

# MasterFormat® Numbers & Titles

April 2016

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02 01 86	Maintenance of Hazardous Waste Drum Handling
<b>02 03 00</b>	<b>Conservation Treatment for Existing Period Conditions</b>
02 03 01	Maintenance of Existing Period Conditions
02 03 01.19	Mothballing Period Structures
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
<b>02 05 00</b>	<b>Common Work Results for Existing Conditions</b>
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>
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>
<b>02 20 00</b>	<b>Assessment</b>
<b>02 21 00</b>	<b>Surveys</b>
02 21 13	Site Surveys
02 21 13.13	Boundary and Survey Markers
02 21 13.23	Archeological and Historic Surveys
02 21 16	Measured Drawings
<b>02 22 00</b>	<b>Existing Conditions Assessment</b>
02 22 13	Movement and Vibration Assessment
02 22 16	Acoustic Assessment
02 22 19	Traffic Assessment
02 22 23	Accessibility Assessment

**02 24 00**

- 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

**02 25 00****Existing Material Assessment**

- 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

**02 26 00****Hazardous Material Assessment**

- 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

**02 30 00****Subsurface Investigation****02 31 00****Geophysical Investigations**

- 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

**02 32 00****Geotechnical Investigations**

- 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

**02 40 00****Demolition and Structure Moving****02 41 00****Demolition**

- 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
<b>02 42 00</b>	<b>Removal and Salvage of Construction Materials</b>
02 42 13	Deconstruction of Structures
02 42 13.13	Deconstruction of Buildings
<b>02 43 00</b>	<b>Structure Moving</b>
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>
<b>02 51 00</b>	<b>Physical Decontamination</b>
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
<b>02 52 00</b>	<b>Chemical Decontamination</b>
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>
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>
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
<b>02 55 00</b>	<b>Remediation Soil Stabilization</b>
<b>02 56 00</b>	<b>Site Containment</b>
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>
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>
02 58 13	Snow Fencing
02 58 16	Snow Avalanche Control
<b>02 60 00</b>	<b>Contaminated Site Material Removal</b>
<b>02 61 00</b>	<b>Removal and Disposal of Contaminated Soils</b>
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>
02 62 13	Air and Steam Stripping
02 62 16	Soil Vapor Extraction
02 62 19	Soil Washing and Flushing
<b>02 65 00</b>	<b>Underground Storage Tank Removal</b>
<b>02 70 00</b>	<b>Water Remediation</b>
<b>02 71 00</b>	<b>Groundwater Treatment</b>
<b>02 72 00</b>	<b>Water Decontamination</b>
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>
<b>02 81 00</b>	<b>Transportation and Disposal of Hazardous Materials</b>
<b>02 82 00</b>	<b>Asbestos Remediation</b>
02 82 13	Asbestos Abatement
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>
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
<b>02 84 00</b>	<b>Polychlorinate Biphenyl Remediation</b>
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>
<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
<b>03 00 00</b>	<b>Concrete</b>
<b>03 01 00</b>	<b>Maintenance of Concrete</b>
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
<b>03 03 00</b>	<b>Conservation Treatment for Period Concrete</b>
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
<b>03 05 00</b>	<b>Common Work Results for Concrete</b>
03 05 05	Selective Demolition for Concrete
<b>03 06 00</b>	<b>Schedules for Concrete</b>
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
<b>03 08 00</b>	<b>Commissioning of Concrete</b>
<b>03 10 00</b>	<b>Concrete Forming and Accessories</b>
<b>03 11 00</b>	<b>Concrete Forming</b>
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
03 11 26	Permanent Tier Forming
<b>03 15 00</b>	<b>Concrete Accessories</b>
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
03 15 21	Termite Barrier
<b>03 20 00</b>	<b>Concrete Reinforcing</b>
<b>03 21 00</b>	<b>Reinforcement Bars</b>
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
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>
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>
<b>03 24 00</b>	<b>Fibrous Reinforcing</b>
<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>
03 30 53	Miscellaneous Cast-in-Place Concrete

<b>03 31 00</b>	<b>Structural Concrete</b>
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
<b>03 33 00</b>	<b>Architectural Concrete</b>
03 33 13	Heavyweight Architectural Concrete
03 33 16	Lightweight Architectural Concrete
<b>03 34 00</b>	<b>Low Density Concrete</b>
<b>03 35 00</b>	<b>Concrete Finishing</b>
03 35 13	High-Tolerance Concrete Floor Finishing
03 35 16	Heavy-Duty Concrete Floor Finishing
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
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
<b>03 37 00</b>	<b>Specialty Placed Concrete</b>
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>
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>
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
<b>03 40 00</b>	<b>Precast Concrete</b>
<b>03 41 00</b>	<b>Precast Structural Concrete</b>
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
<b>03 45 00</b>	<b>Precast Architectural Concrete</b>
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>
03 47 13	Tilt-Up Concrete
03 47 16	Lift-Slab Concrete
<b>03 48 00</b>	<b>Precast Concrete Specialties</b>
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
03 48 33	Precast Pre-Framed Concrete Panels
03 48 43	Precast Concrete Trim
<b>03 49 00</b>	<b>Glass-Fiber-Reinforced Concrete</b>
03 49 13	Glass-Fiber-Reinforced Concrete Column Covers
03 49 16	Glass-Fiber-Reinforced Concrete Spandrels
03 49 43	Glass-Fiber-Reinforced Concrete Trim
<b>03 50 00</b>	<b>Cast Decks and Underlayment</b>
<b>03 51 00</b>	<b>Cast Roof Decks</b>
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>
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>
03 53 13	Emery-Aggregate Concrete Topping
03 53 16	Iron-Aggregate Concrete Topping
03 53 19	Concrete Overlayment
<b>03 54 00</b>	<b>Cast Underlayment</b>
03 54 13	Gypsum Cement Underlayment
03 54 16	Hydraulic Cement Underlayment
<b>03 60 00</b>	<b>Grouting</b>
<b>03 61 00</b>	<b>Cementitious Grouting</b>
03 61 13	Dry-Pack Grouting
<b>03 62 00</b>	<b>Non-Shrink Grouting</b>
03 62 13	Non-Metallic Non-Shrink Grouting
03 62 16	Metallic Non-Shrink Grouting
<b>03 63 00</b>	<b>Epoxy Grouting</b>
<b>03 64 00</b>	<b>Injection Grouting</b>
03 64 23	Epoxy Injection Grouting
<b>03 70 00</b>	<b>Mass Concrete</b>
<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>
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>
03 82 13	Concrete Core Drilling
<b>04 00 00</b>	<b>Masonry</b>
<b>04 01 00</b>	<b>Maintenance of Masonry</b>
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
<b>04 03 00</b>	<b>Conservation Treatment for Period Masonry</b>
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
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	Fiance 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
<b>04 05 00</b>	<b>Common Work Results for Masonry</b>
04 05 05	Selective Demolition for Masonry
04 05 13	Masonry Mortaring
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
04 05 16.16	Chemical-Resistant Masonry Grouting
04 05 16.26	Engineered Masonry Grouting

04 05 19	Masonry Anchorage and Reinforcing
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
04 05 23	Masonry Accessories
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>
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>
<b>04 20 00</b>	<b>Unit Masonry</b>
<b>04 21 00</b>	<b>Clay Unit Masonry</b>
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>
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
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>
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>
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>
04 25 13	Metal-Supported Unit Masonry Panels

<b>04 26 00</b>	<b>Single-Wythe Unit Masonry</b>
04 26 13	Masonry Veneer
<b>04 27 00</b>	<b>Multiple-Wythe Unit Masonry</b>
04 27 13	Composite Unit Masonry
04 27 23	Cavity Wall Unit Masonry
<b>04 28 00</b>	<b>Concrete Form Masonry Units</b>
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>
<b>04 40 00</b>	<b>Stone Assemblies</b>
<b>04 41 00</b>	<b>Dry-Placed Stone</b>
<b>04 42 00</b>	<b>Exterior Stone Cladding</b>
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
04 42 43	Stone Panels for Curtain Walls
<b>04 43 00</b>	<b>Stone Masonry</b>
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>
<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
<b>04 60 00</b>	<b>Corrosion-Resistant Masonry</b>
<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>
<b>04 71 00</b>	<b>Manufactured Brick Masonry</b>
04 71 13	Calcium Silicate Manufactured Brick Masonry
<b>04 72 00</b>	<b>Cast Stone Masonry</b>
<b>04 73 00</b>	<b>Manufactured Stone Masonry</b>
04 73 13	Calcium Silicate Manufactured Stone Masonry
<b>05 00 00</b>	<b>Metals</b>
<b>05 01 00</b>	<b>Maintenance of Metals</b>
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
<b>05 03 00</b>	<b>Conservation Treatment for Period Metals</b>
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
<b>05 05 00</b>	<b>Common Work Results for Metals</b>
05 05 05	Selective Demolition for Metals
05 05 13	Shop-Applied Coatings for Metal
05 05 19	Post-Installed Concrete Anchors
05 05 23	Metal Fastenings
05 05 53	Security Metal Fastenings
<b>05 06 00</b>	<b>Schedules for Metals</b>
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>
<b>05 10 00</b>	<b>Structural Metal Framing</b>
<b>05 12 00</b>	<b>Structural Steel Framing</b>
05 12 13	Architecturally-Exposed Structural Steel Framing
05 12 16	Fabricated Fireproofed Steel Columns
05 12 19	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>
<b>05 14 00</b>	<b>Structural Aluminum Framing</b>
05 14 13	Architecturally-Exposed Structural Aluminum Framing
<b>05 15 00</b>	<b>Wire Rope Assemblies</b>
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>

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>
<b>05 21 00</b>	<b>Steel Joist Framing</b>
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>
<b>05 30 00</b>	<b>Metal Decking</b>
<b>05 31 00</b>	<b>Steel Decking</b>
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>
05 33 13	Aluminum Floor Decking
05 33 23	Aluminum Roof Decking
<b>05 34 00</b>	<b>Acoustical Metal Decking</b>
<b>05 35 00</b>	<b>Raceway Decking Assemblies</b>
<b>05 36 00</b>	<b>Composite Metal Decking</b>
05 36 13	Composite Steel Plate and Elastomer Decking
<b>05 40 00</b>	<b>Cold-Formed Metal Framing</b>
<b>05 41 00</b>	<b>Structural Metal Stud Framing</b>
<b>05 42 00</b>	<b>Cold-Formed Metal Joist Framing</b>
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>
<b>05 44 00</b>	<b>Cold-Formed Metal Trusses</b>
05 44 13	Cold-Formed Metal Roof Trusses
<b>05 45 00</b>	<b>Metal Support Assemblies</b>
05 45 13	Mechanical Metal Supports
05 45 16	Electrical Metal Supports
05 45 19	Communications Metal Supports
05 45 23	Healthcare Metal Supports
<b>05 50 00</b>	<b>Metal Fabrications</b>
<b>05 51 00</b>	<b>Metal Stairs</b>
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
05 51 36.13	Metal Catwalks
05 51 36.16	Metal Ramps
05 51 36.19	Metal Platforms
<b>05 52 00</b>	<b>Metal Railings</b>
05 52 13	Pipe and Tube Railings
<b>05 53 00</b>	<b>Metal Gratings</b>
05 53 13	Bar Gratings
05 53 16	Plank Gratings
05 53 19	Expanded Metal Gratings
<b>05 54 00</b>	<b>Metal Floor Plates</b>
<b>05 55 00</b>	<b>Metal Stair Treads and Nosings</b>
05 55 13	Metal Stair Treads
05 55 16	Metal Stair Nosings
<b>05 56 00</b>	<b>Metal Castings</b>
<b>05 58 00</b>	<b>Formed Metal Fabrications</b>
05 58 13	Column Covers
05 58 16	Formed Metal Enclosures
05 58 19	Heating/Cooling Unit Covers
05 58 23	Formed Metal Guards
<b>05 59 00</b>	<b>Metal Specialties</b>
05 59 13	Metal Balconies
05 59 63	Detention Enclosures
<b>05 70 00</b>	<b>Decorative Metal</b>
<b>05 71 00</b>	<b>Decorative Metal Stairs</b>
05 71 13	Fabricated Metal Spiral Stairs
<b>05 73 00</b>	<b>Decorative Metal Railings</b>
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>
<b>05 75 00</b>	<b>Decorative Formed Metal</b>
<b>05 76 00</b>	<b>Decorative Forged Metal</b>
<b>05 77 00</b>	<b>Decorative Extruded Metal</b>
<b>06 00 00</b>	<b>Wood, Plastics, and Composites</b>
<b>06 01 00</b>	<b>Maintenance of Wood, Plastics, and Composites</b>
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

### **06 03 00 Conservation Treatment for Period Wood**

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

### **06 05 00 Common Work Results for Wood, Plastics, and Composites**

06 05 05	Selective Demolition for Wood, Plastics, and Composites
06 05 23	Wood, Plastic, and Composite Fastenings
06 05 73	Wood Treatment
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
06 05 83	Shop-Applied Wood Coatings

### **06 06 00 Schedules for Wood, Plastics, and Composites**

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>
<b>06 10 00</b>	<b>Rough Carpentry</b>
06 10 53	Miscellaneous Rough Carpentry
06 10 63	Exterior Rough Carpentry
<b>06 11 00</b>	<b>Wood Framing</b>
06 11 13	Engineered Wood Products
06 11 16	Mechanically Graded Lumber
<b>06 12 00</b>	<b>Structural Panels</b>
06 12 13	Cementitious Reinforced Panels
06 12 16	Stressed Skin Panels
<b>06 13 00</b>	<b>Heavy Timber Construction</b>
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
06 13 33	Heavy Timber Pier Construction
<b>06 14 00</b>	<b>Treated Wood Foundations</b>
<b>06 15 00</b>	<b>Wood Decking</b>
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>
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
06 16 53	Moisture-Resistant Sheathing Board
06 16 63	Cementitious Sheathing
<b>06 17 00</b>	<b>Shop-Fabricated Structural Wood</b>
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
<b>06 18 00</b>	<b>Glued-Laminated Construction</b>
06 18 13	Glued-Laminated Beams

06 18 16	Glued-Laminated Columns
<b>06 20 00</b>	<b>Finish Carpentry</b>
06 20 13	Exterior Finish Carpentry
06 20 23	Interior Finish Carpentry
<b>06 22 00</b>	<b>Millwork</b>
06 22 13	Standard Pattern Wood Trim
<b>06 25 00</b>	<b>Prefinished Paneling</b>
06 25 13	Prefinished Hardboard Paneling
06 25 16	Prefinished Plywood Paneling
<b>06 26 00</b>	<b>Board Paneling</b>
06 26 13	Profile Board Paneling
<b>06 40 00</b>	<b>Architectural Woodwork</b>
06 40 13	Exterior Architectural Woodwork
06 40 23	Interior Architectural Woodwork
<b>06 41 00</b>	<b>Architectural Wood Casework</b>
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>
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>
06 43 13	Wood Stairs
06 43 16	Wood Railings
<b>06 44 00</b>	<b>Ornamental Woodwork</b>
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
<b>06 46 00</b>	<b>Wood Trim</b>
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>
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>
06 49 13	Wood Screens
06 49 16	Wood Blinds
06 49 19	Wood Shutters
<b>06 50 00</b>	<b>Structural Plastics</b>
<b>06 51 00</b>	<b>Structural Plastic Shapes and Plates</b>
06 51 13	Plastic Lumber
<b>06 52 00</b>	<b>Plastic Structural Assemblies</b>
<b>06 53 00</b>	<b>Plastic Decking</b>
06 53 13	Solid Plastic Decking
<b>06 60 00</b>	<b>Plastic Fabrications</b>
<b>06 61 00</b>	<b>Cast Polymer Fabrications</b>
06 61 13	Simulated Stone Fabrications
06 61 16	Solid Surfacing Fabrications
<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>
<b>06 70 00</b>	<b>Structural Composites</b>
<b>06 71 00</b>	<b>Structural Composite Shapes and Plates</b>
06 71 13	Composite Lumber
<b>06 72 00</b>	<b>Composite Structural Assemblies</b>
06 72 13	Composite Joist Assemblies
06 72 23	Composite Stair Assemblies
<b>06 73 00</b>	<b>Composite Decking</b>
06 73 13	Composite Structural Decking
<b>06 74 00</b>	<b>Composite Gratings</b>
06 74 13	Fiberglass Reinforced Gratings
<b>06 80 00</b>	<b>Composite Fabrications</b>
<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
<b>07 00 00</b>	<b>Thermal and Moisture Protection</b>

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

- 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

## **07 03 00      Conservation Treatment for Period Roofing**

- 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
- 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

## **07 05 00      Common Work Results for Thermal and Moisture Protection**

- 07 05 05      Selective Demolition for Thermal and Moisture Protection
- 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>
07 06 10	Schedules for Dampproofing and Waterproofing
07 06 20	Schedules for Thermal Protection
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	Fireproofing Schedule
07 06 80.16	Firestopping Schedule
07 06 90	Schedules for Joint Protection
07 06 90.13	Joint Sealant Schedule
<b>07 08 00</b>	<b>Commissioning of Thermal and Moisture Protection</b>
<b>07 10 00</b>	<b>Dampproofing and Waterproofing</b>
<b>07 11 00</b>	<b>Dampproofing</b>
07 11 13	Bituminous Dampproofing
07 11 16	Cementitious Dampproofing
07 11 19	Sheet Dampproofing
<b>07 12 00</b>	<b>Built-Up Bituminous Waterproofing</b>
07 12 13	Built-Up Asphalt Waterproofing
07 12 16	Built-Up Coal Tar Waterproofing
<b>07 13 00</b>	<b>Sheet Waterproofing</b>
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>
07 14 13	Hot Fluid-Applied Rubberized Asphalt Waterproofing
07 14 14	Hot Fluid-Applied Polyurea Waterproofing
07 14 16	Cold Fluid-Applied Waterproofing
<b>07 15 00</b>	<b>Sheet Metal Waterproofing</b>
07 15 13	Sheet Lead Waterproofing
<b>07 16 00</b>	<b>Cementitious and Reactive Waterproofing</b>
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>
07 17 13	Bentonite Panel Waterproofing
07 17 16	Bentonite Composite Sheet Waterproofing
<b>07 18 00</b>	<b>Traffic Coatings</b>
07 18 13	Pedestrian Traffic Coatings
07 18 16	Vehicular Traffic Coatings
<b>07 19 00</b>	<b>Water Repellents</b>
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
<b>07 20 00</b>	<b>Thermal Protection</b>
<b>07 21 00</b>	<b>Thermal Insulation</b>
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
07 21 23	Loose-Fill Insulation
07 21 26	Blown Insulation
07 21 29	Sprayed Insulation
07 21 53	Reflective Insulation
<b>07 22 00</b>	<b>Roof and Deck Insulation</b>
07 22 13	Asphaltic Perlite Concrete Deck
07 22 16	Roof Board Insulation
<b>07 24 00</b>	<b>Exterior Insulation and Finish Systems</b>
07 24 13	Polymer-Based Exterior Insulation and Finish System
07 24 16	Polymer-Modified Exterior Insulation and Finish System
07 24 19	Water-Drainage Exterior Insulation and Finish System
07 24 23	Direct-Applied Finish Systems
<b>07 25 00</b>	<b>Weather Barriers</b>
<b>07 26 00</b>	<b>Vapor Retarders</b>
07 26 13	Above-Grade Vapor Retarders
07 26 16	Below-Grade Vapor Retarders
07 26 23	Below-Grade Gas Retarders
<b>07 27 00</b>	<b>Air Barriers</b>
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>
07 30 91	Canvas Roofing
<b>07 31 00</b>	<b>Shingles and Shakes</b>
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>
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>
07 33 13	Sod Roofing
07 33 16	Thatched Roofing
07 33 63	Vegetated Steep-Slope Roofing
<b>07 40 00</b>	<b>Roofing and Siding Panels</b>
<b>07 41 00</b>	<b>Roof Panels</b>
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
<b>07 42 00</b>	<b>Wall Panels</b>
07 42 13	Metal Wall Panels
07 42 13.13	Formed Metal Wall Panels
07 42 13.16	Metal Plate Wall Panels
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
07 42 29	Terra Cotta Wall Panels
07 42 33	Plastic Wall Panels
07 42 43	Composite Wall Panels
07 42 46	Cementitious Wall Panels
07 42 63	Fabricated Wall Panel Assemblies
07 42 93	Soffit Panels
<b>07 44 00</b>	<b>Faced Panels</b>
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
<b>07 46 00</b>	<b>Siding</b>
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
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
07 46 46	Fiber-Cement Siding
07 46 63	Fabricated Panel Assemblies with Siding

**07 50 00****Membrane Roofing****07 51 00****Built-Up Bituminous 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

**07 52 00****Modified Bituminous 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

**07 53 00****Elastomeric Membrane Roofing**

07 53 13	Chlorinated-Polyethylene Roofing
07 53 16	Chlorosulfonate-Polyethylene Roofing
07 53 23	Ethylene-Propylene-Diene-Monomer Roofing
07 53 29	Polyisobutylene Roofing

**07 54 00****Thermoplastic 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

**07 55 00****Protected Membrane 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
<b>07 56 00</b>	<b>Fluid-Applied Roofing</b>
<b>07 57 00</b>	<b>Coated Foamed Roofing</b>
07 57 13	Sprayed Polyurethane Foam Roofing
<b>07 58 00</b>	<b>Roll Roofing</b>
<b>07 60 00</b>	<b>Flashing and Sheet Metal</b>
<b>07 61 00</b>	<b>Sheet Metal Roofing</b>
07 61 13	Standing Seam Sheet Metal Roofing
07 61 16	Batten Seam Sheet Metal Roofing
07 61 19	Flat Seam Sheet Metal Roofing
<b>07 62 00</b>	<b>Sheet Metal Flashing and Trim</b>
<b>07 63 00</b>	<b>Sheet Metal Roofing Specialties</b>
<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>
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
<b>07 70 00</b>	<b>Roof and Wall Specialties and Accessories</b>
<b>07 71 00</b>	<b>Roof Specialties</b>
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>
07 72 13	Manufactured Curbs
07 72 23	Relief Vents
07 72 26	Ridge Vents
07 72 33	Roof Hatches
07 72 36	Smoke Vents
07 72 39	Operable Roof Vents
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
<b>07 76 00</b>	<b>Roof Pavers</b>

07 76 13	Roof Ballast Pavers
07 76 16	Roof Decking Pavers
<b>07 77 00</b>	<b>Wall Specialties</b>
<b>07 80 00</b>	<b>Fire and Smoke Protection</b>
<b>07 81 00</b>	<b>Applied Fireproofing</b>
07 81 13	Cement Aggregate Fireproofing
07 81 16	Cementitious Fireproofing
07 81 19	Foamed Magnesium-Oxychloride Fireproofing
07 81 23	Intumescent Fireproofing
07 81 26	Magnesium Cement Fireproofing
07 81 29	Mineral-Fiber Cementitious Fireproofing
07 81 33	Mineral-Fiber Fireproofing
<b>07 82 00</b>	<b>Board Fireproofing</b>
07 82 13	Calcium-Silicate Board Fireproofing
07 82 16	Slag-Fiber Board Fireproofing
<b>07 84 00</b>	<b>Firestopping</b>
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
<b>07 86 00</b>	<b>Smoke Seals</b>
<b>07 87 00</b>	<b>Smoke Containment Barriers</b>
<b>07 90 00</b>	<b>Joint Protection</b>
<b>07 91 00</b>	<b>Preformed Joint Seals</b>
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>
07 92 13	Elastomeric Joint Sealants
07 92 16	Rigid Joint Sealants
07 92 19	Acoustical Joint Sealants
<b>07 95 00</b>	<b>Expansion Control</b>
07 95 13	Expansion Joint Cover Assemblies
07 95 13.13	Interior Expansion Joint Cover Assemblies
07 95 13.16	Exterior Expansion Joint Cover Assemblies
07 95 13.19	Parking Deck Expansion Joint Cover Assemblies
07 95 53	Joint Slide Bearings
07 95 63	Bridge Expansion Joint Cover Assemblies
<b>08 00 00</b>	<b>Openings</b>
<b>08 01 00</b>	<b>Operation and Maintenance of Openings</b>
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
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

**08 03 00****Conservation Treatment for Period Openings**

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
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>
08 05 05	Selective Demolition for Openings
<b>08 06 00</b>	<b>Schedules for Openings</b>
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
08 06 80	Glazing Schedule
08 06 90	Louver and Vent Schedule
<b>08 08 00</b>	<b>Commissioning of Openings</b>
<b>08 10 00</b>	<b>Doors and Frames</b>
<b>08 11 00</b>	<b>Metal Doors and Frames</b>
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
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
08 11 74	Sliding Metal Grilles
<b>08 12 00</b>	<b>Metal Frames</b>
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 19	Stainless-Steel Frames
08 12 23	Bronze Frames
<b>08 13 00</b>	<b>Metal Doors</b>
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
<b>08 14 00</b>	<b>Wood Doors</b>
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
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>
08 15 13	Laminated Plastic Doors
08 15 16	Solid Plastic Doors
08 15 66	Plastic Screen Doors
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>
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>
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>
<b>08 31 00</b>	<b>Access Doors and Panels</b>
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>

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>
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
<b>08 34 00</b>	<b>Special Function Doors</b>
08 34 13	Cold Storage Doors
08 34 16	Hangar Doors
08 34 19	Industrial Doors
08 34 33	Lightproof Doors
08 34 36	Darkroom Doors
08 34 46	Radio-Frequency-Interference Shielding Doors
08 34 49	Radiation Shielding Doors and Frames
08 34 49.13	Neutron Shielding Doors and Frames
08 34 53	Security Doors and Frames
08 34 56	Security Gates
08 34 58	File Room Doors and Frames
08 34 59	Vault Doors and Day Gates
08 34 73	Sound Control Door Assemblies
08 34 73.13	Metal Sound Control Door Assemblies
08 34 73.16	Wood Sound Control Door Assemblies
<b>08 35 00</b>	<b>Folding Doors and Grilles</b>
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
<b>08 36 00</b>	<b>Panel Doors</b>
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>
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>
08 39 13	Airtight Doors
08 39 19	Watertight Doors
08 39 53	Blast-Resistant Doors

**08 40 00 Entrances, Storefronts, and Curtain Walls****08 41 00 Entrances and Storefronts**

- 08 41 13 Aluminum-Framed Entrances and Storefronts
- 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
- 08 41 26.13 Point Supported All-Glass Storefronts

**08 42 00 Entrances**

- 08 42 13 Aluminum-Framed Entrances
- 08 42 26 All-Glass Entrances
- 08 42 29 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
- 08 42 33.13 Security Revolving Door Entrances
- 08 42 36 Balanced Door Entrances
- 08 42 39 Pressure-Resistant Entrances
- 08 42 43 Intensive Care Unit/Critical Care Unit Entrances

**08 43 00 Storefronts**

- 08 43 11 Timber-Framed Storefronts
- 08 43 13 Aluminum-Framed Storefronts
- 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
- 08 43 27 Channel Glass Storefronts
- 08 43 29 Sliding Storefronts

**08 44 00 Curtain Wall and Glazed Assemblies**

- 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
- 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
- 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

**08 45 00 Translucent Wall and Roof Assemblies**

- 08 45 13 Structured-Polycarbonate-Panel Assemblies
- 08 45 23 Fiberglass-Sandwich-Panel Assemblies

**08 46 00 Window Wall Assemblies**

<b>08 50 00</b>	<b>Windows</b>
<b>08 51 00</b>	<b>Metal Windows</b>
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
08 51 23.23	Cold-Rolled Steel Windows
08 51 66	Metal Window Screens
08 51 69	Metal Storm Windows
<b>08 52 00</b>	<b>Wood Windows</b>
08 52 13	Metal-Clad Wood Windows
08 52 16	Plastic-Clad Wood Windows
08 52 66	Wood Window Screens
08 52 69	Wood Storm Windows
<b>08 53 00</b>	<b>Plastic Windows</b>
08 53 13	Vinyl Windows
08 53 66	Vinyl Window Screens
08 53 69	Vinyl Storm Windows
<b>08 54 00</b>	<b>Composite Windows</b>
08 54 13	Fiberglass Windows
08 54 66	Fiberglass Window Screens
08 54 69	Fiberglass Storm Windows
<b>08 55 00</b>	<b>Pressure-Resistant Windows</b>
08 55 13	Tornado-Resistant Windows
08 55 23	Blast-Resistant Windows
<b>08 56 00</b>	<b>Special Function Windows</b>
08 56 19	Pass Windows
08 56 46	Radio-Frequency-Interference Shielding Windows
08 56 49	Radiation Shielding Windows
08 56 53	Security Windows
08 56 56	Security Window Screens
08 56 59	Service and Teller Window Units
08 56 73	Sound Control Windows
08 56 88	Interior Insulating Windows
<b>08 60 00</b>	<b>Roof Windows and Skylights</b>
<b>08 61 00</b>	<b>Roof Windows</b>
08 61 13	Metal Roof Windows
08 61 16	Wood Roof Windows
<b>08 62 00</b>	<b>Unit Skylights</b>
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>
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>
<b>08 65 00</b>	<b>Glazed Canopies</b>
08 65 13	Suspended Glazed Canopies
<b>08 67 00</b>	<b>Skylight Protection and Screens</b>
<b>08 70 00</b>	<b>Hardware</b>
<b>08 71 00</b>	<b>Door Hardware</b>
08 71 13	Automatic Door Operators
08 71 53	Security Door Hardware
<b>08 75 00</b>	<b>Window Hardware</b>
08 75 13	Automatic Window Equipment
08 75 16	Window Operators
<b>08 78 00</b>	<b>Special Function Hardware</b>
<b>08 79 00</b>	<b>Hardware Accessories</b>
08 79 13	Key Storage Equipment
<b>08 80 00</b>	<b>Glazing</b>
<b>08 81 00</b>	<b>Glass Glazing</b>
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>
08 83 13	Mirrored Glass Glazing
08 83 16	Mirrored Plastic Glazing
<b>08 84 00</b>	<b>Plastic Glazing</b>
08 84 13	Decorative Plastic Glazing
<b>08 85 00</b>	<b>Glazing Accessories</b>
<b>08 87 00</b>	<b>Glazing Surface Films</b>
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>
08 88 13	Fire-Resistant 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
08 88 49	Radiation-Resistant Glazing
08 88 53	Security Glazing
08 88 56	Ballistics-Resistant Glazing

<b>08 90 00</b>	<b>Louvers and Vents</b>
<b>08 91 00</b>	<b>Louvers</b>
08 91 13	Motorized Wall Louvers
08 91 16	Operable Wall Louvers
08 91 19	Fixed Louvers
08 91 26	Door Louvers
<b>08 92 00</b>	<b>Louvered Equipment Enclosures</b>
<b>08 95 00</b>	<b>Vents</b>
08 95 13	Soffit Vents
08 95 16	Wall Vents
08 95 33	Explosion Vents
08 95 43	Flood Vents
<b>09 00 00</b>	<b>Finishes</b>
<b>09 01 00</b>	<b>Maintenance of Finishes</b>
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
<b>09 03 00</b>	<b>Conservation Treatment of Period Finishes</b>
09 03 21	Conservation Treatment for Period Plaster Assemblies
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
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
09 03 91.13	Conservation Treatment for Period Exterior Painting
09 03 91.23	Conservation Treatment for Period Interior Painting
<b>09 05 00</b>	<b>Common Work Results for Finishes</b>
09 05 05	Selective Demolition for Finishes
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
<b>09 06 00</b>	<b>Schedules for Finishes</b>
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
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>
<b>09 20 00</b>	<b>Plaster and Gypsum Board</b>
<b>09 21 00</b>	<b>Plaster and Gypsum Board Assemblies</b>
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
<b>09 22 00</b>	<b>Supports for Plaster and Gypsum Board</b>
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>
09 23 13	Acoustical Gypsum Plastering
09 23 82	Fireproof Gypsum Plastering
<b>09 24 00</b>	<b>Cement Plastering</b>
09 24 13	Adobe Finish
09 24 23	Cement Stucco

09 24 33	Cement Parging
<b>09 25 00</b>	<b>Other Plastering</b>
09 25 13	Acrylic Plastering
09 25 13.13	Acrylic Plaster Finish
09 25 23	Lime Based Plastering
09 25 26	Natural Clay Plastering
<b>09 26 00</b>	<b>Veneer Plastering</b>
09 26 13	Gypsum Veneer Plastering
<b>09 27 00</b>	<b>Plaster Fabrications</b>
09 27 13	Glass-Fiber-Reinforced Gypsum Fabrications
09 27 23	Simulated Plaster Fabrications
<b>09 28 00</b>	<b>Backing Boards and Underlayments</b>
09 28 13	Cementitious Backing Boards
09 28 16	Glass-Mat Faced Gypsum Backing Boards
09 28 19	Fibered Gypsum Backing Boards
<b>09 29 00</b>	<b>Gypsum Board</b>
09 29 82	Gypsum Board Fireproofing
<b>09 30 00</b>	<b>Tiling</b>
09 30 13	Ceramic Tiling
09 30 16	Quarry Tiling
09 30 19	Paver Tiling
09 30 23	Glass Mosaic Tiling
09 30 26	Plastic Tiling
09 30 29	Metal Tiling
09 30 33	Stone Tiling
09 30 36	Concrete Tiling
09 30 39	Brick Tiling
<b>09 31 00</b>	<b>Thin-Set Tiling</b>
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>
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
<b>09 33 00</b>	<b>Conductive Tiling</b>
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

### **09 34 00 Waterproofing-Membrane 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

### **09 35 00 Chemical-Resistant Tiling**

- 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

## **09 50 00 Ceilings**

### **09 51 00 Acoustical Ceilings**

- 09 51 13 Acoustical Panel Ceilings
- 09 51 14 Acoustical Fabric-Faced Panel Ceilings
- 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

### **09 53 00 Acoustical Ceiling Suspension Assemblies**

- 09 53 13 Curved Profile Ceiling Suspension Assemblies
- 09 53 23 Metal Acoustical Ceiling Suspension Assemblies
- 09 53 33 Plastic Acoustical Ceiling Suspension Assemblies

### **09 54 00 Specialty Ceilings**

- 09 54 13 Open Metal Mesh Ceilings
- 09 54 16 Luminous Ceilings
- 09 54 19 Mirror Panel 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

<b>09 56 00</b>	<b>Textured Ceilings</b>
09 56 13	Gypsum-Panel Textured Ceilings
09 56 16	Metal-Panel Textured Ceilings
<b>09 57 00</b>	<b>Special Function Ceilings</b>
09 57 53	Security Ceiling Assemblies
<b>09 58 00</b>	<b>Integrated Ceiling Assemblies</b>
<b>09 60 00</b>	<b>Flooring</b>
<b>09 61 00</b>	<b>Flooring Treatment</b>
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>
09 62 13	Asphaltic Plank Flooring
09 62 19	Laminate Flooring
09 62 23	Bamboo 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
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>
09 63 13	Brick Flooring
09 63 13.35	Chemical-Resistant Brick Flooring
09 63 40	Stone Flooring
09 63 43	Composition Stone Flooring
<b>09 64 00</b>	<b>Wood Flooring</b>
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 53	Resilient Wood Flooring Assemblies
09 64 66	Wood Athletic Flooring
<b>09 65 00</b>	<b>Resilient Flooring</b>
09 65 13	Resilient Base and Accessories
09 65 13.13	Resilient Base
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>
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
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
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
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
<b>09 67 00</b>	<b>Fluid-Applied Flooring</b>
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
<b>09 68 00</b>	<b>Carpeting</b>
09 68 13	Tile Carpeting
09 68 16	Sheet Carpeting
<b>09 69 00</b>	<b>Access Flooring</b>
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
<b>09 70 00</b>	<b>Wall Finishes</b>
<b>09 72 00</b>	<b>Wall Coverings</b>
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>
<b>09 74 00</b>	<b>Flexible Wood Sheets</b>
09 74 13	Wood Wall Coverings
09 74 16	Flexible Wood Veneers
<b>09 75 00</b>	<b>Stone Facing</b>
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
<b>09 76 00</b>	<b>Plastic Blocks</b>
<b>09 77 00</b>	<b>Special Wall Surfacing</b>
09 77 13	Stretched-Fabric Wall Systems
09 77 23	Fabric-Wrapped Panels
09 77 33	Terrazzo Wall Finish
09 77 53	Vegetated Wall Systems
<b>09 78 00</b>	<b>Interior Wall Paneling</b>
09 78 13	Metal Interior Wall Paneling
09 78 16	Stone-Faced Interior Wall Paneling
09 78 19	Cementitious Interior Wall Paneling
09 78 23	Phenolic Interior Wall Paneling
<b>09 80 00</b>	<b>Acoustic Treatment</b>
<b>09 81 00</b>	<b>Acoustic Insulation</b>
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>
09 83 13	Acoustic Wall Coating
09 83 16	Acoustic Ceiling Coating
09 83 22	Acoustic Drapery
<b>09 84 00</b>	<b>Acoustic Room Components</b>
09 84 13	Fixed Sound-Absorptive Panels
09 84 14	Acoustic 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>
<b>09 91 00</b>	<b>Painting</b>
09 91 13	Exterior Painting
09 91 23	Interior Painting

<b>09 93 00</b>	<b>Staining and Transparent Finishing</b>
09 93 13	Exterior Staining and Finishing
09 93 13.13	Exterior Staining
09 93 13.53	Exterior Finishing
09 93 23	Interior Staining and Finishing
09 93 23.13	Interior Staining
09 93 23.53	Interior Finishing
<b>09 94 00</b>	<b>Decorative Finishing</b>
09 94 13	Textured Finishing
09 94 16	Faux Finishing
09 94 19	Multicolor Interior Finishing
09 94 23	Gilding
<b>09 96 00</b>	<b>High-Performance Coatings</b>
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>
09 97 13	Steel Coatings
09 97 13.13	Interior Steel Coatings
09 97 13.23	Exterior Steel Coatings
09 97 13.24	Steel Water Storage Tank Painting
09 97 23	Concrete and Masonry Coatings
09 97 23.24	Concrete Water Storage Tank Painting
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
<b>10 00 00</b>	<b>Specialties</b>
<b>10 01 00</b>	<b>Operation and Maintenance of Specialties</b>
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
<b>10 05 00</b>	<b>Common Work Results for Specialties</b>
10 05 05	Selective Demolition for Specialties
<b>10 06 00</b>	<b>Schedules for Specialties</b>
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
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>
<b>10 10 00</b>	<b>Information Specialties</b>
<b>10 11 00</b>	<b>Visual Display Units</b>
10 11 13	Chalkboards
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
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
10 11 23	Tackboards
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
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
10 11 39	Visual Display Rails
10 11 43	Visual Display Wall Panels
10 11 46	Visual Display Fabrics
<b>10 12 00</b>	<b>Display Cases</b>
<b>10 13 00</b>	<b>Directories</b>
10 13 13	Electronic Directories
10 13 23	Illuminated Directories
<b>10 14 00</b>	<b>Signage</b>
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
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>
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>
<b>10 20 00</b>	<b>Interior Specialties</b>
<b>10 21 00</b>	<b>Compartments and Cubicles</b>
10 21 13	Toilet Compartments
10 21 13.13	Metal Toilet Compartments
10 21 13.14	Stainless-Steel Toilet Compartments
10 21 13.16	Plastic-Laminate-Clad Toilet Compartments
10 21 13.17	Phenolic-Core Toilet Compartments
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
10 21 16.13	Metal Shower and Dressing Compartments
10 21 16.14	Stainless-Steel Shower and Dressing Compartments
10 21 16.16	Plastic-Laminate-Clad Shower and Dressing Compartments
10 21 16.17	Phenolic-Core Shower and Dressing Compartments
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
10 21 23.13	Cubicle Curtains
10 21 23.16	Cubicle Track and Hardware
10 21 26	Room Darkening Curtains and Tracks
<b>10 22 00</b>	<b>Partitions</b>
10 22 13	Wire Mesh Partitions
10 22 14	Expanded Metal Partitions
10 22 16	Folding Gates
10 22 19	Demountable 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 23	Portable Partitions, Screens, and Panels
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
10 22 43	Sliding Partitions
<b>10 25 00</b>	<b>Service Walls</b>
10 25 13	Patient Bed Service Walls

10 25 16	Modular Service Walls
<b>10 26 00</b>	<b>Wall and Door Protection</b>
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
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	Bullet Resistant Panels
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>
10 28 13	Toilet Accessories
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
10 28 16.13	Residential Bath Accessories
10 28 19	Tub and Shower Enclosures
10 28 19.16	Shower Doors
10 28 19.19	Tub Doors
10 28 23	Laundry Accessories
10 28 23.13	Built-In Ironing Boards
10 28 23.16	Clothes Drying Racks
10 28 26	Hygiene and Custodial Accessories
<b>10 30 00</b>	<b>Fireplaces and Stoves</b>
<b>10 31 00</b>	<b>Manufactured Fireplaces</b>
10 31 13	Manufactured Fireplace Chimneys
10 31 16	Manufactured Fireplace Forms
<b>10 32 00</b>	<b>Fireplace Specialties</b>
10 32 13	Fireplace Dampers
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>
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>
10 41 13	Fire Department Plan Cabinets
10 41 16	Emergency Key Cabinets
<b>10 43 00</b>	<b>Emergency Aid Specialties</b>
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



<b>10 44 00</b>	<b>Fire Protection Specialties</b>
10 44 13	Fire Protection Cabinets
10 44 13.53	Security Fire Extinguisher Cabinets
10 44 16	Fire Extinguishers
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>
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
<b>10 55 00</b>	<b>Postal Specialties</b>
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>
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
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**

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**

10 71 13	Exterior Sun Control Devices
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
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**

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 33	Marquees
10 73 43	Transportation Stop Shelters

<b>10 74 00</b>	<b>Manufactured Exterior Specialties</b>
10 74 13	Exterior Clocks
10 74 23	Cupolas
10 74 26	Spires
10 74 29	Steeples
10 74 33	Weather vanes
10 74 43	Below-Grade Egress Assemblies
10 74 46	Window Wells
<b>10 75 00</b>	<b>Flagpoles</b>
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
10 75 29	Plaza-Mounted Flagpoles
<b>10 80 00</b>	<b>Other Specialties</b>
<b>10 81 00</b>	<b>Pest Control Devices</b>
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>
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>
10 83 13	Flags
10 83 16	Banners
<b>10 84 00</b>	<b>Gas Lighting</b>
10 84 13	Exterior Gas Lighting
10 84 16	Interior Gas Lighting
<b>10 86 00</b>	<b>Security Mirrors and Domes</b>
<b>10 88 00</b>	<b>Scales</b>
<b>11 00 00</b>	<b>Equipment</b>
<b>11 01 00</b>	<b>Operation and Maintenance of Equipment</b>
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
<b>11 05 00</b>	<b>Common Work Results for Equipment</b>
11 05 05	Selective Demolition for Equipment

11 05 13	Common Motor Requirements for Equipment
<b>11 06 00</b>	<b>Schedules for Equipment</b>
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
<b>11 08 00</b>	<b>Commissioning of Equipment</b>
<b>11 10 00</b>	<b>Vehicle and Pedestrian Equipment</b>
<b>11 11 00</b>	<b>Vehicle Service Equipment</b>
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>
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
11 12 33.19	Swinging Parking Gates
<b>11 13 00</b>	<b>Loading Dock Equipment</b>
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

**11 14 00 Pedestrian Control Equipment**

- 11 14 13 Pedestrian Gates
- 11 14 13.16 Rotary Gates
- 11 14 13.19 Turnstiles
- 11 14 16 Pedestrian Control Devices
- 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

**11 15 00 Security Control Equipment****11 20 00 Commercial Equipment****11 21 00 Retail and Service Equipment**

- 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
- 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
- 11 21 63 Refrigerated Display Equipment
- 11 21 73 Commercial Laundry and Dry Cleaning Equipment
- 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

**11 22 00 Banking Equipment**

- 11 22 13 Vault Equipment
- 11 22 13.13 Safe Deposit Boxes
- 11 22 13.16 Safes
- 11 22 13.23 Vault Ventilators
- 11 22 13.26 Time Capsules
- 11 22 16 Teller and Service Equipment
- 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

**11 25 00 Hospitality Equipment**

- 11 25 13 Registration Equipment

**11 28 00 Office Equipment**

11 28 13	Computers
11 28 16	Printers
11 28 23	Copiers
<b>11 29 00</b>	<b>Postal, Packaging, and Shipping Equipment</b>
11 29 23	Packaging Equipment
11 29 33	Shipping Equipment
11 29 55	Postal Equipment
<b>11 30 00</b>	<b>Residential Equipment</b>
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
<b>11 32 00</b>	<b>Unit Kitchens</b>
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>
<b>11 41 00</b>	<b>Foodservice Storage Equipment</b>
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>
11 42 13	Food Preparation Appliances
11 42 16	Food Preparation Surfaces
<b>11 43 00</b>	<b>Food Delivery Carts and Conveyors</b>
11 43 13	Food Delivery Carts
11 43 16	Food Delivery Conveyors
<b>11 44 00</b>	<b>Food Cooking Equipment</b>
11 44 13	Commercial Ranges
11 44 16	Commercial Ovens
<b>11 46 00</b>	<b>Food Dispensing Equipment</b>
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
<b>11 48 00</b>	<b>Foodservice Cleaning and Disposal Equipment</b>
11 48 13	Commercial Dishwashers
<b>11 50 00</b>	<b>Educational and Scientific Equipment</b>
<b>11 51 00</b>	<b>Library Equipment</b>
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>
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
11 52 23	Audio-Visual Equipment Supports
<b>11 53 00</b>	<b>Laboratory Equipment</b>
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
<b>11 55 00</b>	<b>Planetarium Equipment</b>
11 55 13	Planetarium Projectors
11 55 16	Planetarium Pendulums
<b>11 56 00</b>	<b>Observatory Equipment</b>
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>
<b>11 59 00</b>	<b>Exhibit Equipment</b>
<b>11 60 00</b>	<b>Entertainment and Recreation Equipment</b>
<b>11 61 00</b>	<b>Broadcast, Theater, and Stage Equipment</b>
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>
11 62 13	Bells
11 62 16	Carillons
11 62 19	Organs
<b>11 66 00</b>	<b>Athletic Equipment</b>

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
<b>11 67 00</b>	<b>Recreational Equipment</b>
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>
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>
<b>11 71 00</b>	<b>Medical Sterilizing Equipment</b>
<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>
11 78 13	Mortuary Refrigerators
11 78 16	Crematorium Equipment
11 78 19	Mortuary Lifts



<b>11 79 00</b>	<b>Therapy Equipment</b>
<b>11 80 00</b>	<b>Facility Maintenance and Operation Equipment</b>
<b>11 81 00</b>	<b>Facility Maintenance Equipment</b>
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
<b>11 82 00</b>	<b>Facility Solid Waste Handling Equipment</b>
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
11 82 36	Facility Waste Balers
<b>11 90 00</b>	<b>Other Equipment</b>
<b>11 91 00</b>	<b>Religious Equipment</b>
11 91 13	Baptisteries
<b>11 92 00</b>	<b>Agricultural Equipment</b>
11 92 13	Milkers
11 92 16	Stock Feeders
11 92 19	Stock Waterers
11 92 23	Agricultural Waste Clean-Up Equipment
<b>11 93 00</b>	<b>Horticultural Equipment</b>
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>
11 97 13	Deal Drawers
11 97 16	Gun Ports
11 97 23	Valuable Material Storage
<b>11 98 00</b>	<b>Detention Equipment</b>
11 98 11	Detention Equipment General Requirements
11 98 12	Detention Doors and Frames
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

## **12 00 00**      **Furnishings**

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

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**

12 05 05	Selective Demolition for Furnishings
12 05 13	Fabrics

### **12 06 00**      **Schedules for Furnishings**

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
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**

## **12 10 00**      **Art**

### **12 11 00**      **Murals**

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**

12 12 13	Commissioned Paintings
12 12 16	Framed Paintings
12 12 19	Framed Prints
12 12 23	Tapestries
12 12 26	Wall Hangings

### **12 14 00**      **Sculptures**

12 14 13	Carved Sculpture
12 14 16	Cast Sculpture
12 14 19	Constructed Sculpture
12 14 23	Relief Art

### **12 17 00**      **Art Glass**

12 17 13	Etched Glass
12 17 16	Stained Glass
<b>12 19 00</b>	<b>Religious Art</b>
<b>12 20 00</b>	<b>Window Treatments</b>
<b>12 21 00</b>	<b>Window Blinds</b>
12 21 13	Wood Blinds
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>
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>
<b>12 30 00</b>	<b>Casework</b>
<b>12 31 00</b>	<b>Manufactured Metal Casework</b>
12 31 16	Manufactured Metal Sandwich Panel Casework
<b>12 32 00</b>	<b>Manufactured Wood Casework</b>
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>
12 34 16	Manufactured Solid-Plastic Casework
12 34 19	Manufactured Solid Surface Casework
<b>12 35 00</b>	<b>Specialty Casework</b>
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
12 35 83	Performing Arts Casework
12 35 91	Religious Casework
<b>12 36 00</b>	<b>Countertops</b>
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
<b>12 40 00</b>	<b>Furnishings and Accessories</b>
<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>
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
<b>12 48 00</b>	<b>Rugs and Mats</b>
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>
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
<b>12 52 00</b>	<b>Seating</b>
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>
12 53 83	Custom Retail Furniture
<b>12 54 00</b>	<b>Hospitality Furniture</b>

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>
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
<b>12 56 00</b>	<b>Institutional Furniture</b>
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
<b>12 57 00</b>	<b>Industrial Furniture</b>
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
<b>12 58 00</b>	<b>Residential Furniture</b>
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
<b>12 59 00</b>	<b>Systems Furniture</b>
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
<b>12 60 00</b>	<b>Multiple Seating</b>
<b>12 61 00</b>	<b>Fixed Audience Seating</b>
12 61 13	Upholstered Audience Seating
12 61 16	Molded-Plastic Audience Seating
<b>12 62 00</b>	<b>Portable Audience Seating</b>
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>
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>
<b>12 65 00</b>	<b>Multiple-Use Fixed Seating</b>
<b>12 66 00</b>	<b>Telescoping Stands</b>
12 66 13	Telescoping Bleachers
12 66 23	Telescoping Chair Platforms
<b>12 67 00</b>	<b>Pews and Benches</b>
12 67 13	Pews
12 67 23	Benches
<b>12 68 00</b>	<b>Seat and Table Assemblies</b>
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>
12 92 13	Interior Artificial Plants
12 92 33	Interior Planters
12 92 43	Interior Landscaping Accessories
<b>12 93 00</b>	<b>Interior Public Space Furnishings</b>
12 93 13	Bicycle Racks
12 93 14	Bicycle Lockers
12 93 23	Trash and Litter Receptacles
<b>13 00 00</b>	<b>Special Construction</b>
<b>13 01 00</b>	<b>Operation and Maintenance of Special Construction</b>
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
<b>13 05 00</b>	<b>Common Work Results for Special Construction</b>
13 05 05	Selective Demolition for Special Construction
<b>13 06 00</b>	<b>Schedules for Special Construction</b>
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>
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>
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>
13 12 13	Exterior Fountains
13 12 23	Interior Fountains
<b>13 13 00</b>	<b>Aquariums</b>
<b>13 14 00</b>	<b>Amusement Park Structures and Equipment</b>
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>
<b>13 17 00</b>	<b>Tubs and Pools</b>



13 17 13	Hot Tubs
13 17 23	Therapeutic Pools
13 17 33	Whirlpool Tubs
<b>13 18 00</b>	<b>Ice Rinks</b>
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>
13 19 13	Kennel Enclosures and Gates
13 19 16	Kennel Feeding Devices
13 19 19	Animal Washing Tubs
<b>13 20 00</b>	<b>Special Purpose Rooms</b>
<b>13 21 00</b>	<b>Controlled Environment Rooms</b>
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>
<b>13 23 00</b>	<b>Planetariums</b>
<b>13 24 00</b>	<b>Special Activity Rooms</b>
13 24 16	Saunas
13 24 26	Steam Baths
13 24 66	Athletic Rooms
<b>13 26 00</b>	<b>Fabricated Rooms</b>
13 26 13	Storm Shelter Rooms
<b>13 27 00</b>	<b>Vaults</b>
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>
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>
<b>13 31 00</b>	<b>Fabric Structures</b>
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>
13 32 13	Metal Space Frames
13 32 23	Wood Space Frames
<b>13 33 00</b>	<b>Geodesic Structures</b>
13 33 13	Geodesic Domes
<b>13 34 00</b>	<b>Fabricated Engineered Structures</b>
13 34 13	Glazed Structures
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
13 34 16	Grandstands and Bleachers
13 34 16.13	Grandstands
13 34 16.53	Bleachers
13 34 18	Post Frame Building Systems
13 34 19	Metal Building Systems
13 34 23	Fabricated Structures
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 56	Observatories
<b>13 35 00</b>	<b>Rammed Earth Construction</b>
13 35 13	Rammed Earth Walls
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>
13 36 13	Metal Towers
13 36 13.13	Steel Towers
13 36 23	Wood Towers
<b>13 40 00</b>	<b>Integrated Construction</b>
<b>13 42 00</b>	<b>Building Modules</b>
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
<b>13 44 00</b>	<b>Modular Mezzanines</b>
<b>13 47 00</b>	<b>Facility Protection</b>
13 47 13	Cathodic Protection
13 47 13.13	Cathodic Protection for Underground and Submerged Piping
13 47 13.16	Cathodic Protection for Underground Storage Tanks
13 47 13.19	Cathodic Protection for Concrete Reinforcing
<b>13 48 00</b>	<b>Sound, Vibration, and Seismic Control</b>

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
<b>13 49 00</b>	<b>Radiation Protection</b>
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
<b>13 50 00</b>	<b>Special Instrumentation</b>
<b>13 51 00</b>	<b>Stress Instrumentation</b>
<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
<b>14 00 00</b>	<b>Conveying Equipment</b>
<b>14 01 00</b>	<b>Operation and Maintenance of Conveying Equipment</b>
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
<b>14 05 00</b>	<b>Common Work Results for Conveying Equipment</b>
14 05 05	Selective Demolition for Conveying Equipment
<b>14 06 00</b>	<b>Schedules for Conveying Equipment</b>
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>
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>
<b>14 11 00</b>	<b>Manual Dumbwaiters</b>
<b>14 12 00</b>	<b>Electric Dumbwaiters</b>
<b>14 14 00</b>	<b>Hydraulic Dumbwaiters</b>
<b>14 20 00</b>	<b>Elevators</b>
<b>14 21 00</b>	<b>Electric Traction Elevators</b>
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
14 21 33	Electric Traction Residential Elevators
14 21 43	Electric Traction Service Elevators
<b>14 24 00</b>	<b>Hydraulic Elevators</b>
14 24 13	Hydraulic Freight Elevators
14 24 23	Hydraulic Passenger Elevators
14 24 33	Hydraulic Residential Elevators
14 24 43	Hydraulic Service Elevators
<b>14 26 00</b>	<b>Limited-Use/Limited-Application Elevators</b>
<b>14 27 00</b>	<b>Custom Elevator Cabs and Doors</b>
14 27 13	Custom Elevator Cab Finishes
14 27 16	Custom Elevator Doors
<b>14 28 00</b>	<b>Elevator Equipment and Controls</b>
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>
<b>14 31 00</b>	<b>Escalators</b>
<b>14 32 00</b>	<b>Moving Walks</b>
<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>
<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
<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>
<b>14 70 00</b>	<b>Turntables</b>
<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>
14 81 13	Beam Scaffolding
14 81 16	Carriage Scaffolding
14 81 19	Hook Scaffolding
<b>14 82 00</b>	<b>Rope Climbers</b>
14 82 13	Manual Rope Climbers
14 82 16	Powered Rope Climbers
<b>14 83 00</b>	<b>Elevating Platforms</b>
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>
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>
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>
<b>14 93 00</b>	<b>Slide Pole Systems</b>
14 93 13	Firehouse Slide Poles
<b>21 00 00</b>	<b>Fire Suppression</b>
<b>21 01 00</b>	<b>Operation and Maintenance of Fire Suppression</b>
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

<b>21 05 00</b>	<b>Common Work Results for Fire Suppression</b>
21 05 05	Selective Demolition for Fire Suppression
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
21 05 19	Meters and Gages 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
21 05 53	Identification for Fire-Suppression Piping and Equipment
<b>21 06 00</b>	<b>Schedules for Fire Suppression</b>
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>
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>
<b>21 09 00</b>	<b>Instrumentation and Control for Fire-Suppression Systems</b>
<b>21 10 00</b>	<b>Water-Based Fire-Suppression Systems</b>
<b>21 11 00</b>	<b>Facility Fire-Suppression Water-Service Piping</b>
21 11 16	Facility Fire Hydrants
21 11 19	Fire-Department Connections
<b>21 12 00</b>	<b>Fire-Suppression Standpipes</b>
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>
21 13 13	Wet-Pipe Sprinkler Systems
21 13 16	Dry-Pipe Sprinkler Systems
21 13 19	Preaction Sprinkler Systems
21 13 23	Combined Dry-Pipe and Preaction Sprinkler Systems
21 13 26	Deluge Fire-Suppression Sprinkler Systems
21 13 29	Water Spray Fixed Systems
21 13 36	Antifreeze Sprinkler Systems
21 13 39	Foam-Water Systems
<b>21 16 00</b>	<b>Fire-Suppression Pressure Maintenance Pumps</b>
<b>21 20 00</b>	<b>Fire-Extinguishing Systems</b>
<b>21 21 00</b>	<b>Carbon-Dioxide Fire-Extinguishing Systems</b>
21 21 13	Carbon-Dioxide Fire-Extinguishing Piping
21 21 13.13	High-Pressure, Carbon-Dioxide Fire-Extinguishing Systems
21 21 13.16	Low-Pressure, Carbon-Dioxide Fire-Extinguishing Systems
21 21 16	Carbon-Dioxide Fire-Extinguishing Equipment

<b>21 22 00</b>	<b>Clean-Agent Fire-Extinguishing Systems</b>
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>
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>
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>
<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
<b>21 40 00</b>	<b>Fire-Suppression Water Storage</b>
<b>21 41 00</b>	<b>Storage Tanks for Fire-Suppression Water</b>
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
<b>22 00 00</b>	<b>Plumbing</b>
<b>22 01 00</b>	<b>Operation and Maintenance of Plumbing</b>
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
<b>22 05 00</b>	<b>Common Work Results for Plumbing</b>
22 05 05	Selective Demolition for Plumbing
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
22 05 19	Meters and Gages 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
22 05 53	Identification for Plumbing Piping and Equipment
22 05 73	Facility Drainage Manholes
22 05 76	Facility Drainage Piping Cleanouts
<b>22 06 00</b>	<b>Schedules for Plumbing</b>
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>
22 07 16	Plumbing Equipment Insulation
22 07 19	Plumbing Piping Insulation
<b>22 08 00</b>	<b>Commissioning of Plumbing</b>
<b>22 09 00</b>	<b>Instrumentation and Control for Plumbing</b>
22 09 63	Medical Gas Alarms
<b>22 10 00</b>	<b>Plumbing Piping</b>
<b>22 11 00</b>	<b>Facility Water Distribution</b>
22 11 13	Facility Water Distribution Piping
22 11 16	Domestic Water Piping
22 11 17	Gray-Water Piping
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
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
22 11 63	Gray-Water Pumps
<b>22 12 00</b>	<b>Facility Potable-Water Storage Tanks</b>
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
<b>22 13 00</b>	<b>Facility Sanitary Sewerage</b>
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
<b>22 14 00</b>	<b>Facility Storm Drainage</b>
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
<b>22 15 00</b>	<b>General Service Compressed-Air Systems</b>
22 15 13	General Service Compressed-Air Piping
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
<b>22 30 00</b>	<b>Plumbing Equipment</b>
<b>22 31 00</b>	<b>Domestic Water Softeners</b>
22 31 13	Residential Domestic Water Softeners

22 31 16	Commercial Domestic Water Softeners
<b>22 32 00</b>	<b>Domestic Water Filtration Equipment</b>
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
<b>22 33 00</b>	<b>Electric Domestic Water Heaters</b>
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>
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
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>
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>
22 41 13	Residential Water Closets, Urinals, and Bidets
22 41 13.13	Residential Water Closets
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
<b>22 42 00</b>	<b>Commercial Plumbing Fixtures</b>
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, Supplies, and Trim
22 42 43	Flushometers
<b>22 43 00</b>	<b>Healthcare Plumbing Fixtures</b>
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
<b>22 45 00</b>	<b>Emergency Plumbing Fixtures</b>
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

<b>22 46 00</b>	<b>Security Plumbing Fixtures</b>
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
<b>22 47 00</b>	<b>Drinking Fountains and Water Coolers</b>
22 47 13	Drinking Fountains
22 47 16	Pressure Water Coolers
22 47 19	Water-Station Water Coolers
22 47 23	Remote Water Coolers
<b>22 50 00</b>	<b>Pool and Fountain Plumbing Systems</b>
<b>22 51 00</b>	<b>Swimming Pool Plumbing Systems</b>
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
<b>22 52 00</b>	<b>Fountain Plumbing Systems</b>
22 52 13	Fountain Piping
22 52 16	Fountain Pumps
22 52 19	Fountain Water Treatment Equipment
22 52 23	Fountain Equipment Controls
<b>22 60 00</b>	<b>Gas and Vacuum Systems for Laboratory and Healthcare Facilities</b>
<b>22 61 00</b>	<b>Compressed-Air Systems for Laboratory and Healthcare Facilities</b>
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>
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
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>
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>
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
<b>22 67 00</b>	<b>Processed Water Systems for Laboratory and Healthcare Facilities</b>
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
<b>23 00 00</b>	<b>Heating, Ventilating, and Air Conditioning (HVAC)</b>
<b>23 01 00</b>	<b>Operation and Maintenance of HVAC Systems</b>
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
<b>23 05 00</b>	<b>Common Work Results for HVAC</b>
23 05 05	Selective Demolition for Heating, Ventilating, and Air Conditioning (HVAC)
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
23 05 19	Meters and Gages 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
- 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

### **23 06 00 Schedules for HVAC**

- 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 Unit Schedule

### **23 07 00 HVAC Insulation**

- 23 07 13 Duct Insulation
- 23 07 16 HVAC Equipment Insulation
- 23 07 19 HVAC Piping Insulation

### **23 08 00 Commissioning of HVAC**

### **23 09 00 Instrumentation and Control for HVAC**

- 23 09 13 Instrumentation and Control Devices for HVAC
- 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
- 23 09 23.11 Control Valves
- 23 09 23.12 Control Dampers
- 23 09 23.13 Energy Meters
- 23 09 23.14 Flow Instruments
- 23 09 23.16 Gas Instruments
- 23 09 23.17 Level Instruments
- 23 09 23.18 Leak Detection Instruments
- 23 09 23.19 Moisture Instruments
- 23 09 23.21 Motion Instruments
- 23 09 23.22 Position Instruments
- 23 09 23.23 Pressure Instruments
- 23 09 23.24 Speed Instruments
- 23 09 23.27 Temperature Instruments
- 23 09 23.33 Vibration Instruments
- 23 09 23.43 Weather Stations

23 09 33	Electric and Electronic Control System for HVAC
23 09 43	Pneumatic Control System for HVAC
23 09 53	Pneumatic and Electric Control System for HVAC
23 09 93	Sequence of Operations for HVAC Controls
23 09 93.11	Sequence of Operation for HVAC DDC

## **23 10 00 Facility Fuel Systems**

### **23 11 00 Facility Fuel 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

### **23 12 00 Facility Fuel Pumps**

23 12 13	Facility Fuel-Oil Pumps
23 12 16	Facility Gasoline Dispensing Pumps
23 12 26	Facility Liquefied-Petroleum Gas Pumps

### **23 13 00 Facility Fuel-Storage Tanks**

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

## **23 20 00 HVAC Piping and Pumps**

### **23 21 00 Hydronic Piping and Pumps**

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

### **23 22 00 Steam and Condensate Piping and Pumps**

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>
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>
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>
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 33	HVAC Makeup-Water Filtration Equipment
<b>23 30 00</b>	<b>HVAC Air Distribution</b>
<b>23 31 00</b>	<b>HVAC Ducts and Casings</b>
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>
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>
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
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>
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
<b>23 35 00</b>	<b>Special Exhaust Systems</b>
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
<b>23 36 00</b>	<b>Air Terminal Units</b>
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>
23 37 13	Diffusers, Registers, and Grilles
23 37 13.43	Security Registers and Grilles
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>
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
<b>23 40 00</b>	<b>HVAC Air Cleaning Devices</b>
<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>
<b>23 51 00</b>	<b>Breechings, Chimneys, and Stacks</b>
23 51 13	Draft Control Devices
23 51 13.11	Draft Control 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

## **23 52 00 Heating 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
23 52 33	Water-Tube Boilers
23 52 33.13	Finned Water-Tube Boilers
23 52 33.14	Flexible Water-Tube Boilers
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

## **23 53 00 Heating Boiler Feedwater Equipment**

23 53 13	Boiler Feedwater Pumps
23 53 16	Deaerators

## **23 54 00 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

## **23 55 00 Fuel-Fired 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
23 55 33	Fuel-Fired Unit Heaters
23 55 33.13	Oil-Fired Unit Heaters
23 55 33.16	Gas-Fired Unit Heaters

## **23 56 00 Solar Energy Heating 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

**23 57 00**

- 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 Geoechange Heat Exchangers

**23 60 00****Central Cooling Equipment****23 61 00****Refrigerant Compressors**

- 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

**23 62 00****Packaged Compressor and Condenser Units**

- 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

**23 63 00****Refrigerant Condensers**

- 23 63 13 Air-Cooled Refrigerant Condensers
- 23 63 23 Water-Cooled Refrigerant Condensers
- 23 63 33 Evaporative Refrigerant Condensers

**23 64 00****Packaged Water Chillers**

- 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
- 23 64 33.13 Air-Cooled, Modular Water Chillers
- 23 64 33.16 Water-Cooled, Modular Water Chillers

**23 65 00****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
- 23 65 14.14 Open-Circuit, Induced-Draft Crossflow Cooling Towers
- 23 65 14.16 Closed-Circuit, Induced-Draft Counterflow Cooling Towers
- 23 65 14.17 Closed-Circuit, Induced-Draft Combined-Flow Cooling Towers
- 23 65 16 Natural-Draft Cooling Towers
- 23 65 23 Field-Erected Cooling Towers

23 65 33	Liquid Coolers
<b>23 70 00</b>	<b>Central HVAC Equipment</b>
<b>23 71 00</b>	<b>Thermal Storage</b>
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
23 71 19.26	Ice-Slurry Thermal Storage
<b>23 72 00</b>	<b>Air-to-Air Energy Recovery Equipment</b>
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>
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>
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
23 74 16.12	Packaged, Intermediate-Capacity, Rooftop Air-Conditioning Units
23 74 16.13	Packaged, Large-Capacity, Rooftop Air-Conditioning Units
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>
23 75 13	Custom-Packaged, Outdoor, Central-Station Air-Handling Units
23 75 16	Custom-Packaged, Rooftop Air-Conditioning Units
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>
23 76 13	Direct Evaporative Air Coolers
23 76 16	Indirect Evaporative Air Coolers
23 76 19	Combined Direct and Indirect Evaporative Air Coolers
<b>23 80 00</b>	<b>Decentralized HVAC Equipment</b>
<b>23 81 00</b>	<b>Decentralized Unitary HVAC Equipment</b>

23 81 13	Packaged Terminal Air-Conditioners
23 81 13.11	Packaged Terminal Air-Conditioners, Through-Wall Units
23 81 13.12	Packaged Terminal Air-Conditioners, Freestanding Units
23 81 13.13	Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units
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
23 81 23.12	Large-Capacity, Computer-Room Air-Conditioners, Floor-Mounted Units
23 81 23.13	Computer-Room Air-Conditioners, Ceiling Mounted Units
23 81 23.14	Computer-Room Air-Conditioners, Console Units
23 81 23.16	Computer-Room Air-Conditioners, Rack Mounted, Space-Cooling Units
23 81 23.18	Computer-Room, Rack-Cooling Equipment
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

## **23 82 00 Convection Heating and Cooling Units**

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
23 82 16.12	Steam Air Coils
23 82 16.13	Refrigerant Air Coils
23 82 16.14	Electric-Resistance Air Coils
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

## **23 83 00 Radiant Heating Units**

23 83 13	Radiant-Heating Electric Cables
23 83 13.16	Radiant-Heating Electric Mats
23 83 16	Radiant-Heating Hydronic Piping
23 83 23	Radiant-Heating Electric Panels
23 83 33	Electric Radiant Heaters

## **23 84 00 Humidity Control Equipment**

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

## **25 00 00 Integrated Automation**

### **25 01 00 Operation and Maintenance of Integrated Automation**

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

### **25 05 00 Common Work Results for Integrated Automation**

25 05 05	Selective Demolition for Integrated Automation
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

### **25 06 00 Schedules for Integrated Automation**

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

### **25 08 00 Commissioning of Integrated Automation**

## **25 10 00 Integrated Automation Network Equipment**

### **25 11 00 Integrated Automation Network Devices**

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

### **25 12 00 Integrated Automation Network Gateways**

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

### **25 13 00 Integrated Automation Control and Monitoring**

	<b>Network</b>
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
<b>25 14 00</b>	<b>Integrated Automation Local Control Units</b>
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>
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>
<b>25 31 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Facility Equipment</b>
<b>25 32 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Conveying Equipment</b>
<b>25 33 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Fire-Suppression Systems</b>
<b>25 34 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Plumbing</b>
<b>25 35 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for HVAC</b>
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>
25 36 13	Integrated Automation Power Meters
25 36 16	Integrated Automation KW Transducers
25 36 19	Integrated Automation Current Sensors
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>
<b>25 38 00</b>	<b>Integrated Automation Instrumentation and Terminal Devices for Electronic Safety and Security Systems</b>
<b>25 50 00</b>	<b>Integrated Automation Facility Controls</b>

<b>25 51 00</b>	<b>Integrated Automation Control of Facility Equipment</b>
<b>25 52 00</b>	<b>Integrated Automation Control of Conveying Equipment</b>
<b>25 53 00</b>	<b>Integrated Automation Control of Fire-Suppression Systems</b>
<b>25 54 00</b>	<b>Integrated Automation Control of Plumbing</b>
<b>25 55 00</b>	<b>Integrated Automation Control of HVAC</b>
<b>25 56 00</b>	<b>Integrated Automation Control of Electrical Systems</b>
<b>25 57 00</b>	<b>Integrated Automation Control of Communications Systems</b>
<b>25 58 00</b>	<b>Integrated Automation Control of Electronic Safety and Security Systems</b>
<b>25 90 00</b>	<b>Integrated Automation Control Sequences</b>
<b>25 91 00</b>	<b>Integrated Automation Control Sequences for Facility Equipment</b>
<b>25 92 00</b>	<b>Integrated Automation Control Sequences for Conveying Equipment</b>
<b>25 93 00</b>	<b>Integrated Automation Control Sequences for Fire-Suppression Systems</b>
<b>25 94 00</b>	<b>Integrated Automation Control Sequences for Plumbing</b>
<b>25 95 00</b>	<b>Integrated Automation Control Sequences for HVAC</b>
<b>25 96 00</b>	<b>Integrated Automation Control Sequences for Electrical Systems</b>
<b>25 97 00</b>	<b>Integrated Automation Control Sequences for Communications Systems</b>
<b>25 98 00</b>	<b>Integrated Automation Control Sequences for Electronic Safety and Security Systems</b>
<b>26 00 00</b>	<b>Electrical</b>
<b>26 01 00</b>	<b>Operation and Maintenance of Electrical Systems</b>
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
<b>26 05 00</b>	<b>Common Work Results for Electrical</b>
26 05 05	Selective Demolition for Electrical



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
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
26 05 46	Poles for Electrical Systems
26 05 48	Vibration and Seismic Controls for Electrical Systems
26 05 48.16	Seismic Controls for Electrical Systems
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>
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
<b>26 08 00</b>	<b>Commissioning of Electrical Systems</b>
<b>26 09 00</b>	<b>Instrumentation and Control for Electrical Systems</b>
26 09 13	Electrical Power Monitoring
26 09 15	Peak Load Controllers
26 09 16	Electrical Controls and Relays
26 09 17	Programmable Controllers
26 09 19	Enclosed Contactors
26 09 23	Lighting Control Devices
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
26 09 43	Network Lighting Controls
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
26 09 61	Theatrical Lighting Controls
<b>26 10 00</b>	<b>Medium-Voltage Electrical Distribution</b>
<b>26 11 00</b>	<b>Substations</b>
26 11 13	Primary Unit Substations
26 11 16	Secondary Unit Substations
26 11 16.11	Secondary Unit Substations with Switchgear Secondary
26 11 16.12	Secondary Unit Substations with Switchboard Secondary
26 11 16.13	Secondary Unit Substations with Motor Control Center Secondary
<b>26 12 00</b>	<b>Medium-Voltage Transformers</b>
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>
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>
26 18 13	Medium-Voltage Cutouts
26 18 16	Medium-Voltage Fuses
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
<b>26 20 00</b>	<b>Low-Voltage Electrical Distribution</b>
<b>26 21 00</b>	<b>Low-Voltage Electrical Service Entrance</b>
26 21 13	Low-Voltage Overhead Electrical Service Entrance
26 21 16	Low-Voltage Underground Electrical Service Entrance

<b>26 22 00</b>	<b>Low-Voltage Transformers</b>
26 22 13	Low-Voltage Distribution Transformers
26 22 16	Low-Voltage Buck-Boost Transformers
26 22 17	Low-Voltage Transformers for Nonlinear Loads
26 22 18	Low-Voltage Transformers for Load Centers
26 22 19	Control and Signal Transformers
<b>26 23 00</b>	<b>Low-Voltage Switchgear</b>
26 23 13	Paralleling Low-Voltage Switchgear
<b>26 24 00</b>	<b>Switchboards and Panelboards</b>
26 24 13	Switchboards
26 24 16	Panelboards
26 24 16.16	Electronically Operated Circuit-Breaker Panelboards
26 24 19	Motor-Control Centers
<b>26 25 00</b>	<b>Low-Voltage Enclosed Bus Assemblies</b>
26 25 13	Low-Voltage Busways
26 25 16	Low-Voltage Cablebus Systems
<b>26 27 00</b>	<b>Low-Voltage Distribution Equipment</b>
26 27 13	Electricity Metering
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
26 27 73	Door Chimes
<b>26 28 00</b>	<b>Low-Voltage Circuit Protective Devices</b>
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>
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
<b>26 30 00</b>	<b>Facility Electrical Power Generating and Storing Equipment</b>
<b>26 31 00</b>	<b>Photovoltaic Collectors</b>
<b>26 32 00</b>	<b>Packaged Generator Assemblies</b>
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
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
26 32 23.16	Vertical-Axis 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>
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>
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>
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>
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>
26 43 13	Surge Protective Devices for Low-Voltage Electrical Power Circuits
<b>26 50 00</b>	<b>Lighting</b>
<b>26 51 00</b>	<b>Interior Lighting</b>
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>

26 52 13	Emergency and Exit Lighting
26 52 13.13	Emergency Lighting
26 52 13.16	Exit Signs
<b>26 54 00</b>	<b>Classified Location Lighting</b>
26 54 13	Incandescent Classified Location Lighting
26 54 16	Fluorescent Classified Location Lighting
26 54 19	LED Classified Location Lighting
<b>26 55 00</b>	<b>Special Purpose Lighting</b>
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
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
<b>26 56 00</b>	<b>Exterior Lighting</b>
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
<b>27 00 00</b>	<b>Communications</b>
<b>27 01 00</b>	<b>Operation and Maintenance of Communications Systems</b>
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
<b>27 05 00</b>	<b>Common Work Results for Communications</b>
27 05 05	Selective Demolition for Communications
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
27 05 44	Sleeves and Sleeve Seals for Communications Pathways and Cabling
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
27 05 53	Identification for Communications Systems
<b>27 06 00</b>	<b>Schedules for Communications</b>
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>
<b>27 10 00</b>	<b>Structured Cabling</b>
<b>27 11 00</b>	<b>Communications Equipment Room Fittings</b>
27 11 13	Communications Entrance Protection
27 11 16	Communications Cabinets, Racks, Frames, and Enclosures
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>
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
<b>27 15 00</b>	<b>Communications Horizontal Cabling</b>
27 15 01	Communications Horizontal Cabling Applications
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

<b>27 16 00</b>	<b>Communications Connecting Cords, Devices, and Adapters</b>
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>
<b>27 21 00</b>	<b>Data Communications Network Equipment</b>
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
<b>27 22 00</b>	<b>Data Communications Hardware</b>
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>
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
<b>27 25 00</b>	<b>Data Communications Software</b>
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>
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
<b>27 30 00</b>	<b>Voice Communications</b>
<b>27 31 00</b>	<b>Voice Communications Switching and Routing Equipment</b>

27 31 13	PBX/ Key Systems
27 31 23	Internet Protocol Voice Switches
<b>27 32 00</b>	<b>Voice Communications Terminal Equipment</b>
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
<b>27 33 00</b>	<b>Voice Communications Messaging</b>
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>
27 34 13	Toll Fraud Equipment and Software
27 34 16	Telemanagement Software
<b>27 35 00</b>	<b>Call Management</b>
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
<b>27 40 00</b>	<b>Audio-Video Communications</b>
<b>27 41 00</b>	<b>Audio-Video Systems</b>
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
<b>27 42 00</b>	<b>Electronic Digital Systems</b>
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>
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
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
<b>27 52 00</b>	<b>Healthcare Communications and Monitoring Systems</b>
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>
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
<b>28 00 00</b>	<b>Electronic Safety and Security</b>
<b>28 01 00</b>	<b>Operation and Maintenance of Electronic Safety and Security</b>
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>
28 05 07	Power Sources for Electronic Safety and Security
28 05 07.11	Power Sources 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

28 05 07.21	Poe Power Sources for Electronic Safety and Security
28 05 07.23	Uninterruptible Power Supply
28 05 07.25	Power Source 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
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
28 05 13	Servers, Workstations and Storage for Electronic Safety and Security
28 05 13.11	General Requirements for Servers, Workstations and Storage
28 05 15	Servers for Electronic Safety and Security
28 05 17	Workstations for Electronic Safety and Security
28 05 19	Storage Appliances for Electronic Safety and Security
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
28 05 23	Storage Area Network for Electronic Safety and Security
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
28 05 31	Communications Equipment for Electronic Safety and Security
28 05 33	Safety and Security Network Communications Equipment
28 05 33.11	Security Data Communications Firewalls
28 05 33.13	Security Data Communications Routers
28 05 33.15	Security Data Communications Power-Over-Ethernet Switches
28 05 33.17	Security Data Communications Non-Power-Over-Ethernet Switches
28 05 33.19	Security Data Communications Media Converters
28 05 35	Security Data Communications Wireless Transmission Equipment
28 05 35.11	Microwave Transmission Equipment
28 05 37	Security Voice Communications -Distributed Antenna System
28 05 37.11	Bi-Directional Amplifiers
28 05 37.13	Repeaters
28 05 37.15	Remote Repeaters
28 05 39	Antennas
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
28 05 41.11	Splitters
28 05 41.13	Directional Couplers
28 05 43	Security Voice Communications Private Mobile Radio System
28 05 43.11	Base Station
28 05 43.13	Handheld Radio
28 05 45	Systems Integration and Interconnection Requirements
28 05 45.11	Mechanical
28 05 45.13	Electrical

28 05 45.15	Information
28 05 48	Vibration and Seismic Controls for Electronic Safety and Security
28 05 53	Identification for Electronic Safety and Security
<b>28 06 00</b>	<b>Schedules for Electronic Safety and Security</b>
28 06 10	Schedules for Access Control
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>
28 08 11	Testing for Baseline Performance Criteria
<b>28 10 00</b>	<b>Access Control</b>
<b>28 11 00</b>	<b>Access Control Global Applications</b>
<b>28 12 00</b>	<b>General Requirements for Access Control Systems</b>
<b>28 13 00</b>	<b>Access Control Software and Database Management</b>
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
28 13 13	Access Control Software Interfaces
<b>28 14 00</b>	<b>Access Control System Hardware</b>
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>Access Control Hardware Devices</b>
28 15 11	Integrated Credential Readers and Field 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
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 & Accessories
28 15 15.11	Direct Interface Integrated Locking Devices
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
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
28 15 19.13	Wireless Access Control Devices
28 15 21	Telephone Entry Systems

28 15 23	Intercom Entry 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
28 15 27	Access Control Electronic Turnstiles & Mobility Systems
<b>28 16 00</b>	<b>Access Control Interfaces</b>
28 16 11	Access Control Interfaces to 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
28 16 19	Access Control Interfaces to Enterprise Software
28 16 21	Access Control Interfaces to Mechanical Systems
28 16 23	Access Control Interfaces to Electrical Systems
28 16 25	Access Control Interfaces to Electronic Key Management System
28 16 27	Access Control Interfaces to Elevator Controls
28 16 29	Access Control Interfaces to Parking 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 & 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
28 19 13	Parking Garage Access Management Systems
28 19 15	Perimeter Vehicle Access Management Systems
<b>28 20 00</b>	<b>Video Surveillance</b>
<b>28 21 00</b>	<b>Surveillance Cameras</b>
28 21 11	Analog Camera
28 21 13	IP Cameras
28 21 13.11	Panoramic IP Cameras
28 21 15	Specialty Cameras
28 21 17	Camera Housings
28 21 19	Camera Mounts
28 21 21	Illuminators
<b>28 23 00</b>	<b>Video Management System</b>
28 23 11	Video Management System Analytics
28 23 13	Video Management System Interfaces
<b>28 25 00</b>	<b>Video Surveillance Positioning Equipment</b>
<b>28 27 00</b>	<b>Video Surveillance Sensors</b>
<b>28 30 00</b>	<b>Security Detection, Alarm, and Monitoring</b>

<b>28 31 00</b>	<b>Intrusion Detection</b>
28 31 11	Building Intrusion Detection
28 31 11.11	Building Intrusion Detection Control, Gui, and Logic Systems
28 31 11.13	Building Intrusion Detection Remote Devices and Sensors
28 31 21	Area and Perimeter Intrusion Detection
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
28 31 21.21	Coaxial Area and Perimeter Security Systems
28 31 21.23	Area and Perimeter Intrusion Detection Devices and Sensors
28 31 31	Intrusion Detection Interfaces
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
<b>28 33 00</b>	<b>Security Monitoring and Control</b>
28 33 11	Electronic Structural Monitoring Systems
28 33 13	Security Operations and Monitoring Center
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>
28 35 11	Asset Tracking Systems
28 35 11.11	Rf Asset Tracking Systems
28 35 11.13	GPS Asset Tracking Systems
28 35 11.15	Cellular Asset Tracking Systems
28 35 13	Personnel 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
<b>28 40 00</b>	<b>Life Safety</b>
<b>28 41 00</b>	<b>Radiation Detection and Alarm</b>
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
28 41 17	Radiation Dosimeters
<b>28 42 00</b>	<b>Gas Detection and Alarm</b>
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>
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
<b>28 44 00</b>	<b>Refrigerant Detection and Alarm</b>
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>
28 46 10	Detection and Initiation
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
28 46 11.23	Combination Sensors
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 20	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
28 46 24	Fire Detection and Alarm Emergency Control Function Interfaces
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
<b>28 47 00</b>	<b>Mass Notification</b>
28 47 11	General Requirements for Mass Notification
28 47 13	Mass Notification Software
28 47 15	Mass Notification Control Panels

28 47 17	Notification Devices and Methods
28 47 17.11	Notification Appliances and Methods Indoors
28 47 17.13	Notification Appliances and Methods Outdoors
28 47 17.15	Notification Appliances and Methods Distributed Recipient
28 47 17.17	Notification Appliances and Methods Public Methods
28 47 21	Mass Notification System Interfaces
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
<b>28 48 00</b>	<b>Emergency Response Systems</b>
28 48 23	Computer Aided Dispatch
<b>28 49 00</b>	<b>Electronic Personal Protection Systems</b>
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
<b>28 50 00</b>	<b>Specialized Systems</b>
<b>28 51 00</b>	<b>Information Management &amp; Presentation</b>
28 51 11	Information Management & Presentation Architecture
28 51 13	Data and Information Management
28 51 15	Information Interfaces to Connected Subsystems
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
28 51 15.19	Information Interfaces to Mass Notification Systems
28 51 15.21	Information Interfaces to Life Safety 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
28 51 15.35	Information Interfaces to Network and Facilities Monitoring
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
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
28 51 17	Data Presentation
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
28 51 19.11	Display/Workstations
28 51 19.13	Video Walls
28 51 19.15	Audio Equipment
28 51 19.17	Remote Displays

## **28 52 00 Detention Security Systems**

28 52 11	Detention Monitoring and Control Systems
28 52 13	Detention Interfaces to Connected Subsystems
28 52 13.11	Detention Interfaces to Access Control Systems
28 52 13.13	Detention Interfaces to Video Surveillance Systems
28 52 13.15	Detention Interfaces to Security Detention, Alarm, and Monitoring
28 52 13.17	Detention Interfaces to Security Monitoring and Control
28 52 13.19	Detention Interfaces to Duress Alarm Systems
28 52 13.21	Detention Interfaces to Distributed Television Systems
28 52 13.23	Detention Interfaces to Perimeter Security Systems
28 52 15	Video Support Systems for Detention
28 52 15.11	Video Interrogation System
28 52 15.13	Video Arraignment System
28 52 15.15	Video Visitation System

## **31 00 00 Earthwork**

### **31 01 00 Maintenance of Earthwork**

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**

31 05 05	Selective Demolition for Earthwork
31 05 13	Soils for Earthwork
31 05 16	Aggregates for Earthwork
31 05 19	Geosynthetics for Earthwork
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**



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
<b>31 08 00</b>	<b>Commissioning of Earthwork</b>
31 08 13	Pile Load Testing
31 08 13.13	Dynamic Pile Load Testing
31 08 13.16	Static Pile Load Testing
<b>31 09 00</b>	<b>Geotechnical Instrumentation and Monitoring of Earthwork</b>
31 09 13	Geotechnical Instrumentation and Monitoring
31 09 13.13	Groundwater Monitoring During Construction
31 09 16	Foundation Performance Instrumentation
31 09 16.26	Bored and Augered Pile Load Tests
<b>31 10 00</b>	<b>Site Clearing</b>
<b>31 11 00</b>	<b>Clearing and Grubbing</b>
<b>31 12 00</b>	<b>Selective Clearing</b>
<b>31 13 00</b>	<b>Selective Tree and Shrub Removal and Trimming</b>
31 13 13	Selective Tree and Shrub Removal
31 13 16	Selective Tree and Shrub Trimming
<b>31 14 00</b>	<b>Earth Stripping and Stockpiling</b>
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
<b>31 20 00</b>	<b>Earth Moving</b>
<b>31 21 00</b>	<b>Off-Gassing Mitigation</b>
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>
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>
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
<b>31 24 00</b>	<b>Embankments</b>
31 24 13	Roadway Embankments
31 24 16	Railway Embankments
<b>31 25 00</b>	<b>Erosion and Sedimentation Controls</b>
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>
<b>31 31 00</b>	<b>Soil Treatment</b>
31 31 13	Rodent Control
31 31 13.16	Rodent Control Bait Systems
31 31 13.19	Rodent Control Traps
31 31 13.23	Rodent Control Electronic Systems
31 31 13.26	Rodent Control Repellants
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
<b>31 32 00</b>	<b>Soil Stabilization</b>
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
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>
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>
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
<b>31 35 00</b>	<b>Slope Protection</b>
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>
31 36 13	Gabion Boxes
31 36 19	Gabion Mattresses
31 36 19.13	Vegetated Gabion Mattresses
<b>31 37 00</b>	<b>Riprap</b>
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>
<b>31 41 00</b>	<b>Shoring</b>
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>
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>
31 45 13	Vibroflotation
31 45 16	Densification
<b>31 46 00</b>	<b>Needle Beams</b>
31 46 13	Cantilever Needle Beams
<b>31 48 00</b>	<b>Underpinning</b>
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>
<b>31 51 00</b>	<b>Anchor Tiebacks</b>
31 51 13	Excavation Soil Anchors
31 51 16	Excavation Rock Anchors
<b>31 52 00</b>	<b>Cofferdams</b>
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>
31 53 13	Timber Cribwork
<b>31 54 00</b>	<b>Ground Freezing</b>
<b>31 56 00</b>	<b>Slurry Walls</b>
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
<b>31 60 00</b>	<b>Special Foundations and Load-Bearing Elements</b>
<b>31 62 00</b>	<b>Driven Piles</b>
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

### **31 63 00 Bored Piles**

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

### **31 64 00 Caissons**

31 64 13	Box Caissons
31 64 16	Excavated Caissons
31 64 19	Floating Caissons
31 64 23	Open Caissons
31 64 26	Pneumatic Caissons
31 64 29	Sheeted Caissons

### **31 66 00 Special Foundations**

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

### **31 68 00 Foundation Anchors**

31 68 13	Rock Foundation Anchors
31 68 16	Helical Foundation Anchors

<b>31 70 00</b>	<b>Tunneling and Mining</b>
<b>31 71 00</b>	<b>Tunnel Excavation</b>
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
<b>31 72 00</b>	<b>Tunnel Support Systems</b>
31 72 13	Rock Reinforcement and Initial Support
31 72 16	Steel Ribs and Lagging
<b>31 73 00</b>	<b>Tunnel Grouting</b>
31 73 13	Cement Tunnel Grouting
31 73 16	Chemical Tunnel Grouting
<b>31 74 00</b>	<b>Tunnel Construction</b>
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>
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>
31 77 13	Trench Excavation for Submerged Tunnels
31 77 16	Tube Construction (Outfitting Tunnel Tubes)
31 77 19	Floating and Laying Submerged Tunnels
<b>32 00 00</b>	<b>Exterior Improvements</b>
<b>32 01 00</b>	<b>Operation and Maintenance of Exterior Improvements</b>
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
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
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**

32 05 05	Selective Demolition for Exterior Improvements
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

### **32 06 00 Schedules for Exterior Improvements**

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

### **32 08 00 Commissioning of Exterior Improvements**

## **32 10 00 Bases, Ballasts, and Paving**

### **32 11 00 Base Courses**

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
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

## **32 12 00 Flexible Paving**

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

## **32 13 00 Rigid Paving**

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
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
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
<b>32 14 00</b>	<b>Unit Paving</b>
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>
32 15 13	Cinder Surfacing
32 15 40	Crushed Stone Surfacing
32 15 50	Aggregate-Turf Pavement
<b>32 16 00</b>	<b>Curbs, Gutters, Sidewalks, and Driveways</b>
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
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>
32 17 13	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
32 17 23	Pavement Markings
32 17 23.13	Painted Pavement Markings
32 17 23.23	Raised Pavement Markings
32 17 23.33	Plastic Pavement Markings
32 17 26	Tactile Warning Surfacing
32 17 29	Pavement Embedded Warning Lights
32 17 43	Pavement Snow Melting Systems
<b>32 18 00</b>	<b>Athletic and Recreational Surfacing</b>
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**

### **32 31 00 Fences 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
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

### **32 32 00 Retaining Walls**

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

### **32 33 00 Site Furnishings**

32 33 13	Site Bicycle Racks
32 33 14	Site Bicycle Lockers
32 33 23	Site Trash and Litter Receptacles
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

<b>32 34 00</b>	<b>Fabricated Bridges</b>
32 34 13	Fabricated Pedestrian Bridges
32 34 23	Fabricated Roadway Bridges
32 34 33	Fabricated Railway Bridges
<b>32 35 00</b>	<b>Screening Devices</b>
32 35 13	Screens and Louvers
32 35 16	Sound Barriers
32 35 23	Fire Barriers
32 35 26	Blast Barriers
<b>32 39 00</b>	<b>Manufactured Site Specialties</b>
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
<b>32 70 00</b>	<b>Wetlands</b>
<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>
<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>
<b>32 91 00</b>	<b>Planting Preparation</b>
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>
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
<b>32 93 00</b>	<b>Plants</b>
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>
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>
<b>32 96 00</b>	<b>Transplanting</b>
32 96 13	Ground Cover Transplanting
32 96 23	Plant and Bulb Transplanting
32 96 33	Shrub Transplanting
32 96 43	Tree Transplanting
<b>33 00 00</b>	<b>Utilities</b>
<b>33 01 00</b>	<b>Operation and Maintenance of Utilities</b>
33 01 10	Operation and Maintenance of Water Utilities
33 01 10.51	Water Utility Intake Cleaning and Maintenance
33 01 10.52	Reservoir Maintenance
33 01 10.53	Flushing of Water Utility Piping
33 01 10.54	Cleaning of Water Utility Piping
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
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
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
33 01 80.51	Communication Utility Visual Inspection
33 01 80.52	Communication Utility Thermographic Surveys

### **33 05 00 Common Work Results 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	Tappling 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
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
33 05 41	Vitrified Clay Utility Pipe
33 05 43	Ceramic Drainage Tile
33 05 46	Asbestos Cement Utility Pipe
33 05 61	Concrete Manholes
33 05 63	Concrete Vaults and Chambers
33 05 66	Concrete Distribution Chambers
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
33 05 81	Metallic Castings for Utility Structures
33 05 83	Non-Metallic Accessories for 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
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

### **33 06 00 Schedules for Utilities**

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**

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**

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
33 09 04	Mobile Radio Frequency Utility Meter Reading Equipment
33 09 05	Fixed-Network Radio Frequency Utility Meter Reading 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
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

## **33 10 00**

### **Water Utilities**

#### **33 11 00**

#### **Groundwater Sources**

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

#### **33 12 00**

#### **Surface Water Sources**

33 12 11	Intake Structure Systems
33 12 13	Intake Cribs
33 12 16	Intake Drop and Riser Shafts
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
33 12 53	Reservoir Flexible Baffle Curtains

#### **33 14 00**

#### **Water Utility Transmission and Distribution**

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
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
- 33 14 43 Packaged Pumping Systems for Water Utility Service

### **33 16 00 Water Utility Storage Tanks**

- 33 16 11 Elevated Composite Water Storage Tanks
- 33 16 13 Elevated Pillar-Type Steel Water Storage Tanks
- 33 16 16 Multi-Column Elevated Steel Water Storage Tanks
- 33 16 19 Elevated Spheroid Steel Water Storage Tanks
- 33 16 23 Ground-Level Steel Water Storage Tanks
- 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
- 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
- 33 16 63 Underground Non-Metallic Water Storage Cisterns
- 33 16 66 Underground Plastic Modular Water Storage Cisterns
- 33 16 93 Water Storage Tank Interior Curtain Walls
- 33 16 96 Water Storage Tank Appurtenances

### **33 19 00 Water Utility Metering Equipment**

- 33 19 13 Positive Displacement Water Meters
- 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
- 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

### **33 30 00 Sanitary Sewerage**

#### **33 31 00 Sanitary Sewerage Piping**

- 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
- 33 31 19 Small-Diameter Sanitary Sewerage Gravity Piping
- 33 31 23 Sanitary Sewerage Force Main Piping
- 33 31 26 Sanitary Pressure Sewer Piping
- 33 31 29 STEP System Piping

#### **33 32 00 Sanitary Sewerage Equipment**

- 33 32 11 Field-Erected Wastewater Pumping Stations
- 33 32 13 Packaged Wastewater Pumping Stations

- 33 32 16 Packaged Wastewater Grinder Pump Assemblies
- 33 32 19 Septic Tank Effluent Pumps
- 33 32 26 Pneumatic Sewage Ejectors
- 33 32 33 Wastewater Collection Vacuum Stations
- 33 32 36 Pneumatic Wastewater Vacuum Valve Sumps

### **33 34 00 Onsite Wastewater Disposal**

- 33 34 13 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
- 33 34 16.13 Septic Tank Gravity Effluent Filters
- 33 34 16.16 Septic Tank Pressurized Effluent Filters
- 33 34 19 Septic Tank Accessories
- 33 34 23 Onsite Aerobic Equipment
- 33 34 33 Onsite Intermittent Wastewater Filtration Systems
- 33 34 36 Onsite Recirculating Wastewater Filtration Systems
- 33 34 51 Drainage Field System
- 33 34 53 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

### **33 36 00 Wastewater Utility Storage Tanks**

- 33 36 23 Ground-Level Steel Wastewater Storage Tanks
- 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
- 33 36 36 Ground-Level Reinforced Concrete Wastewater Storage Tanks
- 33 36 43 Underground Reinforced Concrete Wastewater Storage Tanks
- 33 36 53 Wastewater Storage Tunnel Systems

### **33 37 00 Overflow Control**

- 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**

#### **33 41 00 Subdrainage**

- 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
- 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

### **33 42 00 Stormwater Conveyance**

- 33 42 11 Stormwater Gravity Piping
- 33 42 13 Stormwater Culverts
- 33 42 16 Stormwater Force Main Piping
- 33 42 23 Headwalls and Endwalls for Stormwater Piping
- 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
- 33 42 31 Stormwater Area Drains and Inlets
- 33 42 33 Stormwater Curbside Drains and Inlets
- 33 42 36 Stormwater Trench Drains
- 33 42 41 Gratings and Frames for Stormwater Drainage 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

### **33 44 00 Stormwater Utility Equipment**

- 33 44 11 Field-Erected Stormwater Pumping Stations
- 33 44 13 Packaged Stormwater Pumping Stations
- 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
- 33 44 43 Vortex-Type Hydrodynamic Separators
- 33 44 53 Stormwater Area Drainage Pop-up Relief Valves

### **33 46 00 Stormwater Management**

- 33 46 11 Stormwater Ponds
- 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
- 33 46 16.13 Stormwater Pond Concrete Outlet Structures
- 33 46 16.23 Stormwater Pond Fiberglass Outlet Structures
- 33 46 23 Modular Buried Stormwater Storage Units
- 33 46 39 Rain Barrels

33 46 53	Stormwater Leaching Pits
33 46 56	Tree Box Filters
33 46 59	Concrete Modular Biofiltration Cells
33 46 63	Swale Protection Prefilters

## **33 50 00 Hydrocarbon Utilities**

### **33 51 00 Hydrocarbon Sources**

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
33 51 56	Submersible Liquid Hydrocarbon Pumps

### **33 52 00 Hydrocarbon Transmission and Distribution**

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

### **33 53 00 Hydrocarbon Utility Pressure Regulation**

33 53 13	Liquid Hydrocarbon Pressure Regulation
33 53 16	Gas Hydrocarbon Pressure Regulation

### **33 54 00 Hydrocarbon Utility Safety Equipment**

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

### **33 56 00 Hydrocarbon Storage**

33 56 13	Aboveground Hydrocarbon Storage Tanks
33 56 21	Ground-Level Fixed Roof Hydrocarbon Storage Tanks
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
33 56 23	Ground-Level External Floating Roof Hydrocarbon Storage Tanks
33 56 26	Ground-Level Internal Floating Roof Hydrocarbon Storage Tanks
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
33 56 93	Hydrocarbon Tank Linings
33 56 96	Hydrocarbon Storage Tank Appurtenances
<b>33 57 00</b>	<b>Bulk Hydrocarbons Receiving/Dispensing Equipment</b>
<b>33 59 00</b>	<b>Hydrocarbon Utility Metering</b>
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>
<b>33 61 00</b>	<b>Hydronic Energy Distribution</b>
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
<b>33 63 00</b>	<b>Steam Energy Distribution</b>
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
<b>33 70 00</b>	<b>Electrical Utilities</b>
<b>33 71 00</b>	<b>Electrical Utility Transmission and Distribution</b>
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
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
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
33 71 26.16	Coupling Capacitors
33 71 26.23	Current Transformers
33 71 26.26	Potential Transformers
33 71 36	Extra-High-Voltage Transmission Wiring
33 71 36.13	Overhead Extra-High-Voltage Transmission Wiring
33 71 39	High-Voltage Transmission Wiring
33 71 39.13	Overhead High-Voltage Transmission Wiring
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
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>
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
33 72 33.16	Substation Control Panels
33 72 33.23	Power-Line Carriers
33 72 33.26	Substation Metering
33 72 33.43	Substation DC Supply
33 72 43	Substation Control Wiring
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>
33 73 13	Liquid-Filled Utility Transformers
33 73 23	Dry-Type Utility Transformers
<b>33 74 00</b>	<b>Extra High Voltage (EHV) Switchgear and protection devices</b>
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>
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
33 75 36	High-Voltage Utility Fuses
33 75 39	High-Voltage Surge Arresters
33 75 40	High-Voltage Rod Gap
<b>33 77 00</b>	<b>Medium-Voltage Utility Switchgear and Protection Devices</b>
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
<b>33 78 00</b>	<b>Substation Converter Stations</b>
<b>33 79 00</b>	<b>Site Grounding</b>
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
<b>33 80 00</b>	<b>Communications Utilities</b>
<b>33 81 00</b>	<b>Communications Structures</b>
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
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**

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
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**

33 83 13	Laser Transmitters and Receivers
33 83 16	Microwave Transmitters and Receivers
33 83 17	Microwave Antennas
33 83 17.13	Microwave Waveguides
33 83 19	Infrared Transmitters and Receivers
33 83 23	Radio Antennas

## **34 00 00      Transportation**

### **34 01 00      Operation and Maintenance of Transportation**

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**

34 05 05	Selective Demolition for Transportation
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**



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>
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>
<b>34 11 00</b>	<b>Rail Tracks</b>
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
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>
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>
34 13 13	Inclined Railway
<b>34 14 00</b>	<b>Cable Transportation</b>
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>
<b>34 21 00</b>	<b>Traction Power Distribution</b>
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
<b>34 23 00</b>	<b>Overhead Traction Power</b>
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>
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>
<b>34 41 00</b>	<b>Roadway Signaling and Control Equipment</b>
34 41 13	Traffic Signals
34 41 16	Traffic Control Equipment
34 41 23	Roadway Monitoring Equipment
34 41 33	In Roadway Warning Lights
<b>34 42 00</b>	<b>Railway Signaling and Control Equipment</b>
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>
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 & 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
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>
34 48 13	Operating Bridge Signals
34 48 16	Operating Bridge Control Equipment
<b>34 50 00</b>	<b>Transportation Fare Collection Equipment</b>
<b>34 52 00</b>	<b>Vehicle Fare Collection</b>
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
<b>34 54 00</b>	<b>Passenger Fare Collection</b>
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>
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
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
<b>34 72 00</b>	<b>Railway Construction</b>
34 72 13	Railway Line
34 72 16	Railway Siding
<b>34 73 00</b>	<b>Airfield Construction</b>
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
<b>34 75 00</b>	<b>Roadway Equipment</b>
34 75 13	Operable Roadway Equipment
34 75 13.13	Active Vehicle Barriers
<b>34 76 00</b>	<b>Railway Equipment</b>
34 76 13	Roadway Crossing Control Equipment
<b>34 77 00</b>	<b>Transportation Equipment</b>
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
<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>
<b>34 81 00</b>	<b>Bridge Machinery</b>
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>
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
<b>35 00 00</b>	<b>Waterway and Marine Construction</b>

<b>35 01 00</b>	<b>Operation and Maintenance of Waterway and Marine Construction</b>
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>
35 05 05	Selective Demolition for Waterway and Marine Construction
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
35 05 70	Common Work Results for Dams
<b>35 06 00</b>	<b>Schedules for Waterway and Marine Construction</b>
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>
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>
<b>35 11 00</b>	<b>Signaling and Control Equipment for Waterways</b>
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>
35 12 13	Marine Signaling Equipment
35 12 13.13	Lighthouse Equipment
35 12 33	Marine Navigation Equipment
35 12 53	Marine Control Equipment
<b>35 13 00</b>	<b>Signaling and Control Equipment for Dams</b>
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>
<b>35 21 00</b>	<b>General Fabrications for Waterways</b>
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
<b>35 22 00</b>	<b>Hydraulic Gates</b>
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>
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
35 24 46	Krabbelaar 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>
35 31 16	Seawalls
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
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
35 31 23.13	Rubble Mound Breakwaters
35 31 23.16	Precast Breakwater Modules
35 31 26	Jetties
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
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

**35 32 00****Artificial Reefs**

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

**35 40 00****Waterway Construction and Equipment****35 41 00****Levees**

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

**35 42 00****Waterway Bank 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

**35 43 00****Waterway Scour 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

**35 49 00****Waterway Structures**

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

**35 50 00 Marine Construction and Equipment****35 51 00 Floating Construction**

- 35 51 13 Floating Piers
- 35 51 13.23 Floating Wood Piers
- 35 51 13.26 Floating Plastic Piers
- 35 51 23 Pontoons

**35 52 00 Offshore Platform Construction**

- 35 52 13 Fixed Offshore Platform Construction
- 35 52 23 Semi-Submersible Offshore Platform Construction
- 35 52 33 Floating Offshore Platform Construction

**35 53 00 Underwater 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

**35 59 00 Marine Specialties**

- 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

**35 70 00 Dam Construction and Equipment****35 71 00 Gravity Dams**

- 35 71 13 Concrete Gravity Dams
- 35 71 16 Masonry Gravity Dams
- 35 71 19 Rockfill Gravity Dams

**35 72 00 Arch Dams**

- 35 72 13 Concrete Arch Dams

**35 73 00 Embankment Dams**

- 35 73 13 Earth Embankment Dam
- 35 73 16 Rock Embankment Dams

**35 74 00 Buttress Dams**



35 74 13	Concrete Buttress Dams
<b>35 79 00</b>	<b>Auxiliary Dam Structures</b>
35 79 13	Fish Ladders
35 79 13.13	Concrete Fish Ladders
<b>40 00 00</b>	<b>Process Interconnections</b>
<b>40 01 00</b>	<b>Operation and Maintenance of Process Interconnections</b>
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
<b>40 05 00</b>	<b>Common Work Results for Process Interconnections</b>
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
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
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
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
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
<b>40 06 00</b>	<b>Schedules for Process Interconnections</b>
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
<b>40 10 00</b>	<b>Gas and Vapor Process Piping and Ductwork</b>
<b>40 11 00</b>	<b>Steam Process Piping</b>
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>
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>
<b>40 15 00</b>	<b>Combustion System Gas Piping</b>
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>
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>
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
<b>40 18 00</b>	<b>Vacuum Systems Process Piping</b>
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>
<b>40 21 00</b>	<b>Liquid Fuel Process Piping</b>
40 21 13	Bio Fuels Process Piping
40 21 13.13	Bioalcohols Process Piping
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
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
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>
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
<b>40 23 00</b>	<b>Water and Wastewater Process Piping</b>
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>
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>
40 25 10	Liquid Acids Piping
40 25 50	Liquid Bases Piping
<b>40 26 00</b>	<b>Liquid Polymer Piping</b>

- 40 30 00 Solid and Mixed Materials Piping and Chutes**
- 40 32 00 Bulk Materials Piping and Chutes**
  - 40 32 10 Abrasive Materials Piping and Chutes
  - 40 32 50 Nonabrasive Materials Piping and Chutes
- 40 33 00 Bulk Materials Valves**
  - 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
- 40 34 00 Pneumatic Conveying Lines**
  - 40 34 10 Dense Phase Pneumatic Conveying Lines
  - 40 34 50 Dilute Phase Pneumatic Conveying Lines
- 40 40 00 Process Piping and Equipment Protection**
- 40 41 00 Process Piping and Equipment Heat Tracing**
  - 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
- 40 42 00 Process Piping and Equipment 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
  - 40 42 23.26 Process Equipment Insulation for Specialty Applications
- 40 46 00 Process Corrosion Protection**
  - 40 46 16 Coatings and Wrappings for Process Corrosion Protection
  - 40 46 42 Cathodic Process Corrosion Protection
- 40 47 00 Refractories**
  - 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

## **40 60 00 Process Control and Enterprise Management Systems**

### **40 61 00 Process Control and Enterprise Management Systems General Provisions**

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

### **40 62 00 Computer System Hardware and Ancillaries**

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)

### **40 63 00 Control System Equipment**

40 63 13 Distributed Process Control Systems  
 40 63 43 Programmable Logic Controllers  
 40 63 83 Remote Terminal Units

### **40 66 00 Network and Communication Equipment**

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

### **40 67 00 Control System Equipment Panels and Racks**

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
<b>40 68 00</b>	<b>Process Control Software</b>
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>
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>
<b>40 71 00</b>	<b>Flow Measurement</b>
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>
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)
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**

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**

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

#### **40 75 00 Process Liquid Analytical Measurement**

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 Analyzer
<b>40 76 00</b>	<b>Process Gas Analytical Measurement</b>
40 76 05	Continuous Emissions Monitoring Systems
40 76 13	Oxygen Gas Analyzers
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
<b>40 77 00</b>	<b>Position and Motion Measurement</b>
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
<b>40 78 00</b>	<b>Panel Mounted Instruments</b>
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
<b>40 79 00</b>	<b>Miscellaneous Instruments, Calibration Equipment,</b>

	<b>Instrument Valves, and Fittings</b>
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
<b>40 80 00</b>	<b>Commissioning of Process Systems</b>
<b>40 90 00</b>	<b>Primary Control Devices</b>
<b>40 91 00</b>	<b>Primary Control Valves</b>
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>
<b>40 94 00</b>	<b>Self-Contained Pressure Regulators</b>
<b>40 95 00</b>	<b>Rotary Actuators</b>
<b>40 96 00</b>	<b>Saturable Core Reactors</b>
<b>40 97 00</b>	<b>Variable Frequency Drives</b>
<b>41 00 00</b>	<b>Material Processing and Handling Equipment</b>
<b>41 01 00</b>	<b>Operation and Maintenance of Material Processing and Handling Equipment</b>
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
<b>41 06 00</b>	<b>Schedules for Material Processing and Handling Equipment</b>
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
41 06 60	Schedules for Mobile Plant Equipment
<b>41 08 00</b>	<b>Commissioning of Material Processing and Handling</b>

## Equipment

- 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

## **41 10 00 Bulk Material Processing Equipment**

### **41 11 00 Bulk Material Sizing Equipment**

- 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

### **41 12 00 Bulk Material Conveying Equipment**

- 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

### **41 13 00 Bulk Material 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
<b>41 14 00</b>	<b>Batching Equipment</b>
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>
<b>41 21 00</b>	<b>Conveyors</b>
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
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
<b>41 22 00</b>	<b>Cranes and Hoists</b>
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
<b>41 23 00</b>	<b>Lifting Devices</b>
41 23 13	Clamps
41 23 16	Grabs
41 23 19	Hooks
41 23 23	Lifts

- 41 23 26 Slings
- 41 23 29 Spreader Bars/Beams
- 41 23 33 Tongs

#### **41 24 00 Specialty Material Handling Equipment**

- 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**

##### **41 31 00 Manufacturing Lines and Equipment**

- 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**

- 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**

41 33 13	Automatic Screw Machining Equipment
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**

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

#### **41 35 00      Dies and Molds**

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

## **41 36 00 Assembly and Testing Equipment**

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 Gages, Rules, and Blocks  
 41 36 29.16 Penetrant Measurement and Testing Equipment  
 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**

### **41 41 00 Container Filling and Sealing**

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**

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
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>
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>
<b>41 51 00</b>	<b>Automatic Material Storage</b>
41 51 13	Automatic Storage/Automatic Retrieval Systems
<b>41 52 00</b>	<b>Bulk Material Storage</b>
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
41 52 46	Pad-Mounted Aerated Disc Materials Fluidizing System for Cone-Bottom Bins and Silos
<b>41 53 00</b>	<b>Storage Equipment and Systems</b>
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>
<b>41 61 00</b>	<b>Mobile Earth Moving Equipment</b>
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>

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
<b>41 63 00</b>	<b>General Vehicles</b>
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>
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>
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>
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
<b>41 67 00</b>	<b>Plant Maintenance Equipment</b>
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
<b>42 00 00</b>	<b>Process Heating, Cooling, and Drying Equipment</b>
<b>42 01 00</b>	<b>Operation and Maintenance of Process Heating, Cooling, and Drying Equipment</b>
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
<b>42 06 00</b>	<b>Schedules for Process Heating, Cooling, and Drying Equipment</b>
42 06 10	Schedules for Process Heating Equipment

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>
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>
<b>42 11 00</b>	<b>Process Boilers</b>
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
<b>42 12 00</b>	<b>Process Heaters</b>
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>
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>
42 14 13	Annealing Furnaces
42 14 16	Atmosphere Generators
42 14 19	Industrial Baking Furnaces
42 14 23	Industrial Brazing Furnaces
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
<b>42 15 00</b>	<b>Industrial Ovens</b>
42 15 13	Industrial Drying Ovens
42 15 16	Industrial Curing Ovens
42 15 19	Industrial Specialty Ovens
<b>42 20 00</b>	<b>Process Cooling Equipment</b>
<b>42 21 00</b>	<b>Process Cooling Towers</b>
42 21 13	Open-Circuit Process Cooling Towers

42 21 16	Closed-Circuit Process Cooling Towers
<b>42 22 00</b>	<b>Process Chillers and Coolers</b>
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>
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>
<b>42 31 00</b>	<b>Gas Dryers and Dehumidifiers</b>
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>
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
42 32 36	Tower Material Dryers
42 32 39	Vacuum Material Dryers
42 32 43	Specialty Material Dryers
<b>43 00 00</b>	<b>Process Gas and Liquid Handling, Purification, and Storage Equipment</b>
<b>43 01 00</b>	<b>Operation and Maintenance of Process Gas and Liquid Handling, Purification, and Storage Equipment</b>
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
<b>43 05 00</b>	<b>Common Work Results for Process Gas and Liquid Handling, Purification, and Storage Equipment</b>
43 05 05	Selective Demolition for Process Gas and Liquid Handling, Purification, and Storage Equipment.
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>
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>
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
<b>43 10 00</b>	<b>Gas Handling Equipment</b>
<b>43 11 00</b>	<b>Gas Fans, Blowers, Pumps and Boosters</b>
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
<b>43 12 00</b>	<b>Gas Compressors</b>
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>
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
<b>43 15 00</b>	<b>Process Air and Gas Filters</b>
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>
<b>43 22 00</b>	<b>Liquid Process Equipment</b>
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
43 22 86	Liquid Homogenizers
43 22 89	Liquid Presses
43 22 96	Liquid Versators
43 22 99	Liquid Votators
<b>43 23 00</b>	<b>Dry Location Liquid Pumps</b>
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

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



- 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

### **43 24 00 Suspended Liquid Pumps**

- 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
- 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**

- 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

### **43 26 00 Specialized Liquid 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

### **43 27 00 Process Liquid Filters**

- 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
- 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**

#### **43 31 00 Gas and Liquid Purification Filtration Equipment**

- 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

#### **43 32 00 Gas and Liquid Purification Process Equipment**

- 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

**43 40 00****Gas and Liquid Storage****43 41 00****Non-pressurized Tanks and Vessels**

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
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**

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

**44 00 00****Pollution and Waste Control****Equipment****44 01 00****Operation and Maintenance of Pollution and Waste Control Equipment**

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

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>
44 05 05	Selective Demolition for Pollution and Waste Control Equipment
<b>44 06 00</b>	<b>Schedules for Pollution and Waste Control Equipment</b>
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>
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
<b>44 10 00</b>	<b>Air Pollution Control</b>
<b>44 11 00</b>	<b>Particulate Control Equipment</b>
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
44 11 96	Dry Plate Electrostatic Precipitator Equipment
<b>44 13 00</b>	<b>Gaseous Air Pollution Control Equipment</b>
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
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**

### **44 21 00 Noise Pollution Control Equipment**

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
44 21 26	Frequency Cancellers

## **44 30 00 Odor Control**

### **44 31 00 Odor Treatment Equipment**

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
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**

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**

### **44 41 00 Water Pollution Containment and Cleanup Equipment**

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

**44 50 00****Solid Waste Control and Reuse****44 51 00****Solid Waste Collection, Transfer, and Hauling Equipment**

44 51 13	Solid Waste Portable Containers
44 51 16	Solid Waste Stationary Containers
44 51 23	Solid Waste Transfer Trailers

**44 53 00****Solid Waste Processing Equipment**

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
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**

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

<b>44 60 00</b>	<b>Waste Thermal Processing Equipment</b>
<b>44 61 00</b>	<b>Waste-to-Energy Plants</b>
44 61 13	Waste Receiving, Management, and Feed Equipment
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>
<b>44 63 00</b>	<b>Rotary Kiln Incinerators</b>
<b>44 64 00</b>	<b>Gasification Equipment</b>
44 64 13	Counter-current Fixed Bed Gasification Equipment
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>
<b>44 66 00</b>	<b>Hazardous Waste and Medical Waste Incinerators</b>
<b>44 67 00</b>	<b>Heat Recovery Equipment for Waste Thermal Processing</b>
<b>44 68 00</b>	<b>Synthesis Gas Cleanup and Handling Equipment</b>
<b>45 00 00</b>	<b>Industry-Specific Manufacturing Equipment</b>
<b>45 05 00</b>	<b>Common Work Results for Industry-Specific Manufacturing Equipment</b>
45 05 05	Selective Demolition for Industry-Specific Manufacturing Equipment
<b>45 08 00</b>	<b>Commissioning of Industry-Specific Manufacturing Equipment</b>
<b>45 11 00</b>	<b>Oil and Gas Extraction Equipment</b>
45 11 01	Operation and Maintenance of Oil and Gas Extraction Equipment
45 11 06	Schedules for Oil and Gas Extraction Equipment
45 11 10	User-Defined Oil and Gas Extraction Equipment
<b>45 12 00</b>	<b>User-Defined Oil and Gas Extraction Equipment</b>
<b>45 13 00</b>	<b>Mining Machinery and Equipment</b>
45 13 01	Operation and Maintenance of Mining Machinery and Equipment
45 13 06	Schedules for Mining Machinery and Equipment
45 13 10	User-Defined Mining Machinery and Equipment
<b>45 14 00</b>	<b>User-Defined Mining Machinery and Equipment</b>
<b>45 15 00</b>	<b>Food Manufacturing Equipment</b>
45 15 01	Operation and Maintenance of Food Manufacturing Equipment
45 15 06	Schedules for Food Manufacturing Equipment
45 15 10	User-Defined Food Manufacturing Equipment

<b>45 16 00</b>	<b>User-Defined Food Manufacturing Equipment</b>
<b>45 17 00</b>	<b>Beverage and Tobacco Manufacturing Equipment</b>
45 17 01	Operation and Maintenance of Beverage and Tobacco Manufacturing Equipment
45 17 06	Schedules for Beverage and Tobacco Manufacturing Equipment
45 17 10	User-Defined Beverage and Tobacco Manufacturing Equipment
<b>45 18 00</b>	<b>User-Defined Beverage and Tobacco Manufacturing Equipment</b>
<b>45 19 00</b>	<b>Textiles and Apparel Manufacturing Equipment</b>
45 19 01	Operation and Maintenance of Textiles and Apparel Manufacturing Equipment
45 19 06	Schedules for Textiles and Apparel Manufacturing Equipment
45 19 10	User-Defined Textiles and Apparel Manufacturing Equipment
<b>45 20 00</b>	<b>User-Defined Textiles and Apparel Manufacturing Equipment</b>
<b>45 21 00</b>	<b>Leather and Allied Product Manufacturing Equipment</b>
45 21 01	Operation and Maintenance of Leather and Allied Product Manufacturing Equipment
45 21 06	Schedules for Leather and Allied Product Manufacturing Equipment
45 21 10	User-Defined Leather and Allied Product Manufacturing Equipment
<b>45 22 00</b>	<b>User-Defined Leather and Allied Product Manufacturing Equipment</b>
<b>45 23 00</b>	<b>Wood Product Manufacturing Equipment</b>
45 23 01	Operation and Maintenance of Wood Product Manufacturing Equipment
45 23 06	Schedules for Wood Product Manufacturing Equipment
45 23 10	User-Defined Wood Product Manufacturing Equipment
<b>45 24 00</b>	<b>User-Defined Wood Product Manufacturing Equipment</b>
<b>45 25 00</b>	<b>Paper Manufacturing Equipment</b>
45 25 01	Operation and Maintenance of Paper Manufacturing Equipment
45 25 06	Schedules for Paper Manufacturing Equipment
45 25 10	User-Defined Paper Manufacturing Equipment
<b>45 26 00</b>	<b>User-Defined Paper Manufacturing Equipment</b>
<b>45 27 00</b>	<b>Printing and Related Manufacturing Equipment</b>
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	User-Defined Printing and Related Manufacturing Equipment
<b>45 28 00</b>	<b>User-Defined Printing and Related Manufacturing Equipment</b>
<b>45 29 00</b>	<b>Petroleum and Coal Products Manufacturing Equipment</b>
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	User-Defined Petroleum and Coal Products Manufacturing Equipment



<b>45 30 00</b>	<b>User-Defined Petroleum and Coal Products Manufacturing Equipment</b>
<b>45 31 00</b>	<b>Chemical Manufacturing Equipment</b>
45 31 01	Operation and Maintenance of Chemical Manufacturing Equipment
45 31 06	Schedules for Chemical Manufacturing Equipment
45 31 10	User-Defined Chemical Manufacturing Equipment
<b>45 32 00</b>	<b>User-Defined Chemical Manufacturing Equipment</b>
<b>45 33 00</b>	<b>Plastics and Rubber Manufacturing Equipment</b>
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	User-Defined Plastics and Rubber Manufacturing Equipment
<b>45 34 00</b>	<b>User-Defined Plastics and Rubber Manufacturing Equipment</b>
<b>45 35 00</b>	<b>Nonmetallic Mineral Product Manufacturing Equipment</b>
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	User-Defined Nonmetallic Mineral Product Manufacturing Equipment
<b>45 36 00</b>	<b>User-Defined Nonmetallic Mineral Product Manufacturing Equipment</b>
<b>45 37 00</b>	<b>Primary Metal Manufacturing Equipment</b>
45 37 01	Operation and Maintenance of Primary Metal Manufacturing Equipment
45 37 06	Schedules for Primary Metal Manufacturing Equipment
45 37 10	User-Defined Primary Metal Manufacturing Equipment
<b>45 38 00</b>	<b>User-Defined Primary Metal Manufacturing Equipment</b>
<b>45 39 00</b>	<b>Fabricated Metal Product Manufacturing Equipment</b>
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	User-Defined Fabricated Metal Product Manufacturing Equipment
<b>45 40 00</b>	<b>User-Defined Fabricated Metal Product Manufacturing Equipment</b>
<b>45 41 00</b>	<b>Machinery Manufacturing Equipment</b>
45 41 01	Operation and Maintenance of Machinery Manufacturing Equipment
45 41 06	Schedules for Machinery Manufacturing Equipment
45 41 10	User-Defined Machinery Manufacturing Equipment
<b>45 42 00</b>	<b>User-Defined Machinery Manufacturing Equipment</b>
<b>45 43 00</b>	<b>Computer and Electronic Product Manufacturing Equipment</b>
45 43 01	Operation and Maintenance of Computer and Electronic Product Manufacturing Equipment
45 43 06	Schedules for Computer and Electronic Product Manufacturing Equipment

45 43 10	User-Defined Computer and Electronic Product Manufacturing Equipment
<b>45 44 00</b>	<b>User-Defined Computer and Electronic Product Manufacturing Equipment</b>
<b>45 45 00</b>	<b>Electrical Equipment, Appliance, and Component Manufacturing Equipment</b>
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
45 45 10	User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment
<b>45 46 00</b>	<b>User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment</b>
<b>45 47 00</b>	<b>Transportation Manufacturing Equipment</b>
45 47 01	Operation and Maintenance of Transportation Manufacturing Equipment
45 47 06	Schedules for Transportation Manufacturing Equipment
45 47 10	User-Defined Transportation Manufacturing Equipment
<b>45 48 00</b>	<b>User-Defined Transportation Manufacturing Equipment</b>
<b>45 49 00</b>	<b>Furniture and Related Product Manufacturing Equipment</b>
45 49 01	Operation and Maintenance of Furniture and Related Product Manufacturing Equipment
45 49 06	Schedules for Furniture and Related Product Manufacturing Equipment
45 49 10	User-Defined Furniture and Related Product Manufacturing Equipment
<b>45 50 00</b>	<b>User-Defined Furniture and Related Product Manufacturing Equipment</b>
<b>45 52 00</b>	<b>User-Defined Other Manufacturing Equipment</b>
<b>45 53 00</b>	<b>Biopharmaceutical Manufacturing Equipment</b>
<b>46 00 00</b>	<b>Water and Wastewater Equipment</b>
<b>46 01 00</b>	<b>Operation and Maintenance of Water and Wastewater Equipment</b>
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
<b>46 05 00</b>	<b>Common Work Results for Water and Wastewater Equipment</b>
46 05 05	Selective Demolition for Water and Wastewater Equipment
<b>46 06 00</b>	<b>Schedules for Water and Wastewater Equipment</b>
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>
46 07 13	Packaged Water Treatment Equipment
46 07 53	Packaged Wastewater Treatment Equipment
<b>46 08 00</b>	<b>Commissioning of Water and Wastewater Equipment</b>
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>
<b>46 21 00</b>	<b>Screening Equipment</b>
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
<b>46 23 00</b>	<b>Grit Removal and Handling Equipment</b>
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>
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
<b>46 25 00</b>	<b>Oil and Grease Separation and Removal Equipment</b>
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
<b>46 30 00</b>	<b>Water and Wastewater Chemical Feed Equipment</b>
<b>46 31 00</b>	<b>Gas Chemical Feed Equipment</b>
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
<b>46 33 00</b>	<b>Liquid Chemical Feed Equipment</b>
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
<b>46 36 00</b>	<b>Dry Chemical Feed Equipment</b>
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**

### **46 41 00 Mixing Equipment**

- 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

### **46 43 00 Clarifier Equipment**

- 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

### **46 46 00 Sediment Removal Equipment**

- 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**

### **46 51 00 Air and Gas Diffusion Equipment**

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

#### **46 53 00 Biological Treatment Systems**

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

#### **46 60 00 Water and Wastewater Advanced Treatment Equipment**

##### **46 61 00 Filtration Equipment**

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

##### **46 63 00 Demineralization Equipment**

46 63 11	Ion-exchange Vessel Media
46 63 13	Mixed Bed Ion-exchange Vessel Systems

- 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
- 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

#### **46 66 00 Ultraviolet Equipment**

- 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

### **46 70 00 Water and Wastewater Residuals Handling and Treatment**

#### **46 71 00 Residuals Thickening Equipment**

- 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

#### **46 73 00 Residuals Stabilization**

- 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
- 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
<b>46 76 00</b>	<b>Residuals Dewatering Equipment</b>
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
<b>46 78 00</b>	<b>Thermal Treatment of Residuals</b>
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
<b>48 00 00</b>	<b>Electrical Power Generation</b>
<b>48 01 00</b>	<b>Operation and Maintenance for Electrical Power Generation</b>
48 01 10	Operation and Maintenance of Electrical Power Generation Equipment
48 01 70	Operation and Maintenance of Electrical Power Generation Testing
<b>48 05 00</b>	<b>Common Work Results for Electrical Power Generation</b>
48 05 05	Selective Demolition for Electrical Power Generation
<b>48 06 00</b>	<b>Schedules for Electrical Power Generation</b>
48 06 10	Schedules for Electrical Power Generation Equipment
48 06 70	Schedules for Electrical Power Generation Testing
<b>48 08 00</b>	<b>Commissioning of Electrical Power Generation</b>
<b>48 09 00</b>	<b>Instrumentation and Control for Electrical Power Generation</b>
<b>48 10 00</b>	<b>Electrical Power Generation Equipment</b>
<b>48 11 00</b>	<b>Fossil Fuel Plant Electrical Power Generation Equipment</b>
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
<b>48 12 00</b>	<b>Nuclear Fuel Plant Electrical Power Generation</b>



	<b>Equipment</b>
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>
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>
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
<b>48 15 00</b>	<b>Wind Energy Electrical Power Generation Equipment</b>
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>
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>
48 17 13	Electrical Power Generation Batteries
<b>48 18 00</b>	<b>Fuel Cell Electrical Power Generation Equipment</b>
48 18 13	Electrical Power Generation Fuel Cells
48 18 16	Hydrogen Control Equipment
<b>48 19 00</b>	<b>Electrical Power Control Equipment</b>
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>
<b>48 71 00</b>	<b>Electrical Power Generation Test Equipment</b>
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