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          01 75 16  Startup Procedures
01 76 00  Protecting Installed Construction
01 77 00  Closeout Procedures
          01 77 13  Preliminary Closeout Reviews
          01 77 16  Final Closeout Review
          01 77 19  Closeout Requirements
01 78 00  Closeout Submittals
          01 78 13  Completion and Correction List
          01 78 19  Maintenance Contracts
          01 78 23  Operation and Maintenance Data
          01 78 23.13 Operation Data
          01 78 23.16 Maintenance Data
          01 78 23.19 Preventative Maintenance Instructions
          01 78 29  Final Site Survey
          01 78 33  Bonds
          01 78 36  Warranties
          01 78 39  Project Record Documents
          01 78 43  Spare Parts
          01 78 46  Extra Stock Materials
          01 78 53  Sustainable Design Closeout Documentation
01 79 00  Demonstration and Training

01 80 00  Performance Requirements
  01 81 00  Facility Performance Requirements
    01 81 13  Sustainable Design Requirements
    01 81 16  Facility Environmental Requirements
    01 81 19  Indoor Air Quality Requirements
  01 82 00  Facility Substructure Performance Requirements
    01 82 13  Foundation Performance Requirements
    01 82 16  Basement Construction Performance Requirements
  01 83 00  Facility Shell Performance Requirements
    01 83 13  Superstructure Performance Requirements
    01 83 16  Exterior Enclosure Performance Requirements
    01 83 19  Roofing Performance Requirements
  01 84 00  Interiors Performance Requirements
    01 84 13  Interior Construction Performance Requirements
    01 84 16  Stairways Performance Requirements
    01 84 19  Interior Finishes Performance Requirements
  01 85 00  Conveying Equipment Performance Requirements
  01 86 00  Facility Services Performance Requirements
    01 86 13  Fire Suppression Performance Requirements
    01 86 16  Plumbing Performance Requirements
    01 86 19  HVAC Performance Requirements
    01 86 23  Integrated Automation Performance Requirements
    01 86 26  Electrical Performance Requirements
    01 86 29  Communications Performance Requirements
    01 86 33  Electronic Safety and Security Performance Requirements
  01 87 00  Equipment and Furnishings Performance Requirements
    01 87 13  Equipment Performance Requirements
    01 87 16  Furnishings Performance Requirements
  01 88 00  Other Facility Construction Performance Requirements
    01 88 13  Special Construction Performance Requirements
    01 88 16  Selective Construction Performance Requirements
  01 89 00  Site Construction Performance Requirements
    01 89 13  Site Preparation Performance Requirements
    01 89 16  Site Improvements Performance Requirements
    01 89 19  Site Plumbing Utilities Performance Requirements
    01 89 23  Site HVAC Utilities Performance Requirements
    01 89 26  Site Electrical Utilities Performance Requirements
    01 89 29  Other Site Construction Performance Requirements

01 90 00  Life Cycle Activities
  01 91 00  Commissioning
    01 91 13  General Commissioning Requirements
    01 91 16  Facility Substructure Commissioning
    01 91 16.13  Foundation Commissioning
01 91 16.53  Basement Construction Commissioning
01 91 19   Facility Shell Commissioning
01 91 19.13 Superstructure Commissioning
01 91 19.43 Exterior Enclosure Commissioning
01 91 19.73 Roofing Commissioning
01 91 23   Interiors Commissioning
01 91 23.13 Interior Construction Commissioning
01 91 23.43 Stairways Commissioning
01 91 23.73 Interior Finishes Commissioning

01 92 00   Facility Operation
01 92 13   Facility Operation Procedures

01 93 00   Facility Maintenance
01 93 13   Facility Maintenance Procedures
01 93 16   Recycling Programs

01 94 00   Facility Decommissioning
01 94 13   Facility Decommissioning Procedures
02 00 00  Existing Conditions
  02 01 00  Maintenance of Existing Conditions
     02 01 50  Maintenance of Site Remediation
     02 01 65  Maintenance of Underground Storage Tank Removal
     02 01 80  Maintenance of Facility Remediation
     02 01 86  Maintenance of Hazardous Waste Drum Handling
  02 05 00  Common Work Results for Existing Conditions
     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
  02 06 00  Schedules for Existing Conditions
     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
  02 08 00  Commissioning of Existing Conditions
  02 20 00  Assessment
  02 21 00  Surveys
     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
  02 22 00  Existing Conditions Assessment
     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  Environmental Assessment
     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  Polychlorinate 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
   02 41 91  Selective Historic Demolition

02 42 00  Removal and Salvage of Construction Materials
   02 42 13  Deconstruction of Structures
   02 42 13.13 Deconstruction of Buildings
   02 42 91  Removal and Salvage of Historic Construction Materials

02 43 00  Structure Moving
   02 43 13  Structure Relocation
   02 43 13.13 Building Relocation
   02 43 16  Structure Raising
   02 43 16.13 Building Raising

02 50 00  Site Remediation
02 51 00  Physical Decontamination
   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

02 52 00  Chemical Decontamination
   02 52 13  Chemical Precipitation Decontamination
   02 52 16  Ion Change Decontamination
   02 52 19  Neutralization Decontamination

02 53 00  Thermal Decontamination
   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

02 54 00  Biological Decontamination
   02 54 13  Aerobic Processes Decontamination
   02 54 16  Anaerobic Processes Decontamination
   02 54 19  Bioremediation Decontamination
   02 54 19.13  Bioremediation Using Landfarming
   02 54 19.16  Bioremediation of Soils Using Windrow Composting
   02 54 19.19  Bioremediation Using Bacteria Injection
   02 54 23  Soil Washing through Separation/Solubilization
   02 54 26  Organic Decontamination

02 55 00  Remediation Soil Stabilization

02 56 00  Site Containment
   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

02 57 00  Sinkhole Remediation
   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

02 58 00  Snow Control
   02 58 13  Snow Fencing
   02 58 16  Snow Avalanche Control

02 60 00  Contaminated Site Material Removal

02 61 00  Removal and Disposal of Contaminated Soils
   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

02 62 00  Hazardous Waste Recovery Processes
    02 62 13  Air and Steam Stripping
    02 62 16  Soil Vapor Extraction
    02 62 19  Soil Washing and Flushing

02 65 00  Underground Storage Tank Removal
02 66 00  Landfill Construction and Storage

02 70 00  Water Remediation
    02 71 00  Groundwater Treatment
    02 72 00  Water Decontamination
        02 72 13  Chemical Water Decontamination
        02 72 16  Biological Water Decontamination
        02 72 19  Electrolysis Water Decontamination

02 80 00  Facility Remediation
    02 81 00  Transportation and Disposal of Hazardous Materials
    02 82 00  Asbestos Remediation
        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 16  Engineering Control of Asbestos Containing Materials
        02 82 33  Removal and Disposal of Asbestos Containing Materials

02 83 00  Lead Remediation
    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

02 84 00  Polychlorinate Biphenyl Remediation
    02 84 16  Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury
    02 84 33  Removal and Disposal of Polychlorinate Biphenyls

02 85 00  Mold Remediation
    02 85 13  Precautions for Mold Remediation
    02 85 16  Mold Remediation Preparation and Containment
    02 85 19  Mold Remediation Clearance Air Sampling
    02 85 33  Removal and Disposal of Materials with Mold

02 86 00  Hazardous Waste Drum Handling
03 00 00  Concrete
  03 01 00  Maintenance of Concrete
    03 01 10  Maintenance of Concrete Forming and Accessories
    03 01 20  Maintenance of Concrete Reinforcing
    03 01 23  Maintenance of Stressing Tendons
    03 01 30  Maintenance of Cast-in-Place Concrete
    03 01 30.51  Cleaning of Cast-in-Place Concrete
    03 01 30.61  Resurfacing of Cast-in-Place Concrete
    03 01 30.71  Rehabilitation of Cast-in-Place Concrete
    03 01 30.72  Strengthening of Cast-in-Place Concrete
    03 01 40  Maintenance of Precast Concrete
    03 01 40.51  Cleaning of Precast Concrete
    03 01 40.61  Resurfacing of Precast Concrete
    03 01 40.71  Rehabilitation of Precast Concrete
    03 01 40.72  Strengthening of Precast Concrete
    03 01 50  Maintenance of Cast Decks and Underlayment
    03 01 50.51  Cleaning Cast Decks and Underlayment
    03 01 50.61  Resurfacing of Cast Decks and Underlayment
    03 01 50.71  Rehabilitation of Cast Decks and Underlayment
    03 01 50.72  Strengthening of Cast Decks and Underlayment
    03 01 60  Maintenance of Grouting
    03 01 70  Maintenance of Mass Concrete
    03 01 80  Maintenance of Concrete Cutting and Boring

03 05 00  Common Work Results for Concrete

03 06 00  Schedules for Concrete
  03 06 10  Schedules for Concrete Forming and Accessories
  03 06 20  Schedules for Concrete Reinforcing
  03 06 20.13  Concrete Beam Reinforcing Schedule
  03 06 20.16  Concrete Slab Reinforcing Schedule
  03 06 30  Schedules for Cast-in-Place Concrete
  03 06 30.13  Concrete Footing Schedule
  03 06 30.16  Concrete Column Schedule
  03 06 30.19  Concrete Slab Schedule
  03 06 30.23  Concrete Shaft Schedule
  03 06 30.26  Concrete Beam Schedule
  03 06 40  Schedules for Precast Concrete
  03 06 40.13  Precast Concrete Panel Schedule
  03 06 50  Schedules for Cast Decks and Underlayment
  03 06 60  Schedules for Grouting
  03 06 70  Schedules for Mass Concrete
  03 06 80  Schedules for Concrete Cutting and Boring

03 08 00  Commissioning of Concrete

03 10 00  Concrete Forming and Accessories

03 11 00  Concrete Forming
  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 15 00 Concrete Accessories
  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 20 00 Concrete Reinforcing

03 21 00 Reinforcement Bars
  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

03 22 00 Fabric and Grid Reinforcing
  03 22 13 Galvanized Welded Wire Fabric Reinforcing
  03 22 16 Epoxy-Coated Welded Wire Fabric Reinforcing
  03 22 19 Composite Grid Reinforcing

03 23 00 Stressed Tendon Reinforcing

03 24 00 Fibrous Reinforcing

03 25 00 Composite Reinforcing
  03 25 13 Glass Fiber-Reinforced Polymer Reinforcing
  03 25 16 Organic Fiber-Reinforced Polymer Reinforcing
  03 25 19 Carbon Fiber-Reinforced Polymer Reinforcing

03 30 00 Cast-in-Place Concrete
  03 30 53 Miscellaneous Cast-in-Place Concrete

03 31 00 Structural Concrete
  03 31 13 Heavyweight Structural Concrete
  03 31 16 Lightweight Structural Concrete
  03 31 19 Shrinkage-Compensating Structural Concrete
  03 31 23 High-Performance Structural Concrete
  03 31 24 Ultra High-Performance Structural Concrete
  03 31 26 Self-Compacting Concrete

03 33 00 Architectural Concrete
  03 33 13 Heavyweight Architectural Concrete
  03 33 16 Lightweight Architectural Concrete

03 34 00 Low Density Concrete

03 35 00 Concrete Finishing
  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 37 00  Specialty Placed Concrete
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

03 38 00  Post-Tensioned Concrete
03 38 13  Post-Tensioned Concrete Preparation
03 38 16  Unbonded Post-Tensioned Concrete
03 38 19  Bonded Post-Tensioned Concrete

03 39 00  Concrete Curing
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

03 40 00  Precast Concrete
03 41 00  Precast Structural Concrete
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

03 45 00  Precast Architectural Concrete
03 45 13  Faced Architectural Precast Concrete
03 45 33  Precast Architectural Pretensioned Concrete
03 45 36  Precast Architectural Post-Tensioned Concrete

03 47 00  Site-Cast Concrete
03 47 13  Tilt-Up Concrete
03 47 16  Lift-Slab Concrete

03 48 00  Precast Concrete Specialties
03 48 13  Precast Concrete Bollards
03 48 16  Precast Concrete Splash Blocks
03 48 19  Precast Concrete Stair Treads
03 48 33  Precast Pre-Framed Concrete Panels
03 48 43  Precast Concrete Trim

03 49 00  Glass-Fiber-Reinforced Concrete
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

03 50 00  Cast Decks and Underlayment
03 51 00  Cast Roof Decks
03 51 13  Cementitious Wood Fiber Decks
03 51 16  Gypsum Concrete Roof Decks
03 52 00  **Lightweight Concrete Roof Insulation**
  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
03 53 00  **Concrete Topping**
  03 53 13  Emery-Aggregate Concrete Topping
  03 53 16  Iron-Aggregate Concrete Topping
03 54 00  **Cast Underlayment**
  03 54 13  Gypsum Cement Underlayment
  03 54 16  Hydraulic Cement Underlayment
03 60 00  **Grouting**
03 61 00  **Cementitious Grouting**
  03 61 13  Dry-Pack Grouting
03 62 00  **Non-Shrink Grouting**
  03 62 13  Non-Metallic Non-Shrink Grouting
  03 62 16  Metallic Non-Shrink Grouting
03 63 00  **Epoxy Grouting**
03 64 00  **Injection Grouting**
  03 64 23  Epoxy Injection Grouting
03 70 00  **Mass Concrete**
03 71 00  **Mass Concrete for Raft Foundations**
03 72 00  **Mass Concrete for Dams**
03 80 00  **Concrete Cutting and Boring**
03 81 00  **Concrete Cutting**
  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
03 82 00  **Concrete Boring**
  03 82 13  Concrete Core Drilling
04 00 00 Masonry
  04 01 00 Maintenance of Masonry
    04 01 20 Maintenance of Unit Masonry
    04 01 20.41 Unit Masonry Stabilization
    04 01 20.51 Unit Masonry Maintenance
    04 01 20.52 Unit Masonry Cleaning
    04 01 20.91 Unit Masonry Restoration
    04 01 20.93 Testing and Sampling Brick Units for Restoration
    04 01 40 Maintenance of Stone Assemblies
    04 01 40.51 Stone Maintenance
    04 01 40.52 Stone Cleaning
    04 01 40.91 Stone Restoration
    04 01 50 Maintenance of Refractory Masonry
    04 01 60 Maintenance of Corrosion-Resistant Masonry
    04 01 70 Maintenance of Manufactured Masonry
  04 05 00 Common Work Results 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
  04 06 00 Schedules for Masonry
    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
  04 08 00 Commissioning of Masonry
  04 20 00 Unit Masonry
    04 21 00 Clay Unit Masonry
      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  

04 22 00  Concrete Unit Masonry  
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  

04 23 00  Glass Unit Masonry  
04 23 13  Vertical Glass Unit Masonry  
04 23 16  Glass Unit Masonry Floors  
04 23 19  Glass Unit Masonry Skylights  

04 24 00  Adobe Unit Masonry  
04 24 13  Site-Cast Adobe Unit Masonry  
04 24 16  Manufactured Adobe Unit Masonry  

04 25 00  Unit Masonry Panels  
04 25 13  Metal-Supported Unit Masonry Panels  

04 26 00  Single-Wythe Unit Masonry  
04 26 13  Masonry Veneer  

04 27 00  Multiple-Wythe Unit Masonry  
04 27 13  Composite Unit Masonry  
04 27 23  Cavity Wall Unit Masonry  

04 28 00  Concrete Form Masonry Units  
04 28 13  Dry-Stacked, Concrete-Filled Masonry Units  
04 28 23  Mortar-Set, Concrete-Filled Masonry Units  

04 29 00  Engineered Unit Masonry  

04 40 00  Stone Assemblies  

04 41 00  Dry-Placed Stone  

04 42 00  Exterior Stone Cladding  
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  

04 43 00  Stone Masonry  
04 43 13  Stone Masonry Veneer  
04 43 13.13  Anchored Stone Masonry Veneer  
04 43 13.16  Adhered Stone Masonry Veneer
04 50 00  Refractory Masonry
  04 51 00  Flue Liner Masonry
  04 52 00  Combustion Chamber Masonry
  04 53 00  Castable Refractory Masonry
  04 54 00  Refractory Brick Masonry
  04 57 00  Masonry Fireplaces
    04 57 33  Modular Masonry Fireplaces
04 60 00  Corrosion-Resistant Masonry
  04 61 00  Chemical-Resistant Brick Masonry
  04 62 00  Vitrified Clay Liner Plate
04 70 00  Manufactured Masonry
  04 71 00  Manufactured Brick Masonry
    04 71 13  Calcium Silicate Manufactured Brick Masonry
  04 72 00  Cast Stone Masonry
04 73 00  Manufactured Stone Masonry
    04 73 13  Calcium Silicate Manufactured Stone Masonry
05 00 00  Metals
  05 01 00  Maintenance of Metals
    05 01 10  Maintenance of Structural Metal Framing
    05 01 20  Maintenance of Metal Joists
    05 01 30  Maintenance of Metal Decking
    05 01 40  Maintenance of Cold-Formed Metal Framing
    05 01 50  Maintenance of Metal Fabrications
    05 01 70  Maintenance of Decorative Metal
    05 01 70.91 Historic Treatment of Decorative Metal
  05 05 00  Common Work Results for Metals
    05 05 13  Shop-Applied Coatings for Metal
    05 05 23  Metal Fastenings
    05 05 53  Security Metal Fastenings
  05 06 00  Schedules for Metals
    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
  05 08 00  Commissioning of Metals
  05 10 00  Structural Metal Framing
    05 12 00  Structural Steel Framing
      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
    05 13 00  Structural Stainless-Steel Framing
    05 14 00  Structural Aluminum Framing
      05 14 13  Architecturally-Exposed Structural Aluminum Framing
    05 15 00  Wire Rope Assemblies
      05 15 13  Aluminum Wire Rope Assemblies
      05 15 16  Steel Wire Rope Assemblies
      05 15 19  Stainless-Steel Wire Rope Assemblies
    05 16 00  Structural Cabling
      05 16 13  Cable Bow Truss Assemblies
      05 16 33  Bridge Cabling
    05 17 00  Structural Rod Assemblies
    05 19 00  Tension Rod and Cable Truss Assemblies
      05 19 13  Façade Support Truss Assemblies
      05 19 19  Canopy Support Truss Assemblies
  05 20 00  Metal Joists
05 21 00  Steel Joist Framing
  05 21 13  Deep Longspan Steel Joist Framing
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  07 55 52 Modified Bituminous Protected Membrane Roofing
  07 55 53 Elastomeric Protected Membrane Roofing
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**08 00 00**

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**Common Work Results for Openings**

**08 06 00**

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21 33 00 Positive-Displacement Fire Pumps
  21 33 13 Electric-Drive, Positive-Displacement Fire Pumps
  21 33 16 Diesel-Drive, Positive-Displacement Fire Pumps

21 40 00 Fire-Suppression Water Storage

21 41 00 Storage Tanks for Fire-Suppression Water
  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
22 00 00  Plumbing
  22 01 00  Operation and Maintenance of Plumbing
    22 01 10  Operation and Maintenance of Plumbing Piping and Pumps
    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
  22 05 00  Common Work Results for Plumbing
    22 05 13  Common Motor Requirements for Plumbing Equipment
    22 05 16  Expansion Fittings and Loops 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 53  Identification for Plumbing Piping and Equipment
    22 05 73  Facility Drainage Manholes
    22 05 76  Facility Drainage Piping Cleanouts
  22 06 00  Schedules for Plumbing
    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
  22 07 00  Plumbing Insulation
    22 07 16  Plumbing Equipment Insulation
    22 07 19  Plumbing Piping Insulation
  22 08 00  Commissioning of Plumbing
  22 09 00  Instrumentation and Control for Plumbing
  22 10 00  Plumbing Piping
    22 11 00  Facility Water Distribution
      22 11 13  Facility Water Distribution Piping
      22 11 16  Domestic 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 Close-Coupled, In-Line, Sealless Centrifugal Domestic-Water Pumps
      22 11 23.26 Close-Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps
      22 11 23.29 Close-Coupled, Vertically Mounted, In-Line Centrifugal Domestic-Water Pumps
      22 11 23.33 Separately Coupled, In-Line Centrifugal Domestic-Water Pumps
      22 11 23.36 Separately Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps
22 12 00 Facility Potable-Water Storage Tanks
  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 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

22 13 00 Facility Sanitary Sewerage
  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 53 Facility Septic Tanks
  22 13 63 Facility Gray Water Tanks

22 14 00 Facility Storm Drainage
  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 15 00 General Service Compressed-Air Systems
  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

22 30 00 Plumbing Equipment

22 31 00 Domestic Water Softeners
22 31 13 Residential Domestic Water Softeners
22 31 16 Commercial Domestic Water Softeners

22 32 00 Domestic Water Filtration Equipment
22 32 13 Domestic-Water Bag-Type Filters
22 32 16 Domestic-Water Freestanding Cartridge Filters
22 32 19 Domestic-Water Off-Floor Cartridge Filters
22 32 23 Domestic-Water Carbon Filters
22 32 26 Domestic-Water Sand Filters
22 32 26.13 Domestic-Water Circulating Sand Filters
22 32 26.16 Domestic-Water Multimedia Sand Filters
22 32 26.19 Domestic-Water Greensand Filters

22 33 00 Electric Domestic Water Heaters
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

22 34 00 Fuel-Fired Domestic Water Heaters
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

22 35 00 Domestic Water Heat Exchangers
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 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

22 40 00 Plumbing Fixtures

22 41 00 Residential Plumbing Fixtures
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

22 42 00 Commercial Plumbing Fixtures
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

22 43 00 Healthcare Plumbing Fixtures
22 43 13 Healthcare Water Closets
22 43 16 Healthcare Sinks
22 43 19 Healthcare Bathtubs
22 43 23 Healthcare Showers
22 43 39 Healthcare Faucets
22 43 43 Healthcare Plumbing Fixture Flushometers

22 45 00 Emergency Plumbing Fixtures
22 45 13 Emergency Showers
22 45 16 Eyewash Equipment
22 45 19 Self-Contained Eyewash Equipment
22 45 23  Personal Eyewash Equipment
22 45 26  Eye/Face Wash Equipment
22 45 29  Hand-Held Emergency Drench Hoses
22 45 33  Combination Emergency Fixture Units
22 45 36  Emergency Fixture Water-Tempering Equipment
22 46 00  Security Plumbing Fixtures
  22 46 13  Security Water Closets and Urinals
  22 46 13.13  Security Water Closets
  22 46 13.16  Security Urinals
  22 46 16  Security Lavatories and Sinks
  22 46 16.13  Security Lavatories
  22 46 16.16  Security Sinks
  22 46 19  Security Showers
  22 46 39  Security Faucets, Supplies, and Trim
  22 46 43  Security Plumbing Fixture Flushometers
  22 46 53  Security Plumbing Fixture Supports
22 47 00  Drinking Fountains and Water Coolers
  22 47 13  Drinking Fountains
  22 47 16  Pressure Water Coolers
  22 47 19  Water-Station Water Coolers
  22 47 23  Remote Water Coolers
22 50 00  Pool and Fountain Plumbing Systems
22 51 00  Swimming Pool Plumbing Systems
  22 51 13  Swimming Pool Piping
  22 51 16  Swimming Pool Pumps
  22 51 19  Swimming Pool Water Treatment Equipment
  22 51 23  Swimming Pool Equipment Controls
22 52 00  Fountain Plumbing Systems
  22 52 13  Fountain Piping
  22 52 16  Fountain Pumps
  22 52 19  Fountain Water Treatment Equipment
  22 52 23  Fountain Equipment Controls
22 60 00  Gas and Vacuum Systems for Laboratory and Healthcare Facilities
22 61 00  Compressed-Air Systems for Laboratory and Healthcare Facilities
  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
22 62 00  Vacuum Systems for Laboratory and Healthcare Facilities
  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

22 63 00  Gas Systems for Laboratory and Healthcare Facilities
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

22 66 00  Chemical-Waste Systems for Laboratory and Healthcare Facilities
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

22 67 00  Processed Water Systems for Laboratory and Healthcare Facilities
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
23 00 00 Heating, Ventilating, and Air Conditioning (HVAC)

23 01 00 Operation and Maintenance of HVAC Systems
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

23 05 00 Common Work Results for HVAC
23 05 13 Common Motor Requirements for HVAC Equipment
23 05 16 Expansion Fittings and Loops 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 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 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 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 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 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

23 23 00 Refrigerant Piping
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

23 24 00 Internal-Combustion Engine Piping
23 24 13 Internal-Combustion Engine Remote-Radiator Coolant Piping
23 24 16 Internal-Combustion Engine Exhaust Piping

23 25 00 HVAC Water Treatment
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 30 00 HVAC Air Distribution

23 31 00 HVAC Ducts and Casings
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

23 32 00 Air Plenums and Chases
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

23 33 00 Air Duct Accessories
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 43 Flexible Connectors
23 33 46 Flexible Ducts
23 33 53  Duct Liners
23 34 00  HVAC Fans
  23 34 13  Axial HVAC Fans
  23 34 16  Centrifugal HVAC Fans
  23 34 23  HVAC Power Ventilators
  23 34 33  Air Curtains
23 35 00  Special Exhaust Systems
  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 36 00  Air Terminal Units
  23 36 13  Constant-Air-Volume Units
  23 36 16  Variable-Air-Volume Units
23 37 00  Air Outlets and Inlets
  23 37 13  Diffusers, 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
23 38 00  Ventilation Hoods
  23 38 13  Commercial-Kitchen Hoods
  23 38 13.13 Listed Commercial-Kitchen Hoods
  23 38 13.16 Standard Commercial-Kitchen Hoods
  23 38 16  Fume Hoods
23 40 00  HVAC Air Cleaning Devices
23 41 00  Particulate Air Filtration
  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
23 42 00  Gas-Phase Air Filtration
  23 42 13  Activated-Carbon Air Filtration
  23 42 16  Chemically-Impregnated Adsorption Air Filtration
  23 42 19  Catalytic-Adsorption Air Filtration
23 43 00  Electronic Air Cleaners
  23 43 13  Washable Electronic Air Cleaners
  23 43 16  Agglomerator Electronic Air Cleaners
  23 43 23  Self-Contained Electronic Air Cleaners
23 50 00  Central Heating Equipment
23 51 00  Breechings, Chimneys, and Stacks
  23 51 13  Draft Control Devices
  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 33.16 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 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 57 00 Heat Exchangers for HVAC
23 57 13 Steam-to-Steam Heat Exchangers
23 57 16 Steam-to-Water Heat Exchangers
23 57 19 Liquid-to-Liquid Heat Exchangers
23 57 19.13 Plate-Type, Liquid-to-Liquid Heat Exchangers
23 57 19.16 Shell-Type, Liquid-to-Liquid Heat Exchangers
23 57 33 Direct Geoexchange Heat Exchangers

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 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 26 Rotary-Screw 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 16 Natural-Draft Cooling Towers
23 65 23 Field-Erected Cooling Towers
23 65 33 Liquid Coolers

23 70 00 **Central HVAC Equipment**

23 71 00 **Thermal Storage**
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
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41 67 00  Plant Maintenance Equipment
   41 67 13  Plant Lube Oil System
   41 67 16  Plant Fall Protection Equipment
   41 67 19  Plant Safety Equipment
   41 67 23  Plant Maintenance Tools
   41 67 26  Plant Maintenance Washing Equipment
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42 01 00  Operation and Maintenance of Process Heating, Cooling, and Drying Equipment
  42 01 10  Operation and Maintenance of Process Heating Equipment
  42 01 20  Operation and Maintenance of Process Cooling Equipment
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42 06 00  Schedules for Process Heating, Cooling, and Drying Equipment
  42 06 10  Schedules for Process Heating Equipment
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  42 08 20  Commissioning of Cooling Equipment
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42 10 00  Process Heating Equipment

42 11 00  Process Boilers
  42 11 13  Low-Pressure Process Boilers
  42 11 16  Intermediate-Pressure Process Boilers
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42 12 00  Process Heaters
  42 12 13  Electric Process Heaters
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  42 12 19  Thermoelectric Process Heaters
  42 12 23  Solar Process Heaters
  42 12 26  Specialty Process Heaters

42 13 00  Industrial Heat Exchangers and Recuperators
  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

42 14 00  Industrial Furnaces
  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
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43 00 00 Process Gas and Liquid Handling, Purification, and Storage Equipment

43 01 00 Operation and Maintenance of Process Gas and Liquid Handling, Purification, and Storage Equipment
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

43 05 00 Common Work Results 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

43 06 00 Schedules for Process Gas and Liquid Handling, Purification, and Storage Equipment
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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

43 08 00 Commissioning of Process Gas and Liquid Handling, Purification, and Storage Equipment
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

43 10 00 Gas Handling Equipment

43 11 00 Gas Fans, Blowers, Pumps and Boosters
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

43 12 00  Gas Compressors
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

43 13 00  Gas Process Equipment
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

43 15 00  Process Air and Gas Filters
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

43 20 00  Liquid Handling Equipment
43 21 00  Liquid Pumps
43 21 13  Centrifugal Liquid Pumps
43 21 16  Diaphragm Liquid Pumps
43 21 19  Dispensing Liquid Pumps
43 21 23  Drum Liquid Pumps
43 21 26  Gear Liquid Pumps
43 21 29  Metering Liquid Pumps
43 21 33  Piston/Plunger Liquid Pumps
43 21 36  Positive Displacement Liquid Pumps
43 21 39 Submersible Liquid Pumps
43 21 43 Sump Liquid Pumps
43 21 46 Vane Liquid Pumps
43 22 00 Liquid Process Equipment
  43 22 13 Liquid Aeration Devices
  43 22 16 Liquid Agitators
  43 22 19 Liquid Blenders
  43 22 23 Liquid Centrifuges
  43 22 26 Liquid Deaerators
  43 22 29 Drum Handling Liquid Process Equipment
  43 22 33 Liquid Emulsifiers
  43 22 36 Liquid Evaporators
  43 22 39 Liquid Feeders
  43 22 56 Liquid Process Mixers
  43 22 59 Liquid Process Pressure Regulators
  43 22 63 Liquid Separation Towers
  43 22 66 Liquid Weigh Systems
  43 22 69 Liquid Grease Receiving and Dewatering Systems
  43 22 73 Liquid Fillers
  43 22 76 Liquid Screeners
  43 22 79 Liquid Clarifiers
  43 22 83 Liquid Classifiers
  43 22 86 Liquid Homogenizers
  43 22 89 Liquid Presses
  43 22 96 Liquid Versators
  43 22 99 Liquid Votators
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

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43 42 53  Fiberglass Reinforced Plastic Pressure Tanks
43 42 83  Non-metallic Specialty Pressure Tanks
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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

44 05 00  Common Work Results for Pollution and Waste Control Equipment

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  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
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44 08 00  Commissioning of Pollution and Waste Control Equipment
  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 of Water Pollution Control Equipment
  44 08 50  Commissioning of Solid Waste Control and Reuse
  44 08 60  Commissioning of Waste Thermal Processing Equipment

44 10 00  Air Pollution Control

44 11 00  Particulate Control Equipment
  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

44 13 00  Gaseous Air Pollution Control Equipment
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
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44 32 00  Odor Dispersing and Masking/Counteracting Equipment
   44 32 13  Odor Dispersing Exhaust Stacks
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   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

44 60 00 Waste Thermal Processing Equipment

44 61 00 Waste-to-Energy Plants
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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
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44 62 00 Fluidized Bed Combustion Equipment

44 63 00 Rotary Kiln Incinerators

44 64 00 Gasification Equipment
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

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44 67 00 Heat Recovery Equipment for Waste Thermal Processing

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  45 14 99 User-Defined Mining Machinery and Equipment

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45 17 00 Beverage and Tobacco Manufacturing Equipment
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  45 21 01 Operation and Maintenance of Leather and Allied Product Manufacturing Equipment
  45 21 06 Schedules for Leather and Allied Product Manufacturing Equipment
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45 23 00 Wood Product Manufacturing Equipment
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45 31 00 Chemical Manufacturing Equipment
45 31 01 Operation and Maintenance of Chemical Manufacturing Equipment
45 31 06 Schedules for Chemical Manufacturing Equipment
45 31 10 thru
45 32 99 User-Defined Chemical Manufacturing Equipment

45 33 00 Plastics and Rubber Manufacturing Equipment
45 33 01 Operation and Maintenance of Plastics and Rubber Manufacturing Equipment
45 33 06 Schedules for Plastics and Rubber Manufacturing Equipment
45 33 10 thru
45 34 99 User-Defined Plastics and Rubber Manufacturing Equipment

45 35 00 Nonmetallic Mineral Product Manufacturing Equipment
45 35 01 Operation and Maintenance of Nonmetallic Mineral Product Manufacturing Equipment
45 35 06 Schedules for Nonmetallic Mineral Product Manufacturing Equipment
45 35 10 thru
45 36 99 User-Defined Nonmetallic Mineral Product Manufacturing Equipment

45 37 00 Primary Metal Manufacturing Equipment
45 37 01 Operation and Maintenance of Primary Metal Manufacturing Equipment
45 37 06 Schedules for Primary Metal Manufacturing Equipment
45 37 10 thru
45 38 99 User-Defined Primary Metal Manufacturing Equipment

45 39 00 Fabricated Metal Product Manufacturing Equipment
45 39 01 Operation and Maintenance of Fabricated Metal Product Manufacturing Equipment
45 39 06 Schedules for Fabricated Metal Product Manufacturing Equipment
45 39 10 thru
45 40 99 User-Defined Fabricated Metal Product Manufacturing Equipment

45 41 00 Machinery Manufacturing Equipment
45 41 01 Operation and Maintenance of Machinery Manufacturing Equipment
45 41 06 Schedules for Machinery Manufacturing Equipment
45 41 10 thru
45 42 99 User-Defined Machinery Manufacturing Equipment
45 43 00  Computer and Electronic Product Manufacturing Equipment
45 43 01  Operation and Maintenance of Computer and Electronic Product Manufacturing Equipment
45 43 06  Schedules for Computer and Electronic Product Manufacturing Equipment
45 43 10  thru
45 44 99  User-Defined Computer and Electronic Product Manufacturing Equipment

45 45 00  Electrical Equipment, Appliance, and Component Manufacturing Equipment
45 45 01  Operation and Maintenance of Electrical Equipment, Appliance, and Component Manufacturing Equipment
45 45 06  Schedules for Electrical Equipment, Appliance, and Component Manufacturing Equipment
45 45 10  thru
45 46 99  User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment

45 47 00  Transportation Manufacturing Equipment
45 47 01  Operation and Maintenance of Transportation Manufacturing Equipment
45 47 06  Schedules for Transportation Manufacturing Equipment
45 47 10  thru
45 48 99  User-Defined Transportation Manufacturing Equipment

45 49 00  Furniture and Related Product Manufacturing Equipment
45 49 01  Operation and Maintenance of Furniture and Related Product Manufacturing Equipment
45 49 06  Schedules for Furniture and Related Product Manufacturing Equipment
45 49 10  thru
45 50 99  User-Defined Furniture and Related Product Manufacturing Equipment

45 51 00  Other Manufacturing Equipment
45 51 01  Operation and Maintenance of Other Manufacturing Equipment
45 51 06  Schedules for Other Manufacturing Equipment
45 51 10  thru
45 52 99  User-Defined Other Manufacturing Equipment
46 00 00  Water and Wastewater Equipment
   46 01 00  Operation and Maintenance of Water and Wastewater Equipment
       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
   46 05 00  Common Work Results for Water and Wastewater Equipment
   46 06 00  Schedules for Water and Wastewater Equipment
       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
   46 07 00  Packaged Water and Wastewater Treatment Equipment
       46 07 13  Packaged Water Treatment Equipment
       46 07 53  Packaged Wastewater Treatment Equipment
   46 08 00  Commissioning of Water and Wastewater Equipment
       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
   46 20 00  Water and Wastewater Preliminary Treatment Equipment
   46 21 00  Screening Equipment
       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

46 23 00 Grit Removal and Handling Equipment
46 23 13 Chain-and-Bucket Grit Removal Equipment
46 23 16 Chain-and-Flight Grit Removal Equipment
46 23 23 Vortex Grit Removal Equipment
46 23 27 Cyclone Degritters
46 23 33 Aerated Grit Removal Equipment
46 23 43 Inline Baffled Grit Removal Equipment
46 23 53 Traveling Bridge Grit Removal Equipment
46 23 63 Grit Classifying and Washing Equipment
46 23 66 Grit Storage Containers

46 24 00 Grinding and Shredding Equipment
46 24 13 Macerators
46 24 16 Comminutors
46 24 23 Inline Grinders
46 24 33 Open-channel Grinders
46 24 36 Modular Grinding-Screening-Compacting Equipment

46 25 00 Oil and Grease Separation and Removal Equipment
46 25 13 Coalescing Oil-Water Separators
46 25 16 API Oil-Water Separators
46 25 23 Grease Traps
46 25 33 Dissolved Air Flotation Grease and Oil Separation Equipment
46 25 41 Helical Scum Skimming and Removal Equipment
46 25 43 Tipping Trough Scum Skimming and Removal Equipment
46 25 46 Chain and Flight Scum Collection and Removal Equipment
46 25 47 Floating Scum Skimming and Removal Equipment

46 30 00 Water and Wastewater Chemical Feed Equipment

46 31 00 Gas Chemical Feed Equipment
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
46 33 00 Liquid Chemical Feed Equipment
   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

46 36 00 Dry Chemical Feed Equipment
   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 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

46 76 00 Residuals Dewatering Equipment
46 76 13 Vacuum Filters
46 76 21 Belt Filter Presses
46 76 23 Plate-and-Frame Filter Presses
46 76 26 Rotary Presses
46 76 27 Screw Presses
46 76 33 Dewatering Centrifuges
46 76 53 Belt Dryers
46 76 60 Direct-heat Residuals Drying Equipment
46 76 70 Indirect-heat Residuals Drying Equipment

46 78 00 Thermal Treatment of Residuals
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
48 00 00 Electrical Power Generation
    48 01 00 Operation and Maintenance for Electrical Power Generation
        48 01 10 Operation and Maintenance of Electrical Power Generation Equipment
        48 01 70 Operation and Maintenance of Electrical Power Generation Testing
    48 05 00 Common Work Results for Electrical Power Generation
    48 06 00 Schedules for Electrical Power Generation
        48 06 10 Schedules for Electrical Power Generation Equipment
        48 06 70 Schedules for Electrical Power Generation Testing
    48 08 00 Commissioning of Electrical Power Generation
    48 09 00 Instrumentation and Control for Electrical Power Generation
48 10 00 Electrical Power Generation Equipment
    48 11 00 Fossil Fuel Plant Electrical Power Generation Equipment
        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
    48 12 00 Nuclear Fuel Plant Electrical Power Generation Equipment
        48 12 13 Nuclear Fuel Reactors
        48 12 13.13 Nuclear Fuel Fission Reactors
        48 12 13.16 Nuclear Fuel Fusion Reactors
        48 12 23 Nuclear Fuel Electrical Power Plant Steam Generators
        48 12 26 Nuclear Fuel Electrical Power Plant Condensers
        48 12 29 Nuclear Fuel Electrical Power Plant Turbines
        48 12 33 Nuclear Fuel Electrical Power Plant Generators
    48 13 00 Hydroelectric Plant Electrical Power Generation Equipment
        48 13 13 Hydroelectric Power Plant Water Turbines
        48 13 16 Hydroelectric Power Plant Electrical Power Generators
    48 14 00 Solar Energy Electrical Power Generation Equipment
        48 14 13 Solar Energy Collectors
        48 14 13.13 Amorphous Solar Energy Collectors
        48 14 13.16 Plate Cell Solar Energy Collectors
        48 14 13.19 Vacuum Tube Solar Energy Collectors
    48 15 00 Wind Energy Electrical Power Generation Equipment
        48 15 13 Windmills
        48 15 16 Wind Energy Electrical Power Generators
    48 16 00 Geothermal Energy Electrical Power Generation Equipment
        48 16 13 Geothermal Energy Heat Pumps
48 16 16  Geothermal Energy Condensers
48 16 19  Geothermal Energy Steam Turbines
48 16 23  Geothermal Energy Electrical Power Generators

48 17 00  Electrochemical Energy Electrical Power Generation Equipment
          48 17 13  Electrical Power Generation Batteries

48 18 00  Fuel Cell Electrical Power Generation Equipment
          48 18 13  Electrical Power Generation Fuel Cells
          48 18 16  Hydrogen Control Equipment

48 19 00  Electrical Power Control Equipment
          48 19 13  Electrical Power Generation Battery Charging Equipment
          48 19 16  Electrical Power Generation Inverters
          48 19 19  Electrical Power Generation Solar Tracking Equipment
          48 19 23  Electrical Power Generation Transformers
          48 19 26  Electrical Power Generation Voltage Regulators

48 70 00  Electrical Power Generation Testing

48 71 00  Electrical Power Generation Test Equipment
          48 71 13  Electrical Power Generation Corona Test Equipment
          48 71 16  Electrical Power Generation Current Test Equipment
          48 71 19  Electrical Power Generation Power Test Equipment
          48 71 23  Electrical Power Generation Resistance Test Equipment
          48 71 26  Electrical Power Generation Voltage Test Equipment