gates	27 24 13	printers, communications
27 05 26	bonding	08 81 00	glass	45 43 00	electronic product
28 05 41	cable, radiating coaxial	03 22 19	grid reinforcing		manufacturing
27 10 00	cabling	06 71 13	lumber	40 67 13	equipment racks
33 81 21	concealed towers	05 36 00	metal decking	.....	computer flooring - see access flooring
27 15 01	conductors	07 40 00	panels	28 46 23	computer-based detention monitoring
27 20 00	data	31 62 23	piles	23 81 23	computer-room air- conditioners
27 50 00	distributed	06 81 00	railings	10 13 13	computerized directories
27 51 29	emergency	03 21 21	reinforcement bars	10 56 26	computerized mobile storage systems
27 15 01	horizontal cabling applications	06 82 00	trim	<b>11 28 13</b>	<b>computers</b>
27 05 26	grounding	04 27 13	unit masonry	27 22 00	communications
27 50 00	monitoring	08 54 00	windows	40 62 21	desktop
05 45 19	metal supports	03 52 13	composite concrete and insulating decks	23 09 23	HVAC control
28 05 39	secure voice	07 31 33	composite rubber shakes	40 62 19	industrial
27 05 05	selective demolition	<b>composition</b>	<b>composition</b>	25 11 00	integrated automation
27 05 44	sleeves and sleeve seals for pathways and cabling	07 46 43	siding	40 62 26	laptop
27 30 00	voice	09 63 43	stone flooring	26 09 43	lighting control
33 83 00	wireless	10 11 23	tackboards	40 62 23	mobile
	<b>communications equipment</b>	10 11 00	writing surfaces	40 62 16	operator workstation
27 40 00	audio-video	<b>07 65 00</b>	<b>composition flashings</b>	40 62 13	server
27 20 00	data	04 20 00	masonry assemblies	40 62 29	tablet and mobile devices
40 66 33	metallic and fiber-optic communication cabling and connectors	07 50 00	membrane roofing	40 62 00	computer system hardware and ancillaries
27 30 00	voice	11 82 29	compositing equipment	23 56 13	concentrating solar collectors, heating
33 83 00	wireless	<b>componds</b>	<b>componds</b>	<b>03 00 00</b>	<b>concrete</b>
<b>27 05 13</b>	<b>communications services</b>	08 85 00	glazing	03 15 00	accessories
27 13 43	cabling	07 92 00	joint sealants	03 05 00	admixtures
<b>33 80 00</b>	<b>communications utilities</b>	07 50 00	roofing	03 05 00	aggregates
33 81 21	concealed towers		<b>compressed air</b>	03 15 00	anchors, cast-in
33 82 00	distribution	11 11 13	equipment, vehicle service	05 05 19	anchors, post-installed
33 79 19	grounding	22 15 00	filters	03 33 00	architectural, CIP
33 81 00	structures	22 61 00	healthcare systems	32 11 36	base courses
33 83 00	wireless distribution	25 35 26	integrated automation	03 05 00	bonding agents
33 79 16	communications tower grounding	22 61 00	laboratory systems	03 82 00	boring
CATV	community antenna television	22 15 00	lubricators	33 05 39	box sections for sewers and culverts
22 11 23	compact circulators	22 15 13	pipng, general service	04 22 00	brick
10 56 26	compact storage shelving	40 12 00	pipng, process	03 35 00	bushhammered
31 62 13	compacted-expanded base- concrete piles	40 12 13	process pipng for breathing service	03 30 00	cast-in-place
31 23 23	compaction		regulators	03 01 00	cleaning, maintenance
31 43 16	compaction grouting	22 15 00	specialties	33 05 39	closures, pipe
	<b>compactors</b>	31 71 00	tunneling	03 35 19	colored
41 61 19	plant equipment	22 15 16	valves, general service	12 36 13	countertops
44 53 61	solid waste	33 56 53	compressed gases storage tanks	32 16 13	curbs
11 82 26	waste, facility	04 05 23	<b>compressible filler</b>	03 39 00	curing
11 30 13	trash, residential	08 85 00	for masonry	03 81 00	cutting
	<b>compartments</b>		glazing	03 52 13	decks, composite
10 21 16	shower and dressing	32 14 73	<b>compression</b>	03 35 00	dustproofing
10 21 13	toilet		concrete paving joint	33 05 39	elliptical pipe
10 21 00	compartments and cubicles	03 20 00	sealants	33 42 26	end sections, stormwater pipng
00 65 19	compliance, certificates of	07 91 13	reinforcement, concrete	03 35 00	etching
13 42 00	components, building	01 45 00	seals	01 71 36	examination, non- destructive
26 09 16	components, electrical control		testing, general procedures		
	<b>composite</b>	23 62 00	<b>compressors</b>		
07 40 00	building panels	43 12 00	condenser units and		
06 73 00	decking	23 60 00	gas, process		
		23 61 00	HVAC		
			refrigerant		
			<b>computer</b>		

03 35 23	exposed aggregate	03 50 00	concrete asphaltic perlite deck	23 63 00	refrigerant
03 35 00	finishing	.....	concrete block - see concrete masonry unit	42 23 00	condensers and evaporators, process
09 62 13	flooring, plank			23 52 16	condensing boilers, heating
31 05 23	for earthwork			23 63 00	condensing units
32 05 23	for exterior improvements	03 41 00	concrete bridge girders		<b>conditioners</b>
03 11 00	forming	03 38 00	precast prestressed post-tensioned	26 35 00	power, electrical
05 30 00	formwork, metal form deck	09 97 23	concrete coatings	22 31 00	water
03 49 00	glass-fiber-reinforced	09 96 23	graffiti-resistant	43 22 11	conditioning equipment, process water
03 61 00	grout	07 19 00	water-repellent	00 31 19	conditions, existing
32 16 13	gutters	03 82 13	concrete core drilling	00 21 00	conditions affecting award of contract
03 51 16	gypsum deck	31 66 16	concrete cribbing foundation walls		<b>conductive</b>
03 05 00	hardeners			33 79 83	concrete grounding
03 05 00	hot weather procedures	31 62 13	concrete displacement piles	09 67 13	elastomeric liquid flooring
03 64 00	injection grouting	03 35 16	concrete floor finishing, heavy-duty	09 65 33	resilient flooring
03 15 00	inserts	04 28 00	concrete form masonry units	09 66 33	terrazzo flooring
03 52 00	insulating		concrete inertia bases	09 33 00	tiling
33 05 39	irrigation and drainage pipe	21 05 48	fire-suppression equipment		<b>conductors</b>
03 15 16	joints	23 05 48	HVAC equipment	26 05 00	electrical
03 54 00	leveling	22 05 48	plumbing equipment	25 05 13	integrated automation
03 47 16	lift-slab	CMU	concrete masonry unit	26 41 00	lightning protection
03 52 16	lightweight insulating	04 22 00	concrete masonry units	33 79 83	site grounding
03 31 00	lightweight structural	03 30 00	concrete mix design, CIP		<b>conduit</b>
03 52 00	low-density, insulating	32 13 13	concrete paving	27 05 33	communications
03 70 00	mass	32 13 73	joint sealants	26 05 33	electrical
03 05 00	materials	32 01 29	patching	25 05 28	integrated automation
34 71 13	median barrier	32 01 29	raising	27 41 16	conference room audio-video
03 50 00	available	32 01 26	resurfacing	11 28 00	conference room equipment
03 53 19	overlayment	.....	concrete paving jacking - see concrete paving raising	10 11 36	conference units, visual display
32 01 26	overlays, paving			.....	conferences - see meetings
03 45 00	panels, precast	31 63 23	concrete piles	27 16 00	connecting cords, devices and adapters, communications
33 05 39	pipe	31 62 13	bored	06 05 23	connectors, wood framing
03 37 19	pneumatically placed		driven	26 05 00	connectors for electrical wires
03 38 00	post-tensioned			00 62 76	consent of surety
03 40 00	precast		concrete plank		<b>conservation treatment</b>
03 48 26	precast parking bumpers	03 41 13	hollow core	02 03 00	for existing period conditions
03 40 00	pre-stressed	03 41 13	precast	04 03 24	for period adobe unit masonry
33 05 39	pressure pipe	03 51 16	precast gypsum	03 03 33	for period architectural concrete
03 37 16	pumped	31 43 13	concrete pressure grouting	06 03 40	for period architectural woodwork
31 43 00	raising	03 30 00	concrete protection, CIP	03 03 30	for period cast-in-place concrete
03 01 00	rehabilitation	03 01 00	concrete resurfacing	09 03 50	for period ceilings
03 20 00	reinforcement	32 01 26	paving	04 03 21	for period clay unit masonry
03 01 00	restoration	07 32 16	concrete roof tile	05 03 58	for period column covers
12 14 00	sculpture		concrete slabs	03 03 00	for period concrete
03 35 00	sealing	03 30 00	cast-in-place	04 03 22	for period concrete unit masonry
03 05 05	selective demolition	03 41 13	hollow-core planks, precast	05 03 76	for period decorative forged metal
33 34 13	septic tanks	03 41 23	precast	05 03 75	for period decorative formed metal
03 11 13	shoring	03 35 46	concrete topical treatments	05 03 70	for period decorative metal
03 35 00	special finishes	04 28 00	concrete-filled masonry units		
03 37 00	specially-placed	31 62 23	concrete-filled steel piles		
09 61 19	floor staining	23 22 13	condensate piping		
33 05 39	sewer and culvert pipe	40 11 23	for process applications		
03 31 00	structural		condensate pumps		
03 41 00	structural, precast	23 21 29	automatic		
32 11 36	sub-base for paving	23 22 23	steam		
03 05 00	surface treatments	23 21 13	condenser water piping		
33 05 39	thrust restraints, pipe		condensers		
03 53 00	toppings	48 11 16	fossil fuel power generation		
03 35 46	topical treatments	48 16 16	geothermal power generation		
04 22 00	unit masonry		nuclear fuel power generation		
33 05 39	utility pipe	48 12 26	process		
33 05 39	wall fittings, pipe				
03 15 13	waterstops	42 23 13			

05 03 71	for period decorative metal stairs	07 03 46	for period wood siding	26 29 13	contractors, low-voltage
05 03 73	for period decorative metal railings	08 03 52	for period wood windows	41 12 13	container bulk material conveyors
08 03 71	for period door hardware	01 35 03	conservation treatment procedures	41 42 16	container bulk material loaders
06 03 20	for period finish carpentry	13 34 13	conservatories	<b>container</b>	
09 03 00	for period finishes	11 62 00	consoles, carillon and organ	41 41 16	cappers
07 03 60	for period flashing and sheet metal	03 30 00	<b>consolidation</b> CIP concrete	41 41 19	fillers
09 03 60	for period flooring	04 01 40	stone	41 41 00	filling and sealing
08 03 70	for period hardware	06 01 00	wood	41 42 00	packing equipment
06 03 13	for period log construction	13 21 29	constant temperature rooms	41 40 00	processing and packaging
08 03 91	for period louvers	23 36 13	constant volume air terminal units	41 41 23	sealers
08 03 90	for period louvers and vents	35 32 16	constructed artificial reefs	41 42 26	shrink wrappers
04 03 00	for period masonry	12 14 19	constructed sculptures	41 42 29	stackers
09 03 63	for period masonry flooring	32 71 00	constructed wetlands	41 21 23	container piece material conveyors
05 03 00	for period metals	<b>construction</b>		44 51 00	containers, solid waste
05 03 51	for period metal stairs	01 54 00	aids	31 35 26	containment barriers
08 03 51	for period metal windows	01 12 00	by owner, multiple contract	00 31 24	contamination reports, soil
07 03 33	for period natural roof coverings	01 74 00	cleaning	01 21 16	contingency allowances
08 03 00	for period openings	01 54 19	cranes	01 14 16	continued occupancy
09 03 91	for period painted surfaces	01 52 00	facilities	<b>continuous</b>	
09 03 90	for period painting and coating	01 55 16	haul routes	04 05 19	joint reinforcing, for masonry
09 03 21	for period plaster assemblies	03 15 00	joints	32 13 13	reinforced concrete paving
09 03 25	for period plastering	01 71 23	layout	07 72 26	ridge ventilators
09 03 65	for period resilient flooring	02 42 00	materials, diversion	08 63 00	skylights
07 03 32	for period roof tiles	00 61 13	payment bonds	.....	contract - see agreement
07 03 41	for period roof panels	00 61 13	performance bonds	.....	contract clauses - see general conditions
07 03 00	for period roofing	01 12 16	phasing, multiple contract	01 77 00	contract closeout
07 03 40	for period roofing and siding panels	01 32 33	photographs	<b>contract conditions</b>	
07 03 61	for period sheet metal roofing	01 32 26	progress documentation	00 73 00	additional articles
07 03 31	for period shingles and shakes	01 53 00	temporary	00 72 00	general
08 03 34	for period special function doors	<b>01 26 46</b>	<b>construction change directives</b>	01 11 13	contract documents, work covered by
08 03 30	for period specialty doors and frames	00 63 46	forms	.....	contract forms - see agreement forms
07 03 30	for period steep slope roofing	00 94 46	record	01 12 19	contract interface
04 03 43	for period stone masonry	<b>01 54 00</b>	<b>construction equipment</b>	<b>01 26 00</b>	<b>contract modifications</b>
03 03 31	for structural concrete	00 62 89	form	00 94 00	record
05 03 12	for period structural steel	<b>construction management</b>		01 32 26	contract progress reporting
09 03 51	for period suspended ceilings	00 52 23	agreement	00 71 00	contracting definitions
09 03 66	for period terrazzo flooring	00 52 26	agreement form – construction manager as agent or adviser – cost-plus	03 15 00	contraction joints, concrete
09 03 56	for period textured ceilings	00 41 00	bid forms	00 91 57	contractor request for contract modification
09 03 30	for period tile	00 72 00	general conditions	01 14 00	contractor use of premises
08 03 95	for period vents	<b>construction management contracts</b>		00 45 13	contractor's qualifications
09 03 72	for period wall coverings	01 12 00	summary, multiple contract	01 45 16	contractor's quality control
09 03 70	for period wall finishes	01 11 00	summary, single contract	01 11 00	contracts, single, summary of work
08 03 75	for period window hardware	<b>construction safety</b>		00 45 00	contractual requirements
08 03 50	for period windows	00 72 00	general conditions	<b>compliance certificates</b>	
06 03 00	for period wood	00 73 00	supplementary conditions	<b>control</b>	
08 03 14	for period wood doors	<b>01 32 16</b>	<b>construction schedules</b>	11 15 00	equipment, security
09 03 64	for period wood flooring	00 62 83	forms	31 25 00	erosion
		00 31 13	preliminary	07 95 00	expansion
		00 43 83	proposed	28 46 24	interfaces, fire
		01 12 16	<b>construction sequence</b>	33 37 00	overflow
		01 11 00	multiple contract	10 81 00	pest
		<b>01 74 19</b>	single contract	44 00 00	pollution
		<b>management</b>		01 45 00	quality
		00 62 23	diversion form	13 48 00	seismic

13 48 00	sound	40 78 23	potentiometers and manual	23 82 00	convection heating and cooling units
13 48 00	vibration	26 35 33	power factor, electrical	23 82 33	convectors
23 09 00	control air tubing	34 42 19	railway	33 72 33	converter stations, substation
25 13 00	control and monitoring network, integrated automation	40 92 00	self-contained flow, process	<b>converters</b>	
25 15 16	control and monitoring software, integrated automation	28 05 43	signal	40 66 19	media
26 22 19	control and signal transformers, low-voltage	40 78 43	single-loop	26 32 29	rotary, electrical
13 26 00	control booths, fabricated	28 05 43	splitters, signal	26 33 33	static power, electrical
	<b>control dampers</b>	26 29 23	variable frequency motor	34 21 13	static power, traction power
23 09 23	HVAC	08 71 00	controlling hardware, door	41 31 13	converting lines, manufacturing
25 35 23	integrated automation		<b>controls</b>	<b>14 00 00</b>	<b>conveying equipment</b>
	<b>control devices</b>	34 43 26	airfield	01 85 00	performance requirements
11 12 00	parking	34 48 16	bridge, operating	14 05 05	selective demolition
11 14 16	pedestrian	11 61 00	broadcast	42 32 16	conveyor material dryers, process
33 72 33	control house equipment	27 53 13	clock	<b>conveyors</b>	
34 40 00	control instrumentation, transportation	25 57 00	communications	34 77 39	baggage
	<b>control joints</b>	25 52 00	conveying equipment	41 12 13	bulk material
03 15 00	concrete	35 13 53	dams	11 43 16	dish
09 29 00	gypsum board	28 46 00	detection	11 43 16	food
04 05 23	masonry	26 09 00	dimming	41 21 23	piece material
09 22 36	plastering	25 50 00	door	41 12 19	pneumatic
09 66 00	terrazzo flooring	25 56 00	electrical	41 21 23	postal
	<b>control panels</b>	48 19 00	electrical power generation	<b>11 44 00</b>	<b>cooking equipment</b>
23 09 00	HVAC	25 58 00	electronic safety and security	11 30 13	residential
25 14 00	integrated automation	25 51 00	equipment	10 35 23	cooking stoves, wood-burning
48 09 00	power generating and transmitting	31 25 00	erosion	<b>coolers</b>	
33 72 33	substation, electrical utility	07 95 00	expansion	22 47 00	drinking water
23 09 13	control relays, HVAC	25 53 00	fire suppression	11 41 13	reach-in
40 67 23	control system console	22 52 23	fountain equipment	11 41 23	walk-in
	<b>control sequences</b>	28 33 13	gas detection and alarm	01 51 23	cooling, temporary
23 09 93	HVAC	23 09 00	HVAC	23 60 00	cooling equipment, central HVAC
25 90 00	integrated automation	25 50 00	integrated automation	42 23 16	cooling evaporators, process
40 67 00	control system equipment panels and racks	28 16 13	intrusion detection	23 21 13	cooling piping
40 69 13	control system simulators	26 09 00	lighting	23 21 23	cooling pumps
34 73 23	control towers, airfield, manufactured	26 09 43	lighting, addressable luminaire	<b>cooling towers</b>	
	<b>control valves</b>	25 56 00	lighting, integrated automation	23 65 00	HVAC
23 09 23	HVAC	35 12 53	marine	23 65 14	induced-draft
25 35 19	integrated automation	40 67 63	panel-mounted	42 21 00	process
26 05 23	control-voltage cables		uninterruptible power supply	05 58 19	cooling unit enclosures
33 42 16	control wiring, railway	10 81 00	pest	<b>coordination with</b>	
33 72 43	control wiring, substation	25 54 00	plumbing	01 14 16	occupants
.....	controlled density fill - see flowable fill	48 09 00	power generating and transmitting	01 31 13	other contractors
<b>13 21 00</b>	<b>controlled environment rooms</b>	01 45 00	quality	01 31 13	owners
11 41 23	walk-in coolers, food service	34 42 00	railroad instrumentation	01 31 13	subcontractors
13 21 26	walk-in coolers, specialty	28 35 13	refrigerant detection and alarm	11 28 23	copiers
11 41 26	walk-in freezers, food service	13 48 00	seismic	<b>07 71 13</b>	<b>copings</b>
13 21 26	walk-in freezers, specialty	13 48 00	sound	04 72 00	cast stone
	<b>controllers</b>	34 42 00	subway instrumentation	07 62 00	custom sheet metal
28 05 43	couplers	22 51 23	swimming pool equipment	07 62 13	fabricated
26 29 13	enclosed, low-voltage	01 57 00	temporary	04 20 00	unit masonry
26 18 39	motor, medium-voltage	11 61 00	theater	CPA	copolymer alloy
		34 40 00	transportation	00 45 43	corporate resolutions
		33 09 00	utility	<b>copper</b>	
		13 48 00	vibration	05 70 00	decorative
		28 23 13	video surveillance	07 62 00	flashing
		35 11 53	waterways	10 14 16	plaques
				07 46 00	siding
				33 05 17	utility pipe

	<b>copper cabling</b>	33 71 26	coupling capacitors	10 28 13	toilet accessories
27 13 13	backbone, communications	12 60 00	courtroom seating, multiple seating	<b>10 74 23</b>	<b>cupolas</b>
33 82 13	communications distribution		<b>covers</b>	06 44 26	wood
27 15 13	horizontal, communications	07 95 13	expansion joints	05 50 00	curb guards, metal
	<b>copper sheet roofing</b>	10 73 00	protective		<b>curbs</b>
07 61 00	custom	10 73 26	walkway	07 72 13	manufactured, roof
07 41 13	manufactured	07 54 13	CPA roofing	32 10 00	paving
06 44 23	corbels, wood	07 53 13	CPE roofing	08 60 00	skylight
	<b>core drilling</b>	01 32 16	CPM schedules	06 10 00	wood, roof
00 31 32	available to bidders	32 01 17	crack sealing, asphalt paving		<b>curing</b>
02 25 00	by contractor	32 11 36	cracked and seated concrete base	03 39 00	concrete
	<b>cork</b>	12 46 23	crafts, decorative	03 40 00	precast concrete
07 21 00	insulation	41 22 13	crane rails	03 39 00	curing compounds, concrete
07 91 26	joint fillers	<b>41 22 13</b>	<b>cranes</b>	42 15 16	curing ovens, industrial
.....	cork boards - see tackboards	34 78 33	crane scales	11 67 00	curling rinks
09 62 29	cork flooring	01 54 19	temporary	25 36 19	current sensors, integrated automation
09 72 13	cork wall coverings	34 71 13	crash barriers	48 71 16	current test equipment, power generation
09 22 36	corner beads	10 26 00	crash rails, interior	33 71 26	current transformers, electrical utility
10 26 13	corner guards	11 78 16	crematorium equipment	I/P	current-to-pressure
06 46 26	cornices, wood	08 75 00	cremone bolts	40 79 33	current-to-pressure converters, process
48 71 13	corona test equipment, power generation	31 53 00	cribbing and walers		12 22 00
01 45 00	correction of defective construction	31 52 00	crib cofferdams	12 22 00	curtain fabrics
40 46 00	corrosion protection, process	08 42 43	critical care unit entrances	12 22 16	curtain hardware
09 96 00	corrosion-resistant coatings	CPM	critical path method	12 22 16	curtain tracks
04 60 00	corrosion-resistant masonry	27 25 26	CRM software, communications	08 01 40	curtain wall restoration
	<b>corrugated</b>	27 16 19	cross connect wire, communications	11 81 23	curtain wall façade access equipment
08 81 00	glass	34 11 33	cross ties, track	08 44 00	curtain walls
05 30 00	metal decking	23 65 00	cross-flow cooling towers	04 42 43	stone panels
33 05 27	metal utility pipe	06 17 19	cross-laminated timber	33 16 93	storage tank, internal
03 11 00	paper forms		<b>crushed stone aggregate</b>	<b>12 22 00</b>	<b>curtains</b>
07 40 00	plastic panels	03 05 00	concrete	10 21 23	cubicle
07 46 00	siding	07 50 00	membrane roofing	12 44 16	shower
33 42 26	corrugated metal end sections, stormwater piping	32 15 40	paving	11 61 43	stage
	<b>03 11 00 corrugated metal forms</b>	32 15 40	crushed stone surfacing	09 53 13	curved profile ceiling suspension assemblies
05 30 00	form deck	11 82 26	crushers, bottle and can	09 64 53	cushioned wood flooring
01 29 73	cost breakdown	41 11 23	crushers, bulk material		<b>cushions</b>
	<b>cost-plus-fee</b>	40 42 00	cryogenic temperature insulation, process	09 68 00	carpet
00 52 16	agreement form (design/bid/build or design/negotiate/build)	40 74 53	cryogenic temperature sensors	12 67 00	pew, bench, and seat
		07 16 16	crystalline waterproofing	10 28 26	custodial accessories
00 41 33	bid forms		<b>CSPE</b>		<b>custom</b>
00 72 00	general conditions	07 14 00	fluid-applied waterproofing	27 16 13	cable assemblies, communications
08 33 13	counter doors, coiling	07 53 16	roofing		central-station air-handling units
23 65 00	counter flow cooling towers	07 13 00	sheet waterproofing	23 73 23	elevator cabs and doors
14 41 13	counterbalanced people lifts	27 21 16	CSU/DSU, communications	08 11 13	hollow metal doors and frames
	<b>07 62 00 counterflashing</b>	10 21 23	cubicle curtains	14 27 00	metalwork, decorative
07 71 16	manufactured	10 21 23	cubicle hardware	08 11 13	mosaic murals
	<b>counters</b>	10 21 23	cubicle tracks		panelwork
11 51 00	charging, library	<b>10 21 00</b>	<b>cubicles</b>	05 70 00	rooftop air-conditioning units, packaged
12 35 59	display	10 21 16	dressing	05 58 00	sheet metal
11 12 00	parking	10 21 23	healthcare	06 41 00	wood casework
40 75 73	particle	12 59 00	office	06 46 00	wood trim
11 30 13	countertop ranges, residential	10 21 16	shower	06 44 13	wood turning
	<b>12 36 00 countertops</b>	10 21 13	toilet	06 42 00	wood wall paneling
09 30 13	ceramic tile	12 36 61	cultured marble countertops		
11 40 00	food service	33 42 00	culverts		
12 36 26	glass		<b>cup dispensers</b>		
12 36 71	paper-composite	11 46 00	food dispensing equipment		

06 40 00	woodwork	01 71 23	survey, by contractor	05 75 00	formed metal
	<b>custom furniture</b>	<b>27 20 00</b>	<b>data communications</b>	09 94 23	gilding
12 55 83	detention	27 22 00	hardware	08 81 13	glass glazing
12 54 83	hospitality	27 21 00	network equipment	05 73 00	handrails and railings
12 57 83	industrial	27 24 00	peripheral data equipment	32 31 19	metal fences and gates
12 56 83	institutional	27 26 00	programming and integration services	05 74 00	metal castings
12 51 83	office			05 71 00	metal stairs
12 58 83	residential	27 25 00	software	09 54 33	panel ceilings
12 53 83	retail	10 55 33	data distribution boxes, postal	09 20 00	plastering
12 52 83	seating	27 22 00	data processing equipment	08 84 13	plastic glazing
12 59 83	systems	02 06 14	data report, geotechnical	03 45 00	precast concrete
CRM	customer relationship management		<b>database</b>	32 31 19	security metal fences and gates
		27 26 16	development, communications	05 75 00	sheet metal
27 25 26	customer relationship management software	25 12 23	integration network gateways	09 54 36	suspended grids
31 71 00	cut and cover tunnels			05 70 00	decorative metalwork
09 30 33	cut natural stone tiling	27 25 33	software, communications	27 35 23	dedicated 911 systems
.....	cut stone - see stone	08 34 59	day gates, security and vault	33 79 83	deep earth grounding
09 30 33	cut stone tiling, interior	40 63 13	DCS, process	05 21 13	deep longspan steel joists
35 41 16	cutoff trenches, levee	01 94 00	deactivation of a facility	31 62 00	deep pile foundations
26 05 33	cutout boxes, electrical	08 71 00	dead-lock bolts	<b>11 44 00</b>	<b>deep well cookers</b>
	<b>cutouts</b>	33 72 13	deadend structures, electrical utility	11 30 13	residential
26 18 13	medium-voltage, facility			10 43 13	defibrillator cabinets
33 77 33	medium-voltage, utility	40 79 43	deadweight testers	<b>01 42 16</b>	<b>definitions</b>
26 18 33	medium-voltage, enclosed fuse, facility	23 53 16	deaerators, heating boiler	00 71 00	contracting
	<b>cutting and patching</b>	43 22 26	deaerators, liquid, process	00 23 00	procurement
		11 97 13	deal drawers		<b>dehumidification units</b>
01 73 29	execution	01 74 19	debris control and removal	23 84 16	dehumidification units, desiccant
00 72 00	general conditions	01 74 19	debris removal, final	23 84 19	dehumidification units, mechanical
11 30 00	cutting blocks, food, residential	41 34 26	deburring equipment, manufacturing	41 24 19	dehydrators, specialty material handling
41 36 23	cutting equipment, manufacturing assembly	23 80 00	decentralized HVAC equipment	DI	deionized
41 36 23	cutting torches, manufacturing		deck insulation	40 23 13	deionized water piping, process
28 05 11	cyber security requirements for electronic safety and security	07 22 00	deck pavers	22 67 00	deionized water system, laboratory
41 11 26	cyclones, bulk material	07 76 00	<b>decking</b>	01 35 73	delegated design procedures
43 27 13	cyclonic liquid filters, process	05 34 00	acoustical metal	34 71 19	delineators, roadway
11 61 00	cycloramas	05 33 00	aluminum	01 65 00	delivery of products
08 71 00	cylinder locks	07 22 00	asphaltic insulation fill	21 13 26	deluge fire sprinklers
		03 50 00	cast		<b>demineralization equipment</b>
		03 51 13	cement and wood fiber	22 31 00	domestic water
		06 73 00	composite	23 25 00	hot water heating
		06 15 23	glued-laminated wood	23 25 00	steam heating
		03 34 00	low-density concrete	<b>02 41 00</b>	<b>demolition</b>
		05 30 00	metal	01 94 00	facility
		06 53 00	plastic	02 41 00	selective
		03 41 00	precast concrete	02 41 19	whole structure
		05 31 00	steel	23 08 00	demonstration, HVAC
		03 31 00	structural concrete	01 79 00	demonstration and training
		01 53 26	temporary	01 79 00	demonstration of systems, general procedures
		07 18 00	traffic coatings	08 12 16	demountable aluminum door frames
		06 15 00	wood		<b>demountable floor systems</b>
		01 94 00	decommissioning, facility	09 69 00	access flooring
		02 60 00	decontamination, site	13 28 66	athletic
			<b>decorative</b>	10 22 19	demountable partitions
		12 46 00	accessories	11 61 23	demountable risers and platforms
		03 35 00	CIP concrete finishes		
		32 13 16	concrete paving		
		12 46 23	crafts		
		05 77 00	extruded metal		
		09 94 00	finishes		
		05 76 00	forged metal		

40 34 10	dense phase pneumatic conveying lines	11 98 16	equipment fasteners	27 35 13	voice announcers, communications	
31 45 16	densification, soil	01 35 13	facility procedures	DSL	digital subscriber line	
03 05 00	densifiers, concrete	12 55 00	furniture	<b>27 05 13</b>	<b>digital subscriber line services</b>	
12 35 70	dental casework	08 71 63	hardware	27 13 43	cabling	
11 74 00	dental equipment	28 52 10	interfaces	26 09 43	digital-network lighting controls	
11 51 16	depositories, book	27 51 23	intercommunications	31 52 00	dike cofferdams	
41 22 33	derricks	26 55 63	lighting	40 34 50	dilute phase pneumatic conveying lines	
42 31 16	desiccant equipment, process	28 52 13	monitoring and control	.....	dimension stone - see stone	
00 31 21	description of existing buildings	11 98 13	pass-through doors	10 14 19	dimensional letter signage	
00 31 21	description of existing site	28 52 19	personal protection systems	26 27 26	dimmers	
01 33 16	design data, submittal	01 35 13	project procedures	26 09 00	dimming controls	
01 35 73	design procedures, delegated	11 98 11	requirements for equipment	12 58 19	dining tables, residential	
00 72 00	design professional's role during construction	11 98 19	room padding	41 34 23	dipping coating equipment, manufacturing	
	<b>design-build contracts</b>	28 52 00	security systems			
01 12 00	summary, multiple contract	28 52 11	security system requirements	23 09 23	direct-digital controls, HVAC	
01 11 00	summary, single contract	10 28 13	toilet accessories	23 76 13	direct evaporative air coolers	
12 41 13	desk accessories	28 52 15	video systems	23 73 39	direct gas-fired heating and ventilating units, indoor	
12 43 13	desk lamps	11 98 23	window screens	23 57 33	direct geexchange heat exchangers	
12 59 23	desk system furniture	11 98 21	windows	09 51 53	direct-applied acoustical ceilings	
	<b>desks</b>	00 73 46	determination of wage schedule	33 71 53	direct-current transmission	
12 55 16	detention	01 53 00	detours, construction	25 12 16	direct-protocol integration network gateways	
12 51 00	furniture		<b>devices</b>	10 14 00	directional signage	
11 51 00	library charging		change-of-state	01 26 00	directives, construction change	
27 22 23	desktop computers, communications	40 74 49	temperature measurement	10 13 00	directories	
	<b>detection</b>	40 74 36	diode temperature measurement	00 01 03	directory, project	
28 31 20	area and perimeter intrusion	40 73 43	force measurement	10 17 13	directory units, telephone dirt - see soils	
28 16 13	electronic personal safety	11 14 16	pedestrian control	.....	12 50 00	disappearing beds
28 31 00	fire	40 74 13	resistance temperature	.....	disappearing stairs - see retractable stairs	
28 43 00	fuel-oil	40 73 53	torque measurement	41 31 13	disassembly lines, manufacturing	
28 42 00	gas	<b>31 23 19</b>	<b>dewatering</b>	40 15 29	disassociated-ammonia-gas combustion system piping	
28 37 13	gunshot	01 57 23	temporary control	27 24 29	disaster recovery equipment, communications	
28 16 00	intrusion		<b>diagrams</b>	.....	disconnect switches - see circuit breakers	
28 30 00	leak	40 96 25	logic, process		<b>dish</b>	
11 14 43	pedestrian	40 96 30	loop, process	11 43 13	carts	
28 41 00	radiation	<b>27 05 13</b>	<b>dialtone services</b>	11 43 16	conveyors	
28 44 00	refrigerant	27 13 43	cabling	11 46 00	dispensers	
34 41 23	roadway	09 22 36	diamond lath	11 41 00	storage, food service	
28 46 11	sensors, fire	11 72 00	diathermy equipment	10 28 00	dishes, soap	
28 43 15	sensors, fuel-oil	40 16 26	diaborane gas piping	<b>11 48 13</b>	<b>dishwashers</b>	
28 42 15	sensors, gas	41 32 26	die-casting equipment, manufacturing	11 30 13	residential	
28 41 15	sensors, radiation		<b>die-formed sheet metal</b>	22 11 00	disinfecting potable water piping	
28 44 15	sensors, refrigerant	07 61 00	custom sheet metal roofing		<b>dispensers</b>	
28 46 11	sensors, smoke	07 40 00	metal roof and wall panels	11 46 00	automatic food	
28 45 13	sensors, water	41 35 13	dies, manufacturing	11 46 00	baggage	
28 46 12	switches, fire alarm		<b>diesel</b>	11 21 23	beverage	
28 45 00	water	33 52 19	fuel distribution	11 46 00	cigarette	
11 14 43	detection specialties, pedestrian control	26 32 13	generators	11 46 00	dish	
34 41 23	detectors, traffic signal	41 64 13	locomotives, plant equipment	11 46 00	food	
	<b>detention</b>	40 21 19	process piping			
13 42 63	cell modules		<b>diffusers</b>			
05 59 63	cells	23 37 13	air			
28 52 17	communication systems	26 50 00	lighting			
08 34 63	door frame protection	41 34 23	diffusion coating equipment, manufacturing			
11 98 12	doors and frames		<b>digital</b>			
11 98 14	door hardware	00 54 33	protocol exhibit			
11 98 00	equipment					



11 12 16	parking ticket	33 71 39	high-voltage electrical utility	08 79 00	accessories
10 28 13	sanitary napkin	26 20 00	low-voltage electrical	08 74 00	actuators
11 21 23	sundries	26 10 00	medium-voltage electrical	26 27 73	bells
11 61 00	ticket, entertainment	33 71 49	medium-voltage electrical utility	08 71 00	bottoms, automatic
10 28 13	towel		hot water	08 74 00	card key locking hardware
	<b>display</b>	33 61 00	pip energy	08 71 00	checks
10 12 00	cases	33 60 00	traction power	26 27 73	chimes
11 21 63	cases, refrigerated	34 21 00	water	08 71 00	closers
06 41 00	casework, architectural	33 10 00	distribution equipment, low-voltage	10 57 36	closet
	woodwork	26 27 00	<b>distribution transformers</b>	25 50 00	controls
12 35 59	casework, manufactured		low-voltage	11 98 00	detention
11 59 00	equipment		medium-voltage	08 74 13	electrical locking systems
26 55 59	lighting	26 22 13	distribution units, power	08 74 00	electro-mechanical hardware
14 73 59	turntables	26 12 00	ditching, temporary	08 74 00	electromagnetic holders
10 11 00	units, visual	26 27 33	diverter bulk materials valves	08 80 00	glazing
	<b>display panels</b>	01 57 00	diverter gates, piece material	08 71 00	hardware
48 09 00	power generating and transmitting	40 33 26	diverter strips, terrazzo flooring	08 71 00	holders
11 59 00	displays, exhibit	41 21 26	<b>dividers</b>	08 79 00	knockers
	<b>disposable filters</b>	07 62 00	gymnasium	08 71 13	openers, automatic
23 41 00	air cleaning	09 66 00	room	08 71 00	seals
22 32 00	domestic water	11 66 53	diving boards	10 14 00	signage
	<b>disposal</b>	10 22 00	<b>dock</b>	08 71 00	stops
02 81 00	hazardous materials	13 11 46	bridges	08 71 00	trim
02 81 00	waste material, off-site		bumpers	08 71 00	weatherstripping
33 34 00	wastewater, onsite	11 13 00	levelers	10 26 44	door and frame protection
11 48 00	disposal equipment, food service	11 13 13	lifts	06 46 13	door and window wood casings
31 23 00	disposal of excavated material	11 13 19	lights		<b>door answering</b>
	<b>disposal units</b>	11 13 00	ramps, adjustable	27 50 00	intercoms
11 82 19	waste, incinerators, packaged	11 13 26	seals and shelters	28 13 00	security
11 30 13	waste compactors, residential	11 13 00	docks, loading		<b>door frames</b>
	<b>disposers, food waste</b>	27 53 19	doctors' paging equipment	11 98 12	detention
22 42 26	commercial plumbing fixture	01 78 39	documents, project record	08 12 00	metal
	residential appliance	.....	doghouse - see control house	06 60 00	plastic
11 30 13	residential plumbing fixture	03 11 00	dome pans, concrete forms	05 50 00	rolled steel
22 41 26	residential plumbing fixture	13 33 13	dome structures, fabricated	06 48 00	wood
00 73 83	dispute resolution	08 63 13	domed metal-framed skylights	10 26 33	door guards
11 78 00	dissecting equipment	08 62 13	domed unit skylights	<b>08 71 00</b>	<b>door hardware</b>
DAF	dissolved-air flotation	.....	domelites - see skylights	08 71 00	hanging
46 63 32	distillation equipment, water vapor compression		<b>domes</b>	08 71 00	locking
40 23 16	distilled water piping, process	05 14 00	aluminum-framed	08 74 00	monitoring
22 67 00	distilled water system, laboratory	03 11 00	concrete forms	08 71 00	operating
	<b>distributed communications and monitoring systems</b>	13 33 13	geodesic, fabricated	<b>08 91 26</b>	<b>door louvers</b>
27 51 00	audio-video	13 34 56	observatory, fabricated	08 11 00	metal doors
27 52 00	healthcare	10 86 00	security	08 17 00	door opening assemblies
40 68 26	online performance software	08 60 00	skylight		<b>doors</b>
	DCS distributed control system	05 12 00	steel framed	08 31 13	access
40 63 13	distributed control systems, process		<b>domestic water</b>	08 35 13	accordion-folding
27 53 00	distributed systems	22 31 00	conditioning equipment	23 34 33	air curtain
	<b>distribution</b>	22 32 00	filtration equipment	08 39 13	airtight
33 61 00	chilled water	22 36 23	geothermal preheaters	13 21 13	airtight, clean room
33 82 00	communications	22 35 00	heat exchangers	13 21 16	airtight, hyperbaric
33 71 36	extra-high-voltage electrical utility	22 33 00	heaters, electric	08 42 26	all-glass entrance
		22 34 00	heaters, fuel-fired	08 13 16	aluminum
		22 11 16	pip ing	08 42 00	aluminum entrance
		22 36 00	preheaters	08 33 00	automatic fire
		22 31 00	softeners	08 34 59	bank
		22 36 13	solar preheaters	08 39 53	blast-resistant
		22 11 19	specialties	08 13 23	bronze
			<b>door</b>	08 42 00	bronze entrance
				13 21 13	clean room

10 57 36	closets	08 14 00	wood	35 24 00	<b>dredging</b>
08 33 00	coiling		<b>doors and frames</b>	35 24 26	backhoe/dipper
08 34 13	cold storage	08 17 00	integrated	35 24 43	bed-leveling
13 21 26	cold storage rooms	08 11 00	metal	35 24 21	bucket
08 33 13	counter coiling	23 34 33	doorways, air curtain	35 24 23	clamshell
08 34 36	darkroom	12 35 30	dormitory casework	35 24 46	krabbelaar
08 34 59	day gates	12 56 43	dormitory furniture	35 24 36	pneumatic
10 22 19	demountable partition	13 42 43	dormitory unit modules	35 24 13	suction
08 34 63	detention	40 33 29	double or single dump bulk materials valves	35 24 33	water injection
23 33 33	duct access			.....	drench showers - see
14 10 00	dumbwaiters	03 41 00	double tees, precast		emergency showers
14 27 16	elevator	23 51 33	double wall chimneys	.....	dressed stone - see stone
10 32 23	fireplace	31 52 00	double wall cofferdams	12 58 33	dressers, residential
08 38 13	flexible strip	.....	double-hung windows - see windows	10 21 16	dressing compartments
08 35 13	folding				<b>drilled</b>
13 20 00	for special-purpose rooms	34 81 16	double-swing bridge machinery	31 63 26	caissons
08 34 16	hangar			31 63 29	concrete piers
08 13 13	hollow metal	03 15 00	dovetail anchor slots	31 63 33	micropiles
13 21 16	hyperbaric room	04 05 19	dovetail anchors	31 63 29	shaft construction
08 34 19	industrial	07 71 23	<b>downspouts</b>		<b>drilling</b>
08 34 49	lead-lined	07 62 00	custom	31 63 00	bored piles
08 34 33	light-proof	23 51 13	draft control devices	01 73 29	cutting and patching
10 22 13	mesh partition	23 51 13	draft equipment, forced	00 31 32	exploratory, available to bidders
08 13 00	metal	11 28 00	drafting equipment		exploratory, by contractor
08 42 00	metal entrances	41 12 13	drag chain bulk material conveyors	02 32 13	hydraulic elevator plunger
10 22 23	operable partition			14 24 00	drilling and blasting, tunnel excavation
08 36 13	overhead sectional	41 21 23	drag chain piece material conveyors	31 71 16	drilling equipment, manufacturing
08 15 00	plastic				drills, dental
08 17 13	prehung metal	33 42 00	drain culverts	11 74 00	<b>drinking fountains</b>
08 17 23	prehung wood	22 13 16	drain piping, sanitary	22 47 13	part of service walls
08 34 49	radiation shielding		<b>drainage</b>	10 25 16	drip irrigation systems
08 42 33	revolving	33 34 53	distribution chambers	32 84 13	<b>drive-up</b>
08 34 36	revolving darkroom	33 34 56	dosage chambers	11 22 16	bank equipment
08 34 46	RFI shielding	33 34 51	field system	11 12 16	ticket dispensers, parking
08 33 00	roll-up	33 34 57	infiltration chambers	13 34 23	toll booths, fabricated
08 42 26	safety glass	33 41 00	piping, storm		<b>driven piles</b>
08 11 66	screen, metal	33 40 00	site	31 08 13	load tests
08 15 66	screen, plastic		<b>drainage pumps</b>	31 01 62	repairs
08 14 66	screen, wood	22 14 33	pedestal	02 86 00	drum handling
08 36 13	sectional	22 14 36	submersible	43 22 29	drum handling, liquid process equipment
08 34 53	security		<b>drains</b>	41 14 29	drum-handling batching equipment
08 32 00	sliding glass	22 14 26	area, facility		dry bulk material chutes
08 13 73	sliding non-fire-rated metal	22 13 19	floor	40 32 00	dry erase coatings
08 11 73	sliding metal fire	22 14 26	roof	09 97 35	dry-chemical fire extinguishing
08 15 73	sliding plastic	22 14 26	storm, facility	21 24 00	dry-pack grouting
08 14 73	sliding wood	22 14 26	swimming pool	03 61 13	dry-pipe fire sprinklers
08 34 73	sound control	22 51 13	trench, facility	21 13 16	dry-placed stone assemblies
08 30 00	special applications	22 14 26	<b>draperies</b>	04 41 00	dry-stacked concrete-filled masonry units
08 30 00	special operating methods	12 22 13	acoustic	04 28 13	dry-type medium-voltage transformers
08 13 19	stainless steel	09 83 22	stage	26 12 16	dry-type transformers, utility
08 42 00	stainless steel entrances	11 61 43	<b>drapery</b>		<b>driers</b>
08 14 23	steel-faced wood		fabrics	10 28 16	hair
08 11 69	storm, metal	12 22 13	hardware	10 28 13	hand
08 15 69	storm, plastic	12 25 13	rods, motorized	42 32 00	material, process
08 14 69	storm, wood	12 22 16	tracks	42 31 13	drying evaporators, process
08 42 26	tempered glass	41 35 13	drawing dies, manufacturing		
10 21 00	toilet and shower compartment	41 32 29	drawing equipment, manufacturing		
			<b>drawings</b>		
08 38 00	traffic		record		
08 34 59	vault	01 78 39	shop		
08 36 00	vertical lift	01 33 23	waterway and marine		
08 39 19	watertight	35 01 00			

42 15 13	drying ovens, industrial	12 56 33	desks	01 41 13	code conformance
<b>27 05 13</b>	<b>DSL services</b>	12 56 33	furniture	26 09 16	control components
27 13 43	cabling	27 51 23	intercommunications	01 31 13	coordination
22 34 56	dual-fuel-fired domestic water heaters	10 51 00	lockers	48 15 00	generators, wind-driven
33 71 19	ductbanks, underground electrical	10 11 16	markerboards	26 05 26	grounding
<b>23 31 00</b>	<b>ducts, air</b>	12 60 00	seating	08 74 00	locking systems
23 33 33	access panels	10 11 23	tackboards	05 45 16	metal supports
23 33 00	accessories, air	<b>11 50 00</b>	<b>educational equipment</b>	26 05 33	metallic tubing
23 01 30	cleaning	11 57 00	arts and crafts	26 40 00	protection
23 82 16	coils	11 52 00	audio-visual	05 35 00	system, underfloor
23 33 00	connection systems	27 53 13	clock systems	03 48 00	vaults, precast concrete
23 33 23	extractors	11 51 00	library	<b>26 00 00</b>	<b>electrical, facility</b>
23 55 13	furnaces	11 57 00	vocational shop	26 50 00	lighting
23 31 00	hangers	04 01 00	efflorescence removal	26 20 00	low-voltage distribution
23 07 13	insulation	10 74 43	egress assemblies, below grade	26 10 00	medium-voltage distribution
23 33 53	liners	28 15 17	egress management devices	26 30 00	power generation, facility
23 33 19	sound attenuators	07 24 00	EIFS	<b>electrical distribution</b>	
23 33 00	test holes	23 65 00	ejector cooling towers	26 20 00	low-voltage
23 05 93	testing adjusting and balancing	<b>ejectors</b>		26 10 00	medium-voltage, facility
<b>23 31 00</b>	<b>ductwork</b>	33 32 00	fluid waste treatment	33 71 49	medium-voltage, utility
23 33 00	accessories	22 13 29	plumbing pumps	33 71 00	utility
23 31 00	hangers and supports	33 32 00	sewage	45 45 00	electrical equipment and appliance manufacturing
23 07 13	insulation	03 15 13	elastic waterstops	EMT	electrical metallic tubing
23 33 38	security bars	<b>elastomeric</b>		26 05 33	electrical metallic tubing
23 33 23	turning vanes	09 96 53	coatings	<b>48 00 00</b>	<b>electrical power generation</b>
33 71 19	underground, electrical	07 11 00	dampproofing	48 10 00	equipment
14 10 00	dumbwaiters	07 50 00	flashing, roof	26 30 00	facility
41 62 16	dump trucks, plant equipment	09 67 13	fluid-applied flooring	48 05 05	selective demolition
01 56 16	dust barriers, temporary	07 56 00	fluid-applied roofing	48 70 00	testing
44 11 71	cyclone	07 92 13	joint sealants	26 09 13	electrical power monitoring
44 11 73	multicyclone	<b>elastomeric membrane</b>		<b>electrical resistivity</b>	
23 35 13	dust collection systems	07 53 00	roofing	00 31 31	available information
23 40 00	dust control equipment	07 55 53	roofing, protected	02 31 26	investigations
01 57 26	dust control, site watering	07 13 53	waterproofing	28 13 00	electrical security alarm systems
<b>dutch doors</b>		<b>electric</b>		<b>33 70 00</b>	<b>electrical utilities</b>
08 13 00	metal	23 52 13	boilers, heating	33 75 00	high-voltage switchgear and protection devices
08 14 00	wood	23 83 13	cables, radiant-heating	33 77 00	medium-voltage switchgear and protection devices
00 72 00	duties of parties to contract	23 09 33	controls, HVAC	33 79 00	site grounding
		14 12 00	dumbwaiters	33 72 00	substations
		41 22 23	fixed hoists	33 73 00	transformers
		42 12 13	heaters, process	33 71 00	transmission and distribution
		41 64 13	locomotives, plant equipment	33 79 19	electrical utilities grounding
		23 83 13	mats, radiant-heating	01 51 13	electricity, temporary
		23 83 23	panels, radiant-heating	.....	electrified floors - see raceway decking
		41 36 26	process tools, manufacturing	28 15 15	electrified locking devices
		23 83 33	radiant heaters	10 14 33	electrified signage
		14 83 13	telescoping platforms	41 33 26	electro-discharge equipment, manufacturing
		14 21 00	traction elevators	08 74 00	electro-mechanical hardware
		41 22 23	trolley hoists	08 81 00	electrochromic glass
		22 47 00	water coolers	41 32 33	electroforming equipment, manufacturing
		22 33 00	water heaters	02 72 19	electrolysis water decontamination
		<b>electric metering</b>		<b>electromagnetic</b>	
		26 27 13	facility	00 31 31	available information
		33 71 73	utility		
		23 82 16	electric-resistance air coils		
		23 54 13	electric-resistance furnaces		
		<b>electrical</b>			
		26 05 26	bonding		
		13 47 13	cathodic protection		

08 74 00	door holders	28 05 31	storage management	10 41 00	emergency access and information cabinets
02 31 23	investigations		software		
EMI	electromagnetic-interference	28 05 29	storage media	<b>22 45 16</b>	<b>emergency eye wash fountains</b>
	<b>electronic</b>	28 05 09	surge protection	11 53 33	laboratory equipment
23 43 00	air filters	28 05 37	voice communications-distributed antenna system	26 33 23	emergency lighting battery equipment, central
28 13 00	bank security systems			EMO	emergency medical oxygen
23 09 33	controls, HVAC	28 05 35	wireless transmission equipment	10 43 00	emergency medical oxygen
00 54 33	data protocol exhibit	28 05 19	workstations	<b>22 45 00</b>	<b>emergency plumbing fixtures</b>
11 14 00	detection systems, pedestrian	48 17 00	electrochemical power generation	11 53 33	laboratory equipment
10 13 13	directories	41 34 36	electroplating equipment, manufacturing		<b>emergency power</b>
08 34 43	doors, detention		<b>electrostatic conductive flooring</b>	26 33 00	battery
33 79 13	grounding, fence			26 32 00	generator
28 15 25	key management systems	09 33 00	tiling	<b>28 48 00</b>	<b>emergency response systems</b>
08 74 00	locking systems, doors	09 67 00	fluid-applied		computer-aided dispatch
10 11 16	markerboards	09 66 33	terrazzo	28 48 23	<b>emergency showers</b>
10 14 63	message signage	23 43 00	electrostatic filters	<b>22 45 13</b>	laboratory equipment
11 62 19	organs	09 96 53	electrostatic spray coating	11 53 33	<b>EMI shielding</b>
28 49 00	personal protection	.....	elevated floors – see access flooring	26 35 23	electrical
23 43 00	precipitators	34 12 13	elevated monorails	13 49 00	radiation protection
13 49 00	shielding	26 05 05	selective demolition	10 43 00	EMO
43 32 29	electronic deionization purification units, process		<b>elevated storage tanks</b>	26 05 33	EMT
		21 41 16	fire-suppression water, facility	32 05 23	emulsified asphalt, for exterior improvements
<b>28 30 00</b>	<b>electronic detection devices</b>	22 12 16	potable water, facility	43 22 33	emulsifiers, liquid, process
28 33 11	structural monitoring	33 16 00	water, utility	09 91 00	enamels
27 42 00	electronic digital systems, audio-video	13 11 33	elevated swimming pools		<b>enclosed</b>
	<b>electronic fare collection equipment</b>	14 83 00	elevating platforms	26 18 29	bus, medium-voltage
11 12 13	parking control		<b>elevator</b>	26 25 00	bus assemblies, low-voltage
34 54 26	passenger	14 20 00	cars		bus assemblies, low-voltage
34 52 26	vehicle	14 28 16	controls	26 28 16	circuit breakers, low-voltage
<b>28 00 00</b>	<b>electronic safety and security</b>	14 27 16	doors		controllers, low-voltage
28 05 29	archival systems	14 28 00	equipment and controls	26 29 13	controllars, low-voltage
28 05 33	communications equipment	14 28 19	hoistway equipment	26 18 33	fuse cutouts, medium-voltage
28 05 35	firewalls	14 20 00	machinery		fuses, medium-voltage
28 05 27	cloud-based storage	25 52 00	monitoring and controls	26 18 36	switches, low-voltage
28 05 11	cyber security requirements	14 01 20	renovation	26 28 16	<b>enclosures</b>
28 05 29	digital tape storage	14 28 19	safety equipment	33 81 29	communications
28 05 21	digital video recorders	27 32 23	telephones	10 21 00	compartments and cubicles
28 05 21	hybrid digital video recorders	<b>14 20 00</b>	<b>elevators</b>	05 58 16	custom sheet metal
28 05 35	media converters	41 12 16	bucket	05 59 63	detention, metal
28 05 35	microwave transmission equipment	14 25 00	rack and pinion	26 27 16	electrical
28 05 23	network attached storage	01 54 13	temporary	10 82 13	equipment screens
28 05 35	network communications equipment	11 78 00	embalming tables	05 58 19	heating and cooling unit
28 05 21	network video recorders	27 25 19	email software	13 19 13	kennel
28 05 35	non-power-over-ethernet switches	<b>31 24 00</b>	<b>embankments</b>	11 14 00	pedestrian traffic
28 05 35	power-over-ethernet switches	35 73 00	dams	10 17 16	telephone
28 05 07	power sources	31 24 16	railway	01 56 00	temporary
28 05 35	routers	31 24 13	roadway	12 50 00	end tables
28 05 05	selective demolition	34 11 29	embedded track rail	33 37 46	end-of-pipe in-water storage systems
28 05 17	servers		<b>emergency</b>		endless belt people lifts
28 05 13	servers, workstations and storage	10 43 00	aid specialties	14 41 16	endothermic-gas combustion system piping
28 05 21	storage appliances	27 51 29	communications systems	40 15 26	<b>energy</b>
28 05 25	storage area network	10 41 16	key cabinets		distribution, prefabricated
		26 52 00	lighting	33 61 27	distribution, pre-engineered
		11 53 33	safety appliances, laboratory	25 50 00	management systems
		22 45 13	showers		

23 09 23	meters	11 22 00	banking	11 11 00	vehicle service	
25 50 00	monitoring and controls	11 61 00	broadcast	11 21 23	vending	
23 72 00	recovery equipment	11 46 23	coffee and espresso	11 94 00	veterinary	
23 71 00	storage tanks	11 21 73	commercial laundry	11 57 00	vocational shop	
	<b>energy systems</b>	01 54 00	construction	34 78 00	weighing	
48 14 00	solar	40 63 00	control system	01 87 00	equipment and furnishings	
48 15 00	wind	40 67 00	control system panels and racks		performance requirements	
23 35 16	engine exhaust systems		detention	01 61 00	equipment and materials	
26 32 13	engine generators	11 98 00	device network		<b>equipment enclosures</b>	
06 11 13	engineered lumber products	40 66 26	distillation, water vapor	08 92 00	louvered	
01 71 23	engineering, field	46 63 32	compression	10 82 13	screens	
01 52 13	engineer's field office		dry cleaning		<b>equipment identification</b>	
01 54 00	engines, temporary facilities	11 21 73	energy recovery	21 05 53	fire suppression	
10 14 00	engraved signage	23 72 00	exhibit	23 05 53	HVAC	
12 58 26	entertainment centers	11 59 00	foodservice	22 05 53	plumbing	
11 60 00	entertainment and recreation equipment	11 40 00	frame relay	01 93 00	equipment maintenance	
14 74 00	entertainment turntables	40 66 23	healthcare	01 61 00	equipment requirements, basic	
11 12 00	entrance equipment, parking	11 70 00	horticultural	27 11 00	equipment room fittings, communications	
12 48 13	entrance mats	11 93 00	hospitality		00 43 00	equipment schedule
27 11 13	entrance protection, communications	11 25 00	instrument calibration	23 05 93	equipment testing, adjusting, and balancing	
	<b>entrances</b>	40 79 23	instrument programming		01 73 16	erection
08 42 00		40 79 26	laboratory		<b>31 25 00</b>	<b>erosion control</b>
08 42 13	aluminum-framed	11 53 00	library		31 25 34	retention measures
14 27 16	elevator	11 51 00	loading dock		31 25 14	stabilization measures
08 43 29	sliding storefront	11 13 00	facility maintenance		31 25 24	structural measures
08 14 00	wood	11 81 00	operation		01 57 13	temporary
08 41 00	entrances and storefronts	11 80 00	facility solid waste handling		31 35 19	erosion control mats
28 15 00	entry systems, intercom	11 82 00	makeup-water filtration, HVAC		35 43 00	erosion protection, scouring
28 15 00	entry systems, telephone	23 25 33	manufacturing		25 52 00	escalator and moving walks controls
<b>02 24 00</b>	<b>environmental assessment</b>		mortuary		14 31 00	escalators
00 31 24	available information	41 30 00	musical		14 91 23	escape chutes
13 21 00	environmental control rooms	11 78 00	multiple address radio		00 43 26	estimated quantities list
<b>25 50 00</b>	<b>environmental controls</b>	11 62 00	navigation, marine		12 17 13	etched glass artwork
01 57 19	temporary	40 66 53	network and communication		12 10 00	etched metal artwork
00 31 24	environmental impact study reports	35 12 33	observatory			<b>etching</b>
01 35 33	environmental procedures	40 66 00	office		03 35 00	concrete
07 91 16	EPDM gaskets, joint	11 56 00	planetarium		08 81 00	glass
07 53 23	EPDM roofing	11 28 00	parking control		05 70 00	etching metal
	<b>epoxy</b>	11 55 00	pedestrian control		07 54 16	ethylene ester roofing, ketone
03 05 00	bonding agents, concrete	11 12 00	play field and structures		23 21 00	ethylene glycol
09 96 56	coatings	11 14 00	point-to-point radio		EIP	ethylene interpolymer
06 01 00	consolidation, wood	11 68 00	postal, packaging, and shipping		EPDM	ethylene propylene diene monomer
09 66 23	terrazzo	40 66 56	recreation		01 91 00	evaluations, system performance
	<b>epoxy grouting</b>	11 29 00	refrigerated display			<b>evaporative</b>
03 63 00	for concrete		religious		23 76 00	coolers
09 30 00	for tiling	11 67 00	residential		23 84 13	humidifiers
03 64 23	epoxy injection crack repair	11 21 63	respiration		23 63 33	refrigerant condensers
	<b>epoxy mortar</b>	11 91 00	retail and service		42 23 16	evaporators, cooling, process
04 05 13	for masonry	11 30 00	satellite communication		43 22 36	evaporators, liquid, process
09 30 00	for tiling	10 43 31	security		01 71 00	examination
09 96 56	epoxy polyester coatings	11 21 00	security control		11 72 00	examination and treatment equipment
03 21 00	epoxy-coated reinforcement	40 66 73	selective demolition		11 72 00	examination room equipment
09 67 16	epoxy-marble-chip flooring	11 97 00	teller and service		31 64 16	excavated caissons
<b>00 73 36</b>	<b>equal employment opportunity</b>	11 15 00	theater and stage		.....	excavated stone - see stone
	<b>opportunity</b>	11 05 05	therapeutic		<b>31 23 16</b>	<b>excavation</b>
00 45 36	affidavit	11 05 05	vault		02 63 00	hazardous materials
<b>11 00 00</b>	<b>equipment</b>	11 22 16	vehicle charging			
11 92 00	agricultural	11 61 00				
11 66 00	athletic	11 79 00				
11 52 00	audio-visual	11 22 13				
		11 11 36				

31 71 00	tunnel	07 95 00	expansion control	43 32 33	external regeneration systems, process
31 50 00	excavation support and protection		<b>expansion fittings and loops</b>	10 44 16	extinguishers, fire
41 61 23	excavators, plant equipment	21 05 16	fire suppression	<b>21 20 00</b>	<b>extinguishing systems, fire</b>
23 57 00	exchangers, heat, HVAC	23 05 16	HVAC	21 21 00	carbon dioxide
42 13 00	exchangers, heat, industrial	22 05 16	plumbing	21 22 00	clean agent
02 87 16	excrement removal	<b>07 95 13</b>	<b>expansion joint covers</b>	21 24 00	dry chemical
01 73 00	execution	07 95 63	bridge	21 23 00	wet chemical
01 70 00	execution requirements	07 71 29	roofing, manufactured	01 78 46	extra stock materials
01 25 16	execution substitution procedures	07 62 00	sheet metal, custom	EHV	extra-high-voltage
11 66 13	exercise equipment		<b>expansion joints</b>	33 74 43	extra-high-voltage shunt reactors
<b>23 34 00</b>	<b>exhaust fans</b>	07 95 63	bridge		
11 30 00	residential	03 15 00	concrete	33 71 36	extra-high-voltage wiring
23 37 13	exhaust grilles	09 29 00	gypsum board		<b>extruded</b>
	<b>exhaust hoods</b>	04 05 23	masonry	07 71 13	copings
44 10 00	industrial	09 22 36	plastering	07 71 16	counterflashings
23 38 13	kitchen, commercial	07 71 29	roofing, manufactured	07 71 19	gravel stops
11 30 13	kitchen, residential	09 66 00	terrazzo flooring	07 71 23	gutters and downspouts
11 53 13	laboratory	23 21 13	expansion valves, hydronic	07 71 29	roof expansion joint covers
23 37 13	exhaust registers	03 11 00	expendable forms		<b>extruded metal</b>
23 35 00	exhaust systems, special	11 53 00	experimental apparatus	08 12 00	door frames
	<b>exhibit</b>		<b>exploratory drilling</b>	08 41 00	entrances and storefronts
00 54 36	building information modeling	00 31 32	available to bidders	41 32 39	extruding equipment, manufacturing
11 59 00	booths and screens	02 32 13	by contractor	41 35 13	extrusion dies, manufacturing
10 12 00	cases	07 72 33	explosion hatches	41 31 13	extrusion lines, manufacturing
12 35 59	casework, manufactured		<b>exposed aggregate</b>		<b>extrusions</b>
06 41 00	casework, architectural	04 22 23	concrete masonry units	08 44 00	metal, curtain wall
	woodwork	03 35 23	concrete finishes	05 70 00	metal, decorative
00 54 33	digital/electronic data protocol	32 13 13	concrete paving	05 10 00	metal, structural
11 59 00	equipment	03 45 00	precast concrete	08 40 00	metal storefront
26 55 59	lighting		<b>exposed architectural</b>	10 14 00	extrusions for signage
14 73 59	turntables	05 14 13	structural aluminum	<b>22 45 16</b>	<b>eye wash stations</b>
13 34 00	exhibition buildings, fabricated	05 12 13	structural steel	11 53 33	as laboratory equipment
00 31 21	existing building description	40 05 05	exposed piping installation		
<b>02 00 00</b>	<b>existing conditions</b>	23 41 23	extended surface filters		
02 22 00	assessment		<b>exterior</b>		
00 31 19	available information	06 40 13	architectural woodwork	<b>F</b>	
01 71 16	general requirements	07 95 00	expansion joints	<b>23 37 16</b>	<b>fabric</b>
00 31 21	photographic report	07 24 00	finish assemblies	23 37 16	air distribution devices
	<b>existing hazardous material</b>	06 20 13	finish carpentry	03 22 00	concrete reinforcing
01 26 00	assessment	08 81 23	glass glazing	23 33 43	connections, duct
00 31 26	available information	10 82 13	grilles and screens	32 01 17	reinforcement for asphalt paving
	<b>existing material</b>	32 00 00	improvements	13 31 00	structures
02 25 00	assessment	26 56 00	lighting	03 22 00	welded wire
00 31 25	available information	08 91 00	louvers, sun-control	<b>12 05 13</b>	<b>fabrics</b>
	<b>existing period conditions</b>	09 93 13	opaque stains	10 21 23	cubicle curtains
02 03 00	conservation treatment	09 91 13	painting	12 22 00	curtains
02 03 01	maintenance of existing period conditions	32 93 00	plants	12 22 13	drapery
00 31 21	existing site description	10 71 13	protection, sun-control	10 28 00	shower curtains
08 71 00	exit devices	11 68 43	scoreboards	11 61 43	stage curtains
40 15 23	exothermic-gas combustion system piping	10 71 13	shutters	12 05 13	treatments
05 53 19	expanded metal gratings	10 74 00	specialties	12 05 13	upholstery
09 22 36	expanded metal lath	32 95 00	support structures, planting	10 11 46	visual display
10 22 14	expanded metal partitions	09 93 13	transparent stains	09 72 19	wall coverings
<b>10 82 00</b>	<b>expanded metal screens</b>	06 48 00	wood frames and jambs	07 65 13	fabric-faced copper flashing
10 71 13	sun control	EIFS	exterior insulation and finish systems	09 54 46	fabric-wrapped ceiling panels
05 05 23	expansion bolts	<b>10 71 13</b>	<b>exterior sun control devices</b>	09 77 23	fabric-wrapped wall surfacing
		10 73 13	awnings		<b>fabricated</b>
		<b>07 40 00</b>	<b>exterior wall assemblies</b>	13 26 00	booths
		04 20 00	masonry	32 34 00	bridges
		27 24 19	external drives, communications	13 34 00	building components
				13 42 00	building modules

13 34 23	buildings	07 71 19	<b>fasciae</b>	05 05 23	for metals
13 34 23	cold storage	06 46 29	architectural woodwork	06 05 23	for plastics
07 62 13	copings	07 62 00	custom sheet metal	06 05 23	for wood
07 62 16	counterflashing systems	06 22 00	finish carpentry	06 10 00	rough carpentry
05 71 00	decorative metal stairs		<b>facilities</b>	07 30 00	steep roofing
13 33 13	dome structures	01 52 00	construction	05 05 23	structural metal
08 17 00	doors and frames	01 50 00	temporary	34 11 36	track rails
07 62 23	downspouts		<b>facility</b>	FOG	fats, oils and grease
07 26 19	fasciae	01 91 00	commissioning	22 40 00	faucets
05 12 16	fire-protected steel columns	01 94 00	decommissioning	09 94 16	faux finishing
07 62 19	gravel stops	02 41 00	demolition and removal	.....	fax machines - see facsimiles
07 62 23	gutters	01 93 00	maintenance	<b>feeders</b>	
04 25 00	masonry panels	01 92 00	operation	41 13 23	bulk material
45 39 00	metal manufacturing	13 47 00	protection	43 22 39	liquid, process
05 51 00	metal stairs	01 91 19	shell commissioning	41 21 39	piece material
07 62 29	roof expansion joints	01 75 16	startup	13 19 16	feeding devices, kennel
13 26 00	rooms	22 14 63	stormwater retention tanks	<b>feedpumps</b>	
07 62 33	scuppers	01 91 16	substructure	23 21 23	hydraulic piping
10 73 00	shelters		commissioning	<b>feedwater</b>	
05 71 13	spiral stairs	01 81 00	<b>facility performance requirements</b>	23 53 00	equipment
31 72 16	steel tunnel linings		services	23 53 00	heaters, heating system
10 56 00	storage shelving	01 86 00	shell	23 53 13	pumps
13 34 00	structures	08 83 00	substructure	01 41 23	fees, regulatory agency
13 11 00	swimming pools	01 82 00	facing tile, glazed structural clay	<b>felts</b>	
13 36 00	towers	04 21 36	facsimile servers	06 16 00	building
06 17 53	trusses, wood	27 33 26	facsimiles, communications	07 65 00	flashing
06 17 00	wood beams and joists	27 32 29	factory-applied metal coatings	07 50 00	roof flashing
	<b>fabricated panel assemblies</b>	05 05 13	factory-applied wood coatings	07 50 00	roofing
07 44 63	faced	06 05 83	factory-finished gypsum board	<b>32 31 00</b>	<b>fencing</b>
07 41 63	roof	09 29 00	<b>factory-glazed</b>	32 31 19	decorative, security
07 42 63	wall	08 80 00	composite doors	02 58 13	snow
07 46 63	with siding	08 16 00	composite windows	01 56 26	temporary
06 50 00	fabricated structural plastics	08 54 00	metal doors	35 59 13	fenders, marine
06 17 00	fabricated structural wood	08 13 00	plastic doors	34 71 13	fenders, road appurtenances
11 41 23	fabricated walk-in coolers	08 15 00	metal doors	05 56 00	ferrous metal castings
11 41 26	fabricated walk-in freezers	08 13 00	metal doors	42 14 33	ferrous melting furnaces
	<b>fabrications</b>	08 43 00	storefronts	32 01 90	fertilizing, maintenance
06 40 00	architectural woodwork	08 52 00	wood windows	.....	fiber-optic cable - see optical fiber cable
32 39 33	artificial rock	08 14 00	wood doors	07 46 46	fiber-cement siding
06 61 00	cast polymer	13 49 00	fallout protection	31 34 23	fiber soil reinforcement
07 44 63	faced panel assemblies	03 11 13	falsework, concrete	32 12 16	fiber-modified asphalt paving
41 67 16	fall protection equipment, plant	23 82 19	fan coil units	<b>fiber-reinforced cementitious</b>	
09 27 13	glass-fiber-reinforced gypsum		<b>fans</b>	07 44 00	roof and wall panels
05 50 00	metal	23 34 00	ceiling	06 12 00	wood roof deck
07 46 63	panel assemblies, with siding	11 30 00	ceiling, residential	03 11 00	fiber-resin forms
09 27 00	plaster	23 51 13	draft control	<b>fiberboard</b>	
06 60 00	plastic	43 11 00	gas handling, process	07 22 16	roof insulation
06 62 00	plastic foam	23 34 00	HVAC	06 16 00	sheathing and underlayment
07 41 63	roof panel assemblies	23 34 39	propeller, high-volume low-speed	06 40 00	substrate for architectural woodwork
06 61 13	simulated stone	11 30 34	residential ceiling	09 28 19	fiberglass backing boards
04 43 16	stone	13 34 23	farm buildings, fabricated	<b>fiberglass</b>	
07 42 63	wall panel assemblies		<b>fare collection equipment</b>	03 11 00	concrete forms
01 43 19	fabricator qualifications	34 54 00	passenger	23 07 13	duct insulation
04 21 13	face brick	11 14 43	pedestrian	10 75 00	flagpoles
27 15 43	face plates and connectors, communications	34 50 00	transportation	07 20 00	insulation
03 45 13	faced architectural precast concrete	34 52 00	vehicle	08 45 13	sandwich panel assembly
07 44 63	faced panel assemblies		<b>fasteners</b>	33 34 13	septic tanks
		09 29 00	gypsum board		
		07 50 00	membrane roofing		
		06 05 23	for composites		

07 31 00	shingles	31 05 16	geotextile	28 46 20	systems
08 54 69	storm windows	31 32 19	soil stabilization	40 69 33	fire and gas
33 05 36	utility pipe		<b>filters</b>		monitoring/protection systems
08 54 66	window screens	23 41 00	air		for industrial applications
08 54 13	windows	43 15 00	air and gas, process	07 80 00	fire and smoke protection
07 31 13	fiberglass-reinforced shingles	22 50 00	aquariums	10 44 19	fire blankets
12 05 13	fibers, fabric	22 50 00	aquatic facilities	04 54 00	fire brick
07 50 00	fibrated aluminum roof coating	26 35 23	EMI	08 33 00	fire closures
	<b>fibrous</b>	43 31 13	gas and liquid, process	23 33 13	fire dampers, in ducts
09 51 13	acoustical panels	43 15 33	grease		<b>fire department</b>
23 41 00	filters, air	26 35 26	harmonic	21 11 19	connections
07 91 26	packing for joint sealers	43 22 43	liquid, process	10 41 13	plan cabinet
03 24 00	reinforcing	26 35 33	power	14 93 00	slide pole systems
23 31 16	fibrous glass ductwork	26 35 46	RFI	<b>28 46 00</b>	<b>fire detection and alarm</b>
<b>06 16 00</b>	<b>fibrous sheathing</b>	33 44 00	stormwater	28 46 24	emergency control
07 21 00	building insulation	22 51 19	swimming pool		interfaces
00 72 00	field administration	22 50 00	tubs and pools	28 01 80	operation and
01 71 23	field engineering	22 32 00	water, domestic		maintenance
25 14 23	field equipment panels, integrated automation		<b>filtration equipment</b>	28 05 07	power sources
01 52 13	field offices	23 40 00	air	28 46 12	pull stations
<b>01 26 39</b>	<b>field orders</b>	22 32 00	domestic water	28 06 80	schedules
00 63 36	forms	23 51 43	flue-gas	28 46 12	sensors, pressure
00 94 39	record	43 31 00	gas and liquid, process	28 05 09	surge protection
01 45 16	field quality control	23 25 33	makeup-water, HVAC	28 46 12	switches
01 43 36	field samples		<b>final</b>	<b>08 10 00</b>	<b>fire doors</b>
.....	field stone - see stone	01 74 23	cleaning	08 33 00	colling
01 33 19	field test reports	01 77 16	inspection	08 35 13	folding
	<b>field-erected</b>	00 65 19	settlement certificate	08 11 73	sliding metal
23 65 23	cooling towers	01 77 16	site review	08 34 00	special function
33 32 11	wastewater pumping stations	01 78 29	site survey	05 51 23	fire escapes, metal
06 10 00	field-fabricated wood curbs	00 31 16	financial information, owner	10 44 43	fire extinguisher accessories
32 13 73	field-molded concrete paving	31 22 16	fine grading	10 25 16	part of service walls
	joint sealants	06 44 29	finials, wood	10 44 16	fire extinguishers
.....	fieldhouse - see gymnasium		<b>finish</b>	<b>21 20 00</b>	<b>fire-extinguishing systems</b>
	<b>fieldhouse seating</b>	06 20 00	carpentry	21 21 00	carbon dioxide
12 63 00	fixed	09 77 33	terrazzo wall	21 22 00	clean agent
12 66 00	telescoping	<b>31 22 16</b>	<b>finish grading</b>	21 24 00	dry chemical
08 81 00	figured glass	32 91 19	for planting	21 23 00	wet chemical
10 82 00	filigree grilles	.....	finish hardware - see door	10 25 16	part of service walls
12 51 19	filing cabinets		hardware	21 12 23	fire hose valves
31 23 23	fill	<b>09 00 00</b>	<b>finishes</b>	21 12 13	fire hoses
.....	fill insulation - see loose fill	03 35 00	CIP concrete		<b>fire hydrants</b>
	insulation	09 60 00	flooring	21 11 16	facility
	<b>fillers</b>	05 05 13	metal	32 39 16	fire pits, manufactured
07 91 26	joint	09 20 00	plastering	<b>07 80 00</b>	<b>fire protection</b>
04 05 23	joint, for masonry	09 05 05	selective demolition	07 81 00	applied
41 34 23	film coating equipment, manufacturing	09 93 00	transparent	32 35 23	barriers
11 77 00	film illuminators, x-ray		<b>finishing</b>	07 82 00	board
11 52 16	film projectors	06 40 00	architectural woodwork	10 44 13	cabinets
	<b>films</b>	03 35 00	concrete	07 81 16	cementitious
08 87 26	bird control	09 29 00	gypsum board	09 29 82	gypsum board
03 39 00	concrete curing	41 34 00	finishing equipment, manufacturing	09 23 82	gypsum plastering
07 11 00	dampproofing	41 31 13	finishing/painting lines, manufacturing	07 81 23	intumescent
08 87 00	glazing	23 52 33	finned water-tube boilers	07 81 26	magnesium cement
09 77 26	surfacing	23 82 36	finned-tube radiation heaters	07 81 00	magnesium oxychloride
11 52 16	filmstrip projectors	<b>28 46 20</b>	<b>fire alarm</b>	07 81 33	mineral fiber
	<b>filter fabric</b>	28 01 80	operation and maintenance	07 81 29	mineral fiber, cementitious
31 35 19	erosion and sedimentation control	28 06 80	schedules	07 81 00	spray-applied
		28 46 23	speakers	23 38 13	systems, surface, food service
				01 51 16	temporary
				04 20 00	unit masonry



10 44 00	specialties	27 21 13	firewalls, communications	23 33 46	ductwork
33 11 19	water distribution	01 52 16	first aid, temporary	08 38 16	traffic doors
21 34 00	fire pump accessories	10 43 16	first aid cabinets	23 52 33	water-tube boilers
21 30 00	fire pumps	35 79 13	fish ladders	09 74 00	wood sheets
21 13 00	fire sprinklers		<b>fittings</b>	<b>07 65 00 flexible flashing</b>	
07 84 00	fire stopping	23 31 00	ductwork	04 20 00	in masonry assemblies
<b>21 00 00 fire suppression</b>		22 40 00	plumbing fixture	04 05 23	masonry
21 07 00	insulation	10 11 00	visual display units	23 83 16	flexible hydronic piping, space heating and cooling
21 11 00	pipng, facility		<b>fixed</b>	<b>32 12 00 flexible paving</b>	
21 05 05	selective demolition	10 11 13	chalkboards	32 12 43	porous
21 05 17	sleeves and sleeve seals	41 22 23	hoists	32 01 17	reinforcement
21 13 00	sprinkler systems	10 11 16	markerboards	32 01 16	surfacing and recovery
21 12 00	standpipes	10 88 00	scales	08 38 13	flexible strip doors
28 31 00	supervisory systems	12 61 00	seating, audience	23 21 13	float and thermostatic traps
21 10 00	systems, water-based	12 65 00	seating, multiple-use		<b>float finish</b>
33 11 19	utility water distribution piping	10 11 23	tackboards	03 35 00	concrete
21 40 00	water storage	08 50 00	windows	09 20 00	plastering
	<b>fire-rated</b>	31 63 26	fixed end caisson piles	08 81 00	float glass
08 81 00	glass	23 72 19	fixed-plate air-to-air energy recovery		<b>floating</b>
09 29 00	gypsum board			31 64 19	caissons
09 22 36	gypsum lath	22 40 00	fixture carriers	35 51 00	construction
08 11 00	metal frames		<b>fixtures</b>	13 48 23	floors
06 48 00	wood frames	26 50 00	lighting	35 51 13	piers
	<b>fire-rated doors</b>	22 40 00	plumbing	10 14 66	signage
08 11 00	metal	41 36 16	fixtures and jigs, manufacturing assembly	31 77 19	floating and laying submerged tunnels
08 30 00	special				
08 14 00	wood	01 55 00	flagmen	13 11 46	floats, swimming pool
	<b>fire-resistant</b>	10 75 00	flagpoles	02 51 13	flocculation, site remediation
07 80 00	assemblies	10 83 13	flags	10 71 19	flood barriers
09 23 82	gypsum plastering	09 63 40	flagstone flooring	08 39 19	flood barrier doors
09 20 00	plastering	32 14 40	flagstone paving	35 49 26	floodgate machinery
07 81 00	sprayed coatings	.....	flake board - see oriented strand board	35 49 13	floorwalls
	<b>fire-retardant</b>	40 79 46	flame scanners		<b>floor</b>
09 96 43	coatings	01 51 00	flares and lights, temporary	26 27 26	boxes, electrical
09 91 00	painting	42 32 19	flash material dryers, process	11 81 13	cleaning equipment
06 05 73	treatment, wood	23 51 00	flash tanks	22 13 19	drains
23 52 39	fire-tube boilers, heating		<b>flashing</b>	07 95 13	expansion joints, metal
	<b>fired clay</b>	07 50 00	base	05 53 00	gratings
04 21 23	backing tile	07 65 13	laminated sheet	23 83 00	heating and cooling equipment
04 21 13	bricks	04 05 23	masonry through-wall		
04 21 36	facing tile	07 65 19	plastic	12 43 13	lamps
09 63 13	masonry flooring	07 62 00	roofing, metal	12 48 43	mats
09 30 19	paver tile	07 62 00	wall, metal	26 27 26	outlets, electrical
32 14 00	pavers	07 60 00	flashing and sheet metal	03 53 19	overlayment, concrete
07 32 13	roofing tile	26 05 00	flat cables, electrical	09 69 00	pedestals
	<b>fireplace</b>	03 81 13	flat concrete sawing	05 54 00	plates
10 32 00	accessories	41 53 19	flat files, process	23 32 36	plenums, air distribution
10 32 13	dampers	11 93 26	flat fillers, horticultural	12 48 53	runners
10 31 16	forms, manufactured	23 56 13	flat-plate solar collectors, heating	13 28 26	sockets, athletic
10 32 16	inserts			13 18 13	systems, ice rinks
10 01 30	restoration	48 14 13	flat-plate solar collectors, power generation	03 53 00	toppings, concrete
10 32 00	screens and doors			03 35 00	finishing, concrete
10 32 00	specialties	<b>07 41 13 flat seam roofs</b>			<b>floor decking</b>
10 32 26	water heaters	07 61 19	custom metal	05 33 13	aluminum
<b>10 31 13 fireplace flues</b>		41 62 19	flatbed trucks, plant equipment	03 50 00	cast
04 57 00	unit masonry	11 61 00	flats, theater	04 23 16	glass unit masonry
<b>10 31 00 fireplaces</b>		12 42 16	flatware	06 15 23	glued-laminated wood
04 57 00	masonry		<b>flexible</b>	03 34 00	low-density concrete
05 12 16	fire protected steel columns, fabricated	04 05 19	anchors, masonry	05 31 00	steel
07 84 00	firestopping	26 05 33	conduit, electrical	03 31 00	structural concrete
		23 33 43	duct connections	06 15 13	wood

06 16 33	wood panel product	23 51 00	for heat-generation equipment	12 62 13	chairs
	<b>floor tiling</b>			08 35 13	doors
09 30 33	agglomerate	10 31 13	for manufactured fireplaces	08 35 13	fire doors
09 68 13	carpeting	04 51 00	masonry	12 50 00	furniture
09 30 13	ceramic	42 32 23	fluid-bed material dryers, process	10 22 16	gates
09 33 00	conductive			08 35 16	grilles
09 30 19	paver tile	41 11 29	fluid-bed separators, bulk material	12 66 00	gymstands
09 30 16	quarry tile			08 35 13	panel doors
09 65 19	resilient	23 65 33	fluid coolers	10 22 23	partitions
09 30 33	stone		<b>fluid-applied</b>	11 61 23	stages
09 66 16	terrazzo	09 67 00	flooring	12 50 00	tables and benches
<b>09 61 00</b>	<b>floor treatment</b>	07 21 63	insulative coating	.....	folding stairs – see retractable stairs
09 01 60	renovation	07 27 26	membrane air barriers		
09 61 13	slip-resistant	07 56 00	roofing	11 21 23	food and drink dispensers
09 61 36	static-resistant	07 55 56	roofing, protected	11 43 13	food carts
<b>09 60 00</b>	<b>flooring</b>	07 14 00	waterproofing	11 43 16	food conveyors
09 69 00	access	41 52 40	fluidizers, bin and silo	<b>11 44 00</b>	<b>food cooking equipment</b>
09 62 35	acid-resistant	26 50 00	fluorescent lighting	11 30 13	residential
09 62 48	acoustic	05 05 13	fluoropolymer coatings	11 43 00	food delivery carts and conveyors
09 62 13	asphaltic plank	11 77 00	fluoroscopes		
13 28 66	athletic, demountable		<b>flush doors</b>	11 46 00	food dispensing equipment
09 67 66	athletic, fluid-applied	08 13 00	metal	45 15 00	food manufacturing equipment
09 65 66	athletic, resilient	08 14 23	plastic-laminate-faced	11 42 00	food preparation equipment
09 64 66	athletic, wood	08 14 16	wood	<b>11 42 00</b>	<b>food preparation machines</b>
09 64 36	bamboo	22 40 00	flush valves	11 30 13	residential
09 63 13	brick	22 40 00	flushometers	11 42 00	food preparation tables
09 68 00	carpeting	04 22 23	fluted concrete masonry units	11 40 00	food service equipment
09 63 13	chemical-resistant brick	05 30 00	fluted metal decking	23 35 33	food service ventilation
09 35 16	chemical-resistant quarry tile		<b>fluted metal facing</b>	11 46 00	food serving units
		07 62 00	custom		<b>food storage, refrigerated</b>
09 62 16	concrete plank	07 40 00	manufactured	11 41 13	commercial
09 67 13	conductive, fluid-applied	06 44 16	fluted wood pilasters	11 41 23	insulated rooms
09 65 33	conductive, resilient	03 05 00	fly ash for concrete	11 30 13	residential
09 62 29	cork	11 61 33	flyloft rigging and equipment	11 21 23	food vending machines
13 48 23	floating	21 13 39	foam-water fire suppression	11 46 00	food warmers
09 67 00	fluid-applied	06 62 00	foam fabrications, plastic		<b>food waste disposers</b>
09 60 00	industrial		<b>foam insulation</b>	11 48 00	food service equipment
09 62 19	laminated	07 21 00	building	22 42 26	plumbing fixtures, commercial
09 62 26	leather	23 07 13	duct	22 41 26	plumbing fixtures, residential
09 65 00	resilient	09 68 00	foam rubber carpet cushions		
09 60 00	safety, abrasive	12 05 13	foam rubber upholstery padding	11 30 13	residential equipment
09 65 36	static-dissipative resilient	07 81 19	foamed magnesium oxychloride fire protection	11 21 43	food weighing and wrapping equipment
09 65 36	static-resistant resilient			32 34 00	foot bridges
09 63 40	stone	07 57 00	foamed roofing, coated	12 48 16	foot grilles
09 66 00	terrazzo	07 21 19	foamed-in-place insulation	32 18 23	football field surfacing
09 63 00	unit masonry	07 20 00	foaming agents, insulation	.....	footing drains – see foundation drainage
09 64 00	wood	22 13 19	FOG disposal systems, sanitary	33 34 00	force mains, sanitary sewerage, utility
09 01 60	flooring restoration			23 65 13	forced-draft cooling towers
40 16 29	fluorine gas piping	22 14 23	FOG disposal systems, storm drainage	41 32 36	forging equipment, manufacturing
23 09 23	flow instruments	32 01 13	fog seal, flexible paving		
40 71 00	flow measurement	.....	foil, metallic - see metallic foil		
40 71 86	flow metering weirs	09 29 00	foil-backed gypsum board	41 62 23	forklift trucks, plant equipment
33 37 23	flow regulators	09 22 36	foil-backed gypsum lath	03 15 00	form blocks
23 09 13	flow sensors, HVAC	07 21 00	foil-backed insulation	03 50 00	form boards, cast deck
23 09 13	flow switches, HVAC	07 65 13	foil-faced laminated flashing	03 11 00	form coatings
31 23 23	flowable fill	11 23 00	folders, commercial laundry	03 11 00	form liners, concrete
.....	flowcrete - see flowable fill		<b>folding</b>	03 11 00	form ties
32 93 23	flowers	08 35 13	accordion doors	<b>07 71 13</b>	<b>formed copings</b>
04 51 00	flue liners, masonry	11 66 23	backstops	07 62 00	custom
23 51 43	flue-gas filtration equipment	12 66 13	bleachers		
	<b>flues</b>				

07 71 23	<b>formed downspouts</b>	00 52 34	subcontract form –	22 42 33	wash
07 62 00	custom		construction manager at	22 35 39	frame and plate heat
07 71 29	<b>formed roof expansion joint</b>		risk – stipulated sum		exchangers, domestic water
	<b>covers</b>	00 52 24	subcontract form -		<b>framed</b>
07 62 00	custom		construction manager as	13 31 33	fabric structures
07 71 19	<b>formed gravel stops</b>		agent or adviser –	10 28 00	mirrors, metal
07 62 00	custom		stipulated sum	12 12 16	paintings
07 71 23	<b>formed gutters</b>	00 52 17	subcontract form – cost-	12 12 19	prints
07 62 00	custom		plus (design/bid/build or	08 63 00	skylights, glass
	<b>formed metal</b>		design/negotiate/build)		<b>frames</b>
05 75 00	decorative	00 52 14	subcontract form –	08 41 13	aluminum entrances and
08 12 00	door frames		stipulated sum		storefronts
05 58 16	enclosures		(design/bid/build or	08 41 16	bronze entrances and
05 58 00	fabrications		design/negotiate/build)		storefronts
07 62 00	formed scuppers	00 52 57	subcontract form –	08 34 63	detention door
03 11 00	forming accessories, concrete		design/build – cost-plus	06 18 00	glued-laminated wood
41 32 00	forming equipment,	00 52 54	subcontract form –	08 17 00	integrated with doors
	manufacturing		design/build – stipulated	08 12 00	metal
	<b>forms</b>		sum	08 12 00	metal sidelight and transom
00 52 00	agreement	00 62 11	submittal transmittal	05 50 00	rolled steel
00 54 00	agreement supplements	00 63 25	substitution request (during	08 41 19	stainless steel entrances
00 62 76	application for payment		construction)		and storefronts
00 41 00	bid	00 43 25	substitution request (during	08 41 23	steel entrances and
00 43 13	bid bond		procurement)		storefronts
00 61 00	bond	00 63 33	supplemental instruction	06 48 00	wood
00 65 19	certificate of completion	00 65 36	warranty	06 48 23	wood window, custom
00 65 13	certificate of compliance	00 63 49	work change directive		<b>framing</b>
00 62 16	certificate of insurance	00 61 86	work plan schedule	05 40 00	cold-formed metal
00 65 16	certificate of substantial	00 63 43	written amendment	08 44 00	curtain wall
	completion	03 11 00	<b>formwork, concrete</b>	13 33 13	geodesic
00 63 63	change order	03 51 13	cementitious deck boards	06 13 23	heavy timber
00 63 57	change order request	05 30 00	metal deck	05 40 00	lightgage metal
00 63 19	clarification	03 11 26	permanent tier	05 20 00	metal joists
00 63 46	construction change	05 31 33	steel form decking	09 22 16	non-structural metal
	directive	23 34 00	forward curved fans	06 51 00	plastic
00 62 89	construction equipment	48 11 00	fossil fuel plant power	06 17 00	shop-fabricated wood
00 62 83	construction schedule		generation	13 32 00	space frames
00 62 23	construction waste		<b>foundation</b>	05 12 00	steel
	diversion	31 68 00	anchors	08 43 00	storefront
00 63 36	field order	31 41 00	grillages	05 10 00	structural metal
00 62 19	infection control	31 43 00	grouting	06 11 00	wood
00 62 39	minority business	07 21 00	insulation	10 35 00	franklin stoves
	enterprise certification	31 09 16	performance	.....	free access floors - see access
00 52 93	multi-party agreement –		instrumentation		flooring
	integrated project delivery	31 60 00	piles	22 32 16	freestanding cartridge filters,
00 45 13	prequalification	08 95 16	vents		domestic water
00 40 00	procurement	31 66 16	walls	12 59 16	freestanding component
00 43 00	procurement supplements	31 60 00	foundation and load-bearing		system furniture
00 62 33	products		elements	12 50 00	freestanding screen
00 60 00	project	31 60 00	<b>foundations</b>		<b>freezers</b>
00 42 00	proposal	31 63 00	bored piles	11 41 00	food, commercial
00 63 55	proposal worksheet detail	31 64 00	caissons	11 21 63	food, commercial display
00 63 54	proposal worksheet	31 62 00	driven piles	11 30 13	food, residential
	summary	04 40 00	stone	11 41 26	food, walk-in
00 62 34	recycled content of	04 20 00	unit masonry	11 53 26	laboratory
	materials	31 66 16	walls	13 21 26	specialty, walk-in
00 65 19	release of liens	22 52 00	fountain equipment	23 09 13	freezestats
00 63 13	request for information	22 52 13	fountain piping		<b>freight elevators</b>
00 63 53	request for proposal	13 12 00	<b>fountains</b>	14 21 13	electric traction
00 62 73	schedule of values	22 47 13	drinking	14 24 13	hydraulic
00 65 73	statutory declaration	22 52 00	plumbing	11 13 00	freight loading dock equipment
00 62 79	stored materials	11 46 19	soda	31 23 19	french drains



	<b>gas-fired</b>				
23 52 00	boilers	00 72 00	purchase contract	31 32 19	for soil stabilization
22 34 00	domestic water heaters	00 72 00	stipulated sum	02 06 13	geotechnical baseline report
23 54 16	furnaces	00 72 00	unit price	02 06 14	geotechnical data report
23 55 23	radiant heaters	.....	general provisions - see	31 09 13	geotechnical instrumentation
23 55 33	unit heaters		general conditions		and monitoring
23 42 00	gas-phase air filtration	01 00 00	general requirements		<b>geotechnical investigation</b>
42 13 13	gas-to-gas heat exchangers, industrial	41 63 00	general vehicles, plant equipment	00 31 32	available information
	<b>gaskets</b>	48 09 00	generating control systems, power	02 32 00	by contractor
08 44 00	curtain wall		generator assemblies, electrical		<b>geotextile, materials</b>
08 71 00	door	26 32 00	<b>generators</b>	31 05 19	for earthwork
08 71 00	door weatherstripping		electrical	32 05 19	for exterior improvements
07 95 13	expansion joints	26 32 00	electrical, wind-driven	02 05 19	for existing conditions
08 85 00	glazing	48 15 00	fossil fuel power generation	31 32 19	for layer separation
07 91 16	joint	48 11 26	geothermal power	31 35 19	for sedimentation control
07 41 00	roofing, manufactured panels	48 16 23	generation	31 35 23	for slope protection
07 46 00	siding, manufactured panels	48 13 16	hydroelectric power generation	31 34 19	for soil reinforcement
08 43 00	storefront	48 12 33	nuclear power generation	31 32 19	for soil stabilization
08 75 00	window weather-stripping	23 52 00	steam	03 22 00	reinforcing
	<b>gasoline</b>	48 12 23	steam, nuclear power generation	31 35 19	geotextile erosion control
23 12 16	dispensing equipment, facility	48 12 23	generation	31 32 19	geotextile soil stabilization
33 52 16	distribution, utility	48 15 16	wind energy power generation	22 36 23	geothermal domestic water preheaters
23 11 16	pipng, facility		<b>geocomposite</b>	48 16 00	geothermal power generation
40 21 16	pipng, process	33 41 00	subdrainage	03 49 00	GFRC
32 31 00	gate operators	13 33 00	geodesic structures	09 94 23	gilding
40 05 61	gate valves	23 57 33	geoexchange heat exchangers, direct		<b>girders</b>
	<b>gates</b>		geofoam	05 14 00	aluminum
35 22 63	access, through-levee	31 23 23	<b>geogrids</b>	06 18 00	glued-laminated wood
08 34 59	bank and vault		for earth reinforcement	06 51 00	plastic
35 22 59	closure, hydraulic	31 34 19	for erosion control	03 41 00	precast concrete
08 34 59	day	31 05 19	for exterior improvements	05 12 00	steel
32 31 00	fence	31 35 19	for existing conditions	05 21 23	steel joist
10 22 16	folding	32 05 19	for layer separation	06 13 00	timber
35 22 00	hydraulic	02 05 19	for slope protection	06 11 00	wood
35 22 19	hydraulic head	31 32 19	for soil reinforcement	08 81 00	glare-reducing glass
13 19 13	kennel	31 35 19	for soil stabilization	<b>08 81 00</b>	<b>glass</b>
11 12 33	parking	31 34 19	geomembrane composite slurry walls	12 36 26	countertops
34 54 33	passenger fare	31 32 19	<b>geomembranes</b>	12 17 16	stained
11 14 13	pedestrian	31 56 19	for containment barriers	<b>08 80 00</b>	<b>glass and glazing</b>
08 34 56	security		for earthwork	08 44 00	curtain wall
35 22 26	sluice	31 35 26	for exterior improvements	08 50 00	factory-glazed windows
35 22 13	spillway crest	31 05 19	for existing conditions	08 42 33	revolving doors
35 22 46	tainter	32 05 19	for waste containment	08 43 00	storefront system
01 56 26	temporary	02 05 19	<b>geophysical investigation</b>	<b>04 23 00</b>	<b>glass block</b>
34 52 33	vehicle fare	02 56 13	available information	09 76 00	simulated, plastic blocks
35 22 53	verticle lift,hydraulic		by contractor		<b>glass doors</b>
33 30 00	gauging stations		<b>geosynthetics</b>	08 32 00	sliding
10 73 00	gazebos	00 31 31	for drainage layers	08 42 26	tempered entrance
43 23 56	gear pumps	02 31 00	for earthwork		<b>glass fiber</b>
40 24 16	gel piping	32 05 19	for exterior improvements	07 20 00	insulation
.....	general clauses - see general conditions	33 41 00	for existing conditions	07 31 00	shingles
<b>00 72 00</b>	<b>general conditions</b>	31 05 19	for fiber soil reinforcement	11 46 00	glass fillers
00 73 00	additional articles	32 05 19	for layer separation	10 51 33	glass lockers
00 72 00	construction management	02 05 19	for slope protection	08 83 00	glass mirrors
00 72 00	cost-plus-fee	31 34 23	for soil reinforcement	12 11 00	glass mosaic murals, custom
00 52 00	in agreement	31 32 19		09 30 23	glass mosaic tiling
00 73 00	modifications to	31 35 23		08 41 26	glass panel entrances and storefronts
		31 34 19		08 01 80	glass restoration
				04 23 00	glass unit masonry
					<b>glass-fiber-reinforced</b>
				07 51 13	asphalt emulsion roofing

07 44 53	cementitious panels	01 71 23	grades, establishment of	.....	greenstone - see stone
GFRC	concrete	<b>31 22 00</b>	<b>grading</b>	11 44 00	griddles
GFRP	plaster	32 91 19	landscape	04 42 26	grid-system-supported stone cladding
23 31 16	plastic ductwork	03 01 00	graffiti removal, concrete	11 61 00	gridirons, stage
09 28 16	glass-mat faced gypsum backing boards	09 96 23	graffiti-resistant coatings		<b>grids</b>
12 42 23	glassware	10 88 00	grain scales	03 22 19	composite reinforcing
	<b>glazed</b>	13 34 23	granaries, fabricated	09 62 00	metal floor-armoring
08 44 00	aluminum curtain walls	13 34 16	grandstands, fabricated	32 94 46	tree
04 21 16	brick	<b>13 34 16</b>	<b>grandstands and bleachers</b>	31 48 00	steel, foundation supports
08 44 16	bronze curtain walls	12 66 00	telescoping	<b>10 82 00</b>	<b>grilles</b>
08 65 00	canopies	.....	granite - see stone	23 37 13	air inlet and outlet
09 30 13	ceramic mosaics	07 21 00	<b>granular aggregates</b>	08 33 00	counter
04 22 23	concrete masonry units	09 20 00	insulation	05 70 00	decorative metal
08 01 40	curtain wall restoration	32 11 00	plastering	12 48 16	foot
08 44 00	curtain walls	.....	granular base, paving	06 44 00	ornamental wood
05 73 13	metal railings		granular insulation - see loose fill insulation	08 11 74	sliding, metal
09 96 00	resinous coatings		<b>granular subbase</b>	10 82 00	wood
07 32 00	roofing tile	31 23 00	concrete slab	<b>11 44 00</b>	<b>grilles, cooking</b>
08 63 00	skylights	32 11 00	paving	11 30 13	residential
08 44 10	curtain walls	32 18 00	synthetic	23 37 13	grilles, security
13 34 13	structures, fabricated	32 12 16	granulated rubber-modified asphalt paving	<b>11 42 00</b>	<b>grinders</b>
09 96 00	wall coating	GUI	graphical user interface	41 11 33	bulk material
	<b>glazed tile</b>	27 25 23	graphics/multimedia software, communications	11 30 13	food, residential
09 30 13	ceramic		<b>grass paving support systems</b>	32 01 26	grinding, concrete paving
09 30 19	porcelain paver		flexible paving		<b>grinding equipment</b>
04 21 26	structural		unit paving	41 34 46	manufacturing finishing
03 45 13	glazed tile facing, for precast concrete	32 12 43	<b>grates</b>	41 33 29	manufacturing machining
09 30 13	glazed wall tile	32 14 43	drainage	35 31 29	groins
<b>08 80 00</b>	<b>glazing</b>		fireplace	03 35 26	grooved surface concrete finishes
08 85 00	accessories	33 44 13	tree	32 01 26	grooving, concrete paving
08 44 33	assemblies, sloped	10 32 00	<b>gratings</b>	32 96 13	ground cover transplanting
08 85 00	clips	32 94 43	decorative metal	32 93 13	ground covers
08 85 00	compounds		entrance mats	26 27 26	ground fault interrupter receptacles
08 81 23	exterior	05 70 00	metal	31 54 00	ground freezing, excavation support
08 88 13	fire-rated	12 48 13	plastic	10 75 16	ground-set flagpoles
08 85 00	gaskets	05 53 00	<b>gravel</b>	01 35 13	ground transportation project procedures
08 81 26	interior	06 60 00	base course, paving		<b>grounding</b>
08 01 80	restoration		concrete aggregate	34 73 16	airfield
08 85 00	sealants	32 11 23	paving	27 05 26	communications, facility
08 87 00	surface films	03 05 00	roofing aggregates	33 82 43	communications
08 85 00	tapes	32 15 00	subbase, paving		distribution
06 18 00	glued-laminated construction	07 50 00	<b>gravel stops</b>	09 33 00	conductive tiling
12 36 19	glued-laminated wood countertops	32 11 23	custom	26 05 26	electrical
.....	GLULAM - see glued-laminated construction	<b>07 71 19</b>	<b>gravity</b>	09 67 13	fluid-applied conductives
	<b>glycol</b>	07 62 00	available information	25 05 26	integrated automation
23 21 00	ethylene	00 31 31	dams	26 41 00	lightning protection
23 21 00	propylene	31 71 00	investigation	09 65 33	resilient conductive floors
11 66 23	goals, basketball	02 31 16	slides, piece material	33 79 00	site
09 94 00	gold leaf	41 21 29	ventilators	09 66 33	terrazzo conductive flooring
05 70 00	gold plating, decorative metal	07 72 00	ventilators, HVAC		<b>ground-level storage tanks</b>
34 14 19	gondolas	23 37 23	gray-water piping	33 56 43	aviation
01 35 26	government safety requirements	22 11 17	gray-water pumps	33 61 23	hydronic
00 45 46	governmental resolutions	22 11 63	grease guards, roof	23 81 49	ground-source unitary heat pumps
09 30 13	grab bar supports, ceramic	07 72 00	grease interceptors		grounding conductors, site
10 28 00	grab bars	22 13 19	grease traps	33 79 83	grounds, plastering
41 23 16	grabs, lifting devices	22 13 19	green roofing - see vegetated protected membrane roofing	09 22 36	
41 61 26	graders, plant equipment	13 34 13	greenhouses, fabricated		

**groundwater**  
 02 32 23 monitoring before construction  
 31 09 13 monitoring during construction  
 33 24 13 monitoring wells  
 33 11 00 sources  
 02 71 00 treatment  
 35 42 29 grout-bag bank protection  
 35 43 29 grout-bag scour protection  
 04 20 00 grouted unit masonry  
**03 60 00 grouting**  
 03 60 00 anchoring device  
 04 05 16 chemical-resistant, for masonry  
 31 43 00 foundation  
 03 64 00 injection  
 04 05 16 masonry  
 04 05 16 refractory  
 04 20 00 reinforced masonry  
 03 60 00 setting device  
 09 66 00 terrazzo flooring  
 09 30 00 tiling  
 31 73 00 tunnel  
 33 01 00 underground pipe and units, rehabilitation  
 GRP glass-fiber-reinforced plastic  
 31 11 00 grubbing  
 ..... guaranties - see warranties  
**guard chairs**  
 13 11 46 swimming pool  
 01 56 00 guardrails, temporary  
 10 26 13 guards, corner  
**GUI systems**  
 28 33 13 gas detection and alarm  
 28 16 13 intrusion detection  
 28 35 13 refrigerant detection and alarm  
 34 71 00 guide rails, roadway  
 41 21 13 guided vehicle material handling  
**guides**  
 08 71 00 door  
 10 22 23 operable partitions  
 34 10 00 guideways  
 11 97 16 gun ports  
 ..... gunite - see shotcrete  
**gutters**  
 07 62 00 custom rain gutters  
 07 71 23 manufactured rain gutters  
 32 10 00 paving  
 13 11 43 swimming pool  
**guys**  
 33 71 16 power pole  
 01 54 00 temporary  
 32 94 00 tree and shrub  
 12 66 13 gymnasium bleachers, telescoping  
**11 66 53 gymnasium dividers**  
 10 22 23 operable partitions  
 11 66 23 gymnasium equipment

..... gymnasium flooring - see athletic flooring  
**gypsum**  
 09 29 00 backerboard  
 10 22 19 demountable partitions  
 03 51 16 formboard  
 09 22 36 lath  
 09 56 13 panel ceilings, textured  
 03 51 16 planks, precast  
 06 16 43 sheathing  
 07 81 00 sprayed fire protection  
 03 54 13 underlayment  
**09 29 00 gypsum board**  
 09 29 00 accessories  
 09 21 16 area separation walls  
 09 21 16 assemblies  
 09 29 00 foil-backed  
 10 22 19 panels, demountable  
 13 49 19 lead-lined  
 09 21 16 shaft walls  
**09 23 00 gypsum cement**  
 03 54 13 underlayment  
 03 51 16 gypsum concrete roof decks  
**09 23 00 gypsum plastering**  
 09 23 82 fire-resistant  
 09 21 16 gypsum shaft wall assemblies  
 09 26 13 gypsum veneer plastering

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**hair dryers**  
 10 28 16 bath accessories  
 11 21 53 hairdresser's equipment  
 03 81 23 hand concrete wall sawing  
 10 28 13 hand dryers  
 27 22 29 handhelds, communications  
**handling**  
 02 86 00 drum  
 01 66 13 hazardous materials  
 01 66 00 product  
 01 66 16 toxic materials  
**handling equipment**  
 23 11 00 fuel  
 05 52 00 handrail brackets  
**handrails**  
 05 73 00 decorative metal  
 05 52 00 metal  
 05 52 13 metal pipe and tube  
 06 63 00 plastic  
 05 73 13 tempered glass  
 01 56 00 temporary  
 06 43 16 wood, architectural  
 06 22 00 woodwork  
 05 52 00 wood, millwork  
 08 34 16 handrails and railings  
 hangar doors  
**hangers**  
 09 53 00 acoustical ceiling suspension  
 09 50 00 ceiling assemblies  
 09 22 26 ceiling suspension  
 09 21 00 plaster and gypsum board ceilings

11 21 33 clothes, checkroom  
 10 57 00 clothes, closet specialties  
 12 40 00 clothes, furniture  
 27 05 29 communications  
 12 22 13 drapery  
 23 31 00 ductwork  
 26 05 29 electrical  
 21 05 29 fire suppression  
 23 05 29 HVAC  
 25 05 28 integrated automation  
 22 05 29 plumbing  
 13 48 13 sound and vibration control  
 21 05 48 vibration-absorbing, fire suppression  
 23 05 48 vibration-absorbing, HVAC  
 22 05 48 vibration-absorbing, plumbing  
 08 71 00 hanging hardware, doors  
 12 12 26 hangings, wall  
 08 14 23 hardboard-faced doors  
 03 11 00 hardboard forms  
 06 25 00 hardboard paneling, prefinished  
 07 46 26 hardboard siding  
**hardeners**  
 03 30 00 CIP concrete  
 03 05 00 concrete  
 41 34 23 hardface welding coating  
 equipment, manufacturing  
**08 70 00 hardware**  
 10 57 33 closet shelving  
 10 21 00 compartment and cubicle  
 06 41 00 custom cabinet  
 27 22 00 data communications network  
 08 71 63 detention  
 08 71 00 door  
 12 22 16 drapery  
 08 74 00 electro-mechanical  
 08 41 00 entrances and storefronts  
 40 66 16 firewall  
 08 71 00 folding door  
 32 31 00 gate  
 12 30 00 manufactured casework  
 08 17 00 prehung door  
 08 01 70 restoration  
 08 61 00 roof windows  
 08 60 00 skylights  
 08 71 00 sliding door  
 08 30 00 special doors  
 08 78 00 special-function  
 08 75 00 window  
 12 25 00 window treatment, operating  
 25 12 13 hardwired integration network gateways  
 06 42 00 hardwood, paneling and trim  
 09 64 00 hardwood floors  
 06 40 00 hardwood plywood  
 26 35 26 harmonic filters, electrical  
**10 57 13 hat racks**  
 11 21 33 checkroom

12 50 00	furniture	23 81 00	unitary	40 22 10	heavy-fractions petroleum products piping
07 72 33	hatches, roof	23 82 41	water-to-water	34 73 26	helipads, manufactured
01 55 16	haul routes	22 35 43	heat reclaimers, domestic water	23 41 33	HEPA filters
26 55 33	hazard warning lighting			23 61 00	hermetic compressors
<b>02 80 00</b>	<b>hazardous material abatement</b>	23 56 00	heat storage, solar	26 50 00	HID lighting
02 63 00	site remediation	21 05 33	fire suppression	34 21 13	high-power static frequency converters
	<b>hazardous materials</b>	23 05 33	HVAC		<b>high early strength concrete</b>
02 26 00	assessment	22 05 33	plumbing	03 30 00	cast-in-place
00 31 26	available information	40 41 00	process	32 13 13	paving
01 66 13	storage and handling	23 72 13	heat wheels	03 40 00	precast concrete
02 81 00	transportation and disposal	23 72 16	heat-pipe air-to-air energy recovery	HEPA	high-efficiency particulate air
	<b>hazardous waste drum</b>	23 71 13	heat-pump boosters for thermal storage	T1	high-speed digital network
02 26 36	assessment	08 81 00	heat-reducing glass	04 05 13	high-bond masonry mortar
00 31 26	available information	09 96 33	heat-resistant coatings	09 96 59	high-build glazed coatings
02 86 00	handling	08 81 00	heat-strengthened glass	34 43 13	high-intensity-approach lighting, airfield
02 62 00	hazardous waste recovery processes	42 10 00	heat-treating equipment	HID	high-intensity discharge
10 25 13	headwalls, patient	42 14 29	heat-treating furnaces, industrial	26 50 00	high-intensity discharge lighting
00 73 19	health and safety criteria		<b>heaters</b>	04 20 00	high-lift grouted masonry
01 35 29	health, safety, and emergency response procedures	23 55 00	fuel-fired	09 96 00	high-performance coatings
	<b>healthcare</b>	23 83 00	radiant	03 31 00	high-performance structural concrete
12 35 70	casework	23 82 39	unit		<b>high-pressure</b>
22 66 00	chemical waste systems	22 33 00	water, electric	42 11 19	boilers, process
22 61 00	compressed air systems	22 34 00	water, fuel-fired	23 31 00	ductwork
10 21 23	cubicles		<b>heating and cooling makeup air-conditioners, outdoor</b>	40 11 19	steam piping, process
27 52 00	distributed communications			41 36 23	water cutting, manufacturing
12 56 70	furniture	23 75 33	custom	43 31 13	high-purity cartridge gas and liquid filters
11 70 00	equipment	23 74 33	dedicated	40 16 56	high-purity gas piping components
22 09 63	gas alarms	23 21 13	heating and cooling piping		<b>high-temperature insulation</b>
22 63 00	gas systems	23 21 23	heating and cooling pumps	07 21 00	building
27 52 19	imaging systems	23 75 23	heating and ventilating makeup-air units, outdoor	21 07 00	fire suppression
27 51 23	intercommunications		<b>heating</b>	23 07 00	HVAC
26 55 70	lighting	23 52 00	boilers	22 07 00	plumbing
05 45 23	metal supports	23 83 13	cables	40 42 00	process
27 52 00	monitoring, communications	23 82 16	coils	09 96 33	high-temperature-resistant coatings
		23 50 00	equipment, central	03 35 13	high-tolerance floors
22 43 00	plumbing fixtures	23 56 00	equipment, solar energy	40 18 53	high-vacuum systems process piping
22 67 00	processed water systems	23 81 49	ground-source pumps, unitary	23 31 00	high-velocity ductwork
01 35 13	project procedures	23 21 13	piping	<b>HV</b>	<b>high-voltage</b>
13 20 00	rooms, intensive care	23 21 23	pumps	33 75 00	circuit breakers
12 52 70	seating	23 56 13	solar collectors	33 75 36	fuses
11 71 00	sterilizing equipment	10 35 13	stoves, wood-burning	33 75 39	surge arresters
10 28 13	toilet accessories	01 51 23	temporary	33 75 00	switchgear and protection
41 21 13	transport systems		<b>heating, ventilating, and air conditioning (HVAC)</b>	33 71 39	wiring
22 62 00	vacuum systems	23 05 05	selective demolition	23 34 39	high-volume, low-speed propeller fans
02 80 00	health hazard, material abatement	05 58 19	heating-cooling unit enclosures		<b>highway</b>
01 51 23	heat, temporary	23 74 23	heating-only makeup-air units	34 71 13	barriers
23 57 00	heat exchangers, HVAC	06 13 00	heavy timber construction	26 56 19	lighting
42 13 00	heat exchangers, industrial	03 31 00	heavyweight structural concrete	32 17 23	markings
	<b>heat generation equipment</b>	03 53 00	heavy-duty concrete floor toppings	32 11 00	paving
48 30 00	combined with power generation	03 35 16	heavy-duty concrete floor finishes	.....	highway sound barriers - see sound barriers
23 50 00	HVAC				
42 10 00	process				
23 72 16	heat pipes, energy recovery				
	<b>heat pumps</b>				
48 16 13	geothermal power generation				
23 56 00	solar-assisted				



08 17 00	hinged doors	41 21 23	piece material handling	23 08 00	equipment starting
08 71 00	hinges, door	33 05 23	horizontal directional drilling, utilities	23 34 00	fans
	<b>historic</b>			23 09 13	instrumentation
09 27 00	plastic reproductions	.....	horizontal split case pumps - see pumps	23 07 00	insulation
01 35 03	treatment procedures			23 25 33	makeup-water filtration equipment
.....	hoarding - see temporary fencing	08 33 00	horizontally coiling doors and grilles	23 20 00	pipng
41 33 33	hobbing equipment, manufacturing	11 66 23	horses, gymnasts'	23 20 00	pumps
.....	hockey rinks - see ice rinks	13 34 23	horticultural buildings, fabricated	23 01 30	system cleaning
41 22 13	hoisting towers	22 11 19	hose bibbs	23 05 93	testing, adjusting, and balancing
<b>41 22 23</b>	<b>hoists</b>	22 11 19	hose connections	23 25 00	water treatment
01 54 16	temporary	21 12 13	hoses, fire	40 05 81	hydrants and hose bibbs for process service
14 84 23	window washing	.....	hospital - see healthcare		<b>hydrants, fire</b>
	<b>holders</b>		<b>hospitality</b>	21 11 16	facility
08 71 00	door	11 25 00	equipment	41 24 23	hydrators, specialty material handling
10 28 00	toilet paper	12 54 00	furniture		<b>hydraulic</b>
09 30 13	toilet paper, ceramic	14 72 00	turntables	32 05 23	cement for exterior improvements
10 28 16	toothbrush	13 42 25	unit modules	32 11 36	cement concrete base course
09 30 13	toothbrush, ceramic		<b>hot-applied rubberized asphalt</b>	03 54 16	cement underlayment
10 28 16	tumbler		roofing	03 35 00	concrete etching
09 30 13	tumbler, ceramic	07 55 56	waterproofing	14 14 00	dumbwaiters
08 75 00	window	07 14 13	hot reused asphalt paving	14 24 00	elevators
03 41 13	hollow core planks	32 01 16	hot tubs	40 05 59	gates
08 14 00	hollow core wood doors	13 17 13	<b>hot water</b>	08 70 00	operators, door and window
<b>08 11 13</b>	<b>hollow metal doors and frames</b>		boilers	03 37 00	placement, concrete
08 13 13	doors	23 52 00	distribution	41 24 26	power systems, material handling
08 12 13	frames	33 61 00	pipe insulation	41 36 26	process tools, manufacturing
12 42 19	hollowware	23 07 19	tanks	31 41 19	shoring
12 35 30	home economics casework	22 12 00	<b>hot water piping</b>	32 92 13	hydro-mulching
41 11 36	homogenizers, bulk material		domestic water	32 91 13	hydro-punching, planting preparation
41 34 49	honing equipment, manufacturing	22 11 16	space heating	26 32 19	hydro-turbine generators
23 38 00	hood and ventilation equipment	23 21 13	hot weather procedures, concrete		<b>hydrocarbon</b>
	<b>hoods</b>	03 05 00	hotel units, fabricated modules	33 08 40	commissioning
23 38 13	exhaust, food service	13 42 25	hotel casework	33 09 50	instrumentation and control
44 10 00	exhaust, industrial	12 35 25	hotel furniture	33 01 50	operation and maintenance
11 30 13	exhaust, residential	12 54 13	hothouses, fabricated	33 06 50	schedules
23 34 00	exhaust fans	13 34 13	household - see residential	33 56 00	storage
23 38 16	fume	.....	housekeeping carts	33 57 00	hydrocarbons receiving/dispensing equipment
11 53 13	laboratory exhaust	11 81 16	housewrap - see air barrier		02 41 13
14 81 19	hook scaffolding	.....	hubbard tubs	48 13 00	hydroelectric power generation
33 72 63	hook sticks	11 73 00	HMI	48 18 16	hydrogen control equipment, power generation
	<b>hooks</b>	23 25 23	humidification steam system feedwater, water treatment	40 16 33	hydrogen-sulfide gas piping
41 23 19	lifting devices	23 84 13	humidifiers, HVAC	07 16 00	hydrolithic waterproofing
10 28 00	robe	42 23 19	humidifiers, process	23 82 16	hydronic air coils
09 30 13	robe, ceramic	23 09 13	humidistats		<b>hydronic energy distribution</b>
08 79 00	window cleaners	23 84 00	humidity control equipment	33 61 13	buried
41 12 13	hopper bulk material conveyors	23 09 13	humidity transmitters	33 61 00	utility
41 21 23	hopper piece material conveyors	08 88 19	hurricane-resistant glazing		
41 51 13	hoppers, process	<b>23 00 00</b>	<b>HVAC</b>		
	<b>horizontal</b>	23 40 00	air cleaning devices		
27 15 00	cabling, communications	23 30 00	air distribution		
08 33 00	fire closures	23 60 00	central cooling equipment		
23 82 39	unit heaters	23 70 00	central equipment		
	<b>horizontal conveyors</b>	23 50 00	central heating equipment		
41 12 13	bulk material handling	23 80 00	decentralized equipment		
11 43 16	food tray	23 31 00	ductwork		
		23 08 00	equipment commissioning		
		23 09 00	equipment controls		

23 83 26	hydronic panels, radiant heating and cooling				
<b>23 21 13</b>	<b>hydronic piping, facility</b>				
23 83 16	radiant-heating and cooling				
23 21 23	hydronic pumps, facility				
23 83 16	hydronic radiation				
23 25 00	hydronic system, water treatment				
11 93 13	hydroponic growing systems				
11 79 00	hydrotherapy equipment				
13 17 23	hydrotherapy pools				
10 28 26	hygiene and custodial accessories				
13 21 16	hyperbaric rooms				
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<b>11 46 83</b>	<b>ice machines</b>				
11 30 13	residential				
01 74 00	ice removal and control, construction				
13 18 00	ice rinks				
23 71 19	ice storage				
08 42 43	ICU/CCU entrances				
	<b>identification</b>				
27 05 53	communications				
26 05 53	electrical				
28 05 53	electronic safety and security				
07 05 53	fire and smoke assembly				
21 05 53	fire suppression				
23 05 53	HVAC				
25 05 53	integrated automation				
22 05 53	plumbing				
40 05 97	process equipment				
01 58 13	project signage, temporary				
10 14 00	signage				
28 17 00	identification management systems, access control				
	<b>identifying devices</b>				
10 13 00	directories				
01 58 13	project signage, temporary				
10 14 00	signage				
27 15 00	IF/RF communications				
	horizontal cabling				
10 14 22	illuminated signage				
31 77 00	immersed tube tunnels				
34 71 16	impact-attenuating devices, roadway				
08 81 00	impact-resistant glass				
10 26 23	impact-resistant wall protection				
02 41 00	implosion				
32 13 16	imprinted concrete paving				
	in-line circulators – see in-line pumps				
	<b>in-line pumps</b>				
23 21 23	hydronic				
22 11 23	plumbing				
26 50 00	incandescent lighting				
02 53 13	incineration, site remediation				
	<b>incinerators</b>				
11 82 19	packaged				
44 51 00	solid waste				
	<b>inclined conveyors</b>				
41 12 13	bulk material handling				
14 31 00	escalators				
41 21 23	piece material handling				
05 51 33	inclined ladders, metal				
34 13 13	inclined railway				
14 42 13	inclined wheelchair lifts				
09 96 43	incombustible coatings				
	<b>incubators</b>				
11 53 16	laboratory				
11 73 00	patient care equipment				
08 42 43	ICU/CCU entrances				
00 72 00	indemnification				
12 56 51	index card file cabinets				
40 78 16	indicating lights				
	<b>indicators</b>				
28 30 00	detection and alarm				
23 09 13	HVAC				
11 53 00	laboratory				
40 71 83	sight flow				
40 78 13	indicators and meters				
23 76 16	indirect evaporative air coolers				
23 73 33	indirect fuel-fired heating and ventilating units, indoor				
.....	indoor – see interior				
	<b>indoor</b>				
23 73 00	central-station air-handling units				
26 27 23	electrical service poles				
13 28 13	soccer boards				
11 66 23	sports equipment				
09 68 00	indoor-outdoor carpeting				
23 65 14	induced-draft cooling towers				
23 82 26	induction units				
26 35 16	inductors, electrical				
12 35 50	industrial arts casework				
	<b>industrial</b>				
13 34 23	buildings, fabricated				
42 10 00	chimneys				
04 50 00	chimneys, masonry				
08 34 19	doors				
42 14 00	furnaces				
12 57 00	furniture				
42 13 00	heat exchangers				
40 70 00	instrumentation for process systems				
42 22 00	liquid coolers				
09 96 00	maintenance coatings				
42 15 00	ovens				
44 00 00	pollution control equipment				
40 20 00	process fluid piping				
01 35 13	project procedures				
42 13 00	recuperators				
41 67 19	safety equipment				
04 50 00	stacks, masonry				
14 71 00	turntables				
	<b>industrial flooring</b>				
09 63 13	brick				
09 67 00	fluid-applied				
09 64 16	wood block				
	<b>industrial gas piping</b>				
40 10 00	process piping and ductwork				
45 00 00	industry-specific manufacturing equipment				
40 17 26	inert gas welding piping				
	<b>inertia bases</b>				
21 05 48	fire-suppression equipment				
23 05 48	HVAC equipment				
22 05 48	plumbing equipment				
<b>01 35 33</b>	<b>infection control</b>				
00 62 19	forms				
07 27 00	infiltration barriers, air				
03 11 00	inflatable forms				
13 31 13	inflatable structures				
	<b>information, available</b>				
00 31 00	available project				
00 31 24	environmental assessment				
00 31 19	existing conditions				
00 31 26	existing hazardous material				
00 31 25	existing material				
00 31 31	geophysical data				
00 31 32	geotechnical data				
00 31 43	permit application				
00 31 13	preliminary schedules				
00 31 16	project budget				
00 31 21	survey				
00 31 00	information available to bidders				
<b>28 51 00</b>	<b>information management</b>				
28 51 19	control room				
28 51 17	data presentation				
28 51 15	interfaces				
28 51 19	monitoring equipment				
00 31 43	information required to obtain a permit				
10 10 00	information specialties				
10 18 00	informational kiosks				
27 53 16	infrared and radio frequency tracking systems				
23 82 00	infrared heaters				
33 83 19	infrared transmitters and receivers				
31 72 00	initial tunnel support systems				
03 64 00	injection grouting, concrete repair				
	<b>inlets</b>				
23 37 00	air				
33 44 13	storm drainage				
23 34 00	inline fans				
I/O	input/output				
40 61 93	input/output lists, process control				
33 21 16	irrigation water wells				
<b>10 81 16</b>	<b>insect control</b>				
01 57 16	during construction				
31 31 00	soil treatment				
10 81 16	insect repellents				
	<b>insect screens</b>				
08 91 00	louver				
08 50 00	window				
06 05 73	insect-resistant wood treatments				

	<b>inserts</b>	23 09 13	temperature, HVAC	03 30 00	integral concrete waterproofing
03 15 00	concrete			04 22 00	integral water repellent, concrete unit masonry
03 40 00	precast concrete	26 05 00	<b>insulated</b>		<b>integrated</b>
01 21 19	inspection allowances	08 10 00	conductors, electrical		access control hardware devices
33 01 12	inspection and testing of water utilities	08 44 00	doors	28 15 00	
33 01 30	inspection of underground piping	07 41 16	metal panels, curtain wall	27 41 16	audio-video systems
01 45 23	inspection services	07 46 00	metal panels, roof	09 58 00	ceilings
	<b>inspections</b>	07 40 00	metal siding	13 40 00	construction
01 77 00	project closeout	07 40 00	roof and wall panels	08 17 00	door opening assemblies
01 45 16	soil compaction control	07 40 00	structural panels	01 91 26	system commissioning
01 45 33	special	26 05 00	wires, electrical	12 59 00	work units
01 78 36	warranty	IRMA	insulated roof membrane assembly	13 49 13	x-ray shielding assemblies
<b>01 73 19</b>	<b>installation</b>		<b>insulated sectional chimneys</b>		<b>integrated audio evacuation systems</b>
01 21 23	allowances	23 51 33	for heat generation equipment	<b>25 00 00</b>	<b>integrated automation</b>
40 05 05	exposed piping	10 31 13	for manufactured fireplaces	25 05 26	bonding
01 31 19	meetings			25 05 13	conductors and cables
01 43 23	installer qualifications	03 52 00	<b>insulating</b>	25 90 00	control sequences
	<b>instantaneous water heaters</b>	03 11 19	concrete	25 50 00	facility controls
22 33 13	electric domestic	03 52 16	concrete forming	25 05 26	grounding
22 34 13	gas domestic	03 11 16	decks, concrete	25 05 53	identification
12 56 00	institutional furniture	08 81 00	formboard, permanent	25 30 00	instrumentation
	<b>instructions</b>	09 22 36	glass	25 10 00	network equipment
00 20 00	for procurement	08 84 00	lath	25 05 28	pathways
01 26 00	modification	07 22 00	plastic glazing	25 05 05	selective demolition
01 79 00	owner's personnel	12 24 00	roof fill	25 05 48	vibration and seismic controls
00 22 00	supplementary	06 16 13	shades		
00 21 13	instructions to bidders		sheathing	26 09 36	integrated multipreset modular dimming controls
00 21 16	instructions to proposers	09 81 00	<b>insulation</b>	ISDN	integrated services digital network
	<b>instrument</b>	07 22 00	acoustical	33 82 00	integrated services digital network cabling
34 43 16	airfield landing equipment	07 21 16	asphaltic concrete	25 13 16	integration panels, integrated automation network
40 80 00	calibration, process	07 21 00	blanket	27 26 26	integration requirements, communications
40 80 00	commissioning, process	23 07 13	building	28 05 47	integration requirements, electrical
40 96 20	lists, process control	21 07 00	ductwork	28 05 47	integration requirements, information
11 71 00	sterilizers	07 21 19	fire suppression	28 05 47	integration requirements, mechanical
11 76 00	tables, surgical	04 20 00	foamed-in-place	28 05 47	integration requirements, system
25 30 00	instrumentation, integrated automation	23 07 00	for masonry assemblies	11 73 00	intensive care monitor modules
40 79 66	instrument valve manifolds, valves, and fittings	07 21 23	HVAC	ICU/CCU	intensive care unit/critical care unit
	<b>instrumentation and control for</b>	04 20 00	loose fill	08 42 43	intensive care unit entrances
26 09 00	electrical	07 22 00	loose fill, masonry assemblies	27 33 23	interactive voice response
48 09 00	electrical power generation	13 21 23	membrane roofing	<b>22 13 19</b>	<b>interceptors</b>
21 09 00	fire suppression	07 21 00	part of insulated rooms	22 13 19	grease
23 09 00	HVAC	07 21 00	perimeter	22 66 00	laboratory waste
25 30 00	integrated automation	07 22 13	perlite concrete	27 52 23	intercommunication and program systems
22 09 00	plumbing	22 07 00	plumbing	28 05 47	interconnection requirements, systems
40 70 00	process systems	40 42 00	process		<b>interfaces</b>
33 09 00	utilities	07 20 00	rigid	28 16 00	access control
	<b>instrumentation and monitoring for</b>	07 22 00	roof	28 31 30	intrusion detection
31 09 00	earthwork	07 21 29	sprayed-on		
31 09 13	geotechnical	26 05 00	<b>insulators and fittings</b>		
40 70 00	instrumentation for process systems	33 71 23	electrical wires and cables, facility		
13 50 00	instrumentation, special	00 65 16	electrical utility		
	<b>instruments</b>	00 72 00	insurance, certificates of		
23 09 13	humidity, HVAC	00 73 00	<b>insurance requirements</b>		
40 78 00	panel mounted	23 37 23	general conditions		
23 09 13	pressure, HVAC	33 12 13	supplementary conditions		
		33 13 16	intake and relief ventilators		
		33 12 11	intake cribs		
			intake drop and riser shafts		
			intake structure systems		

01 53 00 interim construction  
**interior**  
 06 40 23 architectural woodwork  
 12 92 13 artificial plants  
 09 97 26 cementitious coatings  
 12 26 00 daylighting devices  
 07 95 13 expansion joints  
 06 20 23 finish carpentry  
 08 81 26 glass glazing  
 10 82 23 grilles and screens  
 12 92 43 landscape accessories  
 26 51 00 lighting  
 32 93 00 live plants  
 09 93 13 opaque stains  
 09 91 23 painting  
 12 92 33 planters  
 12 93 00 public space furnishings  
 22 14 16 rain water drainage  
 11 66 43 scoreboards  
 12 23 00 shutters  
 09 93 13 transparent stains  
 09 78 00 wall paneling  
 01 91 23 interiors commissioning  
 01 84 00 interiors performance requirements  
 12 62 16 interlocking chairs  
**04 22 33 interlocking concrete unit masonry**  
 32 14 13 paving  
 32 32 23 retaining walls  
 32 14 13 interlocking precast concrete unit paving  
 IF/RF intermediate frequency/radio frequency  
 27 15 00 intermediate frequency/radio frequency cabling  
 42 11 16 intermediate-pressure boilers, process  
 40 11 16 intermediate-pressure steam piping, process  
 40 42 00 intermediate-temperature insulation, process  
 34 54 16 intermodal transfer machines, fare collection  
 27 53 19 internal cellular, paging, and antenna systems  
 23 24 00 internal combustion engine piping  
 IP internet protocol  
 27 31 23 internet protocol voice switches  
 25 13 19 interoperability, integrated automation network  
**28 16 00 intrusion detection**  
 28 31 20 area and perimeter  
 28 31 30 interfaces  
 28 05 07 power sources  
 28 05 09 surge protection  
 09 96 46 intumescent coatings  
 07 84 00 intumescent firestopping  
 07 81 23 intumescent fire protection  
 48 19 16 inverters, power generation

**investigation**  
 00 31 24 environmental assessment  
 13 50 00 monitoring, building  
 31 09 00 monitoring, site  
 07 01 50 roof condition  
 00 31 32 subsurface, available information  
 02 32 00 subsurface, by contractor  
 01 91 00 system performance  
 00 11 16 invitation to bid  
 02 52 16 ion exchange, site remediation  
**ion exchange equipment**  
 11 53 00 laboratory  
 27 31 23 IP voice switches  
 07 55 00 IRMA  
 05 70 00 iron, wrought, decorative  
 05 54 00 iron plates  
**ironers**  
 10 28 23 ironing board, residential built-in  
 32 81 00 irrigation components  
 32 81 13 irrigation intake screens  
 32 80 00 irrigation systems  
 33 82 00 ISDN cabling  
 40 78 56 isolators, intrinsically safe barriers, and surge suppressors

## J

31 48 23 jacked piers, underpinning  
**jacks**  
 03 11 00 form  
 03 23 00 prestressing  
 ..... jail - see detention  
 ..... jalousie windows - see windows  
 10 28 13 janitors' closet accessories  
 13 26 00 janitors' closet stations, fabricated  
 ..... janitors' sinks - see service sink  
 24 73 19 jet blast barriers  
 43 11 26 jet pumps, gas handling, process  
 35 31 26 jetties  
 ..... jetways - see passenger boarding bridges  
 ..... jewelers' vaults - see vaults  
 41 22 13 jib cranes  
**01 31 00 job site administration**  
 00 72 00 general conditions  
 41 36 19 joining equipment, manufacturing assembly  
 32 01 29 joint cleaning and sealing, concrete paving repair  
 07 95 13 joint covers  
**07 91 26 joint fillers**  
 03 15 00 concrete  
 07 84 43 joint firestopping  
 07 91 16 joint gaskets  
 07 90 00 joint protection

32 01 29 joint rehabilitation, concrete paving  
 04 05 19 joint reinforcement, masonry  
 04 05 19 joint reinforcing, continuous, masonry  
**07 92 00 joint sealants**  
 07 92 19 acoustical  
 32 12 72 asphalt paving  
 32 13 73 concrete paving  
 32 01 17 joint sealing, asphalt paving  
 07 91 00 joint seals, preformed  
 09 29 00 joint treatment, gypsum board  
**joists**  
 03 15 00 construction, concrete  
 32 13 73 construction, concrete paving  
 03 15 00 control, concrete  
 04 05 23 control, masonry  
 07 95 13 expansion, covers  
 04 05 23 expansion, masonry  
 07 62 00 expansion, roof, custom  
 07 71 29 expansion, roof, manufactured  
 06 05 23 joist hangers  
**joists**  
 05 25 00 aluminum  
 06 11 13 engineered lumber  
 06 18 00 glued-laminated wood  
 06 17 13 laminated veneer lumber  
 05 20 00 metal  
 06 17 36 metal-web wood  
 05 21 19 open-web  
 06 17 23 parallel strand lumber  
 06 51 00 plastic  
 03 41 00 precast concrete  
 05 21 00 steel  
 05 42 00 steel, cold-formed  
 06 13 00 timber  
 06 11 00 wood  
 06 17 36 wood chord-metal joists  
 06 17 33 wood i-joists  
 06 17 53 wood trusses  
 06 17 36 wood-metal joists  
**11 42 00 juicers**  
 11 30 13 residential  
**junction boxes**  
 26 05 33 electrical

## K

..... kalamein doors - see metal-clad doors  
 ..... karst remediation - see sinkhole remediation  
 09 20 00 Keene's cement  
**13 19 00 kennels**  
 11 53 00 laboratory  
 40 21 23 kerosene process piping  
 11 44 00 kettles  
 11 12 13 key and card control units, parking  
 08 79 13 key cabinets

08 79 13 key storage and control equipment  
 08 79 13 key tag systems  
 08 71 00 kick plates  
**kilns**  
 04 50 00 masonry  
 42 15 00 packaged, industrial  
 13 34 23 kiosks, fabricated  
 10 18 00 kiosks, informational  
 11 30 13 kitchen appliances, residential  
 12 35 30 kitchen casework, manufactured  
 ..... **kitchen equipment – see food service equipment**  
 11 30 13 residential  
 23 31 00 kitchen exhaust ductwork  
**23 38 13 kitchen hoods**  
 11 30 13 residential  
 23 35 33 kitchen ventilation exhaust system  
 11 32 00 kitchens, unit  
**11 42 00 knife sharpeners**  
 11 30 13 residential  
 08 71 00 knobs, door  
 08 79 00 knockers  
 25 36 16 KW transducers, integrated automation

## **L**

**08 10 00 labeled doors**  
 08 33 00 coiling  
 08 35 13 folding  
 08 11 73 sliding metal  
 08 34 00 special-function  
 41 43 19 labeling equipment, container processing  
 00 61 13 labor payment bonds  
 00 73 49 labor stabilization agreement  
**laboratory**  
 22 66 00 acid waste systems  
 12 35 53 casework  
 22 66 00 chemical waste systems  
 22 61 00 compressed air systems  
 12 53 29 controlled-environment cabinets  
 12 36 53 countertops  
 11 53 00 equipment  
 11 53 26 freezers  
 12 56 53 furniture  
 22 63 00 gas systems  
 22 67 00 processed water systems  
 12 36 53 sinks with countertops  
 01 45 29 testing services  
 22 62 00 vacuum systems  
 09 93 00 lacquers  
**ladders**  
 06 20 00 fixed wood  
 05 51 33 inclined metal  
 05 51 33 manhole  
 05 51 33 metal  
 05 51 33 ships  
 13 11 46 swimming pool

01 54 00 temporary  
 31 53 00 lagging  
 07 27 00 laminated air barriers  
 09 64 16 laminated block wood flooring  
 08 81 00 laminated glass  
 09 62 19 laminated plastic flooring  
 07 65 13 laminated sheet flashing  
 09 21 16 laminated solid gypsum board partitions  
 07 26 00 laminated vapor retarders  
 06 17 13 laminated veneer lumber  
**06 18 00 laminated wood**  
 12 36 19 countertops  
 06 15 23 decking  
 09 64 33 flooring  
 12 50 00 lamp tables  
**lamps**  
 26 50 00 lighting  
 12 43 00 portable, furniture  
 27 10 00 LAN cabling  
 05 51 00 landings, stair, metal  
**landscape**  
 12 92 43 accessories, interior  
 32 94 13 edging  
 32 91 19 grading  
 32 01 90 maintenance  
 12 59 00 partitions, interior  
 32 94 19 surfacing  
 32 94 16 timbers  
 ..... landscaped roofing - see vegetated protected membrane roofing  
 35 41 13 landside levee berms  
 language laboratories  
 01 51 00 lanterns, construction  
 07 46 00 lap siding  
 07 32 00 lapped roof tile  
 07 31 00 lapped shingles  
**lapping equipment**  
 41 34 53 manufacturing finishing  
 41 33 36 manufacturing machining  
 27 22 26 laptop computers, communications  
 40 62 43 large display screens  
**laser**  
 41 36 23 cutting equipment, manufacturing  
 35 59 29 docking systems  
 41 36 29 measurement and testing  
 33 83 13 transmitters and receivers  
 08 75 00 latches, window sash  
 08 71 00 latchsets  
 09 91 00 latex paint  
 32 01 13 latex-modified emulsion, flexible paving coating  
**09 22 36 lath**  
 13 49 19 lead-lined  
 41 33 39 lathe equipment, manufacturing  
**laundry**  
 10 28 23 accessories  
 14 91 33 chutes

22 40 00 sinks  
**laundry equipment**  
 22 40 00 lavatories  
 12 35 30 lavatory casework, manufactured  
 32 84 00 lawn sprinkler systems  
 32 92 00 lawns  
 01 32 23 layout data, submittal  
 01 71 23 layout of work  
 33 36 00 leaching fields  
**lead**  
 02 83 00 abatement  
 02 26 26 assessment  
 00 31 26 available information  
 13 49 00 curtains, radiation protection  
 07 62 00 flashing  
 02 83 19 paint abatement  
 02 83 00 remediation  
 07 61 00 roofing  
 13 49 00 screens, x-ray  
 26 33 13 storage batteries  
**lead-bearing glass**  
 08 81 00 glass and glazing  
 08 88 49 radiation protection  
**lead-lined**  
 13 49 19 concrete masonry  
 08 34 49 doors  
 13 49 19 gypsum board  
 13 49 19 lath  
**leaded glass**  
 12 17 00 artwork  
 08 81 00 glass and glazing  
**22 14 16 leaders, rainwater**  
 07 62 00 custom metal  
 07 71 23 manufactured  
**28 30 00 leak detection**  
 23 09 23 instruments  
 33 54 00 hydrocarbon  
 31 01 70 leak repairs, tunnel  
 32 11 36 lean concrete base course  
 31 56 23 lean concrete slurry walls  
**12 05 13 leather**  
 09 62 26 flooring  
 45 21 00 manufacturing  
 09 72 00 wall covering  
**12 56 39 lecterns**  
 11 61 00 broadcast, theater, and stage equipment  
 12 62 00 lecture hall seating, portable  
**lecture seating**  
 12 61 00 fixed  
 12 62 00 portable  
 10 55 23 letterboxes and slots  
 10 14 19 letters, signage  
 35 41 00 levees  
 23 09 23 level instruments  
 40 72 00 level measurement  
 11 13 19 levelers, dock  
 03 35 00 leveling, concrete  
 41 33 43 leveling equipment, manufacturing

	<b>library</b>				
12 35 30	casework	26 56 18	incandescent, exterior	40 93 00	actuators and positioners, linear
11 51 00	equipment	26 51 13	incandescent, interior	23 37 13	diffusers
12 56 51	furniture	26 51 00	interior	09 54 23	metal ceilings
11 51 23	stack systems	26 51 16	LED, interior	23 37 13	return air slots
28 31 21	LIDAR security systems	35 12 13	navigation	14 91 33	linen chutes
00 61 16	lien bonds	26 01 40	protection systems, operation and maintenance	12 05 13	linen fabrics
01 90 00	life cycle activities	26 55 00	special purpose		<b>linens</b>
13 11 46	life guard chairs, swimming pool	01 51 26	temporary	12 44 13	bath
13 34 23	life guard houses, fabricated	<b>26 09 00</b>	<b>lighting controls</b>	12 42 26	table
<b>28 40 00</b>	<b>life safety</b>	34 43 26	airfield	31 52 00	liner plate cofferdams
28 46 00	fire detection and alarm	25 56 00	integrated automation	04 62 00	liner plates, vitrified clay
28 01 70	operation and maintenance	26 09 43	network		<b>liners</b>
28 41 00	radiation detection and alarm	34 43 26	lighting PLC control equipment, airfield	03 11 00	concrete forms
28 06 70	schedules	26 56 13	lighting poles and standards	04 51 00	flue
34 81 23	lift bridge machinery	25 36 26	lighting relays, integrated automation	03 11 00	form
03 47 16	lift slabs	34 43 26	lighting regulator assembly, airfield		<b>lines</b>
03 47 16	lift-slab concrete	26 55 61	lighting, theatrical	01 32 23	certification of
41 23 00	lifting devices, material handling	<b>33 79 93</b>	<b>lighting arresters</b>	01 71 23	layout of
<b>14 40 00</b>	<b>lifts</b>	26 41 23	facility lightning protection		<b>linings</b>
11 78 00	cadaver	33 75 39	high-voltage utility	12 22 00	curtain and drapery
11 13 00	dock	26 18 19	medium-voltage	12 05 13	fabric
14 10 00	dumbwaiters	33 77 39	medium-voltage utility	31 72 00	tunnel
14 46 00	material	26 35 00	power conditioners	12 48 13	link entrance mats
14 45 23	parking, vehicle	33 79 93	strike counters	09 65 43	linoleum flooring
14 41 00	people	26 41 16	lightning prevention and dissipation	09 93 00	linseed oil
14 45 13	service, vehicle	26 41 00	lightning protection, facility	04 40 00	intel blocks, stone
14 44 00	sidewalk	33 79 93	lightning protection, site	05 50 00	lintels, structural metal
14 45 00	vehicle	26 41 00	lightning rods	33 52 00	liquefied-petroleum gas distribution, utility
14 42 00	wheelchair	33 79 93	lightning strike counters	23 11 26	liquefied-petroleum gas piping, facility
41 23 23	lifting devices	33 79 93	lightning strike warning devices		<b>liquid</b>
10 71 13	light baffles, exterior sun control	12 20 00	lightproof curtains, blinds, and shades	23 65 33	coolers
<b>26 50 00</b>	<b>light fixtures</b>	08 71 00	lightstripping	44 53 73	extraction equipment, solid waste
12 59 00	with systems furniture	03 52 16	lightweight cellular concrete	43 20 00	handling equipment, process
23 37 13	light troffer diffusers	04 22 00	lightweight concrete masonry units	43 22 00	process equipment
	<b>lightweight concrete</b>	03 52 00	lightweight concrete roof insulation	40 25 10	liquid acids piping
03 34 00	aggregate	03 52 00	lightweight insulating concrete	40 25 50	liquid bases piping
03 33 00	architectural		<b>lightweight insulating fill</b>	40 21 00	liquid fuel piping, process
03 52 00	roof insulation	03 52 16	cementitious	LNG	liquid natural gas
03 31 00	structural	03 52 00	perlite asphaltic	40 26 00	liquid polymer piping, process
40 22 50	light-fractions petroleum products piping	07 22 13	lime-based plastering	.....	liquid-applied – see fluid- applied.
08 34 33	light-proof doors	09 25 23	lime mortar, masonry	26 12 13	liquid-filled medium-voltage transformers
05 40 00	lightgage metal framing	04 05 13	lime slurry soil stabilization	33 73 13	liquid-filled transformers, utility
35 12 13	lighthouse equipment	31 32 13	lime soil stabilization	42 13 16	liquid-to-gas/gas-to-liquid heat exchangers, industrial
<b>26 50 00</b>	<b>lighting</b>	31 32 13	lime-fly-ash-treated course	23 57 19	liquid-to-liquid heat exchangers, HVAC
26 55 68	athletic field	32 11 29	lime-treated base courses	42 13 19	liquid-to-liquid heat exchangers, industrial
26 55 83	broadcast	32 11 13	lime-treated subgrade	11 46 13	liquor bars
26 54 00	classified location	.....	limestone - see stone		<b>list of</b>
26 52 13	emergency	32 01 90	liming	00 01 15	documents bound separately from project manual
11 59 00	exhibit	14 26 00	limited-use elevators	00 01 15	drawings
26 52 13	exit	33 71 00	line materials for electrical transmission and distribution	00 43 26	estimated quantities
26 56 00	exterior		<b>linear</b>		
26 56 17	fluorescent, exterior				
26 51 16	fluorescent, interior				
26 56 21	HID, exterior				
26 51 16	HID, interior				

00 01 10	project manual components	08 95 16	foundation vent	35 49 26	machinery, floodgate
00 01 20	schedules	08 13 00	metal door, integral	01 54 00	machinery, temporary
00 43 36	subcontractors	32 35 13	site	45 41 00	machinery manufacturing equipment
01 10 00	products ordered in advance	08 91 00	sun control	11 21 23	machines, vending
<b>01 23 00</b>	<b>list of alternates</b>	08 91 00	wall	41 33 00	machining equipment, manufacturing
00 43 21	part of bid	08 14 00	wood door, integral	41 31 13	machining lines, manufacturing
23 35 33	listed kitchen ventilation exhaust system	12 52 00	loveseats	34 12 23	maglev monorails
40 61 93	lists, input/output, process control system	<b>03 34 00</b>	<b>low-density concrete</b>	41 36 29	magnaflux measurement and testing equipment, manufacturing
01 22 00	lists and descriptions of unit price items	03 52 00	lightweight insulating	07 81 26	magnesium cement fire protection
12 93 23	litter receptacles, site	34 43 16	low-intensity-approach lighting, airfield	09 67 19	magnesium oxychloride flooring
41 13 13	live bin bottoms, bulk material	04 20 00	low-lift grouted unit masonry	40 72 53	magnetic and magnetostrictive level meters
13 34 23	livestock buildings, fabricated	<b>low-pressure</b>		10 11 23	magnetic display boards
40 73 46	load cells	42 11 13	boilers, process	<b>magnetic operators</b>	
<b>01 45 16</b>	<b>load tests</b>	23 31 00	ductwork	08 74 00	door
31 08 13	bored piles	40 11 13	steam piping, process	08 30 00	special doors
31 08 13	driven piles	<b>07 20 00</b>	<b>low-temperature insulation</b>	08 74 00	window
05 41 00	load-bearing metal studs	07 21 00	building	41 24 33	magnetic separators, specialty material handling
04 20 00	load-bearing unit masonry	21 07 00	fire suppression	00 31 31	magnetotelluric available information
11 13 00	loading dock equipment	23 07 00	HVAC	02 31 29	magnetotelluric investigations
<b>LAN</b>	<b>local area network</b>	13 21 23	insulated rooms	10 55 23	mail boxes
27 10 00	cabling	22 07 00	plumbing	10 55 91	mail chutes
25 14 00	local control panels, integrated automation	40 42 00	process	27 22 13	mainframe computers, communications
25 15 19	local control unit software, integrated automation	23 31 00	low-velocity ductwork	<b>maintenance</b>	
.....	lock box - see emergency key cabinet	<b>low-voltage</b>		26 50 00	accessories for lighting equipment
10 51 00	lockers	26 25 13	busways	00 61 19	bonds
<b>locks</b>		26 25 16	cabibus systems	09 01 90	coatings
08 71 63	detention	26 05 19	cables	01 78 19	contracts
08 71 00	door	26 28 00	circuit protection	01 78 23	data
08 75 00	window sash	26 29 00	controllers	04 03 01	for period masonry
41 64 13	locomotives, plant equipment	26 27 00	distribution equipment	06 03 01	for period wood
11 61 00	lofts, stage	26 20 00	electrical distribution	33 01 50	hydrocarbon utilities
<b>06 13 13</b>	<b>log structures</b>	26 27 26	relays	01 78 23	instructions
13 34 23	fabricated	26 43 13	surge protective devices	01 78 23	manuals
40 96 25	logic diagrams, process control	26 23 00	switchgear	01 78 46	materials
<b>logic systems</b>		26 22 00	transformers	07 01 50	membrane roofing
28 33 13	gas detection and alarm	26 05 19	wiring	02 03 01	of existing period conditions
28 16 13	intrusion detection	<b>low-voltage systems</b>		01 11 00	of owner-furnished items
28 35 13	refrigerant detection and alarm	08 74 00	electronic locking	21 34 13	pumps, pressure
05 21 16	longspan steel joists	23 09 00	HVAC controls and instruments	01 78 43	spare parts
45 19 00	looms, manufacturing	08 81 00	low-e glass	41 67 23	tools, plant
40 96 30	loop diagrams, process control	41 67 13	lube oil system, plant	41 63 19	vehicles, plant equipment
<b>07 21 23</b>	<b>loose fill insulation</b>	41 36 13	lubricant applicators, manufacturing	41 67 26	washing equipment, plant
04 20 00	in unit masonry	41 24 29	lubricating oil systems	01 93 00	maintenance, facility
12 54 00	lounge furniture	11 11 19	lubrication equipment, vehicle	<b>maintenance requirements for</b>	
<b>12 21 00</b>	<b>louver blinds</b>	41 24 29	lubrication systems, specialty material handling	28 01 10	access control
08 60 00	between glass, skylight	11 21 33	luggage storage, checkroom	27 01 00	communications
08 50 00	between glass, window	26 05 00	lugs, electrical	03 01 00	concrete
08 92 00	louvered equipment enclosures	<b>06 10 00</b>	<b>lumber</b>	14 01 00	conveying equipment
<b>08 91 00</b>	<b>louvers</b>	06 71 13	composite		
23 37 00	air inlet and outlet	06 51 13	plastic		
05 70 00	decorative metal	06 05 73	lumber treatment		
08 91 26	door	.....	luminaries - see lighting		
		09 54 16	luminous ceilings		
		41 11 39	lump breakers, bulk material		
		<b>M</b>			
		31 37 13	machined riprap		
		34 81 00	machinery, bridges		

31 01 00	earthwork	41 36 26	process tools,	10 11 39	maprails
26 01 00	electrical		manufacturing	.....	marble - see stone
48 01 00	electrical power generation	14 82 13	rope climbers		<b>marble aggregates</b>
28 01 00	electronic safety and security	26 36 13	transfer switches	07 50 00	roofing
11 01 00	equipment	01 78 23	<b>manuals</b>	09 66 00	terrazzo flooring
02 01 00	existing conditions	01 78 23	maintenance	09 67 16	marble chip-epoxy flooring
32 01 00	exterior improvements	01 78 23	operation		<b>marine</b>
09 01 00	finishes	01 78 23	O and M, electrical	09 96 26	coatings
21 01 00	fire suppression	01 78 23	O and M, mechanical	35 50 00	construction and equipment
12 01 00	furnishings		<b>manufactured</b>	35 59 13	fenders
23 01 00	HVAC	04 71 00	brick	35 12 33	navigation equipment
33 01 50	hydrocarbon utilities	12 30 00	casework	35 12 00	signaling and control
45 01 00	industry-specific manufacturing	07 71 13	copings	35 59 00	specialties
25 01 00	integrated automation	07 71 16	counterflashing	10 11 16	markerboards
04 01 00	masonry	10 74 00	cupolas and spires	10 11 36	markerboards, conference units
41 01 00	materials process equipment	07 72 13	curbs	02 21 13	markers, boundary
05 01 00	metals	08 17 00	door assemblies	32 17 23	marking, pavement
08 01 00	openings	07 95 13	expansion joints	10 73 33	marquees
22 01 00	plumbing	10 74 00	exterior specialties	<b>04 00 00</b>	<b>masonry</b>
44 01 00	pollution control equipment	32 39 16	fire pits	04 05 23	accessories
43 01 00	process gas and liquid equipment	10 31 13	fireplace chimneys	04 24 00	adobe
42 01 00	process heating, cooling, and drying	10 31 16	fireplace forms	04 05 19	anchors
13 01 00	special construction	10 31 00	fireplaces	04 20 00	assemblies
10 01 00	specialties	07 71 19	gravel stops	04 21 13	brick
07 01 00	thermal and moisture protection	07 71 23	gutters and downspouts	04 01 00	cleaning
34 01 00	transportation	10 57 13	hat and coat racks	04 22 00	concrete unit
33 01 00	utilities	03 15 00	joints, concrete	04 05 23	control joints
35 01 00	waterway and marine	04 70 00	masonry	04 60 00	corrosion-resistant
06 01 00	wood, plastics, and composites	07 41 13	metal roofing	04 57 00	fireplaces
02 03 01	maintenance of existing period conditions	07 46 00	metal siding	09 63 00	flooring
25 01 26	maintenance testing of electrical installations	31 66 16	modular walls, foundation	04 23 00	glass unit
	<b>make-up air units</b>	07 72 00	penthouse ventilators	04 05 16	grout
23 75 33	heating and cooling, custom	32 33 33	planters, site manufactured	04 05 19	joint reinforcement
23 74 33	heating and cooling, dedicated	07 40 00	plastic panels	13 49 19	lead-lined
23 75 23	heating and ventilating	07 71 29	roof expansion joint covers	04 05 13	mortar
23 74 23	heating-only	07 41 00	roof panels	04 25 00	panels, preassembled
23 81 00	unitary air conditioning	07 71 00	roof specialties	04 20 00	reinforced
.....	mallfronts - see storefronts	07 41 00	roofing	04 05 19	reinforcement
28 23 13	management system, video surveillance	07 46 00	siding	04 01 00	repainting
<b>33 05 00</b>	<b>manholes</b>	12 34 19	solid surface casework	04 05 13	restoration, mortar
22 05 73	drainage, facility	04 73 00	stone	04 01 00	restoration and cleaning
33 71 19	electrical, underground	32 16 13	stone curbs	04 05 05	selective demolition
33 39 13	sanitary sewer	13 34 23	structures	04 43 00	stone
40 73 16	manometers	10 17 16	telephone enclosures	04 05 21	strengthening
06 44 33	mantels, wood	32 17 16	traffic calming devices	04 20 00	unit
	<b>manual</b>	07 42 00	wall panels	04 20 00	vener
14 11 00	dumbwaiters	26 05 00	wiring assemblies	04 05 23	wall flashing
41 22 23	hoists	10 31 13	<b>manufactured chimneys</b>	04 05 13	masonry cement mortar
26 09 36	modular dimming controls	23 51 33	for fireplaces	<b>09 97 23</b>	<b>masonry coatings</b>
			for heat generation equipment	07 19 00	water repellent
		01 43 13	manufacturer qualifications	<b>04 05 23</b>	<b>masonry flashing</b>
		01 43 33	manufacturer's field services	07 65 00	flexible
		01 33 00	manufacturer's instructions, submittal of	07 62 00	metal
		<b>41 30 00</b>	<b>manufacturing equipment</b>	04 05 13	masonry mortar pigments
		45 53 00	biopharmaceutical	.....	masonry ties - see masonry anchors
		45 00 00	industry-specific	04 05 19	masonry veneer anchors
		41 31 00	manufacturing lines	04 42 13	masonry-supported stone cladding
		41 31 19	manufacturing line robots	03 70 00	mass concrete
		40 14 39	MAPP fuel gas piping		
		40 17 19	MAPP welding piping		



28 47 00	<b>mass notification systems</b>	31 43 19	jacking, concrete raising	10 22 19	demountable partitions
28 47 15	control panels	05 45 13	metal supports	41 24 36	detectors, material handling
28 47 17	devices and methods	22 00 00	plumbing	08 13 00	doors
28 47 17	indoors	23 65 13	mechanical draft cooling towers	08 11 00	doors and frames
28 47 21	interfaces			23 31 13	ductwork
28 47 17	outdoors	07 53 00	mechanically attached elastomeric sheet roofing	08 42 00	entrances
28 47 17	public methods			05 50 00	fabrications
28 06 60	schedules	07 54 00	mechanically attached thermoplastic sheet roofing	05 05 23	fastenings
28 47 13	software			32 31 19	fencing, decorative
28 47 11	system requirements	31 66 16	mechanically stabilized earth walls, foundation	05 05 13	finishes
40 76 83	mass spectrometers			08 11 73	fire doors, sliding
13 17 23	massage pools	04 25 13	mechanically supported masonry veneer	10 75 00	flagpoles
MATV	master antenna television			07 62 00	flashing
27 41 16	master antennas	06 11 16	mechanically graded lumber	03 11 00	forms, concrete
.....	mat foundations - see raft foundations	27 16 16	media converters, adapters, and transceivers	08 12 00	frames
12 48 13	mat frames	43 27 63	media liquid filters, process	05 53 00	gratings
12 48 19	mat gratings	34 71 13	median barriers	31 41 19	hydraulic shoring
	<b>material</b>	.....	medical - see healthcare	07 41 16	insulated panels
42 32 00	dryers, process	10 28 16	medicine cabinets	09 22 36	lath
41 22 23	hoists		<b>medium-voltage</b>	10 14 19	letters
14 46 00	lifts	26 15 13	busways	10 51 13	lockers
41 00 00	process and handling equipment	26 15 16	cablebus	08 91 26	louvers
01 60 00	requirements	26 05 13	cables	34 71 13	median barriers
42 32 26	roasters, process	26 18 00	circuit protection	05 51 36	platforms
41 50 00	storage, process	26 10 00	distribution, facility	05 73 00	railings, decorative
41 51 19	storage tanks, process	26 15 00	enclosed bus assemblies	05 01 00	restoration and cleaning
01 60 00	material and equipment	26 13 00	switchgear, facility	07 71 00	roof specialties
01 65 00	materials, transportation and handling	33 77 00	switchgear, utility	07 32 19	roof tile
00 61 13	materials payment bonds	26 12 00	transformers	08 61 13	roof windows
01 66 00	materials storage, construction	33 71 49	wiring, utility	08 11 66	screen doors
	<b>mats</b>		<b>meetings</b>	10 82 00	screens
12 44 13	bath	00 25 13	pre-bid	05 05 05	selective demolition
23 83 13	electric heating	01 31 19	project	07 31 16	shingles
12 48 43	floor	42 14 33	melting furnaces, industrial	10 21 16	shower compartments
32 91 16	planting soil stabilization	03 39 23	membrane concrete curing	07 46 00	siding
11 66 23	tumbling	43 31 13	membrane diaphragm gas and liquid filters	10 14 00	signage
12 50 00	mattresses			08 13 73	sliding doors
40 80 00	measurement and control commissioning	07 50 00	membrane roofing	08 11 73	sliding fire doors
01 22 00	measurement and payment, for unit prices	07 13 00	membrane waterproofing, sheet	13 32 13	space frames
41 36 29	measurement and testing equipment, manufacturing	12 10 00	memorials	05 51 00	stairs
40 71 00	measurement, flow	10 56 33	mercantile storage assemblies	10 56 13	storage shelving
	<b>measuring devices</b>	26 50 00	mercury vapor lighting	08 43 00	storefronts
23 09 13	HVAC instrumentation		mesh, welded wire - see welded wire fabric	08 11 69	storm doors
40 70 00	instrumentation for process systems	10 22 13	mesh partitions	08 51 69	storm windows
11 53 00	laboratory	27 33 00	messaging, communications	09 22 00	support for plaster and gypsum board
40 76 00	process gas analytical		<b>metal</b>	05 45 00	supports
10 88 00	scales	09 53 23	acoustical ceiling suspension	09 30 29	tiling
40 74 00	temperature	23 32 13	air plenums	10 21 13	toilet compartments
11 14 36	weigh scales	13 34 19	building systems	13 36 13	towers, fabricated
	<b>mechanical</b>	12 31 00	casework, manufactured	11 32 13	unit kitchens
01 41 13	code conformance	05 01 00	cleaning	08 95 00	vents
01 31 13	coordination	05 40 00	cold-formed framing	05 51 36	walkways
05 05 13	finishes	06 05 23	connectors, wood framing	08 91 00	wall louvers
21 00 00	fire suppression	31 66 16	cribbing, foundation wall	09 78 13	wall panels
23 00 00	HVAC	33 42 00	culverts	07 15 00	waterproofing
		05 30 00	deck forms	08 51 66	window screens
		05 30 00	decking	08 51 00	windows
		05 70 00	decorative	05 56 00	<b>metal castings</b>
				05 74 00	decorative
					<b>metal ceilings</b>
				09 51 33	acoustical pan

09 54 23	linear	06 17 36	metal-web wood joists	27 41 16	microphones
09 56 16	panel, textured	06 17 00	metal-wood framing systems		<b>micropiles</b>
	<b>metal chimneys</b>		<b>metallic foil</b>	31 63 33	drilled
10 31 13	fireplace	07 27 00	air barriers	31 48 33	underpinning
23 51 19	heat generation equipment	07 20 00	reflective insulation	<b>11 70 00</b>	<b>microscopes</b>
	<b>metal coatings</b>	07 26 00	vapor retarders	11 53 00	laboratory
09 90 00	field-applied	09 72 00	wall coverings		<b>microwave</b>
05 05 13	shop-applied	03 62 16	metallic non-shrink grouting	34 43 16	airfield landing equipment
32 32 26	metal crib retaining walls	05 05 13	metalizing	13 49 00	shielding
08 01 10	metal door restoration	05 00 00	metals	33 83 16	transmitters and receivers
<b>08 11 00</b>	<b>metal doors and frames</b>	41 30 00	metalworking machines	<b>11 44 00</b>	<b>microwave ovens</b>
08 17 13	integrated	13 53 00	meteorological instrumentation	11 30 13	residential
32 31 00	metal fences and gates		<b>meters</b>	07 92 00	milddew-resistant joint sealants
	<b>metal forgings</b>	40 71 73	coriolis flow	11 92 13	milkers
05 76 00	decorative	40 71 23	differential pressure-type flow	.....	mill-framed structures - see heavy timber
05 50 00	steel			02 80 00	mill tailings abatement
	<b>metal frames</b>	40 72 63	displacement-type level	41 33 53	milling equipment, manufacturing
08 41 00	entrance and storefronts	40 71 63	doppler flow		
08 12 00	openings	26 27 13	electrical, facility		
08 12 00	sidelights	33 71 73	electrical, utility	41 11 43	mills, bulk material
08 43 00	storefronts	42 13 16	gas, process	06 22 00	millwork
08 12 00	transoms	33 61 33	hydronic, utility		<b>mineral fiber</b>
	<b>metal framing</b>	43 22 53	liquid, process	07 32 23	cement roof tiles
05 40 00	cold-formed	40 72 26	laser level	07 81 33	fire protection
08 44 00	for curtain walls	40 71 13	magnetic flow	07 20 00	insulation
09 22 16	interior non-structural	33 51 33	natural gas, utility	07 44 56	reinforced cementitious panels
05 10 00	structural	40 72 29	nuclear level		
<b>09 22 13</b>	<b>metal furring</b>	40 71 69	open channel flow	07 82 00	mineral fiberboard fireproofing
09 21 16	gypsum board assemblies	40 71 53	positive displacement flow		<b>mineral surfaced roofing felts</b>
<b>10 82 00</b>	<b>metal grilles</b>	48 09 00	power generating and transmitting	07 51 00	built-up roofing
08 11 74	sliding		pressure and differential pressure type level	07 52 00	modified bituminous roofing
<b>05 20 00</b>	<b>metal joists</b>	40 72 43	propeller flow	07 58 00	roll roofing
05 42 00	cold-formed		rf admittance level	09 51 23	mineral tile acoustical ceiling
05 20 00	steel	40 71 33	(continuous and point type)	08 13 00	mineral-core metal doors
06 17 36	wood chord	40 72 36	radar level	08 14 00	mineral-core wood doors
07 16 19	metal oxide waterproofing		steam, utility	.....	mini-blinds - see horizontal louver blinds
09 51 33	metal pan acoustical ceilings	40 72 23	substation, electrical utility	31 70 00	mining
05 51 13	metal pan stairs	33 63 33	target flow	45 13 00	mining machinery and equipment
09 56 16	metal panel ceilings, textured	33 72 33	thermal flow		
	<b>metal panels</b>	40 71 46	transit time flow	<b>01 26 33</b>	<b>minor changes in the work</b>
08 44 00	curtain walls	40 71 76	turbine flow	00 63 36	forms, field orders
08 11 00	doorway	40 71 66	ultrasonic level	00 63 33	forms, supplemental instructions
07 41 16	roofing, insulated	40 71 36	(continuous- and point-type)	00 94 33	record
<b>07 41 13</b>	<b>metal roofing</b>	40 72 13	variable area flow	00 94 39	record, field orders
07 61 00	custom		vortex-shedding flow	00 94 36	record, supplemental instructions
07 41 16	panels, insulated	40 71 43	water, utility		
12 31 16	metal sandwich panel casework	40 71 49	<b>meters and gauges</b>	02 41 13	minor site demolition
	<b>metal studs</b>	33 19 00	electronic, laboratory		<b>minority business enterprise</b>
05 41 00	cold-formed structural	11 53 00	fire suppression	00 45 39	affidavit
09 29 16	interior non-structural	21 05 19	HVAC	00 62 39	certification
08 14 23	metal-clad wood doors	23 05 19	plumbing	00 43 39	statement of intent
08 52 13	metal-clad wood windows	22 05 19	methane mitigation	09 54 19	mirror panel ceilings
	<b>metal-framed</b>	31 21 16	<b>MAPP</b>		<b>mirrored glazing</b>
08 44 00	curtain walls	40 14 39	fuel gas piping	08 83 13	glass
10 28 00	mirrors	40 17 19	welding piping	08 83 16	plastic
08 63 00	skylights	41 53 26	mezzanine storage systems, process	<b>08 83 00</b>	<b>mirrors</b>
08 43 00	storefronts		mezzanines, modular	10 28 00	metal-framed
41 32 43	metal-spinning equipment, manufacturing	13 44 00	micro-surfacing, flexible paving	10 86 00	security
04 42 00	metal-supported stone assemblies	32 01 13			

40 79 00	miscellaneous instruments, calibration equipment, instrument valves, and fittings	10 25 16	service walls	08 71 00	mop plates
43 32 36	mixed-bed ion-exchange vessels, process	26 05 00	terminations for electrical cables	22 42 00	mop sinks
	<b>mixers</b>	23 64 33	water chillers	04 05 13	<b>mortar</b>
41 14 33	bulk material batching	13 42 00	modules, building, fabricated	07 84 13	masonry
42 13 19	gas, process	07 11 00	<b>moisture control</b>	09 32 00	penetration firestopping tile
43 22 56	liquid, process	07 60 00	dampproofing	32 14 00	unit paving
11 42 00	<b>mixers, food</b>	01 56 00	flashings	09 32 00	mortar-bed tiling
11 30 13	residential	07 26 00	temporary	04 28 23	mortar-set concrete-filled masonry units
	<b>mixing</b>	07 10 00	vapor retarders	04 43 00	mortar-set stone assemblies
03 30 00	CIP concrete	23 09 23	waterproofing	04 28 13	mortarless concrete unit masonry
04 05 16	masonry grout	07 01 50	moisture instruments	09 30 00	mortars and grouts for tiling
04 05 13	masonry mortar	06 16 53	moisture survey, roof	08 71 00	mortise locks
22 40 00	mixing valves, shower		moisture-resistant sheathing	11 78 00	mortuary equipment
	<b>mobile</b>	02 26 33	<b>mold</b>	11 78 19	mortuary lifts
41 65 13	air compressors, plant	00 31 26	assessment	12 11 00	mosaic murals, custom work
41 66 13	boring and drilling rigs, plant	02 87 13	available information		<b>mosaics</b>
13 34 23	buildings	04 22 23	remediation	09 30 13	ceramic
41 22 13	cranes	07 62 00	molded-face concrete masonry units	09 30 23	glass
41 61 00	earth moving equipment	07 05 05	molded gutters	01 57 16	mosquito control, during construction
41 65 16	generators, plant		selective demolition	12 35 25	motel casework
13 34 23	homes	06 66 00	<b>molded ornamentation</b>	12 54 13	motel furniture
41 66 16	lifts, plant	06 44 00	plastic	13 42 25	motel unit models
10 51 00	lockers	12 61 16	wood	01 94 00	mothballing
41 66 19	paving equipment, plant	41 31 13	molded-plastic audience seating	23 09 23	motion instruments
41 60 00	plant equipment		molding lines, manufacturing	11 52 00	motion picture equipment
41 64 16	railcar movers, plant	05 70 00	<b>moldings</b>	26 24 19	motor control centers, low-voltage
10 56 26	storage systems	09 27 13	decorative metal		<b>motor controllers</b>
41 65 00	support equipment, plant	09 27 00	glass-fiber-reinforced gypsum fabrication	26 29 00	low-voltage
41 66 23	sweepers/vacuums, plant	06 46 00	plastering	26 18 39	medium-voltage
41 65 19	welders, plant	06 22 13	wood, custom	26 32 13	motor generators
01 71 13	<b>mobilization</b>	41 35 33	wood, standard pattern	41 22 23	motor-operated hoists
01 31 19	meetings	31 71 19	molds, manufacturing		<b>motor requirements, common</b>
01 43 39	mockups	07 61 00	moles, tunnel excavation	21 05 13	fire suppression
27 32 29	modems, communications	11 21 24	monel metal roofing	23 05 13	HVAC
01 26 00	modification procedures	.....	money-changing machines	22 05 13	plumbing
	<b>modifications</b>		money vaults - see vaults	26 29 13	motor starters
00 94 00	record	28 37 00	<b>monitoring</b>		<b>motorized</b>
00 91 00	to bidding documents	25 50 00	audio	12 25 13	drapery rods
00 73 00	to general conditions	48 09 00	integrated automation	08 91 13	louvers
	<b>modified bituminous</b>	28 05 07	power generation and transmission	08 63 53	metal-framed skylights
07 52 00	membrane roofing	34 41 23	power source	14 33 13	ramps
07 55 52	membrane roofing, protected	31 09 00	roadway	41 60 00	vehicles
07 27 13	sheet air barriers		site	.....	mounting devices - see supports
07 13 52	sheet waterproofing	40 76 23	<b>monitors</b>		<b>movable</b>
07 65 16	sheet flashing	40 76 33	combustible gas	13 34 23	buildings
	<b>modular</b>	09 30 13	hydrogen sulfide	10 71 13	fins, solar-shielding
13 34 00	building components	09 66 13	monocuttura tile	12 50 00	furniture
13 42 00	construction, fabricated assemblies	40 66 66	monolithic terrazzo flooring	10 22 23	partitions
26 09 36	dimming controls	41 22 23	monopoles and towers		<b>movement and vibration</b>
13 27 16	fire vaults	41 21 23	monorail hoists	02 22 13	assessment
09 22 26	grid ceiling systems	34 12 63	monorail piece material conveyors	00 31 19	available information
23 73 13	indoor air handling units	34 12 00	monorail track	13 48 00	control
10 74 49	landing and ramp systems	02 21 13	monorails	11 52 13	movie screens
13 44 00	mezzanines	35 59 23	monuments, survey	02 43 00	moving, structures
13 42 63	prison cells	35 59 29	mooring buoys	14 33 00	moving ramps
23 74 00	rooftop air handling units		mooring devices		

14 32 00	moving walks	45 25 00	322	40 66 00	network and communication equipment
32 01 90	mowing, maintenance	45 27 00	323		<b>network hardware</b>
31 71 00	muck disposal, tunneling	45 29 00	324	27 20 00	data communications
.....	mudjacking - see pressure grouting	45 31 00	325	25 10 00	integrated automation
31 35 19	mulch control netting	45 33 00	326	33 37 43	netting systems
32 91 13	mulching	45 35 00	327	25 12 19	neutral-protocol integration network gateways
	<b>mullions</b>	45 37 00	331	02 52 19	neutralization, site remediation
08 44 00	curtain walls	45 39 00	332	32 91 00	neutralizers, soil
08 43 00	storefront	45 41 00	333	33 05 21	nickel utility pipe
14 83 19	multi-axis platform lifts	45 43 00	334		<b>night depositories</b>
41 33 60	multi-axis machining equipment, manufacturing	45 45 00	335	11 51 16	book
08 36 19	multi-leaf vertical lift doors	45 47 00	336	11 97 00	security equipment
26 27 19	multi-outlet assemblies, electrical	45 49 00	337	12 58 36	nightstands, residential
		40 22 50	naphtha piping	NBP	nitrile butadiene polymer
00 52 93	multi-party agreement form - integrated project delivery	32 18 23	natural athletic surfacing	22 63 00	nitrogen system, laboratory
32 18 23	multi-purpose court surfacing	09 30 19	natural clay paver ceramic tile	40 16 36	nitrous-oxide piping, process
04 27 00	multi-wythe unit masonry	09 30 33	natural cut agglomerate tile	22 63 00	nitrous-oxide system, laboratory
26 09 33	multichannel remote-controlled dimmers	07 33 00	natural roof coverings	44 21 00	noise pollution control equipment
09 94 19	multicolor interior finishing	07 65 23	flashing	01 56 19	noise barriers, temporary
	<b>multimedia</b>	07 53 00	roofing	.....	noise control - see sound control
43 31 13	gas and liquid filters	07 13 00	waterproofing	44 21 00	noise pollution control equipment
27 41 00	sound and video equipment	.....	natural stone - see stone	00 45 19	non-collusion affidavits
	<b>multiple contracts</b>	23 65 16	natural-draft cooling towers	42 14 33	non-ferrous melting furnaces
01 12 00	summary	33 51 00	<b>natural-gas</b>	10 14 23	signage, panel
01 31 13	coordination	23 11 23	distribution, utility piping, facility	04 20 00	non-loadbearing unit masonry
12 60 00	multiple seating	10 75 19	nautical flagpoles	31 37 16	non-machined riprap
	<b>multiple software types</b>	35 59 23	<b>navigation, marine</b>	23 31 16	non-metallic ductwork
40 68 00	process control software	35 12 33	buoys	03 62 13	non-metallic non-shrink grouting
.....	multiple-prime contracts - see multiple contracts	35 12 13	equipment	.....	non-operable windows - see windows
12 65 00	multiple-use fixed seating	07 54 26	signaling	22 11 13	non-potable water piping
04 27 00	multiple-wythe masonry	31 46 00	NBP roofing	43 41 00	non-pressurized tanks
27 21 16	multiplexers, communications	31 46 00	needle beams	04 20 00	non-reinforced masonry assemblies
	<b>multistory cladding</b>	26 50 00	needling		<b>non-segregated facility</b>
07 40 00	exterior wall assemblies	10 14 33	neon lights	00 45 33	affidavit
08 44 00	glazed curtain wall	07 91 16	neon signage	00 73 33	requirements
33 31 13	municipal sanitary mains	07 53 00	neoprene gaskets, joint	03 62 00	non-shrink grouting
	<b>Muntz metal</b>	32 91 16	neoprene sheet roofing	07 18 00	non-slip coatings, traffic coatings
08 13 00	doors		netting, planting soil stabilization	03 53 00	non-slip topping, concrete
08 41 00	entrances and storefronts	28 05 23	<b>network</b>	09 65 36	non-spark flooring
05 70 00	decorative metals		attached storage for electronic safety and security	03 05 00	non-staining cement, concrete
12 11 00	murals	25 11 00	devices, integrated automation	09 22 16	non-structural metal studs
27 41 16	music systems, electronic sound equipment	25 10 00	equipment, integrated automation	07 53 00	non-vulcanized elastomeric membrane roofing
11 62 00	musical equipment	34 42 26	equipment, rail	40 32 50	nonabrasive materials piping and chutes
		25 15 13	gateway software	22 35 29	noncirculating domestic water heat exchangers
		25 12 00	gateways, integrated automation	45 35 00	nonmetallic mineral product manufacturing
		27 26 23	integration requirements, communications	07 92 00	nonsag joint sealants
		26 09 43	lighting controls		<b>normal-weight</b>
		27 21 26	management, communications	03 33 00	architectural concrete
		40 66 36	process instrumentation		
		28 05 25	storage area for electronic safety and security		
		01 32 16	network analysis schedules		

## N

03 50 00	nailable concrete
06 05 23	nails
	<b>NAICS group manufacturing equipment</b>
45 11 00	211
45 13 00	212 and 213
45 15 00	311
45 17 00	312
45 19 00	313-315
45 21 00	316
45 23 00	321

03 31 00	structural concrete	34 43 16	omni-directional-approach lighting system	40 01 60	process control and process facility enterprise management systems
NAICS	North American Industry Classification System	13 11 23	on-grade swimming pools	40 01 00	process interconnections
	<b>nosings, stair</b>	03 30 00	on-site mixing, concrete	28 01 20	video surveillance
05 55 00	metal	08 81 00	one-way vision glass	33 01 10	water utilities
09 65 13	resilient	.....	onyx marble - see stone	01 78 23	operation data
00 51 00	notice of award	09 90 00	opaque finishing	01 78 23	operation manuals
00 55 00	notice to proceed	08 81 00	opaque glass		<b>operation requirements for</b>
28 01 60	notification, operation and maintenance	11 52 16	opaque projectors	28 01 10	access control
48 12 00	nuclear fuel power generation	31 64 23	open caissons	27 01 00	communications
01 35 13	nuclear project procedures	09 54 13	open metal mesh ceilings	14 01 00	conveying equipment
13 49 00	nuclear shielding	.....	open office furniture - see systems furniture	26 01 00	electrical
27 52 23	nurse call systems	42 21 13	open-circuit cooling towers, process	48 01 00	electrical power generation
12 35 70	nurse station casework	05 21 19	open-web steel joists	28 01 00	electronic safety and security
<b>O</b>			<b>openers, automatic</b>	11 01 00	equipment
08 81 00	obscure glass	08 74 00	door	32 01 00	exterior improvements
13 34 56	observatories, fabricated structure	08 75 00	window	21 01 00	fire suppression
		08 00 00	openings	12 01 00	furnishings
11 56 00	observatory equipment		<b>operable</b>	33 01 50	hydrocarbon utilities
26 55 36	obstruction lighting	10 11 33	chalkboards	23 01 00	HVAC
01 14 16	occupancy requirements, during construction	10 11 36	conference units, visual display	45 01 00	industry-specific manufacturing
11 79 00	occupational therapy equipment	10 11 33	display boards	25 01 00	integrated automation
34 43 16	ODALS	08 91 16	louvers	41 01 00	materials process equipment
23 40 00	odor control equipment	10 11 33	markerboards	08 01 00	openings
22 32 19	off-floor cartridge filters, domestic water	10 22 23	partitions	22 01 00	plumbing
31 21 00	off-gassing mitigation	34 75 13	roadway equipment	44 01 00	pollution control equipment
02 81 00	off-site transportation and disposal	08 61 00	roof windows	43 01 00	process gas and liquid equipment
.....	offer forms - see bid forms	10 56 26	shelving systems	42 01 00	process heating, cooling, and drying
	<b>office</b>	08 50 00	windows	40 01 00	process systems
12 41 00	accessories	01 78 23	operating and maintenance data	13 01 00	special construction
12 51 16	casegoods	01 78 23	operating data	10 01 00	specialties
12 59 00	cubicles		<b>operating hardware</b>	07 01 00	thermal and moisture protection
11 28 00	equipment	08 61 00	roof windows	34 01 00	transportation
12 51 00	furniture	08 60 00	skylights	33 01 00	utilities
12 52 23	seating	08 75 00	window	28 01 20	video surveillance
13 22 00	shelters and booths	12 25 00	window treatment	35 01 00	waterway and marine
12 59 00	systems furniture	11 76 00	operating room equipment		<b>operation sequence</b>
01 52 13	temporary	26 55 70	operating room lighting	23 09 93	HVAC controls
35 52 00	offshore platform construction		<b>operating systems</b>	25 90 00	integrated automation
	<b>oil</b>	27 25 29	hardware, communications	40 62 63	operator interface terminals (OIT)
22 75 16	circuit breakers, high-voltage	01 92 00	operation, facility		<b>operator work stations</b>
22 77 16	circuit breakers, medium-voltage		<b>operation and maintenance of</b>	25 11 19	integrated automation network
33 52 13	distribution, utility	28 01 10	access control		<b>operators</b>
12 12 00	paintings	11 01 20	commercial equipment	08 71 13	automatic door
23 11 13	piping, facility	28 01 00	electronic safety and security	25 35 13	integrated automation
45 11 00	oil and gas extraction equipment	11 01 60	entertainment and recreation equipment	08 75 00	window
	<b>oil-fired</b>	11 01 80	facility maintenance and operation equipment	12 35 70	optical casework
23 52 00	boilers	33 01 50	hydrocarbon utilities	41 36 29	optical comparators, manufacturing
22 34 46	domestic water heaters	40 01 70	instrumentation for process systems	11 75 00	optical equipment
23 54 16	furnaces	11 01 90	other equipment		<b>optical fiber cable</b>
23 55 33	unit heaters	40 01 90	primary control devices	27 13 23	backbone, communications
ODALS	omni-directional-approach lighting system				

33 82 23 communications  
           distribution  
 27 15 23 horizontal, communications  
 25 05 13 integrated automation  
 01 62 00 options, product  
 14 43 13 orchestra lifts  
 11 61 13 orchestra shells  
 07 33 00 organic roof coverings  
 11 62 19 organs  
 OSB oriented strand board  
 06 16 36 oriented strand board  
 ..... ornamental - see decorative  
           **ornamental**  
 07 61 00 metal roofing  
 06 48 19 wood frames  
 06 44 00 wood grilles  
 06 43 13 wood stairs  
           **ornaments**  
 09 27 00 plastering  
 06 66 00 simulated wood  
 06 44 00 wood  
 06 16 36 OSB  
 01 11 00 other contracts  
 ..... outdoor - see exterior  
 23 74 00 outdoor HVAC equipment,  
           packaged  
 08 56 13 outdoor tellers' windows  
           **outlets**  
 23 37 00 air  
 26 05 33 electrical  
 26 55 23 outline lighting  
 40 61 93 output/input lists, process  
           control system  
           **ovens**  
 42 15 00 industrial  
 11 30 13 residential  
 26 35 00 overcurrent protection  
 34 23 16 overhead cable suspension,  
           traction power  
           **overhead**  
 08 33 26 coiling grilles  
 33 82 00 communications  
           distribution  
 41 22 13 cranes  
 33 71 00 power distribution, utility  
 11 52 16 projectors  
 34 23 00 traction power  
 34 23 23 traction power cables  
           **overhead doors**  
 08 33 23 coiling  
 08 36 13 sectional  
 08 36 19 vertical lift  
           **overhead wiring**  
 33 71 36 extra-high-voltage, utility  
 33 71 39 high-voltage, utility  
 33 71 49 medium-voltage, utility  
 03 53 19 overlayment, concrete  
 32 01 26 overlays, concrete paving  
 01 53 19 overpasses, temporary  
           **owner**  
 00 31 16 financial data  
           01 14 16 occupancy during  
           construction  
           01 35 23 safety requirements  
           **owner furnished products**  
           01 12 00 multiple contract  
           01 64 00 procedures  
           01 11 00 single contract  
           07 16 19 oxide waterproofing, metallic  
           03 05 00 oxychloride cement  
           09 67 19 oxychloride floors, magnesium  
           40 15 16 oxygen gas piping, combustion  
           system  
           22 63 13 oxygen gas system, laboratory  
           40 17 23 oxygen welding piping  
           43 32 73 ozonation equipment, process  
           40 16 39 ozone gas process piping  
           **P**  
 10 55 36 package depositories, postal  
           **packaged**  
 23 81 13 air-conditioners  
 23 72 23 air-to-air energy recovery  
 26 33 00 battery equipment  
 23 52 00 boilers  
 22 11 23 booster pumping stations  
 23 65 00 cooling towers  
 23 53 00 deaerator and feedwater  
           equipment  
 08 17 00 door assemblies  
 23 52 00 generators  
 23 81 00 heat pumps  
 11 82 19 incinerators  
 23 74 00 outdoor HVAC equipment  
 23 62 00 refrigerant condensing  
 23 74 16 rooftop air-conditioning  
           units  
 23 74 00 rooftop make-up air units  
 23 81 13 terminal air conditioning  
           units  
 23 62 46 variable-refrigerant-flow air-  
           conditioning systems  
 33 32 16 wastewater grinder pump  
           assemblies  
 33 32 13 wastewater pumping  
           stations  
 23 64 00 water chillers  
           **packaged mortar**  
 04 05 13 masonry  
 09 30 00 tiling  
 11 29 23 packaging equipment  
 43 32 53 packed-bed ion-exchange  
           vessels, process  
           ..... packing - see joint fillers  
 01 65 00 packing of products  
           **pad-mounted transformers**  
 26 22 00 low-voltage  
 26 12 19 medium-voltage  
 08 70 00 padlocks  
 09 68 00 pads, carpet  
           ..... pads, vibration isolation - see  
           vibration control  
 27 51 13 **paging systems**  
           27 53 19 internal  
           09 01 90 paint cleaning  
           09 01 90 paint removers  
           09 01 90 paint restoration  
           41 34 23 paint spray booths, industrial  
           10 14 00 painted signage  
           32 17 23 painted traffic markings  
           **09 91 00 painting**  
           09 97 23 concrete  
           09 91 13 exterior  
           05 05 13 factory-applied, metal  
           09 91 00 fire-retardant  
           09 96 00 high performance  
           09 91 23 interior  
           09 01 90 maintenance  
           09 97 23 masonry  
           32 17 23 pavement marking  
           09 97 13 steel coatings  
           32 17 23 traffic  
           41 31 13 painting lines, manufacturing  
           12 12 00 paintings  
           09 66 13 Palladiana terrazzo flooring  
           41 43 23 pallet stacking/wrapping  
           equipment  
           03 11 00 pan forms  
           09 51 33 pan metal ceilings  
           05 51 13 pan metal stairs  
           **panel**  
           23 41 13 air filters  
           23 37 13 ceiling diffusers  
           08 35 13 folding doors  
           10 22 23 folding walls  
           10 14 23 signage  
           40 67 33 wiring  
           09 51 13 panel acoustical ceilings  
           **08 36 00 panel doors**  
           08 13 00 metal  
           08 14 00 wood  
           12 59 13 panel-hung-component system  
           furniture  
           26 09 26 panelboards, lighting control  
           26 24 16 panelboards, low-voltage  
           **paneling**  
           10 26 41 ballistics resistant  
           06 42 00 custom wood  
           06 42 00 fretwork  
           06 64 00 plastic  
           09 78 26 plastic interior wall  
           06 25 00 prefinished wood  
           06 64 00 preformed plastic  
           09 78 16 stone-faced interior wall  
           06 42 00 wood, architectural  
           woodwork  
           06 26 00 wood, board  
           **panels**  
           08 31 16 access  
           09 51 13 acoustical ceiling  
           10 26 41 ballistics resistant  
           07 40 00 composite roof and wall  
           23 33 33 duct access  
           40 67 16 free-standing  
           08 44 00 glazed curtain wall

09 29 00	gypsum board	09 21 16	partition systems, gypsum board	32 11 16	subbase	
09 56 13	gypsum ceiling, textured			33 41 00	subdrainage	
23 83 26	hydronic, radiant heating and cooling	10 22 00	<b>partitions</b>	41 61 26	payloaders, plant equipment	
07 20 00	insulation	10 22 33	accordion folding	01 22 00	payment and measurement, unit prices	
09 56 16	metal ceiling, textured	10 22 36	coiling partitions	01 29 76	payment applications	
10 22 23	portable	10 22 19	demountable	00 61 13	payment bonds, labor and materials	
03 45 00	precast concrete	10 22 14	expanded metal			
07 41 16	roof, insulated	10 22 39	folding panel	01 29 00	<b>payment procedures</b>	
07 41 00	roof, manufactured	09 21 16	gypsum board	00 72 00	general conditions	
07 87 00	smoke containment	09 21 13	plaster	27 31 13	PBX/key systems	
06 42 14	stile and rail wood	10 22 23	portable		<b>PCB</b>	
23 56 23	solar air-heating	10 21 16	shower	02 84 00	abatement	
04 42 00	stone, exterior	10 22 43	sliding	02 26 29	assessment	
09 75 00	stone, interior wall facing	12 59 00	systems furniture	00 31 26	available information	
08 43 00	storefront	10 21 13	toilet	02 84 00	remediation	
07 42 46	wall, cementitious	10 22 13	wire mesh	22 14 33	pedestal drainage pumps	
07 42 00	wall, manufactured	08 56 19	pass windows	.....	pedestal floors - see access flooring	
07 42 26	wall, tile		<b>passenger</b>			
40 67 19	wall-mounted	34 77 13	boarding bridges			
06 12 00	wood, structural	34 54 00	fare collection		12 68 13	pedestal tablet arm chairs
06 42 00	panelwork, custom		<b>passenger elevators</b>		07 76 00	pedestal-mounted roof pavers
08 71 00	panic devices	14 21 23	electric traction		33 81 29	pedestals, communications
07 63 00	pans, pitch	14 24 23	hydraulic		11 14 00	pedestrian control equipment
03 11 13	paper forms, concrete	13 47 13	passive cathodic protection		07 18 13	pedestrian traffic coatings
45 25 00	paper manufacturing equipment	27 16 19	patch cords, communications		06 44 36	pediment heads, wood
	<b>paper shredders</b>	01 73 29	<b>patching</b>		11 42 00	peelers, food
11 28 00	office equipment	32 01 29	concrete paving		06 20 00	pegboards
10 28 13	paper toilet seat dispensers		<b>pathways</b>		07 21 00	pellets, insulating
10 28 13	paper towel dispensers	25 05 28	integrated automation		07 84 13	penetration firestopping
12 36 71	paper-composite countertops	10 25 13	patient bed service wall		07 84 13	penetration sealants
07 65 13	paper-faced copper flashing	11 73 00	patient care equipment		11 55 16	pendulums, planetarium
34 43 00	PAPI	27 52 13	patient monitoring and telemetry systems		41 36 29	penetrant measurement equipment, manufacturing
11 66 23	parallel bars	06 15 33	patio decking, wood		07 19 29	penetrating polyester water repellents
06 17 23	parallel strand lumber	03 35 00	patterned concrete finishes		07 84 13	penetration firestopping
26 23 13	paralleling low-voltage switchgear	32 13 16	patterned concrete paving		07 86 00	penetration smoke seals
07 62 00	parapet flashing	08 81 00	patterned glass		.....	penitentiary equipment - see detention equipment
10 55 26	parcel lockers, postal	31 35 23	paved energy dissipaters			<b>penthouse enclosures</b>
07 11 16	parging		<b>pavement</b>		13 34 00	fabricated
	<b>parking</b>	32 15 50	aggregate-turf		07 72 00	manufactured
01 55 19	areas, temporary	32 17 29	embedded warning lights		23 37 23	penthouse ventilators
32 17 13	bumpers	32 17 23	markers, raised		14 41 00	people lifts
11 12 33	gates	32 17 23	markings			<b>perforated</b>
14 45 23	lifts	32 01 26	milling, concrete		05 34 00	acoustical metal decking
11 12 23	meters	32 01 26	recycling, concrete		04 21 00	acoustical units, clay tile
32 10 00	paving	32 01 00	rehabilitation		23 37 13	ceiling diffusers
11 12 16	ticket dispensers	32 01 00	repair		09 22 36	lath
11 12 00	<b>parking equipment</b>	09 30 19	paver tiling		00 61 13	performance bonds
14 45 00	lifts	32 10 00	<b>paving</b>		28 08 11	performance criteria, testing
11 12 00	vehicle detectors	32 12 16	asphalt		01 80 00	<b>performance requirements</b>
09 64 23	parquet flooring, wood	32 11 00	base course		01 85 00	conveying equipment
32 01 29	partial depth patching, concrete paving	32 14 16	brick		01 87 00	equipment and furnishings
01 14 16	partial occupancy	32 13 13	concrete		01 81 00	facility
	<b>particleboard</b>	32 12 00	flexible		01 86 00	facility services
06 16 36	sheathing and underlayment	07 76 00	pedestal-mounted		01 83 00	facility shell
06 40 00	substrate, architectural	32 14 33	plastic		01 82 00	facility substructure
10 41 00	woodwork	32 14 13	precast concrete		01 84 00	interiors
	particulate air filtration	32 13 00	rigid		01 88 00	other facility construction
		07 76 00	roof		01 89 00	site construction
		32 14 29	rubber		07 21 00	perimeter insulation, building
		32 17 00	specialties			
		32 14 40	stone			

	<b>period structures</b>	10 14 43	photoluminescent signage	22 05 53	plumbing
02 03 43	relocating	26 31 00	photovoltaic collectors		<b>pipe insulation</b>
02 03 44	shoring and support	11 79 00	physical therapy equipment	21 07 00	fire suppression
01 74 13	periodic cleaning, construction	02 51 00	physical treatment, site remediation	23 07 00	HVAC
01 32 29	periodic site observation			22 07 00	plumbing
	<b>perlite</b>	07 53 29	PIB roofing	33 05 23	pipe jacking, utilities
07 22 13	asphaltic insulating fill	41 31 16	pick and place systems, manufacturing lines	11 62 19	pipe organs
03 52 00	concrete decks			07 84 13	pipe penetration firestopping
07 20 00	insulation	41 31 13	pickling lines, manufacturing	<b>05 52 13</b>	<b>pipe railings</b>
04 27 23	insulation, masonry wall assembly	41 62 26	pickup trucks, plant equipment	05 73 00	decorative
		08 81 00	picture glass	33 05 23	pipe ramming, utilities
07 21 23	masonry fill	<b>41 20 00</b>	<b>piece material handling equipment</b>		<b>pipe supports</b>
09 20 00	plastering			21 05 29	fire suppression
23 41 00	permanent air filters	41 21 00	conveyors	23 05 29	HVAC
	<b>permanent bracing</b>	41 22 00	cranes and hoists	22 05 29	plumbing
05 10 00	metal	41 23 00	lifting devices	33 46 16	pipe underdrains
06 10 00	wood	41 24 00	specialty material	33 60 00	piped energy distribution
03 11 00	permanent steel forms, concrete	06 13 33	pier construction, heavy timber		<b>pipng</b>
03 11 26	permanent tier forming	34 82 19	pier protection, bridges	33 05 39	box sections for sewers and culverts
31 66 16	permanently anchored soldier-beam walls	41 32 46	piercing equipment, manufacturing		buried, installation
		31 63 29	piers, drilled concrete	33 05 16	cast-iron utility
00 31 43	permit application	35 51 13	piers, floating	33 05 33	communication duct, polyethylene
PC	personal computer	.....	pigeon barriers – see bird control devices		concrete
PDA	personal digital assistant			33 05 39	chemical waste, healthcare
<b>28 49 00</b>	<b>personal protection, electronic</b>	09 90 00	<b>pigments</b>	22 66 53	chemical waste, laboratory
28 49 13	alarm and annunciation	03 05 00	coatings	22 66 70	chlorine gas
28 49 11	detection systems	04 05 13	concrete	40 16 17	chlorine gas vacuum system
28 49 17	emergency aid devices	04 22 00	masonry mortar	40 18 23	
28 49 15	interfaces to remote monitoring	04 22 00	pilaster CMU		closures, concrete
.....	personnel hoist – see people lifts	06 44 16	pilasters, wood	33 05 39	compressed air, general service
01 54 00	personnel hoist, temporary	31 52 00	pile and lagging cofferdams	22 15 13	compressed air, laboratory
.....	pervious paving - see porous paving				compressed air, process
<b>10 81 00</b>	<b>pest control</b>	31 01 63	<b>pile repairs</b>		concrete
31 31 00	soil treatment	31 01 62	bored	22 61 13	condensate, steam
01 57 16	temporary	08 71 00	driven	33 05 33	corrugated-wall, polyethylene
45 29 00	petroleum and coal products manufacturing		pile weatherstripping		deionized water, laboratory
40 22 00	petroleum products piping, process	31 63 00	<b>piles</b>	40 12 00	deionized water, process
43 30 00	petroleum refining	31 63 00	augered	40 05 39	distilled water, laboratory
12 67 13	pews	31 62 00	bored	23 22 13	distilled water, process
12 35 70	pharmacy casework	31 60 00	driven	33 05 33	domestic water
01 12 16	phasing of construction, multiple contract	31 41 16	helical	22 67 13	drainage layers
09 78 23	phenolic interior wall paneling	35 42 13	piling, sheet	40 23 13	drainage pipe, polyethylene
11 52 19	phonograph players	<b>12 45 16</b>	piling bank protection	33 52 19	drains
41 34 23	phosphatizing coating equipment, manufacturing	07 84 00	<b>pillows</b>	22 67 13	ductile-iron utility
40 16 43	phosphine gas piping	11 67 53	firestopping	40 23 16	elliptical, concrete
12 11 13	photo murals	11 67 43	pinball machines	22 11 16	enclosures, water utility
11 21 83	photo processing equipment	11 67 13	ping-pong tables	33 41 23	end sections, stormwater
	<b>photo-electric-cell operators</b>		pinsetting equipment	33 42 26	endwalls
08 42 29	automatic doors	21 05 29	<b>pipe anchors</b>	33 42 23	energy distribution
08 71 00	finish hardware	23 05 29	fire suppression	33 60 00	fire extinguishing
01 32 33	photographic documentation	22 05 29	HVAC	21 20 00	fire suppression, water
00 31 21	photographic report of existing conditions	21 13 00	plumbing	21 11 00	foundation drainage
		05 52 13	pipe and fittings, fire sprinkler	33 41 13	fountain
		05 12 00	pipe and tube railings	22 52 13	fuel, facility
			pipe columns, steel	23 11 00	fuel-oil, facility
			<b>pipe hangers</b>	23 11 13	fuel-oil, utility
		21 05 29	fire suppression	33 52 13	gas and vapor, ductwork
		23 05 29	HVAC	44 10 00	
		22 05 29	plumbing		
			<b>pipe identification</b>		
		21 05 53	fire suppression		
		23 05 53	HVAC		



22 63 13	gas, laboratory	22 13 16	vent	41 34 23	plasma coating equipment, manufacturing
23 11 16	gasoline, facility	33 52 23	welding, hydrocarbon	41 36 23	plasma cutting equipment, manufacturing
33 52 16	gasoline, utility	33 05 39	wall fittings, concrete	<b>09 20 00</b>	<b>plaster</b>
22 11 17	gray-water	22 62 23	waste anesthesia gas	09 22 36	accessories
33 42 23	headwalls	22 11 00	water, facility	09 27 00	fabrications
33 52 16	hydrocarbon	33 10 00	water site distribution	09 21 13	fire-rated assemblies
23 21 13	hydronic, facility	33 14 00	water, utility	09 23 82	fireproofing, gypsum
33 61 00	hydronic, utility	<b>pipng specialties</b>		09 27 00	moldings and ornaments
33 40 00	inlets	21 05 00	fire-suppression systems	09 01 20	restoration
23 24 00	internal combustion engine	23 05 00	HVAC systems	22 13 19	traps
33 05 39	irrigation and drainage, concrete	22 05 00	plumbing systems	<b>09 20 00</b>	<b>plastering</b>
40 24 14	liquid chlorine and sodium hypochlorite	11 67 00	pistol range equipment	09 24 13	acoustical
23 11 26	liquefied petroleum gas, facility	<b>pitch</b>		09 25 13	acrylic
40 20 00	liquids, process	07 11 13	dampproofing	09 21 13	assemblies
23 11 23	natural-gas, facility	07 51 16	roofing	09 23 00	gypsum
33 51 13	natural-gas, utility	07 62 00	pitch pans	09 25 23	lime-based
22 63 13	nitrogen, laboratory	07 62 00	pitch pockets	09 21 13	partition systems
22 63 13	nitrous-oxide, laboratory	07 51 16	pitch-impregnated felts	09 24 00	cement
40 16 36	nitrous-oxide, process	.....	pivoting windows - see windows	09 26 00	veneer
22 63 13	oxygen, laboratory	08 70 00	pivots, door and window	<b>plastic</b>	
33 52 26	pigging, hydrocarbon	32 11 36	plain cement concrete base course	09 53 33	acoustical ceiling
33 05 39	pressure, concrete	32 13 13	plain cement concrete paving		suspension
41 21 00	refinery	.....	PLAM - see plastic laminate	09 76 00	blocks
23 23 00	refrigerant	11 55 00	planetarium equipment	06 60 00	cables
33 41 33	retaining wall drainage	13 23 00	planetariums, fabricated	12 34 00	casework
22 67 13	reverse-osmosis, laboratory	41 33 63	planing equipment, manufacturing	09 54 29	ceilings, suspended
40 23 33	reverse-osmosis, process	<b>planks</b>		08 52 16	clad wood windows
22 14 16	roof drainage	09 64 29	hardwood floor	06 01 60	cleaning
22 13 16	sanitary drainage, facility	03 41 13	hollow core, precast concrete	03 15 00	concrete inserts
33 31 00	sanitary sewerage, public	07 22 00	insulating	12 36 23	countertops
33 31 00	sanitary sewerage, site	03 41 13	precast	06 53 00	decking
33 31 00	sanitary sewerage, utility	03 51 16	precast gypsum plank	10 22 19	demountable partitions
31 31 33	sanitary vacuum	06 15 00	wood	08 15 00	doors
33 05 39	sewer and culvert, concrete	01 45 26	plant inspection	08 17 33	doors and frames, integrated
21 12 00	standpipes	41 67 00	plant maintenance equipment	06 60 00	fabrications
23 05 17	sleeves and sleeve seals, HVAC	<b>plant mixing</b>		12 05 13	fabrics
33 63 13	steam, distribution	03 30 00	CIP concrete	32 31 23	fences and gates
23 22 13	steam, facility	03 40 00	precast concrete	22 32 00	filters, water
40 11 00	steam, process	32 93 00	plant pits	07 65 19	flashing
33 63 00	steam, utility	01 56 39	plant protection, temporary	09 67 00	flooring, fluid-applied
33 31 29	step system	32 12 16	plant-mix asphalt paving	06 51 00	framing
33 42 11	stormwater gravity	.....	plant-precast concrete - see precast concrete	08 84 00	glazing
22 14 13	storm drainage, facility	<b>planters</b>		06 60 00	gratings
33 41 00	storm drainage, utility	32 94 33	exterior	10 82 00	grilles
33 41 16	subdrainage	12 92 33	interior	07 71 23	gutters and downspouts
22 14 19	sump pump discharge	32 33 33	site manufactured	06 63 00	handrails
22 51 13	swimming pool	<b>32 90 00</b>	<b>planting</b>	11 32 19	lamine-clad unit kitchens
23 05 93	testing adjusting and balancing, HVAC	32 94 00	accessories	10 14 19	letters
33 05 39	thrust restraints, concrete	32 91 13	beds	10 51 26	lockers
33 41 16	underdrains	33 84 00	irrigation	06 51 13	lumber
33 41 19	underslab drainage	32 01 90	maintenance	06 66 00	ornaments, simulated wood
33 05 39	utility, concrete	32 91 13	preparation	08 17 33	packaged door assemblies
33 05 33	utility, polyethylene	09 77 53	wall systems	06 64 00	paneling
33 05 31	utility, thermoplastic	<b>32 93 00</b>	<b>plants</b>	07 40 00	panels
22 62 13	vacuum, laboratory	12 92 13	artificial, interior	32 14 33	paving
40 18 00	vacuum, process	32 93 93	artificial, exterior	32 14 43	paving grass rings
		10 14 16	plaques	33 41 00	pipe, drainage
				10 14 16	plaques
				06 63 00	railings

06 01 00	restoration and cleaning	14 43 00	platform lifts	23 09 43	HVAC	
07 32 26	roof tile	10 88 00	platform scales	03 37 19	pneumatically placed concrete	
08 15 66	screen doors		<b>platforms</b>	27 42 13	point of sale systems	
10 82 00	screens	01 54 23	temporary	04 05 13	pointing, masonry	
06 05 05	selective demolition	11 61 23	demountable	.....	poisonous materials – see hazardous materials	
07 31 53	shakes	14 83 00	elevating			
07 27 19	sheet air barriers	14 43 00	lifts	06 13 16	pole construction	
07 65 19	sheet flashing	11 13 23	loading dock	33 71 23	pole hardware for electrical transmission and distribution	
07 50 00	sheet roofing	41 31 13	plating lines, manufacturing		<b>poles</b>	
10 21 16	shower and dressing compartments	11 68 33	play field equipment	33 81 19	communications, utility	
	siding	11 68 16	play structures	33 71 16	electrical, utility	
10 14 00	signage	11 52 19	players, sound and video	26 56 13	lighting	
09 27 23	simulated plastering	11 68 13	playground equipment	34 23 13	traction power	
06 60 00	specialties	40 63 43	PLC controllers	14 93 00	pole systems	
10 56 19	storage shelving	10 75 29	plaza-mounted flagpoles	08 81 00	polished plate glass	
08 15 69	storm doors	12 24 16	pleated window shades	11 81 13	polishers, floor	
06 50 00	structural	07 87 00	plenum smoke containment barriers	41 31 13	polishing lines, manufacturing	
09 30 26	tiling	23 32 00	plenums, air	<b>44 00 00</b>	<b>pollution control</b>	
10 21 13	toilet compartments	11 28 16	plotters	01 57 00	temporary	
06 52 00	trusses	32 92 16	plugging, grasses	09 66 23	polyacrylate terrazzo flooring	
08 62 00	unit skylights	<b>22 00 00</b>	<b>plumbing</b>	09 84 00	polycarbonate plastic glazing	
07 26 00	vapor retarders	22 30 00	equipment	PCB	polychlorinate biphenyl	
08 95 00	vents	22 40 00	fixture trim	07 91 00	polychloroprene seals	
08 91 00	wall louvers	22 40 00	fixtures		<b>polyester</b>	
09 78 26	wall paneling, interior	22 52 00	fountain	09 90 00	coatings	
08 71 00	weatherstripping	22 07 00	insulation	12 05 13	fabrics	
08 53 00	windows	22 05 05	selective demolition	09 66 23	terrazzo flooring	
	<b>plastic coatings</b>	22 51 00	swimming pool	07 19 29	water repellents	
07 57 00	coated foamed roofing	<b>22 10 00</b>	<b>plumbing piping and pumps</b>		<b>polyethylene</b>	
09 90 00	painting	22 11 16	domestic water	07 53 16	chlorosulfonated, roofing	
	<b>plastic laminate-clad</b>	22 52 13	fountain	33 34 13	septic tanks	
06 41 16	casework, custom	22 01 10	operation and maintenance	07 26 00	sheet vapor retarders	
12 32 16	casework, manufactured	22 13 16	sanitary	PIB	polyisobutylene	
10 57 23	closet shelving	22 05 05	selective demolition	07 20 00	polyisocyanate insulation	
10 51 23	lockers	22 05 17	sleeves and sleeve seals	PB EIFS	polymer-based EIFS	
10 21 16	shower and dressing compartments	22 14 13	storm drainage	07 24 13	polymer-based exterior finish systems	
	toilet compartments	22 51 13	swimming pool		<b>polymer-modified</b>	
10 26 19	unit kitchens		<b>plywood</b>	32 01 17	asphalt joint and crack sealing	
08 14 23	wood doors	09 64 16	block flooring		32 12 16	asphalt paving
12 36 23	plastic laminate countertops	03 11 00	forms		07 16 13	cement waterproofing
09 66 23	plastic matrix terrazzo flooring	06 16 36	sheathing		PM EIFS	polymer-modified EIFS
.....	plastic soil cement - see flowable fill	07 46 29	siding		07 24 16	polymer-modified exterior finish systems
08 15 00	plastic-faced foam core doors	06 16 36	structural		03 15 00	polystyrene form blocks
08 14 23	plastic-faced wood doors	07 42 00	wall panels		07 20 00	polystyrene insulation
	<b>plastic-framed</b>	06 17 33	web joists		07 24 00	polystyrene insulation, EIFS
08 64 00	skylights		<b>plywood paneling</b>		07 92 00	polysulfide joint sealants
08 32 16	sliding glass doors	06 42 16	architectural woodwork			<b>polyurethane</b>
08 53 00	windows	06 25 00	prefinished		09 96 00	coatings
	<b>plasticizers</b>		<b>pneumatic</b>		07 20 00	insulation
03 05 00	concrete	31 64 26	caissons		07 92 00	joint sealants
04 05 13	masonry mortar	40 34 00	conveying lines		07 18 00	traffic coatings
45 33 00	plastics and rubber manufacturing	41 12 19	conveyors		07 57 13	polyurethane and foam roofing
05 12 00	plate girders, steel	08 71 00	operators, door		PVC	polyvinyl chloride
08 81 00	plate glass	31 41 23	shoring			<b>polyvinyl fluoride</b>
	<b>plates</b>	13 31 13	structures		07 46 00	films, siding
26 27 26	electrical cover	14 83 13	telescoping platforms		09 96 00	coatings, liquid-applied
05 54 00	floor	14 92 00	tube systems		07 13 00	sheet waterproofing
05 10 00	structural metal	23 09 53	pneumatic and electric controls		35 51 23	pontoons
			<b>pneumatic controls</b>			

	<b>pool</b>	40 77 00	position and motion measurement	32 13 13	power-compacted concrete paving
22 51 00	equipment				
22 51 19	equipment filters	10 14 26	post and panel signage	33 72 33	power-line carriers
22 51 13	pipng	10 14 53	post-mounted traffic signage	14 33 16	powered ramps
26 55 29	lighting	05 05 19	post-installed concrete anchors	14 82 16	powered rope climbers
11 67 43	tables			14 84 00	powered scaffolding
	<b>pools</b>	03 38 00	post-tensioned concrete	03 05 00	pozzolanic cement, concrete
13 11 00	swimming			00 31 00	pre-bid information
13 17 23	therapeutic and massage	41 21 23	<b>postal</b>	00 25 13	pre-bid meetings
13 14 16	wave	11 29 55	conveying equipment	01 11 00	pre-ordered products, single contract
<b>05 05 13</b>	<b>porcelain enamel</b>	41 24 46	sorting machines		
10 11 13	chalkboards	10 55 00	specialties	00 25 16	pre-proposal meetings
08 44 00	curtain wall panels	33 71 23	post insulators, electrical utility	31 23 16	pre-watering of excavation areas
07 44 16	faced panels				
10 11 16	markerboards	06 44 39	<b>posts</b>	21 13 19	preaction fire sprinklers
07 31 23	shingles	11 14 13	ornamental wood	.....	preassembled - see fabricated
07 46 19	siding	11 14 19	pedestrian control	<b>03 40 00</b>	<b>precast concrete</b>
22 40 00	porcelain fixtures	11 42 00	portable	03 40 00	anchors
09 30 13	porcelain mosaic tile		pot racks	03 45 00	architectural
	<b>porous paving</b>	22 11 16	<b>potable water</b>	03 48 13	bollards
32 12 43	flexible	40 23 23	pipng	31 52 19	cofferdams
32 14 43	unit	22 12 00	process pipng	32 16 13	curbs
	<b>portable</b>	33 71 26	storage tanks	03 40 00	forms
12 62 00	audience seating	23 09 13	potential transformers	03 41 13	hollow core planks
27 41 19	audio-video equipment	33 71 23	potentiometers, HVAC	03 47 16	lift-slab
12 62 23	bleachers	11 93 23	potheads, electrical utility	03 45 00	panels
11 13 23	bridges, loading dock	13 34 23	potting machines, horticultural	03 48 26	parking bumpers
13 34 23	buildings	07 92 00	poultry houses, fabricated	31 62 13	piles
10 11 13	chalkboards		pourable joint sealants - see joint sealants	03 41 33	post-tensioned
11 46 00	food serving units	03 51 16	poured gypsum decks	03 40 00	prestressed
41 22 23	hoists	.....	poured-in-place concrete - see CIP concrete	07 76 00	roof pavers
12 43 00	lamps			32 32 16	retaining walls
10 11 16	markerboards	05 05 13	powder coatings	33 36 00	septic tanks
10 22 23	panels	41 32 49	powder metal-forming equipment, manufacturing	31 75 16	shaft linings
10 22 23	partitions			03 41 23	slabs
11 13 23	platforms, loading dock		<b>power</b>	03 48 00	specialties
11 61 23	platforms, manufactured	26 35 00	conditioners, electrical	03 48 16	splash blocks
11 14 13	posts and railings, pedestrian	26 27 33	distribution units	03 48 19	stair treads
		26 35 33	factor controllers, electrical	03 41 23	stairs
13 49 00	radiation screens	26 35 33	factor correction equipment, electrical	03 41 00	structural
11 13 23	ramps, loading dock		filters and conditioners	03 47 13	tilt-up
10 22 23	screens	26 35 00	monitoring	34 71 13	traffic barriers
11 61 23	stages	26 09 13	poles, traction power	31 74 16	tunnel linings
41 52 19	storage tanks	34 23 13	service, temporary	32 14 13	unit paving
10 11 23	tackboards	01 51 13	test equipment, generation		<b>precast concrete utility structures</b>
10 73 26	walkway covers	48 71 19	transformers, low-voltage	33 39 16	sanitary sewerage
	<b>portland cement</b>	26 22 00	transformers, medium-voltage	07 44 00	precast fiber-reinforced cementitious panels
32 13 13	concrete paving	26 12 00	ventilators, HVAC	03 51 16	precast gypsum plank
09 66 13	terrazzo flooring			09 27 00	precast plaster construction
<b>03 61 00</b>	<b>portland cement grout</b>	23 34 23	power and free piece material conveyors	09 66 16	precast terrazzo floor tile
04 05 16	for masonry	41 21 23	<b>power generation, electrical</b>		<b>precipitators</b>
09 30 00	for tiling		combined heat and control systems	44 11 00	air pollution control
	<b>portland cement mortar</b>	<b>48 00 00</b>	facility	PAPI	precision approach path indicator
04 05 13	for masonry	48 30 00	<b>power meters</b>	34 43 16	precision approach path indicator
09 30 00	for tiling	48 09 00	electrical	01 31 19	preconstruction meetings
23 09 23	position instruments	26 30 00	electrical power generation	04 22 23	prefaced concrete masonry units
40 77 26	position, speed, and motion measurement devices		integrated automation		
	<b>positive displacement</b>	26 09 13	power supplies		
43 12 00	gas compressors, process	48 70 00			
21 33 00	pumps, fire	25 36 13			
		40 78 59			

	<b>prefinished</b>				
09 29 00	gypsum board	31 43 13	<b>pressure grouting</b>	05 05 13	shop-applied, metal
12 32 00	wood casework, manufactured	04 01 00	concrete raising	09 90 00	vapor-resistant
08 14 29	wood doors	31 32 23	masonry restoration	12 35 00	print storage casework, photographic
09 64 00	wood floors	.....	soil stabilization	40 62 33	printers
06 25 00	wood paneling	23 09 23	pressure grouting, concrete - see injection grouting	27 24 13	printers, communications
	<b>preformed</b>	21 34 13	pressure instruments	45 27 00	printing and related manufacturing
07 27 00	air barriers	33 05 19	pressure maintenance pumps	.....	prison - see detention
07 91 00	compression seals and gaskets		pressure piping tied joint restraint system		<b>privacy screens</b>
07 91 00	joint seals	23 21 13	<b>pressure reducing fill valves</b>	10 21 00	fixed
06 64 00	plastic panels		hydraulic piping	11 70 00	portable
	<b>preformed gaskets</b>	33 53 00	<b>pressure regulation</b>	PBX	private branch exchange
08 44 00	curtain wall	42 13 23	hydrocarbon utility		<b>procedures</b>
08 71 00	door	43 22 59	gas, process	01 35 16	alteration project
08 71 00	door weatherstripping	40 94 00	liquid, process	01 26 00	change order
07 95 13	expansion control	23 09 43	self-contained	01 35 73	delegated design
08 85 00	glazing	40 73 00	pressure sensors, HVAC	01 35 43	environmental
07 91 16	joint sealer		pressure, strain, and force measurement	01 35 29	health and safety
07 40 00	manufactured panels	23 09 43	pressure switches, HVAC	01 35 03	conservation treatment
08 43 00	storefront	43 42 00	pressure tanks	01 35 33	infection control
08 71 00	window weatherstripping	06 05 73	pressure treatments, wood	01 93 00	maintenance
.....	preformed vapor retarders - see vapor retarders	43 41 13	pressure vessels, process	01 26 00	modification
23 82 16	preheat coils	31 62 13	pressure-injected footings	01 29 00	payment
08 17 00	prehung doors	23 52 00	<b>pressure-relief valves</b>	01 35 91	period treatment
01 31 19	preinstallation meetings	07 72 00	for boilers	00 21 00	procurement
04 22 19	preinsulated concrete masonry units	08 39 00	pressure-relief ventilators	01 43 00	quality assurance
00 31 13	preliminary construction schedules	08 42 39	<b>pressure-resistant</b>	01 45 00	quality control
01 14 00	premises, contractor use of	08 88 39	doors	01 35 53	security
27 10 00	premises wiring for communications	08 55 00	entrances	01 35 13	special project
	<b>premixed mortar</b>	32 13 13	glazing	01 33 00	submittal
04 05 13	for masonry	31 62 13	windows	01 25 00	substitution
09 30 00	for tiling	03 38 00	<b>prestressed concrete</b>	01 22 00	unit price
07 91 26	pre molded joint fillers	03 40 00	paving	01 35 00	unusual
01 71 00	<b>preparation</b>	03 23 00	piles	01 24 00	value analysis
07 01 50	for reroofing	03 23 00	post-tensioned		<b>process</b>
32 91 13	soil	03 41 33	precast	42 11 00	boilers
32 12 13	preparatory coats, flexible paving	43 31 13	prestressing anchors	42 22 00	chillers and coolers
07 58 00	prepared roll roofing	01 78 23	prestressing tendons	43 22 79	clarifiers
.....	preservation - see restoration		pretensioned concrete, structural precast	42 23 13	condensers and evaporators
.....	preservation project	07 01 50	pretreatment cartridge gas and liquid filters	42 23 16	cooling evaporators
	procedures - see historic treatment procedures	01 20 00	preventative maintenance instructions	42 21 00	cooling towers
06 05 73	preservative treatment, wood	01 22 00	preventative roof maintenance	42 30 00	drying equipment
41 35 13	press dies, manufacturing	00 43 22	price and payment procedures	40 13 00	ductwork
41 31 13	press lines, manufacturing		<b>prices, unit</b>	40 41 23	equipment heat tracing
43 27 19	press liquid filters, process	40 91 00	bid form	40 05 97	equipment identification
41 32 00	pressbrake, metalworking	45 37 00	<b>primary</b>	40 42 23	equipment insulation
04 21 13	pressed bricks	42 14 36	control valves	43 15 00	filters, air and gas
41 32 53	pressing equipment, manufacturing	26 11 13	metal manufacturing	42 13 00	heat exchangers and recuperators
23 09 13	pressure control valves as HVAC instrumentation	40 90 00	refining furnaces, industrial		heaters
	<b>pressure gauges</b>	40 91 00	unit substations	42 23 19	humidifiers
23 09 13	HVAC	32 12 13	primary control devices	43 22 00	liquid mixers and regulators
40 73 13	pressure and differential	07 92 00	primary control valves	40 75 00	liquid analytical measurement
		09 90 00	prime coats, asphalt paving	40 23 19	non-potable plant water piping
		09 91 00	primer, for joint sealants	41 36 26	tools, manufacturing assembly

40 61 00	process control and enterprise management systems general provisions	40 05 53	four-inch diameter and larger	00 31 16	project budget available information
	<b>process control</b>	40 05 56	smaller than four-inch diameter		<b>project</b>
40 61 96	descriptions	22 67 00	<b>processed water systems</b>	01 77 00	closeout
40 61 16	enterprise management systems general provisions	43 22 11	electronic conditioning equipment	01 31 13	coordination
		22 67 00	laboratory	00 01 03	directory
40 61 13	system general provisions		<b>procurement</b>	00 60 00	forms
40 61 21	system testing	00 23 00	definitions	01 58 00	identification
40 61 26	system training	00 20 00	instructions for	00 31 00	information, available
40 76 00	process gas analytical measurement	00 43 00	form supplements	00 11 00	information to attract bidders
43 00 00	process gas and liquid equipment	00 40 00	forms	01 31 00	management and coordination
42 00 00	process heating, cooling, and drying	00 25 00	meetings	01 31 19	meetings
		00 24 00	scopes	00 01 01	name
40 00 00	process interconnections	00 26 00	substitution procedures	01 35 13	procedures, special
	<b>process piping</b>	00 00 00	procurement and contracting requirements	01 78 39	record documents
40 05 11	aluminum	.....	procurement contract - see purchase contract	01 58 13	signage, temporary
40 05 12	brass		<b>product</b>	01 31 00	site administration
40 05 13	bronze	01 21 26	allowances	01 18 00	utility sources
40 05 37	centrifugally cast fiberglass-reinforced polymer mortar	01 78 33	bonds	01 31 23	web site
		01 33 23	data submittals	.....	projecting windows - see windows
40 05 17	copper	01 65 00	delivery requirements	11 52 16	projection equipment
40 05 06	couplings and adapters	01 62 00	options	11 52 13	<b>projection screens</b>
40 10 00	duct work	01 60 00	requirements	10 11 36	integral with visual display boards
40 05 19	ductile iron	01 66 00	storage and handling requirements		
40 05 36	reinforced plastic	01 25 13	substitution procedures	11 52 16	<b>projectors</b>
40 10 00	gas and vapor	00 26 00	substitutions during bidding	11 55 13	planetarium
40 23 41	grit	01 78 36	warranties	23 34 00	propeller fans
40 05 07	hangers and supports		<b>products</b>	01 56 00	property protection, temporary
40 41 13	heat tracing	00 62 33	forms		<b>property surveys</b>
40 05 21	high-alloy nickel	01 11 00	ordered in advance	00 31 21	available information
40 05 33	high-density polyethylene	01 11 00	owner-furnished, single contract	02 21 13	execution requirements
40 12 53	high-pressure compressed air	01 11 00	pre-ordered		<b>proportioning</b>
		00 43 33	proposed	03 30 00	CIP concrete
40 42 13	insulation		<b>products delivered to owner</b>	04 05 13	mortar, for masonry
40 20 00	liquids	01 12 00	multiple contract	03 40 00	precast concrete
40 22 13	liquefied petroleum gas (lpg)	01 11 00	single contract	00 42 00	proposal forms
		41 36 29	profilometers, manufacturing	01 26 53	<b>proposal requests</b>
40 12 23	low-pressure compressed air	PLC	programmable logic controller	00 63 53	forms, request for proposal record
		27 26 00	programming services, communications	00 11 19	proposal, request for
40 22 16	lubricating oils		programming software, process control	00 73 19	proposal revisions
40 05 26	other metals		<b>progress</b>	00 63 55	proposal worksheet detail form
40 16 37	oxygen gas	01 74 13	cleaning	01 26 54	<b>proposal worksheet summaries</b>
40 05 38	PTFE	01 31 19	meetings	00 63 54	forms
40 22 23	petrochemicals	01 32 33	photographs	00 93 54	record
40 23 44	primary sludge	01 32 26	reports	00 26 00	proposals for product substitutions
40 40 00	protection	01 32 16	schedules	00 24 16	proposals, scopes of
40 23 40	sanitary wastewater	01 29 76	<b>progress payments</b>		<b>proposed</b>
40 30 00	solid and mixed materials	00 62 76	forms	00 43 83	construction schedule
40 23 43	scum and floatables	.....	progress schedules - see construction schedules	00 43 33	products
40 05 23	stainless steel		<b>progressive roll-formed</b>	00 43 73	schedule of values
40 05 24	steel	07 40 00	wall and roof panels	00 43 36	subcontractors
40 05 31	thermoplastic	07 60 00	sheet metal work	00 43 86	workplan schedule
40 23 48	thickened sludge			00 21 16	proposers, instructions to
40 23 46	waste sludge			00 45 16	proposer's qualification forms
	<b>process valves</b>			00 22 16	proposers, supplementary instructions to
40 05 51	common requirements				

11 61 43	proscenium drapery and curtains				
<b>07 55 00</b>	<b>protected membrane roofing</b>				
07 55 63	vegetated				
01 76 00	protecting installed construction				
	<b>protection</b>				
01 71 33	adjacent construction				
07 10 00	boards				
13 47 13	cathodic				
03 30 00	concrete				
01 94 00	deactivated facilities				
10 26 33	door and frame				
31 25 00	erosion and sedimentation control				
11 81 29	facility fall				
07 80 00	fire				
07 90 00	joint				
26 41 00	lightning				
26 01 40	lightning, operation and maintenance				
26 35 00	overcurrent				
32 91 00	planting bed				
13 49 00	radiation				
35 43 00	scour				
35 31 23	shoreline				
07 80 00	smoke				
01 56 00	temporary				
10 73 00	protective covers				
32 31 00	protective fences				
09 90 00	protective finishes, painting				
10 26 23	protective wall covering				
	<b>provision for future construction</b>				
01 12 00	multiple contract				
01 11 00	single contract				
40 77 16	proximity measurement devices				
32 01 90	pruning, maintenance				
31 13 16	pruning, site clearing				
11 73 13	psychiatric seclusion room padding				
	<b>public</b>				
27 51 16	address systems				
27 42 19	information systems, audio-video				
33 31 13	sanitary sewerage piping				
33 41 13	storm drainage piping				
33 21 13	water supply wells				
33 32 19	wastewater pumping stations				
00 52 51	public-private partnership agreement				
26 05 33	pull boxes, electrical				
.....	pull-down stairs - see retractable stairs				
08 71 00	pulls, door				
22 11 19	pulsation absorbers				
23 52 19	pulse combustion boilers				
41 11 46	pulverizers, bulk material				
04 22 00	pumice blocks				
03 37 16	pumped concrete				
	<b>pumping stations</b>				
22 13 43	sewerage, facility				
33 44 11	stormwater, field-erected				
33 32 11	wastewater, field-erected				
33 32 00	wastewater, utility				
	<b>pumps</b>				
43 23 72	air-operated bellows reciprocating				
43 23 71	air-operated diaphragm reciprocating				
43 23 73	air-operated piston				
43 24 41	archimedes screw				
43 23 21	between-bearings impeller centrifugal				
43 23 78	controlled volume horizontal reciprocating				
43 23 79	controlled volume vertical reciprocating				
22 11 23	domestic water				
43 23 00	dry location liquid boiler feedwater				
23 53 13	diesel fuel				
33 51 19	fire				
21 30 00	flexible member				
43 23 54	fountain				
22 52 16	fuel, facility				
23 12 00	fuel, facility				
23 12 13	fuel-oil, facility				
33 52 13	fuel-oil, utility				
33 52 16	gasoline, utility				
23 12 16	gasoline dispensing, facility				
22 11 63	gray-water pumps				
23 81 00	heat				
23 56 00	heat, solar-assisted				
23 21 23	hydraulic, facility				
33 61 00	hydraulic, utility				
33 82 00	irrigation				
43 21 00	liquid, process				
23 12 26	liquefied-petroleum gas, facility				
43 23 58	lobe pumps				
43 25 13	overhung close-coupled submersible centrifugal				
43 23 13	overhung horizontal centrifugal				
43 23 53	piston				
43 23 76	power horizontal reciprocating				
43 23 77	power vertical reciprocating				
21 34 13	pressure maintenance				
43 11 00	process piping				
43 23 57	progressing cavity				
43 26 30	regenerative centrifugal				
43 26 40	regenerative turbine				
43 26 60	regenerative vacuum				
43 26 70	rotating-case				
22 13 29	sanitary sewerage				
43 23 59	screw				
33 32 19	septic tank effluent				
33 32 00	sewage ejector, wastewater				
43 26 00	specialized liquid				
23 22 23	steam condensate				
43 23 74	steam horizontal reciprocating				
43 23 75	steam vertical reciprocating				
22 14 00	storm drainage, facility				
43 26 13	submersible grinder				
43 25 00	submersible/immersible liquid				
43 24 00	suspended liquid				
22 14 29	sump				
22 51 16	swimming pool				
01 54 00	temporary				
43 23 51	vane				
43 23 31	vertical centrifugal				
43 24 21	vertically suspended double-casing centrifugal				
43 24 26	vertically suspended inline-casing diffuser centrifugal				
43 24 13	vertically suspended single-casing discharge-through-column centrifugal				
43 24 16	vertically suspended single-casing separate discharge (sump) centrifugal				
43 24 11	vertically suspended single-casing submersible centrifugal				
22 13 36	wastewater, facility				
01 77 13	punch lists				
<b>01 11 19</b>	<b>purchase contract</b>				
00 52 63	agreement forms				
00 41 63	bid forms				
00 73 00	conditions				
01 12 00	summary, multiple contract				
01 11 00	summary, single contract				
01 32 43	purchase order tracking				
43 30 00	purification, gas and liquid				
	<b>purification equipment</b>				
22 50 00	aquariums				
22 50 00	aquatic facilities				
22 52 19	fountains				
43 30 00	gas and liquid, process				
22 51 19	swimming pools				
	<b>purlins</b>				
05 40 00	cold-formed				
06 18 00	glued-laminated				
06 13 00	heavy timber				
06 51 00	plastic				
05 12 00	steel				
06 11 00	wood				
08 71 00	push and pull units, door				
	putty - see joint sealants				
08 85 00	glazing				
	<b>PVC</b>				
23 31 16	ductwork				
07 91 16	gaskets, joint				
07 92 00	joint sealants				
07 54 19	roofing				
43 41 41	tanks, process				
08 63 16	pyramidal metal-framed skylights				
08 62 16	pyramidal unit skylights				

**Q**

00 45 13 qualification form, bidders  
**qualifications**  
 00 45 13 bidder  
 01 43 19 fabricator  
 01 43 23 installer  
 01 43 13 manufacturer  
 00 45 16 proposer  
 00 11 53 request for  
 01 43 26 special inspector  
 01 43 16 supplier  
 01 43 26 testing agency  
**01 40 00 quality**  
 01 43 00 assurance  
 01 45 00 control  
 00 43 26 quantities, estimated  
 01 21 29 quantity allowances  
 ..... quarried stone - see stone  
 07 44 19 quarry-tile-faced panels  
 09 30 16 quarry tiling  
 ..... quarry-faced stone - see stone  
 12 36 61 quartz agglomerate  
 countertops  
 08 81 00 quartz glass  
 ..... quartzite - see stone  
 35 59 29 quick-release mooring hooks

**R**

05 35 00 raceway decking assemblies  
**raceways**  
 26 05 33 electrical, facility  
 26 05 44 electrical, sleeves and  
 sleeve seals  
 33 72 33 substations, electrical utility  
 27 11 26 rack-mounted power  
 protection, communications  
**racks**  
 12 93 13 bicycle  
 11 21 33 coat, checkroom  
 10 57 00 coat, closet specialties  
 12 50 00 coat, furniture  
 26 33 16 electrical battery  
 21 12 19 fire hoses  
 11 42 00 food service  
 11 21 33 hat, checkroom  
 10 57 00 hat, closet specialties  
 12 50 00 hat, furniture  
 10 56 29 storage  
 41 53 23 storage, process  
 10 28 16 towel  
 09 30 13 towel, ceramic  
 34 43 00 radar  
 04 54 00 radial brick chimneys  
 41 33 73 radial saws  
**23 83 00 radiant heaters**  
 23 83 33 electric  
 23 55 23 gas-fired  
**radiation**  
 23 83 00 baseboard  
 28 41 00 detection  
 23 82 36 finned tube

01 35 00 project procedures  
 40 74 23 pyrometers  
 23 83 00 wall-hung  
**13 49 00 radiation protection**  
 13 49 00 nuclear shielding  
 11 77 00 radiology equipment  
 13 49 00 x-ray  
**13 49 00 radiation shielding**  
 08 34 49 doors  
 08 88 49 glazing  
 08 56 49 windows  
 23 82 29 radiators  
 33 83 23 radio antennas  
 RF radio frequency  
 RFI radio frequency interference  
 41 36 29 radiograph measurement  
 equipment  
**radioisotopic equipment**  
 healthcare  
 11 77 00 laboratory  
 11 53 00 radiology equipment  
 11 77 00 radiology equipment  
 31 21 13 radon mitigation  
 03 71 00 raft foundations, concrete  
 06 11 00 rafters, wood  
 34 11 00 rail tracks, transportation  
 41 64 00 rail vehicles, plant equipment  
 41 42 16 railcar bulk material loaders  
 41 24 39 railcar movers, specialty  
 material handling  
**railings**  
 06 81 00 composite  
 14 31 00 escalators  
 05 52 00 metal  
 05 73 00 metal, decorative  
 11 14 13 pedestrian control  
 05 52 13 pipe  
 06 63 00 plastic  
 11 14 19 portable  
 05 73 13 tempered glass  
 05 73 16 wire rope  
 06 43 16 wood, architectural  
 woodwork  
 06 22 00 wood, millwork  
 34 42 00 railroad control instrumentation  
 34 11 33 railroad ties  
 34 11 00 railroad track and accessories  
 32 11 00 railroad track ballast  
**rails**  
 10 11 00 chalk  
 41 22 13 crane  
 34 71 13 guard, highway  
 05 52 00 guard, pedestrian  
 10 11 00 map  
**34 10 00 railway**  
 34 72 00 construction  
 31 24 16 embankments  
 34 76 00 equipment  
 34 72 16 siding  
 34 42 00 signaling and control  
 equipment  
**rainwater piping**  
 07 62 00 exterior, custom

07 71 23 exterior, manufactured  
 22 14 16 interior  
 ..... raised flooring - see access  
 flooring  
 32 17 23 raised pavement markers  
 40 47 26 rammed refractories  
 04 43 00 random ashlar masonry  
 04 43 00 random rubble masonry  
**11 44 13 ranges**  
 11 30 13 residential  
**10 81 19 rat control**  
 01 57 16 during construction  
 00 73 46 rates of wage requirements  
 07 16 00 reactive waterproofing  
 42 14 43 reactor furnaces, industrial  
 48 12 13 reactors, nuclear fuel power  
 generation  
 33 72 53 reactors, shunt  
 06 22 00 ready-made wood trim  
 03 30 00 ready-mixed concrete  
 11 53 00 reagent racks  
 41 33 66 reaming equipment,  
 manufacturing  
 23 09 43 receiver controllers, HVAC  
**receivers**  
 33 83 00 communications  
 07 62 00 flashing  
 07 50 00 membrane roofing  
 23 63 00 refrigerant  
 10 55 19 receiving boxes, postal  
**receptacles**  
 26 27 26 electrical  
 32 33 23 site trash and litter  
 12 46 33 waste, portable  
 10 28 00 waste, toilet room  
 22 40 00 receptors, mop and shower  
 12 48 16 recessed floor grilles  
 12 48 13 recessed mat frames  
 22 32 00 rechargeable filters, domestic  
 water  
**reciprocating**  
 41 12 13 bulk material conveyors  
 23 64 00 chillers, HVAC  
 42 22 16 chillers and coolers,  
 process  
 22 15 19 compressors, general  
 service  
 41 21 23 piece material conveyors  
 23 61 16 refrigerant compressors  
 40 23 29 recirculated water process  
 piping  
 13 11 43 recirculating gutter systems  
**reclosers, medium-voltage**  
 26 18 26 facility  
 33 77 53 utility  
 31 22 00 reconditioning subgrade  
 01 78 39 record documents, project  
 00 31 24 record of environmental impact  
 decisions  
**recording devices**  
 40 78 26 chart  
 23 09 13 HVAC

13 52 00	seismic	11 30 13	residential	.....	reinforcing bars - see
11 52 19	sound	11 41 23	walk-in		reinforcing steel
13 51 00	stress	.....	refuse chutes - see trash	03 22 00	reinforcing fabric and grid
11 53 00	stress, laboratory		chutes		<b>reinforcing steel</b>
11 52 19	video	.....	refuse compactors - see	04 05 19	masonry
13 50 00	recording instrumentation		waste compactors		<b>related construction</b>
27 41 00	recording studio equipment	42 31 19	regenerative dryers, process	01 12 00	multiple contract
00 31 21	recordings, historical		<b>registers</b>	01 11 00	single contract
	<b>records storage</b>	23 37 13	air inlet and outlet	00 72 00	relationships of parties to the
11 51 00	library	28 31 00	alarm		contract
13 27 00	vaults	11 21 13	cash	26 09 43	relay-based lighting controls
02 62 00	recovery, hazardous waste	23 37 13	security	<b>40 78 53</b>	<b>relays</b>
13 28 33	recreational court walls	11 25 13	registration equipment	33 72 33	control house equipment,
11 67 00	recreational equipment		<b>reglets</b>		substation
32 18 00	recreational surfacing, outdoor	07 62 00	flashing	26 27 26	low-voltage
.....	recycled - see reused	07 71 26	manufactured roof	48 09 00	power generation
00 62 34	recycled content of materials		specialties	00 65 19	release of liens
11 82 23	recycling equipment	23 33 13	regulating dampers	12 14 23	relief carvings
02 42 19	recycling of construction		<b>regulators</b>		<b>relief valves</b>
	materials	33 37 23	flow	23 52 00	for boilers
11 62 19	reed organs	40 94 00	self-contained pressure	07 72 23	relief vents
21 12 16	reels, fire hose	26 35 53	voltage		relief wells
01 42 19	reference standards	01 41 00	regulatory requirements	35 41 19	levees
06 01 00	refinishing, wood	.....	rehabilitation - see		<b>religious</b>
08 81 00	reflecting glass		maintenance requirements	12 19 00	art
22 52 00	reflecting pool and fountain	.....	rehabilitation procedures - see	12 35 91	casework
	plumbing		alteration project procedures	11 91 00	equipment
07 20 00	reflective insulation	23 82 16	reheat coils	12 56 00	furniture
07 50 00	reflective membrane roofing	42 14 46	reheat furnaces, industrial	33 01 30	relining underground piping
11 98 00	reformatory equipment	04 05 13	rehydration, mortar	.....	relocatable partitions - see
40 47 00	refractories, process		<b>reinforced concrete</b>		demountable partitions
	<b>refractory</b>	03 30 00	cast-in-place	.....	relocatable structures - see
04 54 00	brick	32 13 13	paving		mobile buildings
40 47 29	concrete	03 40 00	precast		<b>relocation</b>
04 05 16	grout	.....	reinforced earth - see soil	02 03 43	period structure
04 50 00	masonry		reinforcement	32 96 23	plants
04 50 00	materials, castable	08 53 00	reinforced plastic windows	02 43 13	structures
04 05 13	mortar	07 27 00	reinforced rubber air barriers		<b>remediation</b>
	<b>refrigerant</b>	.....	reinforced soil - see soil	02 82 00	asbestos
23 82 16	air coils		reinforcement	02 87 00	biohazard
42 22 19	chillers and coolers,	07 54 00	reinforced thermoplastic	02 80 00	facility
	process		membrane roofing	02 83 00	lead
23 61 00	compressors	04 20 00	reinforced unit masonry	02 87 13	mold
23 63 00	condensing coils		assemblies	02 84 00	PCB
28 44 00	detection and alarm		<b>reinforcing</b>	02 57 00	sinkhole
42 31 23	dryers, process	31 63 23	bored pile	02 50 00	site
23 23 00	pipng	31 64 00	caisson	02 55 00	stabilization
23 23 16	pipng specialties	31 62 13	CIP concrete piles	02 70 00	water
23 23 19	safety relief valve	03 50 00	cast deck	.....	remodeling procedures - see
	discharge piping	03 21 21	composite bars		alteration project procedures
23 81 29	variable flow HVAC	03 22 19	composite grid	28 15 19	remote devices, access control
	systems	03 20 00	concrete	25 14 13	remote control panels,
	<b>refrigerated</b>	32 13 13	concrete paving		integrated automation
11 41 13	food cases	31 62 23	concrete-filled steel piles	26 27 26	remote control switching
31 66 19	foundations	31 63 23	drilled caissons		devices
13 21 26	rooms	03 24 00	fibrous		<b>remote operators</b>
23 60 00	refrigeration equipment	04 05 19	masonry	08 74 00	door and window
	<b>refrigerators</b>	04 50 23	masonry joint	08 78 00	special function doors
11 41 00	food service	03 38 00	post-tensioned concrete	26 09 33	remote-controlled dimming
11 53 23	laboratory	04 20 00	reinforced masonry		stations
11 70 00	medical	03 22 00	wire fabric	40 63 83	remote terminal units
11 78 13	mortuary				



	<b>removal</b>				
02 43 13	buildings	00 73 00	specific project	.....	restoration - see maintenance requirements
01 74 19	debris	00 73 73	statutory		
02 87 16	excrement	00 73 46	wage rate	32 72 00	restoration, wetlands
02 63 00	hazardous material	07 01 50	reroofing, preparation	.....	restoration procedures - see historic treatment procedures
09 01 90	paint	27 51 29	rescue assistance signal systems	01 14 00	restrictions that affect construction
07 01 50	roof	<b>33 12 00</b>	<b>reservoir sump floating covers</b>		<b>resurfacing</b>
02 21 00	selective demolition	33 12 33	mechanically-tensioned	03 01 00	concrete
02 41 13	site demolition			32 01 26	concrete paving
01 74 19	surplus material			32 01 16	flexible paving
02 65 00	underground storage tanks	11 30 13	<b>residential</b>	09 97 00	resurfacing materials, special coatings
02 03 42	removal and salvage of period construction materials	10 28 16	appliances	11 70 00	resuscitators
23 41 16	renewable-media air filters	22 33 30	bath accessories		<b>retail display fixtures</b>
.....	renovation procedures - see alteration project procedures	22 34 30	domestic water heaters, electric	06 41 00	architectural woodwork
09 01 90	repainting	22 31 13	domestic water heaters, gas	10 12 00	manufactured
.....	repair - see maintenance requirements	11 30 00	domestic water softeners	12 53 00	retail furniture
.....	repair project procedures - see alteration project procedures	12 58 00	equipment	11 21 00	retail store equipment
		27 51 23	furniture	00 61 23	retainage bond form
		22 41 00	intercommunications	<b>32 32 00</b>	<b>retaining walls</b>
			plumbing fixtures	01 56 00	temporary
10 81 00	repellent, pest	06 41 00	<b>residential casework</b>		<b>retarders</b>
07 19 29	repellent, water	12 35 30	architectural woodwork	03 05 00	concrete
.....	replacement - see maintenance requirements		manufactured	32 13 13	concrete paving
.....	replanting - see transplanting	14 21 33	<b>residential elevators</b>	07 26 00	vapor
04 01 40	repainting stone	14 24 33	electric traction	.....	retractable partitions - see operable partitions
04 01 20	repainting unit masonry	09 65 13	hydraulic	11 30 33	retractable stairs, residential
01 32 26	reporting progress	09 65 66	<b>resilient</b>	11 51 13	retrieval systems, library
	<b>reports</b>	09 65 13	accessories		<b>retrofit</b>
00 31 32	geotechnical	09 65 00	athletic flooring	25 01 00	electrical
02 06 13	geotechnical baseline	32 18 23	base	14 01 20	elevator
02 06 14	geotechnical data	09 65 43	flooring	13 48 00	seismic
01 32 26	progress	09 65 19	matting, athletic surfacing	22 14 26	retrofit roof drains
40 68 23	reporting	09 64 53	sheet flooring	23 37 13	return air registers
00 45 00	representations and certifications	13 48 23	tile flooring	03 11 00	reusable forms
.....	requests for information - see requests for interpretation		wood flooring		<b>reused</b>
<b>01 26 13</b>	<b>requests for information</b>	12 36 00	resiliently-supported walls and ceilings	32 01 16	aggregate, paving
00 63 13	forms	12 36 53	resin countertops	32 01 16	asphalt paving
00 93 13	record	09 97 26	resin sinks with countertops	00 62 34	content of material form
00 11 19	requests for proposal, contract	09 96 00	resin-cement coatings	32 01 16	plant-mixed asphalt paving
<b>01 26 53</b>	<b>requests for proposal, changes</b>	09 67 23	resinous coatings	10 51 26	plastic lockers
00 63 53	forms	09 66 23	resinous flooring	10 56 19	plastic storage shelving
00 93 53	record	09 90 00	resinous matrix terrazzo flooring		<b>reusing</b>
00 11 53	request for qualifications	42 10 00	resins, paint	32 01 26	concrete paving
	<b>requirements</b>	48 71 23	resistance heating equipment, industrial	32 01 16	flexible paving
33 71 73	electrical utility company	41 36 19	resistance test equipment, power generation	31 35 19	revegetation mats
00 73 36	equal employment opportunity		resistance-welding equipment, manufacturing	13 48 00	reverberation control
01 35 26	government safety	41 36 19	resistive load banks	RO	reverse-osmosis
00 73 33	non-segregated facilities	26 32 36	resolution, dispute	40 23 33	reverse-osmosis piping, process
01 35 23	owner safety	00 73 83	rest room - see toilet	43 32 56	purification units, process
00 25 13	pre-bid meetings	.....	<b>restaurant</b>	02 51 16	site remediation
01 60 00	product	27 41 16	audio-video	22 67 00	system, laboratory
00 73 00	project specific	12 35 25	casework	35 31 19	revetments
01 41 00	regulatory	11 40 00	kitchen equipment	28 01 10	revisions and upgrades of access control
00 73 63	security	12 54 16	furniture	00 73 16	revisions, bid
		14 72 25	turntables	00 73 19	revisions, proposal
				<b>08 42 33</b>	<b>revolving doors</b>
				08 34 36	darkroom

14 74 61	revolving stages	09 30 13	ceramic	41 21 23	roller piece material conveyors
00 63 13	RFI form	11 12 33	robot parking barrier gates	10 71 13	roller shutters, solar control
<b>13 49 00</b>	<b>RFI shielding</b>	11 14 13	robot turnstile gates	12 24 13	roller window shades
08 34 46	doors	31 71 00	robotic tunneling		<b>rolling</b>
26 35 46	electrical	41 31 19	robots, manufacturing line	08 33 00	doors
08 56 46	windows		<b>rock</b>	08 33 00	grilles
	<b>ribbed</b>	32 39 33	artificial	12 66 13	gymstands
05 30 00	metal decking	31 25 24	barriers	10 22 23	partitions
09 22 36	metal lath	31 25 34	basins	12 21 23	window blinds
07 41 13	metal roofing	35 73 16	embankment dams	12 24 23	window shades
07 46 00	metal siding	31 24 00	embankments	41 31 13	rolling/calendaring lines, manufacturing
08 63 23	ridge metal-framed skylights	31 37 00	energy dissipaters		<b>roof</b>
07 72 26	ridge vents	31 37 00	lining	07 72 00	accessories
11 67 00	rifle range equipment	31 72 13	reinforcement, tunnel support	08 45 00	assemblies, translucent
11 61 33	rigging systems and controls, stage equipment	31 73 00	seam pressure grouting, tunnels	07 76 13	ballast pavers
00 72 00	rights of parties to the contract		slope netting	07 33 00	coverings
05 10 00	rigid frames, metal	31 33 23	slope wire mesh	22 14 26	drains
.....	rigid insulation - see board insulation	31 33 26	stabilization	07 72 00	exhausters, gravity
		31 33 00	<b>rock anchors</b>	23 34 00	fans
07 92 16	rigid joint sealants		excavation support	10 75 26	flagpoles
04 05 19	rigid masonry anchors	31 51 16	foundation	07 62 00	flashing, metal
32 13 00	rigid paving	31 68 13	<b>rock bolting and grouting</b>	07 72 33	hatches
32 01 26	rigid paving rehabilitation	<b>31 33 13</b>	tunnel support	07 22 00	insulation
09 69 13	rigid-grid access flooring	31 72 13	<b>rock excavation</b>	07 01 50	maintenance and repair
06 17 43	rim boards	<b>31 23 16</b>	drill and blast tunneling	07 01 50	moisture surveys
27 32 26	ring-down emergency telephones	31 71 16	tunnel boring	07 41 16	panels, insulated metal removal
	<b>rings</b>	31 71 19	rock socketed piles - see fixed end caisson piles	07 01 50	repair
11 66 23	gymnasts'	.....	rock wool insulation	07 31 29	shakes
10 28 16	towel	07 20 00	rockfill gravity dams	07 31 00	shingles
13 18 00	rinks, ice	35 71 19	<b>rodent control</b>	07 31 26	slates
<b>31 37 00</b>	<b>riprap</b>	<b>10 81 19</b>	during construction	07 71 00	specialties, manufactured surveys and inspections
35 42 37	waterway bank protection	01 57 16	soil treatment	07 01 50	tile
32 43 47	waterway scour protection	31 31 13	<b>rods</b>	07 32 00	vapor retarders, membrane roofing
	<b>risers</b>	10 57 23	closet	07 50 00	vegetated systems
11 61 23	demountable	12 22 16	curtain	07 72 73	ventilators, gravity
09 65 13	resilient	26 41 00	lightning	07 72 00	vents, operable
.....	rising stages - see stage lifts	04 05 19	masonry reinforcing	07 72 39	walk boards
.....	riverbed stone - see stone	03 21 00	reinforcement	07 72 43	walkways
05 05 23	riveting	05 17 00	structural assemblies		<b>roof coatings</b>
41 36 19	riveting equipment, manufacturing		<b>rod gap</b>	07 57 00	coated foamed roofs
34 71 00	road appurtenances	33 75 40	high-voltage	07 50 00	new construction
<b>31 22 16</b>	<b>road beds</b>	33 77 40	medium-voltage	07 01 50	renovation
31 01 20	modification	.....	roll carpeting - see sheet carpeting	<b>07 72 13</b>	<b>roof curbs</b>
32 12 16	road-mix asphalt paving		roll filters	23 34 00	for fans
	<b>roads</b>	23 41 00	roll roofing	07 22 00	roof deck insulation
01 55 13	construction access	07 58 00	roll-down blinds	07 76 00	roof deck pavers
32 10 00	paving	12 21 23	roll-forming equipment, manufacturing		<b>roof decking</b>
01 55 13	temporary	41 32 56	roll-up doors and grilles - see coiling doors and grilles	05 33 23	aluminum
	<b>roadway</b>	.....	roll-up shades - see roller window shades	07 22 13	asphaltic insulating fill
34 71 00	construction	.....	rolled glass	03 52 00	concrete, insulating
31 24 13	embankments	08 81 00	rolled steel shapes	03 41 00	concrete, precast
34 75 00	equipment	05 12 00	roller blinds - see roll-down blinds	06 15 23	glued-laminated wood
26 56 19	lighting	.....	<b>roller-compacted concrete</b>	03 51 16	gypsum
34 41 23	monitoring equipment	<b>03 37 23</b>	paving	05 31 00	steel
34 41 00	signaling and control equipment	32 13 16		06 15 19	timber
31 22 16	subgrade reshaping				<b>roof expansion joint covers</b>
34 41 33	warning lights			07 62 00	custom
<b>10 28 00</b>	<b>robe hooks</b>			07 71 29	manufactured

	<b>roof gutters and downspouts</b>	23 74 00	rooftop air handling units, modular	41 33 69	manufacturing
07 62 00	custom	23 81 00	rooftop heat pumps	10 26 00	rub strips
07 71 23	manufactured	23 70 00	rooftop make-up air units		<b>rubber</b>
	<b>roof-mounted storage tanks</b>	23 81 16	room air-conditioners	09 65 13	base
21 41 19	fire-suppression water	10 21 26	room darkening curtains and tracks	08 38 00	doors
22 12 13	potable water, facility		<b>room dividers</b>	12 48 13	entrance mats
	<b>roof panels</b>		gymnasium	07 92 00	joint sealants
13 34 00	fabricated building	11 66 53	partitions	32 14 29	paving
07 41 16	insulated metal	10 22 00	portable	07 53 00	roofing
07 41 00	manufactured	12 50 00	portable, office	07 65 23	sheet flashing
07 76 00	roof pavers	12 59 00	room storage heaters for thermal storage	09 65 13	tile
.....	roof sheets - see sheet metal roofing	23 71 13	<b>rooms</b>	07 32 29	tiles, roofing
10 75 26	roof-mounted flagpoles		fabricated	07 13 00	waterproofing, butyl sheet
	<b>roofing</b>	13 26 00	special activity	08 71 00	weatherstripping
07 51 13	asphalt built-up	13 24 00	special purpose		<b>rubberized asphalt</b>
07 51 00	built-up bituminous	13 20 00	<b>rope, wire</b>	32 12 16	paving
07 55 51	built-up bituminous, protected	05 15 00	assemblies	07 55 56	roofing
07 54 13	CPA	05 73 16	railings	07 14 13	waterproofing
07 53 13	CPE	05 16 00	structural	32 11 36	rubberized portland cement concrete base
07 53 16	CSPE	34 14 00	transportation	.....	rubbish chutes - see trash chutes
07 53 00	elastomeric membrane	14 82 00	rope climbers	01 74 19	rubbish removal
07 55 53	elastomeric membrane, protected	34 14 46	ropeway tows	35 31 23	rumble mound breakwaters
	EPDM	08 71 00	roses, doorknob	.....	rumble stone - see stone
07 54 23	fluid-applied	40 95 00	<b>rotary</b>	12 48 53	rugs
07 55 56	fluid-applied, protected	41 13 23	actuators,	41 35 13	rule dies, manufacturing
07 22 00	insulation	43 11 00	airlock feeders	01 53 26	runarounds, temporary
07 54 16	ketone ethylene	42 22 23	blowers	12 48 53	runners
07 41 00	manufactured panels		chillers and coolers, process	09 27 00	running moldings, plastering
07 50 00	membrane	22 15 19	compressors, general service	32 18 23	running tracks, exterior
07 52 00	modified bituminous	26 32 29	converters, electrical		<b>running trim</b>
07 55 52	modified bituminous, protected	41 35 13	dies, manufacturing	06 46 00	wood, custom
07 33 00	natural, coverings	41 13 23	flow feeders	06 22 13	wood, standard pattern
07 54 26	NBP	11 14 13	gates, pedestrian	34 43 13	lighting, airfield signals
07 41 16	panels, insulated metal	26 32 33	uninterruptible power supply	32 10 00	runways, airfield
07 53 29	PIB		ventilators	09 66 13	rustic terrazzo flooring
07 55 00	protected membrane	07 72 00	<b>rotary-kiln material dryers, process</b>		
07 54 19	PVC	42 32 29	<b>rotary-screw</b>		
07 58 00	roll		gas compressors, process		
07 61 00	sheet metal, custom	43 12 00	refrigerant compressors		
07 41 13	sheet metal, manufactured	23 61 23	water chillers		
07 50 00	single ply	23 64 26	rotary-valve bulk material feeders		
07 54 00	thermoplastic membrane	41 13 23	rotations per minute		
07 55 54	thermoplastic membrane, protected	RPM	<b>rotisseries</b>		
07 54 23	TPO	11 44 00	residential		
08 45 00	translucent plastic	11 30 13	rough bucks, wood		
07 72 73	vegetated systems	06 10 00	rough carpentry		
	<b>roofing felts</b>	06 10 00	rough carriage, wood stairs		
07 51 00	built-up roofing	06 11 00	rough grading		
07 52 00	modified bituminous roofing	31 22 13	rough stone - see stone		
07 51 16	roofing pitch	.....	<b>routers</b>		
07 01 50	roofing restoration		communications		
07 31 00	roofing shingles	27 21 16	integrated automation		
07 32 00	roofing tile	25 11 16	<b>routing equipment</b>		
23 74 16	rooftop air conditioning units, packaged	27 31 00	communications		

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35 31 19	sacked cement-sand revetments
08 71 00	saddles, door
	<b>safety, construction</b>
00 72 00	general conditions
00 73 00	supplementary conditions
	<b>safety equipment</b>
28 31 00	fire alarm
21 00 00	fire suppression
33 54 00	hydrocarbon utility
41 67 19	industrial
28 13 00	security
08 87 23	safety and security films
09 60 00	safety flooring, abrasive
08 81 00	safety glass
08 42 26	safety glass doors, entrances
13 28 16	safety netting, athletic
.....	safety showers - see emergency showers
09 65 13	safety treads, resilient
11 46 00	salad tables
11 21 53	salon equipment, beauty

	<b>salvage</b>				
02 42 21	construction materials	07 52 16	SBS modified bituminous	09 06 00	finishes
01 12 00	multiple contract		membrane roofing	28 06 80	fire detection and alarm
02 42 00	procedures		<b>scaffolding</b>	07 06 80	fire protection
01 11 00	single contract	14 80 00	permanent	21 06 00	fire suppression
02 42 00	site construction	14 84 00	powered	12 06 00	furnishings
01 33 23	sample submittals	01 54 23	temporary	40 06 10	gas and vapor process
03 39 16	sand concrete curing	<b>10 88 00</b>	<b>scales</b>		pipng and ductwork
09 66 13	sand cushion terrazzo flooring	34 77 36	baggage	23 06 00	HVAC
	<b>sand filters</b>	34 78 33	crane scales	33 06 50	hydrocarbon utilities
22 32 26	domestic water	11 21 43	mercantile equipment	45 06 00	industry-specific
33 36 00	septic tank	40 79 13	nuclear mass-measuring		manufacturing
32 01 13	sand seals, flexible paving	34 78 23	railroad car scales	28 06 50	information management
	<b>sandblasting</b>	41 36 29	test weigh		and display
03 35 00	concrete	34 78 13	truck scales	25 06 00	integrated automation
04 01 00	masonry	41 14 36	weigh, bulk material	28 06 70	life safety
41 33 00	sanders		batching	04 06 00	masonry
09 90 00	sanding sealer	34 78 16	weightbridges	28 06 60	mass notification
.....	sandstone - see stone	27 24 16	scanners, communications	41 06 00	materials process
	<b>sandwich panels</b>	34 77 33	scanning equipment, baggage		equipment
10 22 00	interior partitions	11 61 00	scenery, theatrical	05 06 00	metals
07 41 00	roof	40 06 90	schedule for primary control	08 06 00	openings
07 42 00	wall		devices	11 06 90	other equipment
32 01 13	sandwich seal, flexible paving	40 06 60	schedule for process control	22 06 00	plumbing
33 39 23	sanitary cleanouts		and process facility enterprise	44 06 00	pollution control equipment
01 52 19	sanitary facilities, temporary	40 06 70	management systems	43 06 00	process gas and liquid
07 92 00	sanitary joint sealants		schedule of instrumentation for		equipment
10 28 13	sanitary napkin dispensers	<b>01 29 73</b>	process systems	42 06 00	process heating, cooling,
	and disposers	00 62 73	<b>schedule of values</b>		and drying
33 39 13	sanitary sewer manholes	00 43 73	forms	40 06 00	process interconnections
	<b>sanitary sewerage</b>		proposed	13 06 00	special construction
33 32 00	equipment		<b>schedules</b>	10 06 00	specialties
22 13 00	facility	00 54 21	allowances	33 06 40	stormwater utilities
22 13 29	pumps	01 32 16	computerized	07 06 00	thermal and moisture
	<b>sanitary sewerage utilities</b>	01 32 16	construction		protection
33 34 00	force mains	08 06 70	hardware	34 06 00	transportation
33 31 00	pipng	23 06 80	heating and cooling, radiant	33 06 00	utilities
33 32 00	pumping stations,	01 32 16	network analysis	35 06 00	waterway and marine
	wastewater	00 31 13	preliminary construction	06 06 00	wood, plastics, and
33 36 00	septic tanks	01 32 16	shop drawing		composites
22 13 13	sanitary sewers, facility	01 32 16	test	01 32 16	scheduling
	<b>sanitary waste and vent</b>	00 54 22	unit price	.....	school equipment - see
22 13 16	pipng	33 06 05	utility piping		educational equipment
22 13 19	specialties	00 73 46	wage determination	11 50 00	scientific equipment
22 13 23	sanitary waste interceptors		<b>schedules for</b>	14 83 16	scissor-lift platforms
22 13 26	sanitary waste separators	11 06 20	commercial equipment	00 54 13	scope statement,
	<b>sash</b>	27 06 00	communications		supplementary
08 75 00	balances	03 06 00	concrete	<b>00 24 00</b>	<b>scopes, procurement</b>
14 84 23	cleaners' hoists	14 06 00	conveying equipment	00 24 13	of bids
08 44 00	curtain wall	31 06 00	earthwork	00 24 16	of proposals
08 75 00	hardware	26 06 00	electrical	11 68 43	scoreboards, exterior
08 75 00	operators	48 06 00	electrical power generation	11 66 43	scoreboards, interior
08 50 00	window	26 06 40	electrical protection	23 52 39	scotch marine boilers
<b>27 05 13</b>	<b>satellite services</b>		systems	35 43 00	scour protection
27 13 43	cabling	28 06 00	electronic safety and	35 32 13	scrap material artificial reefs
13 24 16	sauna heaters		security		<b>screeds</b>
13 24 16	saunas	11 06 60	entertainment and	09 22 36	plastering
SCR	saturable core reactors		recreation equipment	06 10 00	wood
40 96 00	saturable core reactors,	11 06 00	equipment		<b>screen doors</b>
41 33 73	sawing equipment,	02 06 00	existing conditions	08 11 66	metal
	manufacturing	32 06 00	exterior improvements	08 15 66	plastic
11 42 00	saws, meat	11 06 80	facility maintenance and	08 14 66	wood
			operation equipment	32 35 00	screening devices, site

10 82 00	<b>screens</b>	07 84 00	firestopping	01 56 00	temporary barriers and enclosures
06 49 13	architectural woodwork	07 91 00	joint, preformed	10 28 13	toilet accessories
31 31 13	athletic wind breaker	11 13 16	loading dock	13 27 53	vaults
41 11 49	bulk material	07 86 00	smoke seals	28 05 39	voice communications
05 70 00	decorative metal	08 71 00	window and door	08 56 56	window screens
11 98 23	detention window	00 01 07	seals page	08 56 53	windows
10 32 19	fireplace	.....	seamless flooring - see fluid-applied flooring	28 05 39	wireless transmission equipment
32 81 13	irrigation intake screens	12 68 00	seat and table assemblies	11 97 00	security and vault equipment
40 62 43	large display	<b>12 52 00</b>	<b>seating</b>	<b>31 15 53</b>	<b>sediment control</b>
08 91 00	louvers	12 60 00	multiple	01 57 13	temporary
10 22 23	portable	32 33 43	site furniture	22 13 19	sediment drains
11 52 13	projection	35 31 16	seawalls	11 93 16	seeders, horticultural
13 49 00	radiation	26 11 16	secondary unit substations	32 92 19	seeding
08 61 00	roof window	08 36 13	sectional doors		<b>segmental</b>
08 56 56	security		<b>security</b>	32 32 23	retaining walls
32 35 13	site	28 13 00	access control	35 31 16	seawalls
08 67 00	skylight	28 18 00	access detection equipment	35 42 53	wall bank protection
10 71 13	solar control	08 31 13	access doors and frames	35 43 53	wall scour protection
12 57 16	welding	28 18 15	access explosive detection equipment		<b>seismic</b>
08 50 00	window	28 18 11	access metal detectors	00 31 31	available information
10 82 00	wood	28 18 17	access sniffing equipment	13 52 00	instrumentation
06 48 23	wood-framed insect screens	28 18 13	access x-ray equipment	02 31 13	investigations
		23 33 38	bars, duct	<b>13 48 00</b>	<b>seismic controls</b>
41 12 13	screw bulk material conveyors	00 43 13	bid	27 05 48	communications
41 13 23	screw bulk material feeders	32 39 13	bollards, metal	26 05 48	electrical
.....	screw piles - see micropiles	28 21 00	cameras	28 05 48	electronic safety and security
06 05 23	screws, wood	09 57 53	ceiling assemblies	21 05 48	fire suppression
23 61 19	scroll refrigerant compressors	11 15 00	control equipment	23 05 48	HVAC
23 64 23	scroll water chillers	28 05 35	data communications equipment	25 05 48	integrated automation
44 11 00	scrubbers, air pollution control	28 05 05	demolition, systems	22 05 48	plumbing
11 81 13	scrubbers, floor	08 34 53	doors and frames	33 05 96	utilities
	<b>scullery sinks</b>	11 97 00	equipment	31 12 00	selective clearing
11 42 00	as food preparation equipment	32 31 19	fences and gates, decorative	<b>02 41 19</b>	<b>selective demolition</b>
22 42 16	as plumbing fixtures	08 87 23	films, safety	27 05 05	communications
12 14 00	sculptures	10 44 13	fire protection cabinets	03 05 05	concrete
<b>07 71 33</b>	<b>scuppers</b>	08 34 56	gates	14 05 05	conveying equipment
07 62 00	custom sheet metal	08 88 53	glazing	31 05 05	earthwork
32 12 36	seal coats, flexible paving	08 71 53	hardware	26 05 05	electrical
07 91 23	sealant backings	26 55 53	lighting	48 05 05	electrical power generation
07 91 00	sealant tapes	05 05 53	metal fastenings	28 05 05	electronic safety and security
	<b>sealants</b>	10 86 00	mirrors and domes	11 05 05	equipment
08 44 00	curtain wall	28 33 00	monitoring and control software	32 05 05	exterior improvements
08 85 00	glazing	28 33 15	monitoring and control services	09 05 05	finishes
07 84 13	penetration		operations and monitoring center	21 05 05	fire suppression
07 41 00	roofing, manufactured	28 33 17	pedestrian	12 05 05	furnishings
09 30 00	tiling	28 33 13	plumbing fixtures	23 05 05	heating, ventilating, and air conditioning (HVAC)
.....	sealants, joint - see joint sealants	11 14 53	procedures	45 05 05	industry-specific manufacturing equipment
41 36 13	sealer applicators, manufacturing	22 46 00	registers and grilles	25 05 05	integrated automation
	<b>sealers</b>	01 35 53	requirements	04 05 05	masonry
03 05 00	concrete	23 37 13	revolving doors	41 05 05	material processing and handling equipment
07 11 00	dampproofing	00 73 63	surveillance	05 05 05	metals
09 63 00	masonry flooring	08 42 33	temporary controls	08 05 05	openings
09 66 00	terrazzo flooring	28 20 00		02 03 41	period structures
07 19 00	water repellents	01 57 33		22 05 05	plumbing
09 90 00	wood				
33 01 30	sealing underground sewers				
	<b>seals</b>				
07 91 13	compression				
40 73 63	diaphragm				

44 05 05	pollution and waste control equipment	33 34 16	effluent filters	09 21 16	shaft wall assemblies
43 05 05	process gas and liquid handling, purification, and storage equipment	33 32 19	effluent pumps	09 29 00	shaft wall liners
42 05 05	process heating, cooling, and drying equipment	33 34 13	fiberglass	31 63 29	shafts, drilled concrete
40 05 04	process interconnections	33 34 13	polyethylene	07 46 24	shake siding, wood
28 05 05	security systems	33 36 00	utility	07 31 29	shakes, wood
13 05 05	special construction		<b>sequence of operation</b>	22 42 29	shampoo bowls
10 05 05	specialties	23 09 93	HVAC	11 81 13	shampooers, floor
07 05 05	thermal and moisture protection	25 90 00	integrated automation	41 33 76	shaping equipment, manufacturing
34 05 05	transportation		<b>sequencing</b>	41 32 59	shearing equipment, manufacturing
33 05 04	utilities	00 31 13	bidding requirements	06 16 00	sheathing
46 05 05	water and wastewater equipment	23 09 93	HVAC	01 52 13	sheds, temporary
35 05 05	waterway and marine construction	25 90 00	integrated automation		<b>sheet</b>
06 05 05	wood, plastics, and composites	01 12 00	multiple contract procedures	09 68 16	carpeting
02 41 00	procedures	01 11 00	single contract procedures	07 11 19	dampproofing
02 41 13	site		<b>servers</b>	09 65 13	flooring, resilient
	<b>selective tree and shrub</b>	27 22 19	data communications	08 81 00	glass
31 13 13	removal	28 05 17	electronic safety and security	07 13 00	sheet membrane
31 13 16	trimming		general requirements		waterproofing
	<b>self-adhering</b>	28 05 15	facsimile	<b>07 60 00</b>	<b>sheet metal</b>
07 52 19	modified bituminous roofing	27 33 26	integrated automation	05 75 00	decorative
07 65 26	sheet flashing	25 11 13	integrated automation	23 31 13	ductwork
07 13 26	sheet waterproofing	11 17 00	service and teller equipment	05 58 00	fabrications
08 71 00	self-closing hinges	08 56 13	service and teller windows	08 91 00	louvers
03 31 26	self-compacting concrete		<b>service elevators</b>	07 27 16	membrane air barriers
	<b>self-contained</b>	14 21 43	electric traction	07 60 00	moisture protection
23 81 19	air-conditioners	14 45 13	hydraulic	07 41 16	roof panels, insulated
23 43 23	electronic air cleaners	27 11 13	vehicle	07 63 00	roofing specialties
40 92 00	flow controllers		service entrance requirements, communications utilities	07 62 00	trim
40 94 00	pressure regulators, self-contained	33 71 73	service equipment, electrical utility	07 64 00	wall cladding
09 22 36	self-furring lath		service fittings, laboratory	07 42 13	wall panels
03 54 00	self-leveling concrete	11 53 43	service line equipment, food service	07 15 00	waterproofing
.....	semi-rigid insulation - see board insulation	11 46 16	service sinks	<b>07 62 00</b>	<b>sheet metal flashing</b>
	<b>sensing devices</b>	22 42 00	service station equipment - see vehicle service equipment	04 20 00	through-wall, masonry assemblies
25 36 19	current, integrated automation	.....	service station lifts - see vehicle lifts	<b>07 41 13</b>	<b>sheet metal roofing</b>
13 52 00	earthquake		service walls	07 61 00	custom
23 09 13	HVAC control	10 25 00	<b>services</b>	31 52 13	sheet pile cofferdams
25 35 16	integrated automation		inspection	35 42 13	<b>sheet piling</b>
28 16 19	intrusion detection	01 45 23	testing laboratory	31 52 13	bank protection
01 12 00	separate contracts, summary	01 45 29	set-retardant coatings, CIP	31 62 16	cofferdams
00 01 15	separately bound graphic documents list	03 05 00	concrete	35 31 16	foundations
00 01 20	separately bound schedules list	12 50 00	settees	31 40 00	seawalls
43 22 63	separation towers, liquid, process	08 85 00	setting blocks, glazing	.....	shoring and underpinning
	<b>separators</b>	03 60 00	setting device grouts		sheet roofing - see membrane roofing
33 37 00	hydrodynamic		<b>sewage</b>	07 13 00	sheet waterproofing
22 13 19	oil/water, facility	33 31 00	collection lines	31 64 29	sheeted caissons
	<b>septic tanks</b>	33 34 00	force mains		<b>shelf angles</b>
33 34 19	accessories	22 13 43	pumping stations, facility	05 50 00	attached to masonry or concrete
33 34 13	concrete	22 13 29	<b>sewage pumps</b>	05 12 00	attached to steel framing
		33 01 30	as plumbing pumps	09 93 00	shellac
		.....	sewer dye testing	32 11 39	shell base course
			SF <sub>6</sub> circuit breakers - see gas circuit breakers	11 61 13	shells, orchestra
		35 59 93	shackles, marine		<b>shelters</b>
		<b>12 24 00</b>	<b>shades, windows</b>	13 19 00	animal
		10 71 13	sun, exterior	32 33 15	bicycle
		31 75 00	shaft construction, tunnel	10 73 43	bus stop
				10 73 23	car
				33 82 63	equipment

13 34 00	fabricated	31 33 33	rock slope stabilization	21 05 53	fire-suppression
10 73 26	fabricated walkway	31 32 33	soil slope stabilization		identification
11 13 16	loading dock	31 74 19	tunnel lining	23 05 53	HVAC identification
13 22 00	office	32 13 13	shoulders, concrete	25 05 53	integrated automation
10 73 29	smoking		<b>shower</b>		identification
01 52 13	temporary	10 21 16	compartments	22 05 53	plumbing identification
	<b>shelving</b>	12 44 16	curtains	10 14 67	tactile
12 50 00	book, portable	22 13 19	drains	01 58 13	temporary project
10 57 23	closet	10 28 19	enclosures	10 14 53	traffic
12 30 00	display	22 40 00	fittings	26 22 19	signal transformers, low-
10 56 00	fabricated storage	22 40 00	heads		voltage
12 59 00	systems furniture	22 40 00	mixing valves		<b>signaling and control</b>
10 17 19	telephone	22 40 00	receptors		<b>equipment</b>
10 57 23	utility	10 21 16	stalls	34 40 00	transportation
06 41 00	wood, architectural		<b>shredders</b>	35 10 00	waterway and marine
	woodwork	41 11 53	bulk material		<b>signals</b>
06 22 00	wood, millwork	11 28 00	paper	34 43 13	airfield, lighting
31 71 13	shield driving, tunnel	03 31 19	shrinkage compensating	28 30 00	alarms
	excavation		concrete	34 48 13	bridge, operating
	<b>shielding</b>	03 62 00	shrinkage resistant grout	35 13 13	dams
13 49 00	EMI	32 93 33	<b>shrubs</b>	28 31 63	fire
13 49 00	RFI	31 13 13	clearing	11 13 19	for truck restraints
07 62 00	termite	32 01 90	preservation, maintenance	35 12 13	marine
13 49 00	x-ray	01 56 39	protection, temporary	34 42 13	railway
07 46 24	shingle and shake siding,	32 01 90	pruning, maintenance	27 51 29	rescue assistance
	wood	31 13 13	removal, selective	28 10 00	security
07 31 00	shingles	32 96 33	transplanting	34 41 13	traffic
41 42 16	ship bulk material loaders	31 13 16	trimming, site clearing	01 55 26	traffic, temporary
34 77 13	ship passenger boarding	33 72 53	shunt reactors	35 11 13	waterway
01 65 00	shipping, product		<b>shutters</b>	40 72 73	sight level gauges
41 43 00	shipping packaging, container	06 49 19	exterior, custom wood	40 16 46	silane gas piping
	processing	10 71 13	exterior, manufactured	07 19 16	silane water repellents
11 29 33	shipping equipment	08 33 00	fire	44 21 23	silencers, noise pollution
.....	ships ladders - see inclined	12 23 00	interior	40 47 13	silica refractories
	ladders	10 71 16	storm		<b>silicone</b>
	<b>shoji screens</b>	21 11 19	siamese connections	07 86 00	foam penetration seal
10 22 23	portable screens	08 33 33	side coiling doors		systems
12 20 00	window treatment	08 33 36	side coiling grilles	07 92 00	joint sealants
11 67 23	shooting range equipment	34 24 16	side-contact third rail	07 14 00	rubber fluid-applied
01 33 23	shop drawings	08 80 00	sidelight glazing		waterproofing
11 57 00	shop equipment	08 12 00	sidelight metal frames	07 13 00	rubber sheet waterproofing
05 05 13	shop-applied metal coatings	06 48 16	sidelight wood frames	07 18 00	rubber traffic coatings
06 05 83	shop-applied wood coatings	14 44 00	sidewalk lifts	07 19 19	water repellents
06 17 00	shop-fabricated structural	05 53 00	sidewalk vault gratings	07 57 00	silicone and foam roofing
	wood	32 10 00	sidewalks	22 11 19	sill cocks
01 35 13	shopping mall project	07 46 00	<b>siding</b>	07 62 00	sill flashing
	procedures	34 72 16	railway		<b>sills</b>
35 31 23	shoreline protection	07 46 24	wood shingle and shake	04 21 13	brick
31 41 00	<b>shoring</b>	07 46 21	zinc	04 72 00	cast stone
03 11 13	concrete	41 11 56	sieves, bulk material	04 22 00	concrete unit masonry
31 41 19	metal hydraulic	40 79 39	signal conditioners and	05 50 00	metal
31 41 23	pneumatic		converters	06 60 00	plastic
31 41 13	timber		<b>signal lighting</b>	04 40 00	stone
31 41 33	trench	34 40 00	transportation	06 46 00	wood, architectural
31 72 00	tunnel support	35 10 00	waterway and marine		woodwork
02 03 44	shoring and support of period	10 14 00	<b>signage</b>	06 22 00	wood, millwork
	structures	27 05 53	communications	06 11 00	wood, structural
34 43 16	short-approach lighting, airfield		identification	41 51 16	silos, process
11 79 00	shortwave therapy devices	26 05 53	electrical identification	07 19 23	siloxane water repellents
41 34 56	shot peening equipment,	28 05 53	electronic safety and	09 94 00	silver leaf
	manufacturing		security identification		<b>silver plating</b>
03 37 13	<b>shotcrete</b>	26 52 13	exit	12 10 00	artwork

05 70 00	decorative metal	33 31 00	sanitary sewage lines	08 11 74	sliding metal grilles
08 83 00	silvered glass	33 31 00	sanitary sewerage laterals	10 22 23	sliding partitions
12 42 16	silverware	32 33 43	seating and tables	08 43 29	sliding storefronts
.....	simulated masonry - see	10 73 00	shelters	10 11 33	sliding visual display units
09 27 23	manufactured masonry	32 33 23	trash and litter receptacles	.....	sliding windows - see windows
	simulated plaster fabrications	01 14 19	use of	41 23 26	slings, lifting devices
	<b>simulated stone</b>	33 11 16	water utility distribution	26 35 36	slip controllers
12 36 61	countertops		piping	03 11 13	slip forming
09 75 23	wall facing	<b>01 71 13</b>	<b>site mobilization</b>	09 61 13	slip-resistant floor treatment
	<b>simulated wood</b>	01 31 19	meetings	.....	slop sinks - see service sinks
10 51 00	lockers	.....	site-precast concrete - see	31 35 00	slope erosion protection
06 66 00	ornaments		site-cast concrete	31 35 23	slope paving
	<b>single contracts</b>	03 47 00		<b>31 35 00</b>	<b>slope protection</b>
01 11 00	summary of work	22 43 19	sitz baths	35 42 35	bank protection
01 31 00	coordination	41 11 00	sizing equipment, bulk material	01 57 00	during construction
08 36 16	single-panel overhead doors	13 18 00	skating rinks, ice	35 43 35	scour protection
07 50 00	single-ply roofing	.....	ski funiculars - see funiculars	08 44 33	sloped glazing assemblies
23 51 00	single-wall chimneys	.....	ski lifts - see chairlifts	10 55 23	slots, letter
31 52 00	single-wall cofferdams	.....	ski tows - see surface lifts	05 43 00	slotted channel framing
04 20 00	single-wythe masonry	.....	skydomes - see skylights	03 30 00	slump tests
.....	single-hung windows - see	12 21 00	skylight blinds	40 24 19	slurries process piping
	windows	08 67 00	skylight protection		<b>slurry</b>
.....	single-ply roofing - see	08 67 00	skylight screens	31 66 16	diaphragm foundation walls
	membrane roofing	<b>08 60 00</b>	<b>skylights</b>	32 01 13	seals, flexible paving
34 81 13	single-swing bridge machinery	04 23 19	glass unit masonry	33 05 23	spoil removal,
02 57 00	sinkhole remediation	08 63 00	metal-framed		microtunneling
<b>22 40 00</b>	<b>sinks</b>	08 64 00	plastic-framed		walls, excavation support
11 40 00	food service	08 61 00	roof window	31 56 00	slurry-geomembrane
11 70 00	healthcare	08 62 00	unitized	31 56 19	composite slurry walls
11 53 00	laboratory	.....	slabjacking - see pressure		<b>smoke</b>
12 30 00	manufactured casework		grouting	28 31 00	alarms
41 36 19	sintering equipment,		<b>slabs</b>	07 87 00	containment barriers
	manufacturing	03 47 16	lift	23 33 13	dampers, duct
42 14 53	sintering furnaces, industrial	03 41 23	precast concrete	23 09 13	detectors, HVAC
33 36 00	siphon tanks		<b>slag aggregates</b>		instrumentation
	<b>sirens</b>	03 05 00	concrete	07 80 00	protection
28 10 00	security system	04 22 00	concrete masonry units	07 86 00	seals
	<b>site</b>	07 82 16	slag fiber board fire protection	07 72 36	vents
01 14 13	access to		<b>slate - see stone</b>	10 73 29	smoking shelters
00 31 24	assessment	10 11 13	chalkboards	03 11 00	snap ties
32 33 14	bicycle lockers	07 31 26	shingles	09 69 16	snap-on stringer access floor
32 33 13	bicycle racks		<b>sleeves and sleeve seals</b>		system
31 10 00	clearing	27 05 44	communications pathways	02 58 16	snow avalanche control
01 89 00	construction performance		and cabling	02 68 13	snow fencing
	requirements	26 05 44	electrical raceways and	07 72 53	snow guards
02 56 00	containment		cabling	23 83 13	snow melting cables and mats
02 60 00	decontamination	21 05 17	fire-suppression piping	01 74 00	snow removal, construction
02 41 13	demolition	23 05 17	HVAC piping	10 28 00	soap dishes
00 31 00	description of existing	22 05 17	plumbing piping	10 28 00	soap dispensers
33 40 00	drainage	11 42 00	slicers, food	.....	soapstone - see stone
32 33 00	furnishings	07 95 53	slide bearings		<b>soapstone sinks</b>
33 79 00	grounding		<b>slides</b>	11 53 00	laboratory
32 30 00	improvements	11 68 13	playground	12 35 00	specialty casework
33 79 13	improvements grounding	13 14 13	water	07 33 13	sod roofing
33 79 93	lightning protection	34 81 26	sliding bridge machinery	31 14 16	sod stripping and stockpiling
01 74 16	maintenance, during		<b>sliding doors</b>	11 46 19	soda fountain equipment
	construction	08 16 73	composite	32 92 23	sodding
31 09 00	monitoring	08 32 00	glass	26 50 00	sodium vapor lighting
31 10 00	preparation	08 11 73	metal fire	12 58 13	sofas, residential
01 56 00	protection, during	08 13 73	metal non-fire-rated	08 95 13	soffit vents
	construction	08 15 73	plastic	31 71 13	soft ground shield driven
02 50 00	remediation	08 14 73	wood		tunneling



	<b>softeners</b>		<b>solar</b>	27 51 19	masking systems
22 31 00	domestic water	22 33 30	assisted water heaters	11 52 19	players
	<b>software</b>	23 56 13	collectors, heating	11 52 19	recorders
27 34 00	call accounting	48 14 13	collectors, power	09 84 00	reflective panels
40 68 93	computer operating		generation	11 61 13	reflectors
	systems	08 87 13	control film	27 51 16	reinforcement
40 68 63	configuration of HMI	08 87 13	control window treatment		<b>sound absorbing</b>
27 25 00	data communications		film	04 22 23	concrete masonry
40 68 13	distributed process control	22 36 13	domestic water preheaters	04 21 26	structural facing tile
40 68 39	energy management	48 14 00	energy power generation	09 84 00	units
25 15 00	integrated automation	42 12 23	heaters, process	13 21 48	sound absorption, audiometric
01 61 13	licensing requirements	23 56 00	heating equipment,	rooms	
40 68 36	laboratory information		packaged	13 48 00	sound and vibration control
	system	23 56 23	heating panels, air	27 41 00	sound and video equipment
40 68 43	load management	13 53 13	instrumentation	23 33 19	sound baffles, ductwork
40 68 33	maintenance management	42 13 26	radiation heat exchangers,		<b>sound control</b>
	software		industrial	08 34 73	doors
40 68 66	programming of controller	13 53 13	recording instrumentation	21 05 48	fire suppression
40 6823	reporting	08 81 00	reducing glass	08 88 00	glazing
28 05 31	storage management for	48 19 16	tracking equipment, power	23 05 48	HVAC
	electronic safety and		generation	09 81 00	insulation
	security		<b>solar shielding devices</b>	13 48 00	machinery
.....	softwood floors - see wood	10 73 13	awnings	10 22 00	partitions
	flooring	10 73 16	canopies	22 05 48	plumbing
	<b>soil</b>	10 71 13	exterior sun control	13 21 48	rooms
31 51 13	anchors	04 20 00	masonry screens	01 57 00	temporary
00 31 32	boring data	13 34 13	solariums	08 56 73	windows
00 31 24	contamination reports	<b>05 05 23</b>	<b>soldering</b>	09 81 00	sound reduction insulation
00 31 32	data for bidders	41 36 19	equipment, manufacturing	.....	sound retardant - see sound
31 24 00	embankments	07 62 00	flashing	control	
02 62 19	flushing	07 61 00	roof	13 21 48	soundproof fabricated rooms
11 93 33	mixers, horticultural	31 66 16	soldier-beam foundation walls	13 48 00	soundproofing
32 91 13	mixing, planting	32 32 43	soldier-beam retaining walls	<b>01 45 13</b>	<b>source quality control</b>
21 32 13	mixing stabilization	07 95 63	sole plates, bridge	01 33 26	reports
31 32 36	nailing	40 05 82	solenoid valves, process	13 32 00	space frames
32 91 13	preparation		service	01 51 23	space heating, temporary
31 14 13	stockpiling	00 10 00	solicitation	07 62 00	spandrel flashings
31 14 13	stripping	08 14 00	solid core wood doors		<b>spandrels</b>
32 92 00	supplements, lawn	10 21 13	solid phenolic toilet	08 44 00	curtain wall
31 31 00	treatment		compartments	08 81 00	glass
02 62 16	vapor extraction	09 21 13	solid plaster partitions,	07 42 13	metal
02 62 19	washing		portland cement	09 93 00	spar varnish
31 32 17	water injection stabilization	12 34 16	solid plastic casework	01 78 43	spare parts
32 91 13	soil and fertilizers	08 15 16	solid plastic doors		<b>spark arresters</b>
01 45 16	soil compaction testing,	12 34 19	solid surface casework,	23 51 43	breechings and chimneys
	general procedures		manufactured	10 31 00	manufactured fireplaces
.....	soil conditioning - see soil	12 36 61	solid surfacing countertops	11 82 00	solid waste handling
	mixing stabilization	06 61 16	solid surfacing fabrications		equipment
.....	soil modification - see soil		<b>solid waste</b>	09 65 36	spark-resistant flooring
	mixing stabilization	44 51 00	control equipment	13 17 00	spas
<b>31 34 00</b>	<b>soil reinforcement</b>	11 82 00	equipment, facility	08 71 00	speak-holes
25 42 34	bank protection	44 51 00	incinerators	13 11 46	speakers, waterproof
32 32 34	retaining walls	02 51 19	solidification, site remediation	27 51 16	speakers for sound
25 43 34	scour protection	09 90 00	solvents, paint		reinforcement
.....	soil replacement - see flowable	41 24 46	sorting machines, specially		<b>special</b>
	fill		material handling	00 61 26	bonds
<b>31 32 00</b>	<b>soil stabilization</b>		<b>sound</b>	03 35 00	concrete finishes
32 91 16	planting	27 51 16	amplification	13 00 00	construction
31 32 17	water injection	23 33 19	attenuators	08 30 00	door hardware
31 05 13	soils for earthwork	32 35 16	barriers, site	31 66 16	foundation walls
32 05 13	soils for exterior improvements	13 21 48	conditioned rooms	31 66 00	foundations
		11 52 16	film projectors	08 34 00	function doors

08 78 00	function hardware	40 16 00	specialty and high-purity gases		
08 56 00	function windows		piping, process	23 51 19	boiler and furnace
01 45 33	inspections	00 73 00	specific project requirements	11 51 23	book
01 43 26	inspector qualifications	01 78 39	specifications, project record	10 31 13	fireplace, manufactured
13 50 00	instrumentation	23 09 23	speed instruments	04 51 00	stacks and flues, fireplace, masonry
31 66 13	piles	06 05 23	spike-plate connectors		
01 35 00	procedures	41 32 63	spinning equipment, manufacturing	27 41 16	stadium audio-video
01 35 13	project procedures			12 63 00	stadium seating
10 51 00	purpose lockers	05 71 13	spiral stairs, metal	11 61 43	stage curtains
13 20 00	purpose rooms	10 74 26	spires, manufactured	<b>11 61 00</b>	<b>stage equipment</b>
13 30 00	structures	03 48 16	splash blocks	14 43 16	lifts
34 11 23	trackwork	09 64 00	splines, wood floor	26 55 61	lighting
09 76 00	wall surfacing	04 22 23	split-face concrete masonry units	27 41 16	sound
.....	special conditions - see supplementary conditions	07 31 29	split wood shakes	14 74 61	turntables
12 50 00	specialized furniture	06 05 23	split-ring connectors, wood	11 61 23	stages, folding and portable
28 01 50	specialized systems, operation and maintenance	23 81 26	split-system air-conditioners	01 55 29	staging areas
03 35 00	specially finished concrete	33 05 23	spoil removal, microtunneling	12 17 16	stained glass
03 37 00	specially placed concrete	.....	sports - see athletic		<b>stainless steel</b>
<b>10 00 00</b>	<b>specialties</b>		<b>sports seating</b>	08 44 19	curtain walls, glazed
10 57 00	closet	13 34 16	fabricated grandstands	05 70 00	decorative metal
22 11 19	domestic water	12 63 00	multiple seating	08 13 19	doors
33 71 83	electrical, utility	12 66 00	telescoping	08 11 19	doors and frames
10 43 00	emergency aid	41 34 23	spray painting booth	23 31 13	ductwork
10 70 00	exterior		<b>spray heads</b>	08 42 00	entrances
10 74 00	fabricated exterior	22 52 00	fountain	08 41 19	entrances and storefronts
10 44 00	fire protection	22 40 00	shower	07 62 00	flashing
10 10 00	information	23 84 13	spray humidifiers	08 12 19	frames, door
10 20 00	interior	42 32 33	spray material dryers, process	08 44 19	glazed curtain walls
32 17 00	paving	07 27 36	sprayed foam air barrier	10 51 13	lockers
10 45 00	photoluminescent exit	<b>07 21 29</b>	<b>sprayed insulation</b>	07 61 00	roofing
06 60 00	plastic	09 81 29	acoustical	07 31 16	shingles
10 55 00	postal	07 57 13	sprayed polyurethane foam roofing	08 43 19	storefronts
23 23 16	refrigerant piping	<b>09 90 00</b>	<b>spray-on coatings</b>	05 13 00	structural
07 71 00	roof	07 11 00	dampproofing	08 51 19	windings
10 40 00	safety	09 94 00	decorative	05 15 19	wire rope
22 13 19	sanitary waste piping	07 81 00	fire-resistant, as fire protection	<b>12 36 16</b>	<b>stainless steel countertops</b>
10 05 05	selective demolition			11 40 00	food service
10 50 00	storage	09 96 43	fire-retardant, as coatings	<b>22 40 00</b>	<b>stainless steel sinks</b>
10 17 00	telephone	07 57 00	for coated foam roofing	11 40 00	food service
07 77 00	wall	09 96 46	intumescent	11 53 00	laboratory
10 57 00	wardrobe	07 14 00	waterproof	09 93 00	stains and transparent finishes
28 50 00	specialized systems	07 81 00	spray-on fire protection	<b>03 11 00</b>	<b>stair forms, concrete</b>
	<b>specialty</b>	07 21 29	spray-on insulation	03 11 23	permanent
41 31 23	assembly machines, manufacturing lines	41 23 29	spreader bars/beams, lifting devices	14 41 00	stair lifts
42 11 23	boilers, process			05 55 00	stair nosings, metal
40 33 43	bulk materials valves	32 92 26	springing, grasses		<b>stair railings</b>
12 35 00	casework, manufactured	08 71 00	spring metal weatherstripping	05 73 00	decorative metal
09 54 00	ceilings	33 37 16	spring-loaded weirs	05 52 00	metal
41 22 13	cranes	09 64 53	spring-supported wood flooring	05 52 13	metal pipe and tube
08 30 00	doors	21 13 00	sprinklers, fire	06 63 00	plastic
13 15 00	element construction	33 84 23	sprinklers, irrigation	05 73 13	tempered glass
09 62 00	flooring	13 24 66	squash courts	06 43 16	wood, architectural
40 16 53	gas mixtures piping		<b>stabilization</b>		woodwork
42 12 26	heaters, process	32 91 16	planting bed	06 22 00	wood, millwork
41 22 23	hoists	02 51 19	site remediation		<b>stair treads and nosings</b>
42 32 43	material dryers, process	31 32 17	water injection soil	05 51 17	alternating
41 24 00	material handling equipment	32 91 16	stabilizer mats, planting bed	05 55 00	metal
42 15 19	ovens, industrial	41 12 13	stacking and reclaim bulk material conveyors	03 48 19	precast concrete
		12 62 19	stacking chairs	09 65 13	resilient
				09 63 40	stone
				09 66 00	terrazzo
				09 30 00	tile



11 92 16	stock feeders	28 05 15	electronic, general requirements	02 65 00	underground, removal
12 30 00	stock modular casework			33 36 00	underground, wastewater
11 92 19	stock waterers	28 05 17	electronic, servers	33 36 00	wastewater, utility
31 14 16	stockpiling sod	43 40 00	gas and liquid	33 16 00	water, utility
31 14 13	stockpiling soil	33 56 00	hydrocarbon		<b>storage units</b>
32 92 26	stolonizing, grasses	11 41 00	kitchen, commercial	12 59 00	systems furniture
<b>04 40 00</b>	<b>stone</b>	12 35 30	kitchen, residential	33 46 23	stormwater, modular buried
04 05 19	anchors	11 21 33	luggage, checkroom		
32 39 33	artificial	28 05 31	management software for electronic safety and security	13 27 00	storage vaults
04 40 00	assemblies				<b>store fixtures</b>
04 73 13	calcium silicate			06 41 00	architectural woodwork
12 14 13	carvings	10 56 00	manufactured shelving	12 35 59	manufactured
04 72 00	cast	13 21 26	refrigerated, fabricated rooms	00 62 79	stored material form
04 42 00	cladding			08 80 00	storefront glazing
04 01 40	cleaning	11 41 13	refrigerated, food service	<b>08 43 00</b>	<b>storefronts</b>
10 21 00	compartments	11 53 23	refrigerated, laboratory	08 43 29	sliding
04 01 40	consolidation	11 78 13	refrigerated, mortuary	06 48 00	wood
12 36 40	countertops	01 66 00	temporary, products		<b>storm doors</b>
32 16 13	curbs	01 52 13	temporary, sheds	08 11 69	metal
04 43 16	fabrications	23 71 00	thermal	08 15 69	plastic
09 63 40	flooring	01 52 13	tool	08 14 69	wood
04 73 00	manufactured	33 56 33	underground, hydrocarbon	22 14 00	storm drainage, facility
04 43 00	masonry	27 22 16	storage and backup, communications	<b>33 40 00</b>	<b>storm drainage utilities</b>
04 42 43	panels for curtain walls			33 42 00	culverts
04 01 40	patching	10 56 00	storage assemblies	33 44 00	drains
32 14 40	paving	10 56 00	storage bins	33 41 00	pipng
10 14 16	plaques	13 34 23	storage buildings, fabricated	22 49 00	structures
04 01 40	repair	<b>12 30 00</b>	<b>storage casework</b>	33 41 00	subdrainage
04 01 40	replacement	41 53 13	process	22 14 26	storm drains, facility
04 01 40	restoration	41 53 00	storage equipment, process	10 71 16	storm panels
07 50 00	roof surfacing	<b>10 51 00</b>	<b>storage lockers</b>	10 71 16	storm shutters
12 14 00	sculpture	01 66 00	storage of products, during construction	22 14 63	storm-water retention tanks
10 21 16	shower compartments				<b>stormwater</b>
09 63 40	thresholds	<b>10 56 29</b>	<b>storage racks</b>	33 08 40	commissioning
32 14 40	tile paving	41 53 23	process	33 44 33	debris guards
09 30 33	tiling	13 34 23	storage sheds, fabricated	33 42 26	end sections
10 21 13	toilet compartments	10 56 00	storage shelving	33 44 00	filters
09 75 19	trim	11 51 00	storage systems, library	33 09 40	instrumentation and control
04 42 00	veneer		<b>storage tank coatings</b>		
09 75 13	wall facing	09 97 23	concrete	33 46 53	leaching pits
<b>09 75 00</b>	<b>stone facing</b>	09 97 13	steel	33 46 00	management
04 40 00	exterior		<b>storage tanks</b>	33 44 31	membrane filtration
03 45 13	for precast concrete	33 56 43	aviation fuel	33 46 11	ponds
09 75 00	interior	33 56 53	compressed gaseous hydrocarbon	33 46 63	prefilters, swale protection
09 78 16	interior wall paneling			33 46 39	rain barrels
03 45 13	stone-clad precast concrete	33 16 13	elevated pillar-type, steel	33 44 53	relief valves
12 55 19	stools, detention	33 16 19	elevated spheroid, steel	33 44 00	separators
	<b>stools, window</b>	21 41 00	fire suppression, facility	33 06 40	schedules for
04 21 00	clay masonry	23 13 00	fuel, facility	33 46 23	storage units, modular
05 58 00	formed metal	43 40 00	fuel, process	33 44 33	trash guards
06 60 00	plastic	22 63 19	gas, laboratory		<b>storm windows</b>
09 75 00	stone	33 56 00	ground-level, hydrocarbon	08 54 69	fiberglass
06 22 00	wood	33 36 00	ground-level, wastewater hydrocarbon	08 51 69	metal
	<b>stops</b>	33 56 00		08 53 69	vinyl
08 71 00	door	23 13 26	liquefied-petroleum gas, aboveground	08 52 69	wood
22 40 00	plumbing fixture			10 01 30	stove restoration, wood-burning
	<b>storage</b>	41 52 19	mobile, material		
12 35 30	casework, residential	33 56 60	moveable, hydrocarbon	<b>11 44 13</b>	<b>stoves</b>
10 57 00	closet specialties	33 16 16	multi-column elevated, steel	11 30 13	residential
11 21 33	coats and hats, checkroom			10 35 00	wood-burning
13 21 26	cold rooms	22 12 00	potable water, facility	04 05 19	strap anchors, for masonry
		33 56 33	underground, hydrocarbon	01 56 23	street barricades

10 73 00	street shelters	13 31 00	fabric	22 13 33	sewerage, facility
32 01 17	stress stress-absorbing membrane	13 34 00	fabricated engineered	22 14 00	storm drainage
13 51 00	stress instrumentation	13 33 00	geodesic	31 77 00	submersible tube tunnels
13 51 00	stress recording instrumentation	06 13 00	heavy timber	01 23 00	submission procedures for alternate bids
06 11 16	stress-rated lumber	26 41 13	lightning protection	01 24 00	submittal requirements for value analysis
06 12 16	stressed skin panels	11 68 16	play	<b>01 33 00</b>	<b>submittals</b>
<b>03 23 00</b>	<b>stressed tendon reinforcing</b>	13 30 00	special	01 78 00	closeout
03 40 00	precast concrete	22 49 23	stormwater retention	00 62 11	transmittal form
09 54 43	stretched-fabric ceiling systems	09 24 23	stucco, cement	32 01 29	subsealing and stabilization
09 77 13	stretched-fabric wall systems	09 22 36	stucco mesh	33 79 23	substation grounding, utility
41 32 66	stretching/leveling equipment, manufacturing	<b>26 05 73</b>	<b>studies</b>	33 73 00	substation transformers, electrical
09 69 19	stringerless access floor system	26 05 73	arc-flash hazard	<b>substations</b>	
08 38 13	strip doors	26 05 73	coordination	33 78 00	converter stations
09 64 29	strip flooring, wood	26 05 73	harmonic-analysis	33 72 33	DC supply
08 71 00	stripping, door and window	26 05 76	photometric	26 11 00	medium-voltage, facility
31 14 16	stripping sod	26 05 73	power system	26 11 16	secondary unit
31 14 13	stripping soil	26 05 73	short-circuit	34 21 16	traction power
04 42 19	strong-back-frame-supported stone cladding	<b>26 05 73</b>	<b>studs</b>	33 72 00	utility
<b>structural</b>		09 21 16	gypsum, laminated	<b>01 25 00</b>	<b>substitution procedures during construction</b>
05 16 00	cabling	09 21 16	metal, gypsum board assembly	00 63 25	forms
04 21 19	clay tile unit masonry	05 40 00	metal, structural	<b>00 26 00</b>	<b>substitution procedures during procurement</b>
06 70 00	composites	05 41 00	steel, structural	00 43 25	forms
00 31 19	existing conditions	06 11 00	wood	<b>subsurface investigation</b>	
08 44 23	glazed curtain walls	12 56 51	study carrels	00 31 32	available to bidders
05 10 00	metal	SBS	styrene-butadiene-styrene	02 32 00	by contractor
05 10 00	metal framing	32 11 16	sub ballast	23 41 46	SULPA filters
06 12 00	panels	32 11 16	subbase, paving	40 16 49	sulfur-dioxide gas piping
06 51 00	plastic shapes and plates	00 52 27	subcontract form – construction manager as agent or adviser – cost-plus	34 42 00	subway control instrumentation
06 50 00	plastics	00 52 24	subcontract form – construction manager as agent or adviser – stipulated sum	01 10 00	summary
05 17 00	rod	00 52 37	subcontract form – construction manager at risk – cost-plus	01 12 13	summary of contracts
05 13 00	stainless steel	00 52 34	subcontract form – construction manager at risk – stipulated sum	01 11 00	summary of work
06 51 00	tubular plastic	00 52 17	subcontract form – cost-plus (design/bid/build or design/negotiate/build)	<b>sump pumps</b>	
13 48 00	vibration isolators	00 52 54	subcontract form – design/build – stipulated sum	22 14 19	discharge piping
06 11 00	wood framing	00 52 57	subcontract form – design/build – cost-plus	22 14 29	storm drainage
06 12 00	wood product panels	00 52 14	subcontract form – stipulated sum (design/bid/build or design negotiate/build)	<b>sun control</b>	
<b>05 14 00</b>	<b>structural aluminum</b>	00 43 36	subcontractor list	10 71 13	devices, exterior
05 14 13	architecturally exposed	<b>33 41 00</b>	<b>subdrainage</b>	08 87 13	film
<b>structural concrete</b>		33 41 16	pipng	08 81 00	glass
03 31 00	cast-in-place	06 16 23	subflooring	10 71 13	sun screens and shades
03 41 00	precast	33 44 13	<b>subgrade</b>	13 53 13	sun tracking devices
03 45 13	tilt-up	32 11 13	drains	31 77 00	sunken tube tunnels
<b>03 41 00</b>	<b>structural precast concrete</b>	31 22 00	modifications, paving	SULPA	super ultra-low penetration, air
03 41 36	post-tensioned	31 23 13	reshaping, grading preparation	23 41 46	super ultra-low penetration air filters
03 41 33	pretensioned	<b>submersible pumps</b>		41 34 59	superfinishing/polishing equipment, manufacturing
<b>05 12 00</b>	<b>structural steel</b>	22 14 36	drainage, facility	<b>supervisory</b>	
05 12 13	architecturally exposed	43 21 39	liquid, process	25 13 13	control, integrated automation
10 14 53	structure-mounted traffic signage			34 42 36	control, railway
02 43 00	structure moving			28 31 00	systems, fire
02 43 16	structure raising			00 43 00	supplemental bid forms
02 43 13	structure relocation			<b>01 26 36</b>	<b>supplemental instructions</b>
08 45 23	structured polycarbonate panel assemblies			00 63 33	forms
<b>structures</b>				00 94 36	record
13 31 13	air-supported				
33 81 00	communications				

	<b>supplementary</b>				
00 73 00	conditions	33 77 39	medium-voltage electrical utility	27 21 29	communications
00 73 00	contract conditions	26 35 00	power conditioner	25 11 16	integrated automation
00 22 13	instructions to bidders	26 43 00	surge protective devices	40 78 19	switches and push buttons
00 22 16	instructions to proposers	28 05 09	surge protection for electronic safety and security	40 66 13	switches and routers
00 54 13	scope statements		<b>surge suppressors</b>		<b>switchgear, electrical</b>
00 43 00	supplements for submitting bids	26 41 23	facility lightning protection	26 23 00	low-voltage
01 43 16	supplier qualifications	26 27 26	wiring device type	26 13 00	medium-voltage
23 37 13	supply air registers	26 35 00	power conditioner	34 21 19	traction power
09 22 00	support assemblies for plaster and gypsum board	11 76 00	surgical, healthcare equipment		<b>switchgear and protection</b>
03 50 00	support members, cast deck	11 77 00	surgical film illuminators	33 74 00	extra-high-voltage
	<b>supports</b>	01 74 19	surplus material removal	33 75 00	high-voltage electrical utility
11 52 23	audio-visual	00 31 21	survey available information	33 77 00	medium-voltage electrical utility
07 05 43	cladding	01 32 23	survey data, submittal		
27 05 29	communications	02 21 13	survey markers	27 31 00	switching equipment, communications
03 11 00	concrete form		<b>surveys</b>		<b>synthetic</b>
23 31 00	ductwork	00 31 21	property, available information	32 18 23	athletic surfacing
26 05 29	electrical	02 21 13	property, by contractor	31 35 19	erosion control
32 95 00	exterior planting		<b>suspended</b>	09 65 19	floor tile
21 05 29	fire suppression	09 54 29	plastic ceilings	32 18 13	grass surfacing
23 05 29	HVAC	09 54 36	decorative grids	07 92 00	joint sealants
05 45 16	mechanical, metal	08 65 13	glazed canopies	07 13 00	preformed sheet waterproofing
22 05 29	plumbing	07 87 00	panels, smoke containment		
03 21 00	reinforcement bar		suspended scaffolding	32 18 16	resilient surfacing
13 48 13	sound and vibration control	14 81 00	<b>suspension systems</b>	SNG	synthetic natural-gas
21 00 00	suppression systems, fire	09 22 26	acoustical ceiling	01 91 00	system commissioning
26 35 00	suppressors, surge	09 53 00	<b>sustainable design</b>	01 91 00	system performance evaluation
04 20 00	surface-bonded masonry		closeout documentation	28 12 01	system requirements, access control
04 05 13	surface-bonding mortar	01 78 53	reporting	28 05 13	system requirements, servers, workstations and storage
23 38 13	surface fire protection, food service	01 33 29	roofing	01 75 16	system starting
34 14 39	surface lifts	07 55 63	swaging equipment, manufacturing		<b>systems</b>
09 90 00	surface preparation, for painting	41 32 69	swamp coolers - see evaporative coolers	28 13 00	access control
	<b>surface raceways</b>	.....	<b>swimming pools</b>	28 30 00	alarm and detection
27 05 39	communications	13 11 00	enclosures, fabricated	40 72 46	bubbler
26 05 33	electrical	13 34 13	equipment	40 69 23	burner management
25 05 28	integrated automation	22 51 00	fabricated	23 21 00	chilled water
41 36 29	surface tables, manufacturing	13 11 00	filters	23 09 43	compressed air, for controls
	<b>surface treatment</b>	22 51 19	lighting	40 76 05	continuous emissions monitoring
03 05 00	concrete	26 55 29	painting	48 09 00	control, power generation
32 13 13	concrete paving	09 96 00	plumbing	25 52 00	elevator control
32 12 33	flexible paving	22 51 00	swing bulk materials valves	25 50 00	energy monitoring and control
01 57 23	surface water control, temporary	40 33 39	swing staging, temporary	25 50 00	environmental control
33 12 00	surface water sources	01 54 26	swirl concentrators	21 00 00	fire suppression
07 18 00	surface-applied waterproofing	11 68 13	switchboards, low-voltage	12 59 00	furniture
	<b>surfacing</b>	33 37 33	<b>switches</b>	23 21 00	hot water heating
32 15 00	aggregate	26 24 13	disconnect, high-voltage	28 51 15	information interfaces
07 50 00	coatings, roof		disconnect, medium-voltage	28 51 00	information management and presentation
32 18 23	equestrian	33 75 30	disconnect, substation	40 70 00	instrumentation, process
09 77 26	films	33 77 30	flow	25 50 00	integrated automation
32 94 19	landscape		level	28 05 45	integration and unified systems requirements
07 50 00	materials, roof	33 72 63	pressure and differential pressure	40 72 83	leak detection
	<b>surge arresters</b>	40 71 79	temperature	40 75 05	multi-parameter analyzer
26 41 23	facility lightning protection	40 72 76	wall-type, electrical	33 37 43	netting
33 75 39	high-voltage electrical utility	40 73 36			
26 18 23	medium-voltage electrical, facility	40 74 66			
		26 27 26			
			<b>switches and hubs</b>		

26 01 40 operation and maintenance  
of electrical protection  
26 01 40 operation and maintenance  
of lightning protection  
40 69 00 packaged control  
48 09 00 power generating and  
transmitting control  
40 60 00 process control and  
enterprise management  
40 69 26 safety instrumented control  
28 13 00 security access  
28 50 00 specialized  
28 20 00 surveillance  
44 09 00 utility control  
07 72 73 vegetated roof  
01 91 00 verification of operation  
40 77 23 vibration monitoring  
48 15 00 wind energy  
01 79 00 systems demonstrations  
01 93 00 systems maintenance  
01 75 16 systems startup  
**systems testing adjusting  
and balancing**  
01 91 00 commissioning procedures  
23 05 93 HVAC

## T

27 05 13 T1 services  
27 13 43 cabling  
12 42 00 table accessories  
11 67 43 table games equipment  
12 43 13 table lamps  
12 42 26 table linens  
00 01 10 table of contents  
**tables**  
11 78 00 autopsy  
12 55 23 detention  
11 78 00 embalming  
11 72 00 examination, healthcare  
11 42 00 food preparation  
12 64 13 furnishings  
11 53 00 laboratory  
12 50 00 movable  
11 76 00 operating  
32 33 43 site  
11 76 00 surgical  
12 64 00 tables and booths  
12 68 13 tablet-arm seats  
10 14 16 tablets, plaques  
32 12 13 tack coats, flexible paving  
09 68 00 tack strips, carpet  
10 11 23 tackboards  
32 17 26 tactile warning surfacing,  
pavement  
02 80 00 tailings, mill, hazardous  
material abatement  
**tank coatings and linings**  
09 97 23 concrete  
09 97 13 steel  
41 62 29 tank trucks, plant equipment  
**tanks**  
22 66 83 chemical waste, laboratory

22 15 00 compressed air, general  
service  
23 71 00 energy storage  
23 13 00 fuel storage, facility  
33 56 00 fuel storage, utility  
22 63 19 gas storage, laboratory  
22 12 00 hot water  
43 41 00 non-pressurized, process  
43 42 00 pressurized, process  
22 14 63 stormwater, facility  
23 71 13 thermal storage, water  
22 12 00 water storage, domestic  
33 16 00 water storage, ground-level  
33 16 00 water storage, underground  
26 25 00 tap boxes  
08 85 00 tape, glazing  
07 91 00 tape sealants  
12 12 23 tapestries  
09 29 00 taping, gypsum board joints  
**tar**  
07 11 13 dampproofing  
07 51 16 roofing  
07 58 00 tar paper, roll roofing  
40 21 23 tar process piping  
11 46 13 tavern equipment  
**tees**  
03 41 00 concrete  
05 10 00 metal, structural  
01 51 33 telecommunications service,  
temporary  
27 34 16 telemanagement software  
27 52 16 telemedicine systems  
**telephone**  
10 17 16 booths and enclosures  
10 17 13 directory units  
10 17 16 enclosures  
27 30 00 equipment  
33 81 19 poles  
27 32 13 sets  
10 17 19 shelves  
11 56 23 telescope domes  
11 56 13 telescopes, observatory  
**telescoping**  
12 66 13 bleachers  
12 66 23 chair platforms  
14 83 13 platforms  
12 66 00 stands  
08 36 23 vertical lift doors  
11 79 00 teletherapy equipment  
TTY teletypewriter  
**television**  
28 23 00 closed-circuit, security  
system  
27 41 00 equipment  
27 41 19 receivers and monitors  
11 22 16 teller and service equipment  
08 56 13 tellers' windows, outdoor  
**temperature control valves**  
23 09 13 as HVAC instrumentation  
**temperature controlled**  
11 53 00 lab equipment  
13 21 00 rooms

40 74 00 temperature measurement  
**temperature sensors**  
23 09 13 as HVAC controls  
23 09 13 temperature transmitters  
**temperature-pressure relief  
valves**  
22 11 19 for domestic water piping  
03 20 00 temperature-reinforcing steel  
**08 81 00 tempered glass**  
08 42 26 entrance doors  
05 73 13 railing assemblies  
06 25 00 tempered hardboard paneling  
22 40 00 tempering controller, shower  
**temporary**  
01 56 00 barriers and enclosures  
01 53 13 bridges  
01 52 00 buildings  
01 53 00 construction  
01 57 00 controls  
01 54 19 cranes  
01 53 16 decking  
01 51 13 electricity  
01 50 00 facilities  
01 56 26 fencing  
01 51 16 fire protection  
01 51 19 fuel-oil  
01 51 23 heating, cooling, and  
ventilating  
01 51 26 lighting  
01 51 29 natural gas  
01 53 19 overpasses  
01 56 00 protection  
01 53 23 ramps  
01 55 23 roads  
01 53 26 runarounds  
01 52 19 sanitary facilities  
01 57 33 security  
01 58 13 signage  
01 51 33 telecommunications  
01 51 00 utilities  
01 51 36 water  
**temporary forms**  
03 11 16 architectural CIP concrete  
03 11 13 structural CIP concrete  
10 51 43 tenant storage lockers  
..... tender forms - see bid forms  
**tendons**  
03 23 00 concrete reinforcing  
03 40 00 stressing, precast concrete  
32 18 23 tennis court surfacing  
32 31 13 tennis court windbreaks  
08 44 00 tensile curtain walls  
03 20 00 tension reinforcement,  
concrete  
13 31 23 tensioned fabric structures  
13 31 13 tents, air-supported  
23 09 33 terminal boxes  
25 14 19 terminal control panels,  
integrated automation  
25 30 00 terminal devices, integrated  
automation

23 82 00 terminal heating and cooling units

23 36 00 terminal units, air distribution

**terminals**

26 41 00 air, lightning protection

40 62 63 operator interface (OIT)

14 92 00 pneumatic tube

27 11 19 termination blocks, communications

03 15 21 termite barrier

31 31 16 termite control

07 62 00 termite shields

**terne roof panels**

07 41 13 manufactured

07 42 13 terne wall panels

**04 21 29 terra cotta**

04 01 20 cleaning

07 32 13 roofing tile

09 30 19 tile

09 77 33 terrazzo wall finish

**09 66 00 terrazzo flooring**

09 01 60 restoration

09 66 16 floor tile

48 71 00 test equipment, power generation

40 79 43 test equipment, deadweight

23 33 00 test holes, ductwork

**test piles**

31 63 13 bored

31 62 00 driven

02 32 19 test pits

01 33 19 test reports, submittal of

41 36 29 test weigh scales, manufacturing

**testing**

01 43 26 agency qualifications

01 21 19 allowances

25 01 26 electrical

23 05 93 HVAC

41 36 00 equipment, manufacturing

01 45 23 services

33 01 30 smoke

**01 45 29 testing laboratory services**

01 29 83 payment procedures

01 91 00 testing of systems, procedures for

**01 45 00 tests**

03 30 00 CIP concrete

28 08 11 baseline performance criteria

31 08 13 pile load

09 72 19 textile wall coverings

12 05 13 textiles

45 19 00 textiles and apparel manufacturing

**textured**

09 56 00 ceilings

03 35 00 concrete

09 94 13 finishing

09 96 63 plastic coatings

09 30 00 tile

07 33 16 thatched roofing

11 61 00 theater and stage equipment

**theater**

27 41 16 audio-video systems

11 61 00 equipment

26 55 61 lighting systems

11 52 16 motion picture projection

14 74 61 rotating stages

12 61 00 seating

27 41 16 sound systems

14 43 16 stage lifts

26 55 61 theatrical lighting

26 09 61 theatrical lighting controls

11 51 19 theft protection equipment, library

13 17 23 therapeutic pools

11 79 00 therapy equipment

**thermal**

02 53 16 desorption, site remediation

23 71 13 heat storage

46 78 46 oxidizers, regenerative

02 53 00 processes, site remediation

07 20 00 protection

07 05 05 selective demolition

23 71 00 storage

07 00 00 thermal and moisture protection

**thermal insulation**

07 22 13 asphaltic insulating fill

07 21 00 building

23 07 13 duct

21 07 00 fire suppression

23 07 00 HVAC

07 21 23 loose fill

04 27 23 loose fill, cavity wall assembly

13 21 23 part of insulated rooms

07 21 00 perimeter

22 07 00 plumbing

07 22 00 roof

07 21 29 sprayed

40 74 33 thermistors

08 81 00 thermochromic glass

40 74 16 thermocouples

**thermoelectric**

42 22 26 chillers and coolers, process

42 12 19 heaters, process

**thermometers**

23 09 13 HVAC instrumentation

40 74 43 bimetallic

40 74 46 fluid expansion

**thermoplastic**

07 54 00 membrane roofing

07 55 54 membrane roofing, protected

07 13 54 sheet waterproofing

33 05 31 utility pipe

TPO thermoplastic polyolefin

23 09 13 thermostatic valves

23 09 13 thermostats, HVAC

40 74 69 thermowells, protection tubes, and test thermowells

04 20 00 thin brick veneer

04 42 00 thin stone

09 31 00 thin-set adhesives for tiling

09 66 23 thin-set terrazzo flooring

09 31 00 thin-set tiling

09 90 00 thinners, paint and lacquer

34 24 00 third rail traction power

40 24 23 thixotropic liquid piping

41 33 79 threading equipment, manufacturing

10 14 00 three-dimensional signage

**thresholds**

08 71 00 door

09 63 40 stone

06 22 00 wood

04 05 23 through-wall flashing, for masonry

23 41 00 throwaway filters

**ticketing equipment**

11 61 00 entertainment

11 12 16 parking

34 54 16 passengers

34 52 16 vehicles

**tie wire**

09 22 36 furring

03 21 00 reinforcement

33 05 19 tied joint restraint system, pressure piping

03 11 26 tier forming, permanent

34 73 13 tiedowns, aircraft

**ties**

03 11 00 concrete form

34 11 33 railroad, precast concrete

34 11 33 railroad, wood

..... ties, masonry - see masonry anchors

**tile**

09 51 23 acoustical ceiling

09 68 13 carpet

09 30 13 ceramic

04 21 23 clay backing

07 32 13 clay roofing

07 32 16 concrete

09 33 00 conductive

09 30 29 metal

09 30 19 paver

09 30 26 plastic

09 30 16 quarry

09 65 19 resilient

07 32 00 roofing

09 30 33 stone

32 14 40 stone paving

09 30 19 terra cotta

09 66 16 terrazzo floor

07 42 26 wall panels

09 28 00 tile backer board

07 44 19 tile-faced panels

03 45 13 tile facing for precast concrete

09 01 30 tile restoration

09 30 00 tile setting materials and accessories

32 91 13 tillage, planting bed



03 45 13	tilt-up precast concrete	07 18 00	traffic coating	02 22 19	assessment
<b>06 13 00</b>	<b>timber, heavy</b>	<b>32 91 19</b>	<b>topsoil</b>	00 31 19	available information
31 52 16	cofferdams	32 91 19	placing and grading, landscape	34 71 13	barriers
06 05 23	connectors	32 01 90	preservation, maintenance	07 18 00	coatings
31 53 13	cribwork	31 22 16	spreading and grading, finish grading	08 38 00	doors
06 17 19	cross-laminated	31 14 13	stripping and stockpiling	11 12 33	gates, parking equipment
06 15 19	decking	11 61 00	tormentors	32 17 23	marking paint
31 62 19	piles	08 55 13	tornado-resistant windows	01 55 26	regulation, temporary
34 11 13	railroad ties	<b>10 28 16</b>	<b>towel bars and rings</b>	07 18 00	roof deck coating
32 32 29	retaining walls	09 30 13	ceramic	10 14 53	signage
35 31 16	seawalls	10 28 13	towel dispensers	<b>traffic control</b>	
31 41 13	shoring	12 44 13	towels, bath	34 42 19	airfields
06 13 00	trusses	11 62 13	tower bells	01 55 26	construction
<b>06 13 00</b>	<b>timber bridges</b>	41 22 13	tower cranes	11 14 00	pedestrian
32 34 00	fabricated	33 79 16	tower grounding	34 41 16	traffic control equipment
35 42 13	timber piling bank protection	42 32 36	tower material dryers, process	<b>34 41 13</b>	<b>traffic signals</b>
32 94 16	timbers, landscape	<b>towers</b>		01 55 26	temporary
01 21 43	time allowances	23 65 00	cooling, central cooling	.....	traffic-bearing waterproofing - see traffic coatings
27 53 13	time systems, central	23 65 14	cooling, induced-draft	<b>13 34 23</b>	<b>trailers</b>
	<b>timers</b>	41 21 00	cooling, process	01 52 13	construction
23 09 13	HVAC instrumentation	13 11 00	diving	11 66 23	trampolines
25 30 00	integrated automation	33 71 13	electrical, utility	34 14 13	tramways, aerial
00 31 13	timetables, work	13 36 00	fabricated	41 21 33	transfer cars, piece material
08 81 00	tinted glass	33 81 16	lattice communication	<b>transfer equipment</b>	
11 11 23	tire changing equipment	33 81 13	monopole	23 11 00	fuel
12 48 13	tire fabric entrance mats	<b>toxic materials</b>		23 37 13	transfer grilles
10 28 00	tissue dispensers	02 80 00	abatement	44 51 33	transfer stations, solid waste control
00 01 01	title page	01 66 16	storage and handling	26 36 00	transfer switches
26 27 26	toggle switches	07 54 23	TPO roofing	44 51 23	transfer trailers, solid waste
<b>10 28 13</b>	<b>toilet accessories</b>		<b>track</b>	<b>transformers</b>	
09 30 13	ceramic	34 11 93	appurtenances	48 19 23	electrical power generation
10 21 13	toilet compartments	34 11 39	collector pans	26 22 00	low-voltage
01 52 19	toilet facilities, temporary	34 11 33	cross ties	26 12 00	medium-voltage
10 28 13	toilet paper roll holders	34 11 36	rail fasteners	34 21 23	traction power
10 28 13	toilet seat cover dispensers	34 11 19	rail joints	33 73 00	utility
22 40 00	toilet seats	34 11 13	rails	03 30 00	transit mixing, concrete
	<b>toll booths</b>	03 81 16	track-mounted concrete wall	<b>translucent</b>	
13 34 23	fabricated structures		sawing	08 84 00	plastic glazing
13 43 23	parking equipment		<b>tracks</b>	08 45 00	plastic roofing and siding
27 34 13	toll fraud equipment, communications	10 21 23	cubicle	08 62 00	plastic skylights
41 23 33	tongs, lifting devices	08 71 00	door	10 73 26	plastic walkway covers
	<b>tongue and groove</b>	12 22 16	drapery	08 45 00	roof assemblies
06 26 00	board paneling	10 22 16	folding gate	12 24 00	shades
06 15 00	wood decking	10 22 23	operable partition	08 45 00	wall assemblies
09 64 00	wood flooring	34 11 00	railroad	33 71 00	transmission and distribution, electrical utility
41 53 00	tool racks, industrial equipment		<b>tracking systems</b>	<b>transmission and reception equipment</b>	
01 52 13	tool shed	28 35 11	asset, rf	27 41 00	for cable broadcast signals
01 52 13	tool storage, temporary	28 35 15	asset, cellular	27 41 00	for microwave broadcast signals
03 35 29	tooled concrete finishes	28 35 13	asset, GPS	27 41 00	for radio and television broadcast signals
	<b>tools</b>	28 35 21	personnel, cellular	33 71 26	transmission equipment, electrical
01 54 00	construction	28 35 19	personnel, GPS	28 05 37	transmission equipment, wireless
10 32 00	fireplace	28 35 17	personnel, rf	<b>transmission towers</b>	
<b>10 28 16</b>	<b>toothbrush holders</b>	34 11 23	trackwork, special	33 71 13	electrical
09 30 13	ceramic	14 21 00	traction elevators	33 81 13	monopole
32 11 23	top ballast	<b>34 20 00</b>	<b>traction power</b>		
41 22 13	top running overhead cranes	34 23 13	poles		
34 24 19	top-contact third rail	34 21 16	substations		
	<b>topping</b>	34 21 19	switchgear		
03 53 00	concrete	34 21 23	transformer-rectifier units		
03 35 16	heavy-duty finish	<b>traffic</b>			

	<b>transmitters</b>	06 14 00	treated wood foundations	10 88 00	scales
40 73 23	absolute-pressure		<b>treatment</b>	11 11 00	service equipment
33 83 00	antennas, satellite dishes, and amplifiers	09 80 00	acoustical	11 13 00	vestibules
33 83 00	communications	09 51 00	acoustical, ceilings		<b>trucks</b>
40 73 29	differential pressure	03 35 46	concrete, topical	11 51 00	book
40 73 26	gauge-pressure	09 61 00	floor	01 54 00	construction vehicles
25 35 16	integrated automation	31 31 00	soil	11 43 13	dish
40 73 33	multi-variable	12 20 00	window	41 62 00	mobile plant equipment
	pressure/temperature	06 05 73	wood	04 42 23	truss-supported stone cladding
40 74 63	temperature		<b>treatment equipment</b>		<b>trusses</b>
	<b>transom frames</b>	23 53 00	boiler feedwater	05 16 13	cable bow
08 12 00	metal	<b>32 93 43</b>	<b>trees</b>	05 44 00	cold-formed metal
06 48 16	wood	31 13 13	clearing	06 17 00	fabricated wood
08 80 00	transom glazing	32 94 43	grates	06 18 00	glued-laminated wood
06 41 00	transparent finish wood casework	32 94 46	grids	06 13 00	heavy timber
09 93 00	transparent finishes	32 01 90	preservation, maintenance	06 52 00	plastic
08 81 00	transparent glass	01 56 39	protection, temporary	05 21 00	steel joists
08 88 33	transparent mirrored glazing	32 01 90	pruning	05 12 00	structural steel
08 84 00	transparent plastic glazing	31 13 13	removal, selective	27 32 36	TTY equipment
	<b>transparent plastic panels</b>	32 96 43	replanting	10 28 19	tub enclosures
07 41 00	roofing	31 13 16	trimming, site clearing	41 12 13	tube bulk material conveyors
08 60 00	skylight		<b>treillage</b>	31 77 16	tube construction, submerged
32 96 00	transplanting	05 70 00	decorative metal		tunnels
<b>34 00 00</b>	<b>transportation</b>	10 82 13	manufactured	05 52 13	tube railings
34 80 00	bridges		<b>trench drains</b>		<b>tubing</b>
34 70 00	construction and equipment	22 14 26	facility	08 44 00	curtain wall framing
34 40 00	control instrumentation	.....	trench boxing - see trench shielding	26 05 33	electrical
34 50 00	fare collection equipment	31 77 13	trench excavation, submerged tunnels	40 79 63	instrument
34 10 00	guideways/railways	31 41 33	trench shielding	05 70 00	metal, decorative
27 42 16	information display systems	41 61 33	trenchers, plant equipment	05 12 00	metal framing, lightweight structural
45 47 00	manufacturing equipment	31 23 16	trenching	08 43 00	storefront framing
34 05 05	selective demolition	31 23 33	trenching and backfilling	06 51 00	structural plastic
34 40 00	signaling and control equipment	33 05 23	trenchless utility installation		<b>tubs</b>
10 73 43	stop shelters	06 13 00	trestles, timber	13 19 19	animal washing
34 20 00	traction power		<b>trim</b>	22 40 00	bath
34 14 00	transportation, cable	06 82 00	composite	13 17 13	hot
	<b>traps</b>	05 70 00	decorative metal	11 79 00	hydrotherapy
10 81 00	insect and rodent	09 29 00	gypsum board	22 40 00	laundry
22 13 19	plumbing	06 65 00	plastic	13 17 33	whirlpool
23 22 00	steam	07 62 00	roof	05 12 00	tubular steel framing
14 91 82	trash chutes	07 62 00	sheet metal	04 01 00	tuckpointing
.....	<b>trash compactors - see waste compactors</b>	09 27 23	simulated plastering	<b>10 28 16</b>	<b>tumbler holders</b>
11 30 13	residential	07 62 00	stainless steel	09 34 00	ceramic
	<b>trash receptacles</b>	09 75 19	stone	11 66 23	tumbling mats
12 93 23	site	09 30 00	tile	09 93 00	tung oil
10 28 13	toilet accessories	10 11 00	visual display units		<b>tunnel</b>
01 74 19	trash removal, construction	06 46 00	wood, custom	31 71 19	boring
41 22 23	traveling hoists	06 22 13	wood, standard pattern	33 41 00	drainage piping
12 22 16	traverse rods	.....	triple-hung windows - see windows	31 71 00	excavation
.....	travertine - see stone	26 51 00	troffers	31 73 00	grouting
11 43 16	tray slides	41 22 23	trolley hoists	31 01 70	leak repairs
	<b>trays</b>	12 11 33	trompe l'oeil	31 72 00	linings
27 05 36	communications cable	12 30 00	trophy cases	31 72 00	support systems
26 05 36	electrical cable	41 12 13	trough bulk material conveyors	31 71 19	tunnel-boring machines
25 05 28	integrated automation cable	03 54 00	troweled concrete leveler	31 70 00	tunneling
11 21 73	commercial laundry	03 35 00	troweling, concrete	31 71 00	tunneling robots
.....	treads, stair - see stair treads		<b>truck</b>		<b>turbines</b>
		41 42 16	bulk material loaders	48 13 13	hydroelectric fuel power generation
		11 13 19	restraints	48 12 19	nuclear fuel power generation

48 11 19 steam, fossil fuel power generation  
 48 16 19 steam, geothermal power generation  
 26 32 23 wind  
 33 92 00 turf and grasses  
 31 35 19 turf reinforcement mats  
 41 24 43 turnheads/distributors, specialty material handling  
 06 44 13 turning, wood  
 23 33 23 turning vanes and extractors  
 11 14 00 turnstiles  
**14 70 00 turntables**  
 14 73 59 display  
 14 74 00 entertainment  
 14 73 00 exhibit  
 14 72 00 hospitality  
 14 71 00 industrial  
 41 21 36 piece material  
 11 52 19 phonograph  
 14 72 25 restaurant  
 14 74 61 stage  
 14 71 11 vehicle  
 09 90 00 turpentine

## U

33 83 23 UHF/VHF transmitters and antennas  
 23 41 43 ULPA filters  
 UHF ultra-high frequency  
 ULPA ultra-low penetration, air  
 23 41 43 ultra-low penetration, air filters  
 43 31 13 ultrafilter units, gas and liquid  
 41 36 29 ultrasonic measurement equipment, manufacturing  
**ultraviolet**  
 43 32 63 sterilizers, process  
 26 05 19 undercarpet cables, electrical  
 09 90 00 undercoatings  
 33 41 16 underdrains  
**05 35 00 underfloor raceways**  
 26 05 39 electrical  
**underground ducts**  
 27 05 43 communications  
 26 05 43 electrical, facility  
 33 71 19 electrical, utility  
 32 84 23 underground sprinklers  
**underground storage tanks**  
 33 56 43 aviation fuel storage  
 21 41 26 fire-suppression water, facility  
 23 13 13 fuel, facility  
 23 13 13 fuel-oil, facility  
 02 65 00 removal  
 33 16 16 water, utility  
**underground wiring**  
 33 71 39 high-voltage, utility  
 33 71 49 medium-voltage, utility  
**underlayment**  
 06 16 29 acoustic  
 09 28 00 backing boards  
 09 68 00 carpet

03 54 00 cast  
 07 30 00 for steep roofing  
 03 54 13 gypsum cement  
 03 54 16 hydraulic cement  
 09 65 00 resilient flooring  
 07 32 00 roof tile  
 03 54 00 self-leveling  
 07 31 00 shingles  
 06 16 26 wood  
 06 16 36 wood panel product  
 31 48 00 underpinning  
 31 48 13 underpinning piers  
 07 21 00 underslab insulation  
 41 22 13 underslung overhead cranes  
**underwater**  
 35 53 00 construction  
 35 53 43 foundations  
 35 53 23 harbor deepening  
 26 55 29 lighting  
 35 53 33 pipelines  
 03 37 26 placed concrete  
 35 53 53 structures  
 35 53 63 waterproofing  
**underwater wiring**  
 33 71 39 high-voltage, utility  
 33 71 49 medium-voltage, utility  
 31 62 16 unfilled tubular steel piles  
**unglazed tile**  
 09 30 13 ceramic  
 09 30 19 porcelain paver  
 07 32 00 roofing  
 04 21 19 structural  
 28 05 45 unified systems  
 UPS uninterruptible power supply  
**28 05 07 uninterruptible power supplies**  
 26 32 33 rotary type  
 26 33 53 static type  
 23 81 00 unit air-conditioners  
**23 82 39 unit heaters**  
 23 55 33 fuel-fired  
 11 32 00 unit kitchens  
**04 20 00 unit masonry**  
 04 24 00 adobe  
 04 21 13 brick  
 04 71 13 calcium silicate  
 04 01 20 cleaning  
 04 22 00 concrete  
 04 60 00 corrosion-resistant  
 03 45 13 facing for precast concrete  
 09 63 00 flooring  
 04 23 00 glass  
 04 27 00 multi-wythe  
 04 20 00 reinforced  
 04 01 20 repair  
 04 01 20 replacement  
 04 01 20 repointing  
 32 32 19 retaining walls  
 04 01 20 restoration  
 04 21 29 terra cotta  
 32 14 00 unit paving  
**01 22 00 unit prices**

00 41 43 bid form  
 00 72 00 general conditions  
 00 24 00 item descriptions  
 00 54 22 schedule  
 08 62 00 unit skylights  
 26 11 00 unit substations, medium-voltage  
 23 82 23 unit ventilators  
 01 65 00 unloading requirements  
 07 54 00 unreinforced thermoplastic membrane roofing  
**upholstered**  
 12 61 13 audience seating  
 12 52 19 seating  
 09 77 00 wall systems  
 12 05 13 upholstery fabrics  
 26 33 53 UPS  
 25 36 29 UPS monitors, integrated automation  
 07 92 00 urethane joint sealants  
 07 18 00 urethane traffic coatings  
 10 21 13 urinal screens  
 22 40 00 urinals  
 01 14 00 use of premises, contractor  
 01 14 19 use of site, contractor  
**33 00 00 utilities**  
 33 80 00 communications  
 33 70 00 electrical  
 33 50 00 fuel distribution  
 33 60 00 hydronic and steam energy  
 33 30 00 sanitary sewerage  
 33 05 04 selective demolition  
 33 40 00 storm drainage  
 33 10 00 water  
 01 51 00 utilities, temporary  
 33 79 19 utilities grounding  
**utility**  
 23 34 00 blowers  
 33 09 00 control systems  
 33 05 97 identification  
 33 05 00 materials  
 33 09 00 metering, electrical equipment  
 33 05 00 manholes  
 33 59 00 metering, hydrocarbon  
 33 05 00 piping and accessories  
 33 71 73 requirements, electrical  
 33 71 73 service equipment, electrical  
 10 57 23 shelving  
 33 09 09 software  
 11 40 00 tables, kitchen  
 33 05 97 underground warning tape  
 41 63 23 vehicles, plant equipment  
 33 05 96 vibration and seismic controls  
 33 14 00 water, transmission and distribution  
**utility poles**  
 27 05 46 communications, facility  
 33 81 19 communications, utility  
 26 05 46 electrical systems

33 71 16 electrical, utility  
 34 23 13 traction power  
 12 35 33 utility room casework  
 33 71 73 utility services, electrical  
**utility structures**  
 26 05 46 poles

**V**

**vacuum**  
 22 11 19 breakers  
 33 75 23 circuit breakers, high-voltage  
 33 77 23 circuit breakers, medium-voltage  
 11 81 19 cleaning systems  
 43 32 66 degasifiers, process  
 44 13 20 extraction systems  
 42 14 56 furnaces, industrial  
 26 13 19 interrupter switchgear  
 42 32 39 material dryers, process  
 40 18 00 piping, process  
 31 31 33 piping, sanitary  
 43 11 29 pumps, gas handling, process  
 23 09 13 switches  
 33 32 33 stations, wastewater collection  
 22 62 00 systems, laboratory  
 23 56 13 tube solar collectors, heating  
 48 14 13 tube solar collectors, power generation  
 23 82 13 valance heating and cooling units  
 12 20 00 valances, window  
 11 97 23 valuable material storage  
 01 24 00 value analysis  
 ..... value engineering - see value analysis  
 ..... value improvement - see value analysis  
 ..... value management - see value analysis  
 23 09 13 valve actuators  
**valve identification**  
 21 05 53 fire suppression  
 23 05 53 HVAC  
 22 05 53 plumbing  
 23 09 13 valve operators, HVAC  
**valves**  
 40 05 89 accessories  
 40 05 63 ball  
 40 05 64 butterfly  
 40 05 51 common requirements for process  
 22 15 16 compressed air, general service  
 23 09 23 control  
 40 91 13 electrically operated  
 primary control  
 33 14 23 enclosures, water utility  
 21 12 23 fire hose

21 05 23 fire suppression, general duty  
 40 05 74 flexible-closure  
 22 40 00 flush  
 23 05 23 HVAC  
 40 05 76 hot-tapping and appurtenances  
 40 91 16 hydraulically operated  
 primary control  
 33 60 00 piped energy distribution  
 40 05 62 plug  
 22 05 23 plumbing, general duty  
 22 40 00 plumbing fixture  
 40 91 19 pneumatically operated  
 primary control  
 23 52 00 pressure relief, boiler  
 40 91 00 primary control  
 40 05 65 pump control and check service  
 23 23 13 refrigerant piping  
 22 40 00 shower mixing  
 40 91 23 solenoid primary control  
 40 05 71 solids handling  
 40 05 73 special-application process  
 40 05 67 specialized pressure and flow-control  
 40 91 26 specialty primary control  
 33 14 00 water distribution, utility  
 43 12 00 vane compressors, process  
 43 23 51 vane pumps  
 23 34 00 vaneaxial fans  
 23 33 23 vanes, air turning  
 12 35 30 vanity casework  
 41 63 26 vans, plant equipment  
 07 26 00 vapor closures  
 09 90 00 vapor-resistant primers  
**07 26 00 vapor retarders**  
 07 21 00 building insulation  
 09 21 16 gypsum board assembly  
 07 50 00 membrane roofing  
 07 22 00 roof insulation  
 03 30 00 slab-on-grade assembly  
 VAV variable air volume  
 23 36 16 variable air volume terminal units  
 VFD variable frequency drives  
 40 97 00 variable frequency drives  
 26 29 23 variable frequency motor controllers  
 23 81 29 variable-refrigerant-flow HVAC systems  
 23 62 46 variable-refrigerant-flow air-conditioning systems, packaged  
 09 93 00 varnish  
 12 46 29 vases  
 08 63 19 vaulted metal-framed skylights  
 08 62 19 vaulted unit skylights  
**13 27 00 vaults**  
 33 81 29 communications  
 08 34 59 doors and gates  
 11 22 13 equipment

03 48 00 precast concrete  
 23 36 16 VAV units  
**vegetated**  
 07 55 63 protected membrane roofing  
 31 33 43 rock slope stabilization  
 07 33 63 roofing  
 07 72 73 roof systems  
 09 77 53 wall systems  
 31 31 13 vegetation control, soil treatment  
 31 11 00 vegetation removal  
**vehicle**  
 34 71 13 barriers  
 34 71 19 delineators  
 34 41 23 detectors, transportation control  
 28 19 00 identification systems, access control  
 34 52 00 fare collection  
 14 45 00 lifts  
 10 88 00 scales  
 11 11 00 service equipment  
 14 71 11 turntables  
 11 11 26 washing equipment  
 01 55 00 vehicular access and parking  
 32 34 00 vehicular bridges, fabricated  
 07 18 16 vehicular traffic coatings  
 11 21 23 vending machines  
 10 88 00 vendors' scales  
**veneer**  
 04 05 19 anchors  
 04 20 00 masonry  
 09 22 39 plaster base  
 09 26 00 plastering  
 04 42 00 stone  
 04 43 13 stone masonry  
 ..... venetian blinds - see horizontal louver blinds  
 09 25 13 venetian plastering  
 22 13 16 vent piping  
 10 51 00 ventilated lockers  
 ..... ventilating ceilings - see integrated ceilings.  
**ventilation**  
 10 82 00 grilles and screens  
 23 38 00 hoods  
 23 35 33 kitchen exhaust system  
 01 51 23 temporary  
**ventilators**  
 07 72 00 gravity  
 23 34 23 power, HVAC  
 07 72 00 roof  
 07 72 00 rotary  
 23 82 23 unit  
 07 72 36 venting hatches, smoke  
**vents**  
 08 95 16 brick  
 10 30 00 flue  
 23 51 23 gas  
 07 72 39 roof, operable  
 07 72 23 roof relief

07 72 26	roof ridge	28 25 00	positioning equipment	<b>W</b>	
07 72 36	smoke, roof	28 05 07	power sources	.....	waferboard - see oriented
08 95 13	soffit	11 52 19	recorders		strand board
01 91 00	verification of system	28 21 00	sensors	41 63 29	wagons, plant equipment
	operation	28 05 09	surge protection	00 73 46	wage determination schedules
03 52 00	vermiculite concrete decks	28 20 00	surveillance	<b>00 73 46</b>	<b>wage rates</b>
<b>07 21 23</b>	<b>vermiculite loose fill</b>		<b>vinyl</b>	00 43 43	form
	<b>insulation</b>	09 65 13	base		<b>wainscots</b>
04 27 23	cavity wall assembly	09 64 00	bonded wood flooring	06 42 00	architectural woodwork
09 20 00	vermiculite plastering	10 51 00	clad lockers	09 30 00	ceramic tile
07 62 00	vermin shields	09 72 16	coated fabric wall coverings	04 73 00	manufactured stone
12 21 16	vertical blinds	09 65 19	composition tile	09 75 00	stone
08 36 00	vertical lift doors	09 65 00	flooring	04 21 26	structural glazed tile
12 21 16	vertical louver blinds	08 53 69	storm windows	06 22 00	wood board
05 51 33	vertical metal ladders	08 53 66	window screens	31 53 00	walers
	<b>vertical turbine pumps</b>	08 53 13	windows	07 72 43	walk boards
21 32 00	fire	09 65 19	vinyl asbestos tile	11 41 23	walk-in coolers
23 21 23	hydraulic	08 14 23	vinyl-faced doors	11 41 26	walk-in freezers
23 82 39	vertical unit heaters	VPN	virtual private network	08 56 13	walk-up banking windows
14 42 16	vertical wheelchair lifts	27 25 37	virtual private network	41 21 23	walking-beam piece material
VHF	very high frequency		software, communications		conveyors
.....	vestibule mats - see entrance	27 24 26	virtual reality equipment,	10 73 26	walkway covers
	mats	27 25 13	communications	05 51 36	walkways, metal
12 35 70	veterinary casework		virus protection software,	07 72 46	walkways, roof
11 70 00	veterinary equipment		communications		<b>wall</b>
40 97 00	VFD	.....	viscous - see fluid-applied	08 46 00	assemblies, window
40 05 96	vibration and seismic controls	11 52 00	visual aid equipment	35 42 53	bank protection
	for process equipment	<b>10 11 00</b>	<b>visual display units</b>	09 73 00	carpeting
<b>13 48 00</b>	<b>vibration control</b>	10 11 36	conference units	11 81 13	cleaning equipment
13 21 48	audiometric rooms	10 11 46	fabrics	12 46 19	clocks
27 05 48	communications	10 11 33	operable	09 72 00	coverings
26 05 48	electrical	10 11 39	rails	12 12 00	decorations
28 05 48	electronic safety and	10 11 43	wall panels	26 27 26	dimmers
	security	34 43 16	visual-approach slope	09 72 19	fabric
21 05 48	fire suppression		indicator equipment, airfield	23 34 00	fans
23 05 48	HVAC	34 42 19	vital interlocking logic	10 26 23	guards
25 05 48	integrated automation		controllers, railway	12 12 26	hangings
22 05 48	plumbing	22 40 00	vitreous china plumbing	22 11 19	hydrants
13 48 00	structural		fixtures	08 91 00	louvers
33 05 96	utilities	02 53 19	vitrification, site remediation	07 42 63	panel assemblies
34 82 13	vibration dampers, bridges	04 62 00	vitrified clay liner plates	09 78 00	paneling, interior
23 09 23	vibration instruments	06 41 00	vitrites	23 32 39	plenums, air distribution
13 48 00	vibration-isolation pads	12 35 59	mercantile display cases	35 43 53	scour protection
40 77 19	vibration velocity	11 57 00	vocational shop equipment	09 75 23	simulated stone
	measurement devices	27 30 00	voice communications	07 77 00	specialties
03 30 00	vibrators, CIP concrete	27 33 16	voice mail, communications	26 27 26	switches
	<b>vibratory</b>	03 11 00	void forms	08 95 16	vents
41 12 13	bulk material conveyors		<b>voltage regulators</b>	08 31 00	wall access doors and panels
41 13 23	feeders, bulk material	26 35 53	facility		<b>wall base</b>
41 21 39	feeders, piece material	48 19 26	power generation	09 63 00	masonry
41 21 23	piece material conveyors	48 71 26	voltage test equipment, power	09 65 13	resilient
.....	vibro compaction - see		generation	09 66 00	terrazzo flooring
	vibroflotation	V/P	voltage-to-pressure	09 30 00	tile
31 45 13	vibroflotation	40 79 36	voltage-to-pressure	06 46 19	wood, custom
27 41 16	video equipment for broadcast		converters, process	06 22 13	wood, standard pattern
	and recording studio	41 13 23	volumetric bulk material	09 01 70	wall finish restoration
11 67 53	video game equipment		feeders	<b>09 70 00</b>	<b>wall finishes</b>
	<b>video</b>	27 25 37	VPN software,	09 73 00	carpeting
28 05 21	digital recorders		communications	06 64 00	sanitary plastic paneling
28 05 21	hybrid digital recorders	07 53 00	vulcanized elastomeric	09 75 00	stone
28 05 21	network recorders		membrane roofing	06 42 00	wood, custom paneling
11 52 19	players			09 74 00	wood, flexible sheets

	<b>wall flashing</b>	10 28 13	washroom accessories	03 30 00	water reducing agents, CIP
07 65 00	flexible	22 62 23	waste anesthesia gas piping		concrete
07 62 00	metal	.....	waste chutes – see trash chutes	02 70 00	water remediation
	<b>wall framing systems</b>			07 19 00	water repellents
09 22 16	non-structural metal studs	02 56 13	waste containment, site	33 16 00	water reservoirs, elevated
05 41 00	structural metal studs	07 72 63	waste containment assemblies	33 12 13	water service connections
06 11 00	wood		<b>waste disposal</b>	13 14 13	water slides
10 26 23	wall impact resistant protection	11 82 26	compactors, facility		<b>water softeners</b>
23 82 39	wall insert unit heaters	11 48 00	food	22 31 00	domestic water
	<b>wall paneling</b>	44 51 00	incinerators	11 53 00	water stills, laboratory
06 26 00	board	11 30 13	residential units		<b>water storage tanks</b>
09 78 19	cementitious, interior	01 74 19	waste management, construction	33 16 93	appurtenances
06 42 00	custom woodwork			22 12 00	potable, facility
06 26 00	finish carpentry	22 13 16	waste piping, soil	33 16 00	utility
09 78 00	interior		<b>waste receptacles</b>	<b>33 10 00</b>	<b>water supply</b>
09 78 23	phenolic, interior	12 46 33	interior, movable	32 81 13	irrigation components
06 25 00	prefinished	10 25 16	part of service walls	<b>33 10 00</b>	<b>water utilities</b>
09 78 16	stone-faced interior	10 28 00	toilet room	33 01 12	inspection and testing
	<b>wall panels</b>		<b>wastewater</b>	33 01 12	leak detection
13 34 00	fabricated building	33 32 33	collection vacuum stations	33 01 10	operation and maintenance
08 44 00	glazed curtain walls	33 01 34	disposal systems, operation and maintenance	33 16 00	storage tanks
10 11 43	visual display			46 63 32	water vapor compression distillation equipment
26 27 26	wall plates for electrical wiring devices	33 34 30	filtration systems, onsite	21 10 00	water-based fire-suppression systems
40 05 09	wall pipes, floor pipes, and pipe sleeves	33 34 00	onsite disposal	23 62 23	water-cooled refrigerant compressor and condenser units
23 83 00	wall-hung radiation	22 13 36	pump units, facility		
10 75 23	wall-mounted flagpoles	33 36 53	storage tunnel systems	23 63 23	water-cooled refrigerant condensers
09 72 23	wallpapering	33 32 36	vacuum valve sumps	23 81 46	water-source unitary heat pumps
	<b>walls</b>	03 39 00	<b>water</b>	21 13 29	water-spray fixed fire suppression
10 22 19	demountable	43 22 11	concrete curing	23 81 00	water-to-air heat pumps
31 66 16	foundation		conditioning equipment, process		<b>water-to-steam heat exchangers</b>
10 22 00	manufactured partitions	28 45 00	detection and alarm	22 35 00	domestic water
10 22 23	operable	22 36 00	domestic water preheaters	23 57 16	HVAC equipment
10 22 23	portable	01 51 36	temporary	23 52 33	water-tube boilers
32 32 00	retaining	23 64 00	water chillers	04 01 00	waterblasting masonry
10 25 16	service	22 40 00	water closets	32 01 90	watering plants, maintenance
08 45 00	translucent panels	01 57 23	water control, temporary	<b>07 10 00</b>	<b>waterproofing</b>
09 77 53	vegetated systems	22 47 00	water coolers	07 17 00	bentonite
27 10 00	WAN cabling	31 25 00	water course protection	07 12 00	built-up
10 57 00	wardrobe and closet specialties	02 72 00	water decontamination	07 16 00	cementitious
10 51 00	wardrobe lockers	<b>33 10 00</b>	<b>water distribution</b>	07 14 00	fluid-applied
<b>10 57 00</b>	<b>wardrobe specialties</b>	22 11 00	facility	07 16 00	reactive
11 21 33	checkroom	07 24 19	water drainage exterior insulation and finish system	07 13 00	sheet
13 34 23	warehouses, fabricated	22 32 00	water filtration equipment, domestic water	07 15 00	sheet metal
	<b>warning signals</b>			07 18 00	traffic-bearing
28 10 00	security	22 52 19	water fountain conditioning equipment	09 34 00	waterproofing-membrane tiling
01 78 36	warranties	22 11 19	water hammer arrestors	<b>03 15 13</b>	<b>waterstops</b>
00 65 36	warranty form		<b>water heaters</b>	13 11 00	swimming pool
22 42 33	wash fountains	22 33 00	electric	08 39 19	watertight doors
09 93 00	wash primers	10 32 26	fireplace	<b>35 40 00</b>	<b>waterway</b>
23 41 19	washable air filters	22 34 00	fuel-fired	35 42 00	bank protection
23 43 13	washable electronic air cleaners	22 33 30	solar-assisted	35 21 13	bifurcation panels
22 40 00	washer valve boxes	31 32 17	water injection soil stabilization	35 21 16	bulkheads
	<b>washers, clothes</b>	<b>44 40 00</b>	<b>water pollution control equipment</b>	35 21 36	debris cages
	<b>washing equipment</b>			35 41 00	levees
11 81 23	façade access equipment	40 23 00	water, wastewater process piping	35 49 23	locks
11 70 00	healthcare				
11 53 00	laboratory	11 53 00	water processing equipment, laboratory		
13 19 19	tubs, animal				

35 21 19	manifolds	10 74 46	window	06 46 33	wood, architectural
35 21 23	penstocks	21 23 00	wet-chemical fire extinguishing		woodwork
35 43 00	scour protection	21 13 13	wet-pipe fire sprinklers	06 22 00	wood, millwork
35 49 00	structures	32 70 00	wetlands		<b>window washing</b>
35 21 33	trash racks	32 72 00	wetlands restoration	14 84 23	hoists
<b>35 00 00</b>	<b>waterway and marine</b>	.....	whalers - see walers	14 84 13	scaffolding
35 20 00	construction and equipment	03 11 00	whalers, concrete forms	<b>08 50 00</b>	<b>windows</b>
35 05 05	selective demolition	05 50 00	wheel guards	08 55 23	blast-resistant
35 10 00	signaling and control equipment	14 42 00	wheelchair lifts	11 81 23	cleaning equipment
		10 44 16	wheeled fire extinguisher units	08 54 00	composite
13 14 16	wave pools	<b>13 17 33</b>	<b>whirlpool tubs</b>	11 98 21	detention
09 93 00	waxes	11 79 00	hydrotherapy	08 51 00	metal
03 05 00	weather, concrete procedures	.....	whiteboards - see markerboards	08 52 13	metal-clad wood
07 25 00	weather barriers	WAN	wide area network	08 12 00	metal door sidelights
34 43 23	weather observation equipment, airfield	27 10 00	wide area network cabling	08 56 19	pass
23 09 23	weather stations	32 31 56	wildlife deterrent fence	08 53 00	plastic
08 71 00	weatherstripping	34 43 23	wind cones, airfield	08 52 16	plastic-clad wood
10 74 33	weathervanes, manufactured		<b>wind energy</b>	08 56 49	radiation shielding
45 19 00	weaving equipment	26 32 23	facility	08 56 46	RFI shielding
27 26 13	web development, communications	48 15 00	power generation	08 01 50	replacement
		26 32 23	turbines	08 61 00	roof
41 31 13	web processing lines, manufacturing	13 53 23	wind instrumentation	08 56 53	security
		48 15 13	wind turbines	08 56 13	service and teller
01 31 23	web site, project		<b>window</b>	08 56 73	sound control
04 05 23	weepholes, for masonry	08 79 00	accessories	08 56 00	special function
10 88 00	weighing devices	12 21 00	blinds	06 48 23	stick-built wood
41 13 23	weigh bulk material feeders	08 79 00	cleaner hooks	08 43 00	storefront
41 14 36	weigh scales, bulk material batching	08 75 00	equipment, automatic	08 55 13	tornado-resistant
43 22 66	weigh systems, liquid, process	08 80 00	glazing	08 54 73	vinyl-wood
41 12 13	weigh-belt bulk material conveyors	08 79 00	guards	08 52 00	wood
		08 75 00	hardware	06 48 16	wood door sidelights
41 21 23	weigh-belt piece material conveyors	08 75 00	lifts	<b>11 41 00</b>	<b>wine storage</b>
WWF	welded wire fabric	08 75 00	locks	13 20 00	rooms
03 22 00	welded wire fabric	08 79 00	maintenance hooks	01 56 00	winter construction enclosures and controls
32 31 16	welded wire fences and gates	08 75 00	operating hardware		<b>wire</b>
.....	welded wire mesh - see welded wire fabric	08 75 00	operators	10 57 23	closet shelving
.....	welded wire reinforcement - see welded wire fabric	08 01 50	replacement	03 11 00	concrete form
		08 01 50	restoration	26 05 00	connectors, electrical
34 11 16	welded track rails	08 71 00	seals	32 31 26	fences and gates
<b>05 05 23</b>	<b>welding</b>	12 24 00	shades	33 79 83	grounding, site
12 57 13	benches	12 20 00	treatments	03 81 19	high-tensile
10 21 23	curtains	08 46 00	wall assemblies	05 16 00	high-tensile, for precast concrete
33 52 23	piping, hydrocarbon	08 44 00	walls		
40 17 00	piping, process	08 71 00	weatherstripping	09 22 36	lath
12 57 16	screens	10 74 46	wells	10 56 23	storage shelving
33 20 29	well abandonment		<b>window frames</b>	03 40 00	wire concrete wall sawing
40 22 10	well oil piping	08 53 00	composite	03 22 00	wire fabric, welded
31 23 19	well points	08 51 00	metal		<b>wire mesh</b>
33 11 00	well pumps	08 54 00	plastic	10 22 13	partitions
	<b>wells</b>	06 48 23	wood	10 82 00	screens
33 51 16	appraisal	08 52 00	wood, custom	10 51 43	storage lockers
33 11 19	aquifer recharging		<b>window screens</b>		<b>wire rope</b>
33 51 36	gas injection	11 98 23	detention	05 15 00	assemblies
33 11 16	irrigation	08 54 66	fiberglass	05 73 16	railings
33 11 39	monitoring	08 51 66	metal	05 16 00	structural
33 11 13	potable supply	08 53 66	vinyl	34 14 00	transportation
33 51 00	production	08 52 66	wood		<b>wire ties</b>
33 11 11	test		<b>window stools</b>	03 21 00	concrete reinforcement bar
		05 58 00	metal	09 22 13	metal furring
		09 75 19	stone	08 81 00	wired glass
		09 30 00	tile		<b>wireless</b>

27 21 33	access points, communications	32 14 26	paving	06 22 13	standard pattern	
33 83 00	communications	09 64 29	plank flooring		<b>wood trusses</b>	
	distribution	06 13 16	pole structures	06 17 53	fabricated	
33 83 16	microwave transmitters and receivers	06 44 39	posts and columns	06 13 00	heavy timber	
26 09 43	network lighting control	06 25 00	prefinished paneling	<b>12 32 13 wood veneer casework</b>		
40 66 43	network systems	06 05 73	preservative treatment	06 41 13	custom	
27 32 16	transceivers, communications	45 23 00	product manufacturing	06 48 26	wood veneer frames	
		06 01 00	repair	06 42 00	wood veneer paneling	
26 05 33	wireway, electrical	06 01 00	restoration and cleaning	09 74 00	wood veneers, flexible	
	<b>wiring</b>	08 61 16	roof windows	<b>08 52 00 wood windows</b>		
26 05 00	assemblies, manufactured	08 14 66	screen doors	06 48 23	stick-built	
27 10 00	communications	10 82 00	screens	06 17 00	wood-metal framing systems	
26 27 26	devices, electrical	06 05 23	screws	09 94 00	woodgraining, painting	
26 05 00	electrical, facility	06 05 05	selective demolition	06 40 00	woodwork, custom	
33 71 00	electrical, utility	07 31 29	shakes		<b>woodworking machines</b>	
25 05 13	integrated automation	06 16 00	sheathing	41 33 00	industrial	
40 67 33	panel	07 31 29	shingles	11 57 00	vocational shop	
	<b>wood</b>	07 46 23	siding	12 05 13	wool fabrics	
06 46 16	aprons	07 46 24	siding, shingle and shake		<b>work</b>	
09 64 66	athletic flooring	06 66 00	simulated	01 11 00	by others	
06 44 00	balusters	08 14 73	sliding doors	01 11 16	by owner	
06 46 19	base and shoe molding	08 32 19	sliding glass doors	01 11 13	covered by contract documents	
09 64 16	block flooring	13 32 23	space frames		future, single contract	
06 10 00	blocking and supports	09 93 00	stains	01 11 00	in rights-of-way	
06 16 33	board sheathing	06 46 33	stops, stools and sills	01 14 33	incidental	
12 14 13	carvings	10 56 16	storage shelving, fabricated	01 11 00	performed under separate contracts	
06 17 36	chord metal joist	08 14 69	storm doors	01 11 00	summary of	
10 57 23	closet shelving	08 52 69	storm windows	01 56 00	temporary protection	
09 64 19	composition flooring	09 64 29	strip flooring	01 11 00	to be performed later	
06 01 00	consolidation	06 22 00	thresholds	01 11 00	under other contracts, single contract	
06 44 23	corbels	06 05 73	treatment		<b>01 26 49 work change directives</b>	
06 46 26	cornices	08 95 00	vents	00 63 49	forms	
12 36 19	countertops	09 74 13	wall coverings	00 94 49	record	
06 44 26	cupolas	08 52 66	window screens	01 14 33	work in rights-of-way	
06 10 00	curbs, roof	06 44 13	turning	00 94 00	work modifications, record	
06 15 00	decking	11 32 16	unit kitchens	00 43 86	work plan, proposed	
10 22 19	demountable partitions	<b>06 10 00 wood bridges</b>		00 62 86	work plan schedule form	
08 01 10	door restoration	32 34 00	fabricated	01 14 00	work restrictions	
08 14 00	doors	<b>12 32 00 wood casework</b>		00 31 13	work schedule, preliminary	
08 17 13	doors and frames, integrated	06 41 00	custom	01 12 16	work sequence, multiple contract	
			<b>wood chair rails</b>		12 59 00	work surfaces, systems
06 05 23	fastenings	06 46 23	architectural woodwork		furniture	
32 31 29	fences and gates	06 22 13	standard patterns		<b>work tables</b>	
03 51 13	fiber decks, cementitious				kitchen	
09 90 00	fillers	06 46 29	architectural woodwork	11 40 00	laboratory	
06 05 73	fire-retardant treatment	06 22 00	finish carpentry	11 53 00	work timetable	
09 64 00	flooring	<b>06 11 00 wood framing</b>		00 31 13	workbenches	
03 11 00	forms	06 17 00	fabricated	11 57 00	workers compensation certificate	
06 14 00	foundations, treated	06 01 10	restoration	00 45 26	10 21 23	workshop curtains
06 48 00	frames		<b>wood paneling</b>		.....	woven wire – see wire mesh
06 18 00	glued-laminated	06 42 00	architectural woodwork	12 22 00	12 24 00	woven wood curtains
10 82 00	grilles	06 26 00	board	12 24 00	11 21 43	woven wood shades
06 46 00	handrails and guard rails	06 25 00	prefinished	11 21 43	00 63 43	wrapping equipment, food
06 05 73	insect treatment	06 42 14	stile and rail	00 63 43	00 94 43	written amendment, form
10 51 16	lockers		<b>wood railings</b>	05 70 00	03 22 00	written amendments, record
08 14 00	louvers, in doors	06 43 16	architectural woodwork			wrought iron, decorative metal
08 17 13	packaged door assemblies	06 22 00	finish carpentry			WWF
06 16 36	panel product sheathing		<b>wood stairs</b>			
08 14 00	panels, doorway	06 43 13	architectural woodwork			
09 64 23	parquet flooring	06 22 00	finish carpentry			
			<b>wood trim</b>			
		06 46 00	custom			



## **X**

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### x-ray

- 11 77 00 machines
- 13 49 13 shielding assemblies,  
integrated
- 13 49 16 shielding rooms, modular

## **Y**

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- 34 42 33 yard management equipment,  
railway

## **Z**

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- 09 90 00 zinc chromate coating
- 07 61 00 zinc roofing, custom
- 07 4621 zinc siding
- 09 90 00 zinc-rich primers
- 32 17 23 zone marking paint
- 13 34 00 zoo structures, fabricated