MASTERFORMAT™

2004 EDITION NUMBERS & TITLES
The numbers and titles presented here are identical to the MasterFormat™ 2004 Edition Numbers and Titles that were distributed on June 8, 2004 and revised in August 2004, save for additional selected title corrections that were made in the process of copy editing the MasterFormat publication. These corrections are listed separately on http://www.csinet.org/MasterFormat. The numbers and titles presented here are identical to the numbers and titles presented in the full MasterFormat 2004 Edition (2nd printing, October 2005) publication available for purchase from CSI and CSC.

MasterFormat™ is the specifications-writing standard for most commercial building design and construction projects in North America. It lists titles and section numbers for organizing data about construction requirements, products, and activities. By standardizing such information, MasterFormat facilitates communication among architects, specifiers, contractors and suppliers, which helps them meet building owners’ requirements, timelines and budgets.

This revision of MasterFormat is the most significant in the product’s 40-year history, and reflects the growing volume and complexity of information generated for commercial construction projects. MasterFormat 2004 Edition: Numbers & Titles was developed by a team of individuals representing all stakeholders in the industry – owners, architects, engineers, contractors, manufacturers and facility managers. MasterFormat is intended to address specification requirements through the entire built lifecycle.

The Numbers and Titles are intentionally structured for anticipated growth and expansion in the future. CSI encourages all interested parties to provide input to CSI so that as the built environment evolves so can MasterFormat.

To learn more about MasterFormat 2004 Edition, go to http://www.csinet.org/MasterFormat for education programs, training, certification and local chapter information.
INTRODUCTION

Over the last forty years, MasterFormat™ has become the leading standard for organizing commercial construction specifications, and is now almost omnipresent in the AEC industry, thanks to the many applications to which it has been put. In 2001, the Construction Specifications Institute (CSI), along with sister organization Construction Specifications Canada (CSC), charged the MasterFormat Expansion Task Team with examining whether there was a need to revise and possibly expand the 1995 edition of MasterFormat to accommodate changes that have taken place in the industry since that version was published. The task team worked to develop a revised and expanded version of MasterFormat, consulting with all types of users, creating and distributing drafts, collecting and evaluating commentary, and attempting to bring all of this information into line with a vision of the construction industry that equally addresses the needs of next year and those of forty years from today. The 2004 edition of MasterFormat promises to be the most dramatic revision in the document’s forty-year history, and one that will position it to excel at organizing construction information for a wider array of project types and currently unforeseen technology for the next forty years and beyond.

MasterFormat 2004 Edition: Numbers and Titles is a master list of numbers and subject titles for organizing information about construction work results, requirements, products, and activities into a standard sequence. Construction projects use many different delivery methods, products, and installation methods. Successful completion of projects requires effective communication among the people involved. Information retrieval is nearly impossible without a standard filing system familiar to each user. MasterFormat Numbers and Titles facilitate standard filing and retrieval schemes throughout the construction industry. MasterFormat Numbers and Titles are suitable for use in project manuals, for organizing cost data, reference keynote s on drawings, for filing product information and other technical data, for identifying drawing objects and for presenting construction market data.

Each MasterFormat number and title defines a “section,” arranged in “levels” depending on their breadth of coverage. The broadest collections of related construction products and activities are level one titles, otherwise known as “divisions.” Each division in the MasterFormat 2004 Edition: Numbers and Titles is made up of level two, level three, and occasionally level four numbers and titles assigned by MasterFormat, each of which delineate a gradually more detailed area of work results to be specified. Work results are defined as traditional construction practices that typically result from an application of skills to construction products or resources. A further explanation of how to use each of the individual titles listed in MasterFormat 2004 Edition: Numbers and Titles is provided in the complete MasterFormat 2004 Edition publication, available from CSI and CSC in late 2004. Along with these scope and usage notes, the complete publication includes other added information designed to make its use easier, including a keyword index of requirements, products, and activities to help users find appropriate numbers and titles for construction subjects and an application guide to advise users of best practices for the use of MasterFormat titles and numbers.

MASTERFORMAT 2004 EDITION DEVELOPMENT:

The MasterFormat Expansion Task Team started their work in April 2001 by reaching out to the AEC industry and soliciting commentary on the proposal to revise and expand MasterFormat. Based on this commentary, the task team embarked on the long process of revising and developing content for the 2004 edition. Throughout its work, the task team’s progress from draft to draft was driven by evaluating the commentary given by MasterFormat’s users, and integrating that with the central challenge – maintaining a balance between meeting the needs of today and working to help implement a broader vision of an integrated construction information marketplace that will soon be pervasive in the way we conduct our everyday work. The task team explored many possible options for maintaining this balance between the demands of the present and those of the near future, and the need that underlies it, to create
the best and most flexible and forward-thinking expansion, and do so without taking this effort beyond the bounds of user acceptance. For just as it would be senseless to create a 2004 edition of MasterFormat that was not flexible or forward-thinking and was thus ill-equipped to meet the challenges and needs that lie ahead, so too would it be pointless to create one that was so forward-thinking that it was unacceptable to today’s users and as a result was not implemented. Having incorporated the input of literally hundreds of individuals and organizations into their work, the task team is proud to now present the title and number contents and organization of the next edition of this industry standard, MasterFormat 2004 Edition: Numbers and Titles.

MASTERFORMAT 2004 EDITION NUMBERING REVISION EXPLAINED:

One of the most significant changes in the MasterFormat 2004 Edition is the adoption of a six-digit numbering system in place of the familiar five-digit system that has been used in MasterFormat since the 1978 edition. This six-digit system was first introduced in drafts issued in early 2003, and then accepted by the task team for all subsequent drafts, and provides exponentially more expansion spaces per level than the five-digit system, all but eliminating concerns about future expansion.

The familiar five-digit numbers in MasterFormat 1995 Edition are divided in the following fashion:

03 20 00 – Concrete Reinforcement

The first two digits, in this case “03” represent the division number, otherwise known as “level one.” Each of the next three digits are taken individually, each representing one level of classification, or levels two, three, and four. Typically in MasterFormat, level four numbers are not assigned and are left as zero, to provide maximum flexibility for individual users.

The new six-digit MasterFormat 2004 numbers work in a slightly different fashion:

03 20 00 – Concrete Reinforcing

As was the case with the old numbers, the first two digits, in this case also “03,” still represent the division number, otherwise still known as “level one.” But here’s where the difference comes in. The next pair of numbers, in this case “20” represents level two, and the third pair, “00,” represents level three. Generally, level four numbers are not defined by the listed MasterFormat numbers, but when they are, an additional pair of digits is attached to the end, preceded by a “dot.” Level four numbers have only been used at locations in which the amount of detail merits the additional level of classification. Level four numbers appear like this:

03 52 16.13 Lightweight Cellular Insulating Concrete

Additional recommendations for the use of level four and level five will be included in the MasterFormat 2004 Edition application guide and throughout the full publication, preserving a level of user modifiable numbers for flexibility. More importantly, because each level of classification is represented by a pair of digits, there is room to address over ten times as many subjects at each level, providing flexibility and room for expansion that the five digit numbers could never provide, and providing it where it will have the most impact in addressing future needs for expansion to address new subject matter.

MASTERFORMAT 2004 EDITION DIVISION CONTENTS:

Though changes too numerous to list have been incorporated into the 2004 edition of MasterFormat, the following is a summary that compares the contents of the divisions that will compose MasterFormat 2004 Edition with MasterFormat 1995 Edition.
Division 00 – Procurement and Contracting Requirements: Essentially the same scope as MasterFormat 1995 Edition.

Division 01 – General Requirements: Area for performance requirements added to allow for writing performance requirements for elements that overlap work sections (building envelope, structure, etc.). This allows for a mixture of broad performance specifications and prescriptive specifications in a project manual.

Division 02 – Existing Conditions: This division is now limited to “existing conditions,” construction practices that relate to items at the site at the commencement of work – selective demolition, subsurface and other investigation, surveying, site decontamination, and site remediation, among others. All site construction as well as heavy civil and infrastructure subject matter, including utility and pavement work, has been relocated to the Site and Infrastructure Subgroup.

Divisions 03 – Concrete, 04 – Masonry, and 05 – Metals: Essentially the same scope as MasterFormat 1995 Edition.

Division 06 – Wood, Plastics, and Composites: Essentially the same scope as MasterFormat 1995 Edition with expansion in the areas of plastics and composites.


Division 08 – Openings: Renamed but with essentially the same scope of as MasterFormat 1995 Edition with the addition of some other openings such as louvers and grilles.


Division 11 – Equipment: Equipment related to process engineering has been relocated to the Process Equipment Subgroup and equipment related to infrastructure has been relocated to the Site and Infrastructure Subgroup.

Division 12 – Furnishings: Essentially the same scope as MasterFormat 1995 Edition.

Division 13 – Special Construction: Special construction related to process engineering has been relocated to the Process Equipment Subgroup. Security access, building automation, detection and alarm, and fire suppression subjects have been relocated to the Facility Services Subgroup.

Division 14 – Conveying Equipment: Renamed with process related material handling subjects relocated to the Process Equipment Subgroup.

Division 15 – Mechanical: Division 15 has been reserved for future expansion and material has been relocated to Division 22 – Plumbing and Division 23 – Heating, Ventilating, and Air Conditioning in the Facility Services Subgroup.

Division 16 – Electrical: Division 16 has been reserved for future expansion and material has been relocated to Divisions 26 – Electrical and 27 – Communications in the Facility Services Subgroup.

Facility Services Subgroup: This subgroup retains the same basic content as published in Draft 4, but with some new divisions, arranged in a revised order.


Site and Infrastructure Subgroup: This subgroup contains heavy civil and utility subject matter, as well as site construction material moved from Division 2 in MasterFormat 1995 Edition.


Process Equipment Subgroup: Some material in this subgroup is new to MasterFormat 2004 Edition, while some has been relocated from Divisions 11, 13, and 14 in MasterFormat 1995 Edition.
Division 40 – Process Integration: Process facilities are composed of a variety of subsystems, tied together and integrated by distribution pathways, control, and instrumentation. All of these systems must work together as a whole. This division includes elements used to tie these systems together: piping, heat tracing, insulation, and instrumentation and control systems, and also provides a place to specify commissioning requirements for the subsystems and the facility as a whole.
Division 41 – Material Processing and Handling Equipment: Equipment for processing and conditioning of raw materials; material handling equipment for bulk materials as well as discrete units; manufacturing equipment and machinery, test equipment, and packaging / shipping systems.
Division 42 – Process Heating, Cooling, and Drying Equipment: Equipment for process heating, cooling and drying of materials, liquids, gases and manufactured items and materials.
Division 43 – Process Gas and Liquid Handling, Purification and Storage Equipment: Equipment for handling, purification and storage of process liquids, gases, slurries; includes atmospheric tanks as well as pressure vessels.
Division 44 – Pollution Control Equipment: Equipment for controlling emission of contaminants from manufacturing processes and treatment of air, water, soils and noise contaminants.
Division 45 – Industry-Specific Manufacturing Equipment: A division in which users can specify equipment that is used only within a single industry. All industries currently identified within the North American Industry Classification System (NAICS) are allocated space within the division.
Division 48 – Electrical Power Generation: Plants and equipment for the generation and control of electrical power from fossil fuel, nuclear energy, hydroelectric, wind, solar energy, geothermal energy, electrochemical energy, and fuel cells.

Divisions not named above are explicitly reserved to provide space for future development and expansion. To minimize costs resulting from potential future expansions, it’s not recommended that users populate these divisions with their own material.

MASTERFORMAT 2004 EDITION AND OTHER INDUSTRY CLASSIFICATION EFFORTS

The MasterFormat Expansion Task Team's work also envisions the expanded content of MasterFormat serving to inform Table 22 (Work Results) of the OmniClass Construction Classification System (OCCS), a multi-table system for organizing information used by the AEC industry. CSI has worked with the cross-industry group responsible for the creation and maintenance of this standard, the OCCS Development Committee, to ensure that MasterFormat is compatible with OmniClass. As a result, the full version of MasterFormat will be one of the first applications of the OCCS. Once fully developed, the OCCS will be the basis for deriving relational applications, and will support and empower the transfer and use of information in the construction marketplace, ultimately serving all participants who work to sustain the built environment throughout the entire life cycle. MasterFormat’s 2004 edition will play an important role in this activity.

The 2004 edition of MasterFormat replaces the 1995 edition and is produced jointly by The Construction Specifications Institute (CSI); (800) 689-2900, and Construction Specifications Canada (CSC); (416)777-2198. For those interested in more information about MasterFormat and its use in the construction industry contact CSI Member Service at (800) 689-2900 or consult the web at www.CSI.net/MasterFormat.
# Division Numbers and Titles

## PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP
- **Division 00** Procurement and Contracting Requirements

## SPECIFICATIONS GROUP

### GENERAL REQUIREMENTS SUBGROUP
- **Division 01** General Requirements

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

### SITE AND INFRASTRUCTURE SUBGROUP
- **Division 30** Reserved
- **Division 31** Earthwork
- **Division 32** Exterior Improvements
- **Division 33** Utilities
- **Division 34** Transportation
- **Division 35** Waterway and Marine Construction
- **Division 36** Reserved
- **Division 37** Reserved
- **Division 38** Reserved
- **Division 39** Reserved

### PROCESS EQUIPMENT SUBGROUP
- **Division 40** Process Integration
- **Division 41** Material Processing and Handling Equipment
- **Division 42** Process Heating, Cooling, and Drying Equipment
- **Division 43** Process Gas and Liquid Handling, Purification, and Storage Equipment
- **Division 44** Pollution Control Equipment
- **Division 45** Industry-Specific Manufacturing Equipment
- **Division 46** Reserved
- **Division 47** Reserved
- **Division 48** Electrical Power Generation
- **Division 49** Reserved
DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

00 00 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

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00 22 13 Supplementary Instructions to Bidders
00 22 16 Supplementary Instructions to Proposers

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  00 31 19.13 Movement and Vibration Information
  00 31 19.16 Acoustic Information
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00 31 21 Survey Information
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  00 31 25.29 Existing Thermal and Moisture Protection Information
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00 31 43 Permit Application

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00 41 46 Bid Form – Unit Price (Multiple-Prime Contract)
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00 42 16 Proposal Form – Stipulated Sum (Multiple-Prime Contract)
00 42 23 Proposal Form – Construction Management (Single-Prime Contract)
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00 42 33 Proposal Form – Cost-Plus-Fee (Single-Prime Contract)
00 42 36 Proposal Form – Cost-Plus-Fee (Multiple-Prime Contract)
00 42 43 Proposal Form – Unit Price (Single-Prime Contract)
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00 52 33 Agreement Form – Cost Plus-Fee (Single-Prime Contract)
00 52 36 Agreement Form – Cost-Plus-Fee (Multiple-Prime Contract)
00 52 43 Agreement Form – Unit Price (Single-Prime Contract)
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    - 00 72 33 General Conditions – Cost Plus-Fee (Single-Prime Contract)
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    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 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 33 Bridge Cabling

05 20 00 METAL JOISTS
05 21 00 Steel Joist Framing
  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
05 25 00  Aluminum Joist Framing

05 30 00  METAL DECKING
05 31 00  Steel Decking
  05 31 13  Steel Floor Decking
  05 31 23  Steel Roof Decking
  05 31 33  Steel Form Decking
05 33 00  Aluminum Decking
  05 33 13  Aluminum Floor Decking
  05 33 23  Aluminum Roof Decking
05 34 00  Acoustical Metal Decking
05 35 00  Raceway Decking Assemblies
05 36 00  Composite Metal Decking
  05 36 13  Composite Steel Plate and Elastomer Decking

05 40 00  COLD-FORMED METAL FRAMING
05 41 00  Structural Metal Stud Framing
05 42 00  Cold-Formed Metal Joist Framing
  05 42 13  Cold-Formed Metal Floor Joist Framing
  05 42 23  Cold-Formed Metal Roof Joist Framing
05 43 00  Slotted Channel Framing
05 44 00  Cold-Formed Metal Trusses
05 45 00  Metal Support Assemblies
  05 45 13  Mechanical Metal Supports
  05 45 16  Electrical Metal Supports
  05 45 19  Communications Metal Supports
  05 45 23  Healthcare Metal Supports

05 50 00  METAL FABRICATIONS
05 51 00  Metal Stairs
  05 51 13  Metal Pan Stairs
  05 51 16  Metal Floor Plate 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  Catwalks
    05 51 36.13  Metal Catwalks
05 52 00  Metal Railings
  05 52 13  Pipe and Tube Railings
05 53 00  Metal Gratings
05 54 00  Metal Floor Plates
05 55 00  Metal Stair Treads and Nosings
  05 55 13  Metal Stair Treads
  05 55 16  Metal Stair Nosings
05 56 00  Metal Castings
05 58 00  Formed Metal Fabrications
  05 58 13  Column Covers
05 58 16  Formed Metal Enclosures
05 58 19  Heating/Cooling Unit Covers
05 59 00  Metal Specialties
05 59 63  Detention Enclosures

05 60 00  Unassigned

05 70 00  DECORATIVE METAL
05 71 00  Decorative Metal Stairs
05 71 13  Fabricated Metal Spiral Stairs
05 73 00  Decorative Metal Railings
05 73 13  Glazed Decorative Metal Railings
05 73 16  Wire Rope Decorative Metal Railings
05 74 00  Decorative Metal Castings
05 75 00  Decorative Formed Metal
05 76 00  Decorative Forged Metal

05 80 00  Unassigned

05 90 00  Unassigned
DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

06 00 00  WOOD, PLASTICS, AND COMPOSITES
06 01 00  Maintenance of Wood, Plastics, and Composites
   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 05 00  Common Work Results 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
06 08 00 Commissioning of Wood, Plastics, and Composites

06 10 00 ROUGH CARPENTRY
   06 10 53 Miscellaneous Rough Carpentry
   06 10 91 Curved Wood Members

06 11 00 Wood Framing
   06 11 13 Engineered Wood Products
   06 11 16 Mechanically Graded Lumber

06 12 00 Structural Panels
   06 12 13 Cementitious Reinforced Panels
   06 12 16 Stressed Skin Panels

06 13 00 Heavy Timber
   06 13 13 Log Construction
      06 13 13.91 Period Horizontal Log Work
   06 13 16 Pole Construction
   06 13 23 Heavy Timber Construction
   06 13 33 Heavy Timber Pier Construction

06 14 00 Treated Wood Foundations

06 15 00 Wood Decking
   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

06 16 00 Sheathing
   06 16 13 Insulating Sheathing
   06 16 23 Subflooring
   06 16 26 Underlayment
   06 16 29 Acoustical 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

06 17 00 Shop-Fabricated Structural Wood
   06 17 13 Laminated Veneer Lumber
   06 17 23 Parallel Strand Lumber
   06 17 33 Wood I-Joists
   06 17 36 Metal-Web Wood Joists
   06 17 43 Rim Boards
   06 17 53 Shop-Fabricated Wood Trusses

06 18 00 Glued-Laminated Construction
   06 18 13 Glued-Laminated Beams
   06 18 16 Glued-Laminated Columns

06 20 00 FINISH CARPENTRY
   06 20 13 Exterior Finish Carpentry
   06 20 23 Interior Finish Carpentry

06 22 00 Millwork
   06 22 13 Standard Pattern Wood Trim
| 06 25 00 | Prefinished Paneling   |
|         | 06 25 13 | Prefinished Hardboard Paneling |
|         | 06 25 16 | Prefinished Plywood Paneling   |
| 06 26 00 | Board Paneling        |
|         | 06 26 13 | Profile Board Paneling        |
| 06 30 00 | Unassigned           |
| 06 40 00 | ARCHITECTURAL WOODWORK |
|         | 06 40 13 | Exterior Architectural Woodwork |
|         | 06 40 23 | Interior Architectural Woodwork |
| 06 41 00 | Architectural Wood Casework |
|         | 06 41 13 | Wood-Veneer-Faced Architectural Cabinets |
|         | 06 41 16 | Plastic-Laminate-Clad Architectural Cabinets |
| 06 42 00 | Wood Paneling         |
|         | 06 42 13 | Solid Lumber Paneling         |
|         | 06 42 16 | Wood-Veneer Paneling          |
|         | 06 42 19 | Plastic-Laminate-Faced Wood Paneling |
| 06 43 00 | Wood Stairs and Railings |
|         | 06 43 13 | Wood Stairs                   |
|         | 06 43 16 | Wood Railings                 |
| 06 44 00 | Ornamental Woodwork   |
|         | 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        |
| 06 46 00 | Wood Trim             |
|         | 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 Fascia and Soffits       |
|         | 06 46 33 | Wood Stops, Stools, and Sills |
|         | 06 46 91 | Splicing of Wooden Components |
| 06 48 00 | Wood Frames           |
|         | 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            |
| 06 49 00 | Wood Screens and Exterior Wood Shutters |
|         | 06 49 13 | Wood Screens                  |
|         | 06 49 16 | Exterior Wood Blinds          |
|         | 06 49 19 | Exterior Wood Shutters        |
06 50 00  STRUCTURAL PLASTICS
   06 51 00  Structural Plastic Shapes and Plates
       06 51 13  Plastic Lumber
   06 52 00  Plastic Structural Assemblies
   06 53 00  Plastic Decking
       06 53 13  Solid Plastic Decking

06 60 00  PLASTIC FABRICATIONS
   06 61 00  Simulated Stone Fabrications
       06 61 13  Cultured Marble Fabrications
       06 61 16  Solid Surfacing Fabrications
       06 61 19  Quartz Surfacing Fabrications
   06 63 00  Plastic Railings
   06 64 00  Plastic Paneling
   06 65 00  Plastic Simulated Wood Trim
   06 66 00  Custom Ornamental Simulated Woodwork

06 70 00  STRUCTURAL COMPOSITES
   06 71 00  Structural Composite Shapes and Plates
       06 71 13  Composite Lumber
   06 72 00  Composite Structural Assemblies
       06 72 13  Composite Joist Assemblies
   06 73 00  Composite Decking
       06 73 13  Composite Structural Decking

06 80 00  COMPOSITE FABRICATIONS
   06 81 00  Composite Railings
   06 82 00  Glass-Fiber-Reinforced Plastic

06 90 00  Unassigned
DIVISION 07 – THERMAL AND MOISTURE PROTECTION

07 00 00  THERMAL AND MOISTURE PROTECTION

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 05 00  Common Work Results for Thermal and Moisture Protection

07 06 00  Schedules for Thermal and Moisture Protection
  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

07 08 00  Commissioning of Thermal and Moisture Protection

07 10 00  DAMPPROOFING AND WATERPROOFING

07 11 00  Dampproofing
  07 11 13  Bituminous Dampproofing
  07 11 16  Cementitious Dampproofing
  07 11 19  Sheet Dampproofing

07 12 00  Built-Up Bituminous Waterproofing
  07 12 13  Built-Up Asphalt Waterproofing
07 12 16  Built-Up Coal Tar Waterproofing

07 13 00  Sheet Waterproofing
  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

07 14 00  Fluid-Applied Waterproofing
  07 14 13  Hot Fluid-Applied Rubberized Asphalt Waterproofing
  07 14 16  Cold Fluid-Applied Waterproofing

07 15 00  Sheet Metal Waterproofing

07 16 00  Cementitious and Reactive Waterproofing
  07 16 13  Polymer Modified Cement Waterproofing
  07 16 16  Crystalline Waterproofing
  07 16 19  Metal Oxide Waterproofing

07 17 00  Bentonite Waterproofing
  07 17 13  Bentonite Panel Waterproofing
  07 17 16  Bentonite Composite Sheet Waterproofing

07 18 00  Traffic Coatings
  07 18 13  Pedestrian Traffic Coatings
  07 18 16  Vehicular Traffic Coatings

07 19 00  Water Repellents
  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 20 00  THERMAL PROTECTION

07 21 00  Thermal Insulation
  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 22 00  Roof and Deck Insulation
  07 22 13  Asphalitic Perlite Concrete Deck
  07 22 16  Roof Board Insulation

07 24 00  Exterior Insulation and Finish Systems
  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 25 00  WEATHER BARRIERS

07 26 00  Vapor Retarders
  07 26 13  Above-Grade Vapor Retarders
  07 26 16  Below-Grade Vapor Retarders
Below-Grade Gas Retarders

Air Barriers
- Modified Bituminous Sheet Air Barriers
- Sheet Metal Membrane Air Barriers
- Plastic Sheet Air Barriers
- Board Product Air Barriers
- Fluid-Applied Membrane Air Barriers

Steep Slope Roofing
- Canvas Roofing

Shingles and Shakes
- Asphalt Shingles
  - Fiberglass-Reinforced Asphalt Shingles
- Metal Shingles
- Mineral-Fiber Cement Shingles
- Porcelain Enamel Shingles
- Slate Shingles
- Wood Shingles and Shakes
  - Wood Shingles
  - Wood Shakes
- Composite Rubber Shingles
- Plastic Shakes

Roof Tiles
- Clay Roof Tiles
- Concrete Roof Tiles
- Metal Roof Tiles
- Mineral-Fiber Cement Roof Tiles
- Plastic Roof Tiles
- Rubber Tiles/Panels

Natural Roof Coverings
- Sod Roofing
- Thatched Roofing
- Vegetated Roofing

Roofing and Siding Panels

Metal Roof Panels
Wood Roof Panels
Plastic Roof Panels
Composite Roof Panels
Fabricated Roof Panel Assemblies

Metal Wall Panels
Wood Wall Panels
Plastic Wall Panels
Composite Wall Panels
Fabricated Wall Panel Assemblies

Aggregate Coated Panels
Porcelain Enamled Faced Panels
Tile-Faced Panels
07 44 23  Ceramic-Tile-Faced Panels
07 44 53  Glass-Fiber-Reinforced Cementitious Panels
07 44 56  Mineral-Fiber-Reinforced Cementitious Panels
07 44 63  Fabricated Faced Panel Assemblies

07 46 00  Siding
07 46 16  Aluminum Siding
07 46 19  Steel Siding
07 46 23  Wood Siding
07 46 26  Hardboard Siding
07 46 29  Plywood Siding
07 46 33  Plastic Siding
07 46 43  Composition Siding
07 46 46  Mineral-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 16  Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing
07 52 19  Self-Adhering 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  Ethylene-Interpolymer 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 13  Built-Up Bituminous Protected Membrane Roofing
07 55 51  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

07 56 00  Fluid-Applied Roofing

07 57 00  Coated Foamed Roofing
07 57 13  Sprayed Polyurethane Foam Roofing

07 58 00  Roll Roofing

07 60 00  FLASHING AND SHEET METAL
07 61 00  Sheet Metal Roofing
07 61 13 Standing Seam Sheet Metal Roofing
07 61 16 Batten Seam Sheet Metal Roofing
07 61 19 Flat Seam Sheet Metal Roofing
07 61 91 Tinplate and Ternplate Roofing

07 62 00 Sheet Metal Flashing and Trim
07 63 00 Sheet Metal Roofing Specialties
07 65 00 Flexible Flashing
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

07 70 00 ROOF AND WALL SPECIALTIES AND ACCESSORIES
07 71 00 Roof Specialties
07 71 13 Manufactured Copings
07 71 16 Manufactured Counterflashing Systems
07 71 19 Manufactured Gravel Stops and Facias
07 71 23 Manufactured Gutters and Downspouts
07 71 26 Reglets
07 71 29 Manufactured Roof Expansion Joints
07 71 33 Manufactured Scuppers

07 72 00 Roof Accessories
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 43 Roof Walk Boards
07 72 46 Roof Walkways
07 72 53 Snow Guards
07 72 63 Waste Containment Assemblies

07 76 00 Roof Pavers
07 76 13 Roof Ballast Pavers
07 76 16 Roof Decking Pavers

07 77 00 Wall Specialties

07 80 00 FIRE AND SMOKE PROTECTION
07 81 00 Applied Fireproofing
07 81 13 Cement Aggregate Fireproofing
07 81 16 Cementitious Fireproofing
07 81 19 Foamed Magnesium -Oxychloride Fireproofing
07 81 23 Intumescent Mastic Fireproofing
07 81 26 Magnesium Cement Fireproofing
07 81 29 Mineral-Fiber Cementitious Fireproofing
07 81 33 Mineral-Fiber Fireproofing

07 82 00 Board Fireproofing
07 82 13 Calcium-Silicate Board Fireproofing
07 82 16 Slag-Fiber Board Fireproofing

07 84 00 Firestopping
07 84 13 Penetration Firestopping
07 84 13.13 Penetration Firestopping Mortars
07 84 13.16 Penetration Firestopping Devices
07 84 16 Annular Space Protection
07 84 23 Silicone Firestopping Foams
07 84 26 Thermal Barriers for Plastics
07 84 43 Fire-Resistant Joint Sealants
07 84 53 Building Perimeter Firestopping
07 84 56 Fire Safing
07 84 56.13 Fibrous Fire Safing

07 86 00 Smoke Seals
07 87 00 Smoke Containment Barriers

07 90 00 JOINT PROTECTION
07 91 00 Preformed Joint Seals
07 91 13 Compression Seals
07 91 16 Joint Gaskets
07 91 23 Backer Rods
07 91 26 Joint Fillers

07 92 00 Joint Sealants
07 92 13 Elastomeric Joint Sealants
07 92 16 Rigid Joint Sealants
07 92 19 Acoustical Joint Sealants

07 95 00 Expansion Control
07 95 13 Expansion Joint Cover Assemblies
07 95 53 Joint Slide Bearings
07 95 63 Bridge Expansion Joint Cover Assemblies
DIVISION 08 – OPENINGS

08 00 00 OPENINGS

08 01 00 Operation and Maintenance of Openings

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 05 00  Common Work Results for Openings

08 06 00  Schedules for Openings

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  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

08 08 00  Commissioning of Openings

08 10 00  DOORS AND FRAMES

08 11 00  Metal Doors and Frames

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 Firedoors

08 11 74  Sliding Metal Grilles

08 12 00  Metal Frames

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

08 13 00  Metal Doors

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 19  Stainless-Steel Doors

08 13 23  Bronze Doors

08 13 73  Sliding Metal Doors

08 13 76  Bifolding Metal Doors
<table>
<thead>
<tr>
<th>08 14 00</th>
<th>Wood Doors</th>
</tr>
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<tr>
<td>08 14 13</td>
<td>Carved Wood Doors</td>
</tr>
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  09 81 16  Acoustic Blanket Insulation
  09 81 29  Sprayed Acoustic Insulation

09 83 00  Acoustic Finishes
  09 83 13  Acoustic Wall Coating
  09 83 16  Acoustic Ceiling Coating
  09 83 22  Acoustic Drapery

09 84 00  Acoustic Room Components
  09 84 13  Fixed Sound-Absorptive Panels
  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

09 90 00  PAINTING AND COATING

09 91 00  Painting
  09 91 13  Exterior Painting
  09 91 23  Interior Painting

09 93 00  Staining and Transparent Finishing
  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

09 94 00  Decorative Finishing
  09 94 13  Textured Finishing
  09 94 16  Faux Finishing
  09 94 19  Multicolor Interior Finishing

09 96 00  High-Performance Coatings
  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

09 97 00  Special Coatings
  09 97 13  Steel Coatings
    09 97 13.13  Interior Steel Coatings
    09 97 13.23  Exterior Steel Coatings
  09 97 23  Concrete and Masonry Coatings
  09 97 26  Cementitious Coatings
09 97 26.13  Interior Cementitious Coatings
09 97 26.23  Exterior Cementitious Coatings
DIVISION 10–SPECIALTIES

10 00 00  SPECIALTIES
10 01 00  Operation and Maintenance of Specialties
   10 01 10  Operation and Maintenance of Information Specialties
   10 01 20  Operation and Maintenance of Interior Specialties
   10 01 30  Operation and Maintenance of Fireplaces and Stoves
   10 01 40  Operation and Maintenance of Safety Specialties
   10 01 50  Operation and Maintenance of Storage Specialties
   10 01 70  Operation and Maintenance of Exterior Specialties
   10 01 80  Operation and Maintenance of Other Specialties

10 05 00  Common Work Results for Specialties

10 06 00  Schedules for Specialties
   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

10 08 00  Commissioning of Specialties

10 10 00  INFORMATION SPECIALTIES
10 11 00  Visual Display Surfaces
   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
10 12 00  Display Cases
10 13 00  Directories
   10 13 13  Electronic Directories
10 14 00  Signage
   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 36  Non-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 66  Floating Signage
10 17 00  Telephone Specialties
   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
10 18 00  Informational Kiosks
10 20 00  INTERIOR SPECIALTIES
10 21 00  Compartments and Cubicles
   10 21 13  Toilet Compartments
      10 21 13.13  Metal Toilet Compartments
      10 21 13.16  Plastic-Laminate-Clad 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 16.16  Plastic-Laminate-Clad 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  Cubicles
      10 21 23.13  Cubicle Curtains
      10 21 23.16  Cubicle Track and Hardware
10 22 00  Partitions
   10 22 13  Wire Mesh 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 26 Operable Partitions
10 22 26.13 Accordion Folding Partitions
10 22 26.23 Coiling Partitions
10 22 26.33 Folding Panel Partitions
10 22 26.43 Sliding Partitions

10 25 00 Service Walls
10 25 13 Patient Bed Service Walls
10 25 16 Modular Service Walls

10 26 00 Wall and Door Protection
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 33 Door and Frame Protection

10 28 00 Toilet, Bath, and Laundry Accessories
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 Doors
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 30 00 FIREPLACES AND STOVES
10 31 00 Manufactured Fireplaces
10 31 13 Manufactured Fireplace Chimneys
10 31 16 Manufactured Fireplace Forms

10 32 00 Fireplace Specialties
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

10 35 00 Stoves
10 35 13 Heating Stoves
10 35 23 Cooking Stoves

10 40 00 SAFETY SPECIALTIES
10 41 00 Emergency Access and Information Cabinets
10 41 13 Fire Department Plan Cabinets
10 41 16 Emergency Key Cabinets

10 43 00 Emergency Aid Specialties
10 43 13  Defibrillator Cabinets
10 43 16  First Aid Cabinets

10 44 00  Fire Protection Specialties
10 44 13  Fire Extinguisher 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 33  Fire Blankets and Cabinets
10 44 43  Fire Extinguisher Accessories

10 50 00  STORAGE SPECIALTIES

10 51 00  Lockers
10 51 13  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 33  Glass Lockers
10 51 43  Wire Mesh Storage Lockers
10 51 53  Locker Room Benches

10 55 00  Postal Specialties
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

10 56 00  Storage Assemblies
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 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 33 Mercantile Storage Assemblies

10 57 00 Wardrobe and Closet Specialties
10 57 13 Hat and Coat 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 60 00 Unassigned

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 16 Storm Panels
10 71 16.13 Demountable Storm Panels
10 71 16.16 Movable Storm Panels

10 73 00 Protective Covers
10 73 13 Awnings
10 73 16 Canopies
10 73 23 Car Shelters
10 73 26 Walkway Coverings
10 73 33 Marquees
10 73 43 Transportation Stop Shelters

10 74 00 Manufactured Exterior Specialties
10 74 13 Exterior Clocks
10 74 23 Cupolas
10 74 26 Spires
10 74 29 Steeples
10 74 33 Weathervanes
10 74 43 Below-Grade Egress Assemblies
10 74 46 Window Wells

10 75 00 Flagpoles
10 75 13 Automatic Flagpoles
10 75 16 Ground-Set Flagpoles
10 75 19 Nautical Flagpoles
10 75 23 Wall-Mounted Flagpoles

10 80 00 OTHER SPECIALTIES
10 81 00 Pest Control Devices
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DIVISION 11 – EQUIPMENT

11 00 00 EQUIPMENT
  11 01 00 Operation and Maintenance of Equipment
    11 01 10 Operation and Maintenance of Vehicle and Pedestrian Equipment
    11 01 15 Operation and Maintenance of Security, Bank, and Detention 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 Equipment
    11 01 65 Operation and Maintenance of Athletic and Recreational Equipment
    11 01 70 Operation and Maintenance of Healthcare Equipment
    11 01 80 Operation and Maintenance of Collection and Disposal Equipment
    11 01 90 Operation and Maintenance of Other Equipment
  11 05 00 Common Work Results for Equipment
  11 06 00 Schedules for Equipment
    11 06 10 Schedules for Vehicle and Pedestrian Equipment
    11 06 15 Schedules for Security, Bank, and Detention Equipment
      11 06 15.13 Teller and Service Equipment Schedule
    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 Equipment
    11 06 65 Schedules for Athletic and Recreational Equipment
    11 06 70 Schedules for Healthcare Equipment
      11 06 70.13 Healthcare Equipment Schedule
    11 06 80 Schedules for Collection and Disposal Equipment
    11 06 90 Schedules for Other Equipment
  11 08 00 Commissioning of Equipment

11 10 00 VEHICLE AND PEDESTRIAN EQUIPMENT
  11 11 00 Vehicle Service Equipment
    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 12 00 Parking Control Equipment
    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 13 00 Loading Dock Equipment
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 13.13  Portable Posts and Railings
   11 14 13.16  Rotary Gates
   11 14 13.19  Turnstiles
11 14 16  Money-Changing Equipment
   11 14 16.19  Money-Changing Machines
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 15 00  SECURITY, DETENTION AND BANKING EQUIPMENT
11 16 00  Vault Equipment
   11 16 13  Safe Deposit Boxes
   11 16 16  Safes
   11 16 23  Vault Ventilators
11 17 00  Teller and Service Equipment
   11 17 13  Teller Equipment Systems
   11 17 16  Automatic Banking Systems
   11 17 23  Money Handling Equipment
   11 17 33  Money Cart Pass-Through
   11 17 36  Package Transfer Units
11 18 00  Security Equipment
   11 18 13  Deal Drawers
   11 18 16  Gun Ports
   11 18 23  Valuable Material Storage
11 19 00  Detention Equipment
   11 19 13  Detention Pass-Through Doors
   11 19 16  Detention Gun Lockers
11 20 00  COMMERCIAL EQUIPMENT
11 21 00  Mercantile and Service Equipment
   11 21 13  Cash Registers and Checking Equipment
   11 21 23  Vending Equipment
11 21 23.13 Vending Machines
11 21 33 Checkroom Equipment
11 21 43 Weighing and Wrapping Equipment
11 21 53 Barber and Beauty Shop Equipment

11 22 00 Refrigerated Display Equipment

11 23 00 Commercial Laundry and Dry Cleaning Equipment
11 23 13 Dry Cleaning Equipment
11 23 16 Drying and Conditioning Equipment
11 23 19 Finishing Equipment
11 23 23 Commercial Ironing Equipment
11 23 26 Commercial Washers and Extractors
11 23 33 Coin-Operated Laundry Equipment
11 23 43 Hanging Garment Conveyors

11 24 00 Maintenance Equipment
11 24 13 Floor and Wall Cleaning Equipment
11 24 16 Housekeeping Carts
11 24 19 Vacuum Cleaning Systems
11 24 23 Window Washing Systems

11 25 00 Hospitality Equipment
11 25 13 Registration Equipment

11 26 00 Unit Kitchens
11 26 13 Metal Unit Kitchens
11 26 16 Wood Unit Kitchens
11 26 19 Plastic-Laminate-Clad Unit Kitchens

11 27 00 Photographic Processing Equipment
11 27 13 Darkroom Processing Equipment
11 27 16 Film Transfer Cabinets

11 28 00 Office Equipment
11 28 13 Computers
11 28 16 Printers
11 28 19 Self-Contained Facsimile Machines
11 28 23 Copiers

11 29 00 Postal, Packaging, and Shipping Equipment
11 29 23 Packaging Equipment
11 29 33 Shipping Equipment
11 29 55 Postal Equipment

11 30 00 RESIDENTIAL EQUIPMENT
11 31 00 Residential Appliances
11 31 13 Residential Kitchen Appliances
11 31 23 Residential Laundry Appliances

11 33 00 Retractable Stairs

11 40 00 FOODSERVICE EQUIPMENT
11 41 00 Food Storage Equipment
11 41 13 Refrigerated Food Storage Cases
11 41 23 Walk-In Coolers
11 41 26 Walk-In Freezers

11 42 00 Food Preparation Equipment
11 43 00 Food Delivery Carts and Conveyors
11 43 13 Food Delivery Carts
11 43 16 Food Delivery Conveyors
11 44 00 Food Cooking Equipment
  11 44 13 Commercial Ranges
  11 44 16 Commercial Ovens
11 46 00 Food Dispensing Equipment
  11 46 13 Bar Equipment
  11 46 16 Service Line Equipment
  11 46 19 Soda Fountain Equipment
11 47 00 Ice Machines
11 48 00 Cleaning and Disposal Equipment
  11 48 13 Commercial Dishwashers

11 50 00 Educational and Scientific Equipment

11 51 00 Library Equipment
  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
11 52 00 Audio-Visual Equipment
  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 53 00 Laboratory Equipment
  11 53 13 Laboratory Fume Hoods
    11 53 13.13 Recirculating Laboratory Fume Hoods
  11 53 16 Laboratory Incubators
  11 53 19 Laboratory Sterilizers
  11 53 23 Laboratory Refrigerators
  11 53 33 Emergency Safety Appliances
  11 53 43 Service Fittings and Accessories
  11 53 53 Biological Safety Cabinets
11 55 00 Planetarium Equipment
  11 55 13 Planetarium Projectors
  11 55 16 Planetarium Pendulums
11 56 00 Observatory Equipment
  11 56 13 Telescopes
  11 56 16 Telescope Mounts
  11 56 19 Telescope Drive Mechanisms
  11 56 23 Telescope Domes
11 57 00 Vocational Shop Equipment
11 59 00 Exhibit Equipment
11 60 00  ENTERTAINMENT EQUIPMENT
   11 61 00  Theater and Stage Equipment
      11 61 13  Acoustical Shells
      11 61 23  Folding and Portable Stages
      11 61 33  Rigging Systems and Controls
      11 61 43  Stage Curtains
   11 62 00  Musical Equipment
      11 62 13  Bells
      11 62 16  Carillons
      11 62 19  Organs

11 65 00  ATHLETIC AND RECREATIONAL EQUIPMENT
   11 66 00  Athletic Equipment
      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
   11 67 00  Recreational Equipment
      11 67 13  Bowling Alley Equipment
      11 67 23  Shooting Range Equipment
      11 67 33  Climbing Walls
      11 67 43  Table Games Equipment
         11 67 43.13  Pool Tables
         11 67 43.23  Ping-Pong Tables
      11 67 53  Game Room Equipment
         11 67 53.13  Video Games
         11 67 53.23  Pinball Machines
   11 68 00  Play Field Equipment and Structures
      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

11 70 00  HEALTHCARE EQUIPMENT
   11 71 00  Medical Sterilizing Equipment
   11 72 00  Examination and Treatment Equipment
      11 72 13  Examination Equipment
11 72 53 Treatment Equipment
11 73 00 Patient Care Equipment
11 74 00 Dental Equipment
11 75 00 Optical Equipment
11 76 00 Operating Room Equipment
11 77 00 Radiology Equipment
11 78 00 Mortuary Equipment
  11 78 13 Mortuary Refrigerators
  11 78 16 Crematorium Equipment
  11 78 19 Mortuary Lifts
11 79 00 Therapy Equipment

11 80 00 COLLECTION AND DISPOSAL EQUIPMENT
11 82 00 Solid Waste Handling Equipment
  11 82 13 Solid Waste Bins
  11 82 19 Packaged Incinerators
  11 82 23 Recycling Equipment
  11 82 26 Waste Compactors and Destructors
  11 82 29 Composting Equipment

11 90 00 OTHER EQUIPMENT
11 91 00 Religious Equipment
  11 91 13 Baptisteries
11 92 00 Agricultural Equipment
  11 92 13 Milkers
  11 92 16 Stock Feeders
  11 92 19 Stock Waterers
  11 92 23 Agricultural Waste Clean-Up Equipment
11 93 00 Horticultural Equipment
  11 93 13 Hydroponic Growing Systems
  11 93 16 Seeders
  11 93 19 Transplanters
  11 93 23 Potting Machines
  11 93 26 Flat Fillers
  11 93 29 Baggers
  11 93 33 Soil Mixers
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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 13  Fabrics
12 06 00  Schedules for Furnishings
   12 06 10  Schedules for Art
   12 06 20  Schedules for Window Treatments
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      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
12 19 00  Religious Art
12 20 00  WINDOW TREATMENTS
  12 21 00  Window Blinds
    12 21 13  Horizontal Louver 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
  12 22 00  Curtains and Drapes
    12 22 13  Draperies
    12 22 16  Drapery Track and Accessories
  12 23 00  Interior Shutters
  12 24 00  Window Shades
    12 24 13  Roller Window Shades
    12 24 16  Pleated Window Shades
  12 25 00  Window Treatment Operating Hardware
    12 25 13  Motorized Drapery Rods

12 30 00  CASEWORK
  12 31 00  Manufactured Metal Casework
    12 31 16  Manufactured Metal Sandwich Panel Casework
  12 32 00  Manufactured Wood Casework
    12 32 13  Manufactured Wood-Veneer-Faced Casework
    12 32 16  Manufactured Plastic-Laminate-Clad Casework
  12 34 00  Manufactured Plastic Casework
    12 34 16  Manufactured Solid-Plastic Casework
  12 35 00  Specialty Casework
    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 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 91 Religious Casework

12 36 00 Countertops
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 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 Surfacing Countertops

12 40 00 Furnishings and Accessories
12 41 00 Office Accessories
   12 41 13 Desk Accessories
12 42 00 Table Accessories
   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
12 43 00 Portable Lamps
   12 43 13 Lamps
      12 43 13.13 Desk Lamps
      12 43 13.16 Table Lamps
      12 43 13.19 Floor Lamps
12 44 00 Bath Furnishings
   12 44 13 Bath Linens
      12 44 13.13 Bath Mats
      12 44 13.16 Bath Towels
   12 44 16 Shower Curtains
12 45 00 Bedroom Furnishings
   12 45 13 Bed Linens
      12 45 13.13 Blankets
      12 45 13.16 Comforters
   12 45 16 Pillows
12 46 00 Furnishing Accessories
   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
12 48 00  Rugs and Mats
  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 53  Rugs
    12 48 53.13  Runners
    12 48 53.16  Oriental Rugs

12 50 00  FURNITURE

12 51 00  Office Furniture
  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 83  Custom Office Furniture

12 52 00  Seating
  12 52 13  Chairs
  12 52 19  Upholstered Seating
  12 52 23  Office Seating
  12 52 70  Healthcare Seating
  12 52 83  Custom Seating

12 53 00  Retail Furniture
  12 53 83  Custom Retail Furniture

12 54 00  Hospitality Furniture
  12 54 13  Hotel and Motel Furniture
  12 54 16  Restaurant Furniture
  12 54 83  Custom Hospitality Furniture

12 55 00  Detention Furniture
  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 56 00  Institutional Furniture
  12 56 33  Classroom 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
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<td>Futons</td>
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12 90 00    OTHER FURNISHINGS

12 92 00    Interior Planters and Artificial Plants
  12 92 13   Interior Artificial Plants
  12 92 33   Interior Planters
  12 92 43   Interior Landscaping Accessories

12 93 00    Site Furnishings
  12 93 13   Bicycle Racks
  12 93 23   Trash and Litter Receptors
  12 93 33   Manufactured Planters
  12 93 43   Site Seating and Tables
    12 93 43.13 Site Seating
    12 93 43.53 Site Tables
DIVISION 13 – SPECIAL CONSTRUCTION

13 00 00  SPECIAL CONSTRUCTION
   13 01 00  Operation and Maintenance of Special Construction
       13 01 10  Operation and Maintenance of Special Facility Components
       13 01 11  Operation and Maintenance of Swimming Pools
       13 01 12  Operation and Maintenance of Fountains
       13 01 13  Operation and Maintenance of Aquariums
       13 01 14  Operation and Maintenance of Amusement Park Structures and Equipment
       13 01 18  Operation and Maintenance of Ice Rinks
       13 01 20  Operation and Maintenance of Special Purpose Rooms
       13 01 21  Operation and Maintenance of Controlled Environment Rooms
       13 01 23  Operation and Maintenance of Planetariums
       13 01 30  Operation and Maintenance of Special Structures
       13 01 40  Operation and Maintenance of Integrated Construction
       13 01 49  Operation and Maintenance of Radiation Protection
       13 01 50  Operation and Maintenance of Special Instrumentation
       13 01 51  Operation and Maintenance of Stress Instrumentation
       13 01 52  Operation and Maintenance of Seismic Instrumentation
       13 01 53  Operation and Maintenance of Meteorological Instrumentation

13 05 00  Common Work Results for Special Construction
   13 06 00  Schedules for Special Construction
       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

13 08 00  Commissioning of Special Construction
   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

13 10 00  SPECIAL FACILITY COMPONENTS
   13 11 00  Swimming Pools
       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
13 12 00  Fountains
   13 12 13  Exterior Fountains
   13 12 23  Interior Fountains
13 13 00  Aquariums
13 14 00  Amusement Park Structures and Equipment
   13 14 13  Water Slides
   13 14 16  Wave Generating Equipment
   13 14 23  Amusement Park Rides
13 17 00  Tubs and Pools
   13 17 13  Hot Tubs
   13 17 23  Therapeutic Pools
   13 17 33  Whirlpool Tubs
13 18 00  Ice Rinks
   13 18 13  Ice Rink Floor Systems
   13 18 16  Ice Rink Dasher Boards
13 19 00  Kennels and Animal Shelters
   13 19 13  Kennel Enclosures and Gates
   13 19 16  Kennel Feeding Devices
13 20 00  SPECIAL PURPOSE ROOMS
13 21 00  Controlled Environment Rooms
   13 21 13  Clean Rooms
   13 21 16  Hyperbaric Rooms
   13 21 23  Insulated Rooms
   13 21 26  Cold Storage Rooms
   13 21 29  Constant Temperature Rooms
   13 21 48  Sound-Conditioned Rooms
13 22 00  Office Shelters and Booths
13 23 00  Planetariums
13 24 00  Special Activity Rooms
   13 24 16  Saunas
   13 24 26  Steam Baths
   13 24 66  Athletic Rooms
13 25 00  Fabricated Rooms
13 27 00  Vaults
   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
13 28 00  Athletic and Recreational Special Construction
   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
13 30 00 SPECIAL STRUCTURES
  13 31 00 Fabric Structures
    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
  13 32 00 Space Frames
    13 32 13 Metal Space Frames
    13 32 23 Wood Space Frames
  13 33 00 Geodesic Structures
    13 33 13 Geodesic Domes
  13 34 00 Fabricated Engineered Structures
    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 19 Metal Building Systems
    13 34 23 Fabricated Structures
      13 34 23.13 Portable and Mobile 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
  13 36 00 Towers
    13 36 13 Metal Towers
    13 36 13.13 Steel Towers
    13 36 23 Wood Towers
  13 40 00 INTEGRATED CONSTRUCTION
  13 42 00 Building Modules
    13 42 25 Hospitality Unit Modules
    13 42 33 Apartment Unit Modules
    13 42 43 Dormitory Unit Modules
    13 42 63 Detention Cell Modules
      13 42 63.13 Precast-Concrete Detention Cell Modules
      13 42 63.16 Steel Detention Cell Modules
  13 44 00 Modular Mezzanines
  13 48 00 Sound, Vibration, and Seismic Control
    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
  13 49 00 Radiation Protection
    13 49 13 Lead Sheet
    13 49 16 Lead Bricks
    13 49 19 Lead-Lined Materials
13 49 19.13 Lead-Lined Lath
13 49 23 Modular Shielding Partitions

13 50 00 SPECIAL INSTRUMENTATION
  13 51 00 Stress Instrumentation
  13 52 00 Seismic Instrumentation
  13 53 00 Meteorological Instrumentation
    13 53 13 Solar Instrumentation
    13 53 23 Wind Instrumentation

13 60 00 Unassigned
13 70 00 Unassigned
13 80 00 Unassigned
13 90 00 Unassigned
DIVISION 14 – CONVEYING EQUIPMENT

14 00 00 CONVEYING EQUIPMENT
  14 01 00 Operation and Maintenance of Conveying Equipment
    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 Lifts Rehabilitation
    14 01 70 Operation and Maintenance of Turntables
    14 01 80 Operation and Maintenance of Scaffolding
    14 01 90 Operation and Maintenance of Other Conveying Equipment

14 05 00 Common Work Results for Conveying Equipment
  14 06 00 Schedules for Conveying Equipment
    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

14 08 00 Commissioning of Conveying Equipment
  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

14 10 00 DUMBWAITERS
  14 11 00 Manual Dumbwaiters
  14 12 00 Electric Dumbwaiters
  14 14 00 Hydraulic Dumbwaiters

14 20 00 ELEVATORS
  14 21 00 Electric Traction Elevators
    14 21 13 Electric Traction Freight Elevators
    14 21 23 Electric Traction Passenger Elevators
    14 21 33 Electric Traction Residential Elevators
    14 21 43 Electric Traction Service Elevators
  14 24 00 Hydraulic Elevators
    14 24 13 Hydraulic Freight Elevators
    14 24 23 Hydraulic Passenger Elevators
14 24 33 Hydraulic Residential Elevators
14 24 43 Hydraulic Service Elevators
14 26 00 Limited-Use/Limited-Application Elevators
14 27 00 Custom Elevator Cabs
14 27 13 Custom Elevator Cab Finishes
14 28 00 Elevator Equipment and Controls
14 28 13 Elevator Doors
14 28 16 Elevator Controls
14 28 19 Elevator Equipment
14 28 19.13 Elevator Safety Equipment
14 28 19.16 Elevator Hoistway Equipment

14 30 00 ESCALATORS AND MOVING WALKS
14 31 00 Escalators
14 32 00 Moving Walks
14 33 00 Moving Ramps
14 33 13 Motorized Ramps
14 33 16 Powered Ramps

14 40 00 LIFTS
14 41 00 People Lifts
14 41 13 Counterbalanced People Lifts
14 41 16 Endless-Belt People Lifts
14 42 00 Wheelchair Lifts
14 42 13 Inclined Wheelchair Lifts
14 42 16 Vertical Wheelchair Lifts
14 43 00 Platform Lifts
14 43 13 Orchestra Lifts
14 43 16 Stage Lifts
14 44 00 Sidewalk Lifts
14 45 00 Vehicle Lifts

14 50 00 Unassigned

14 60 00 Unassigned

14 70 00 TURNTABLES
14 71 00 Industrial Turntables
14 71 11 Vehicle Turntables
14 72 00 Hospitality Turntables
14 72 25 Restaurant Turntables
14 73 00 Exhibit Turntables
14 73 59 Display Turntables
14 74 00 Entertainment Turntables
14 74 61 Stage Turntables

14 80 00 SCAFFOLDING
14 81 00 Suspended Scaffolding
14 81 13 Beam Scaffolding
14 81 16 Carriage Scaffolding
14 81 19 Hook Scaffolding
14 82 00 Rope Climbers
14 82 13 Manual Rope Climbers
14 82 16 Powered Rope Climbers

14 83 00 Elevating Platforms
  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

14 83 00 Powered Scaffolding
  14 84 13 Window Washing Scaffolding
  14 84 23 Window Washing Hoists

14 90 00 Other Conveying Equipment
  14 91 00 Facility Chutes
    14 91 13 Coal Chutes
    14 91 23 Escape Chutes
    14 91 33 Laundry and Linen Chutes
    14 91 82 Trash Chutes
  14 92 00 Pneumatic Tube Systems
DIVISION 21 – FIRE SUPPRESSION

21 00 00  FIRE SUPPRESSION
21 01 00  Operation and Maintenance of Fire Suppression
  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
21 05 00  Common Work Results 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 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 53  Identification for Fire-Suppression Piping and Equipment
21 06 00  Schedules for Fire Suppression
  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
21 07 00  Fire Suppression Systems Insulation
  21 07 16  Fire-Suppression Equipment Insulation
  21 07 19  Fire-Suppression Piping Insulation
21 08 00  Commissioning of Fire Suppression
21 09 00  Instrumentation and Control for Fire-Suppression Systems

21 10 00  WATER-BASED FIRE-SUPPRESSION SYSTEMS
21 11 00  Facility Fire-Suppression Water-Service Piping
  21 11 16  Facility Fire Hydrants
  21 11 19  Fire-Department Connections
21 12 00  Fire-Suppression Standpipes
  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
  21 12 26  Fire-Suppression Valve and Hose Cabinets
21 13 00  Fire-Suppression Sprinkler Systems
  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

21 20 00  FIRE-EXTINGUISHING SYSTEMS
21 21 00  Carbon-Dioxide Fire-Extinguishing Systems
21 21 13 Carbon-Dioxide Fire-Extinguishing Piping
21 21 16 Carbon-Dioxide Fire-Extinguishing Equipment

21 22 00 Clean-Agent Fire-Extinguishing Systems
21 22 13 Clean-Agent Fire-Extinguishing Piping
21 22 16 Clean-Agent Fire-Extinguishing Equipment

21 23 00 Wet-Chemical Fire-Extinguishing Systems
21 23 13 Wet-Chemical Fire-Extinguishing Piping
21 23 16 Wet-Chemical Fire-Extinguishing Equipment

21 24 00 Dry-Chemical Fire-Extinguishing Systems
21 24 13 Dry-Chemical Fire-Extinguishing Piping
21 24 16 Dry-Chemical Fire-Extinguishing Equipment

21 30 00 FIRE PUMPS
21 31 00 Centrifugal Fire Pumps
21 31 13 Electric-Drive, Centrifugal Fire Pumps
21 31 16 Diesel-Drive, Centrifugal Fire Pumps

21 32 00 Vertical-Turbine Fire Pumps
21 32 13 Electric-Drive, Vertical-Turbine Fire Pumps
21 32 16 Diesel-Drive, Vertical-Turbine Fire Pumps

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

21 50 00 Unassigned
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DIVISION 22 – PLUMBING

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 AND PUMPS
  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 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 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 20 00 Unassigned

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 16  Residential Lavatories and Sinks
  22 41 19  Residential Bathtubs
  22 41 23  Residential Shower Receptors and Basins
  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 16  Commercial Lavatories and Sinks
  22 42 19  Commercial Bathtubs
  22 42 23  Commercial Shower Receptors and Basins
  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 and Showers
  22 43 23  Healthcare Shower Receptors and Basins
  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

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22 46 13 Security Water Closets and Urinals
22 46 16 Security Lavatories and Sinks
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

22 70 00  Unassigned
22 80 00  Unassigned
22 90 00  Unassigned
DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

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 Duct 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 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 Piping and Equipment
  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 Container-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 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 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 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 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 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 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
   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

23 72 00  Air-to-Air Energy Recovery Equipment
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

23 73 00  Indoor Central-Station Air-Handling Units
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

23 74 00  Packaged Outdoor HVAC Equipment
23 74 13 Packaged, Outdoor, Central-Station Air-Handling 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 Packaged, Outdoor, Heating and Cooling Makeup Air-Conditioners

23 75 00 Custom-Packaged Outdoor HVAC Equipment
23 75 13 Custom-Packaged, Outdoor, Central-Station Air-Handling 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

23 76 00 Evaporative Air-Cooling Equipment
23 76 13 Direct Evaporative Air Coolers
23 76 16 Indirect Evaporative Air Coolers
23 76 19 Combined Direct and Indirect Evaporative Air Coolers

23 80 00 DECENTRALIZED HVAC EQUIPMENT
23 81 00 Decentralized Unitary HVAC Equipment
23 81 13 Packaged Terminal Air-Conditioners
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 26 Split-System Air-Conditioners
23 81 43 Air-Source Unitary Heat Pumps
23 81 46 Water-Source Unitary Heat Pumps

23 82 00 Convection Heating and Cooling Units
23 82 13 Valance Heating and Cooling Units
23 82 16 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 Convector
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 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 16 Dehumidifiers
23 84 19 Indoor Pool and Ice-Rink Dehumidification Units

23 90 00 Unassigned
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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 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 Network
         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
      25 14 00 Integrated Automation Local Control Units
         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
      25 15 00 Integrated Automation Software
         25 15 13 Integrated Automation Software for Network Gateways
         25 15 16 Integrated Automation Software for Control and Monitoring Networks
25 15 19 Integrated Automation Software for Local Control Units

25 20 00 Unassigned

25 30 00 INTEGRATED AUTOMATION INSTRUMENTATION AND TERMINAL DEVICES
25 31 00 Integrated Automation Instrumentation and Terminal Devices for Facility Equipment
25 32 00 Integrated Automation Instrumentation and Terminal Devices for Conveying Equipment
25 33 00 Integrated Automation Instrumentation and Terminal Devices for Fire-Suppression Systems
25 34 00 Integrated Automation Instrumentation and Terminal Devices for Plumbing
25 35 00 Integrated Automation Instrumentation and Terminal Devices for HVAC
25 35 13 Integrated Automation Actuators and Operators
25 35 16 Integrated Automation Sensors and Transmitters
25 35 19 Integrated Automation Control Valves
25 35 23 Integrated Automation Control Dampers
25 35 26 Integrated Automation Compressed Air Supply
25 36 00 Integrated Automation Instrumentation and Terminal Devices for Electrical Systems
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
25 37 00 Integrated Automation Instrumentation and Terminal Devices for Communications Systems
25 38 00 Integrated Automation Instrumentation and Terminal Devices for Electronic Safety and Security Systems

25 40 00 Unassigned

25 50 00 INTEGRATED AUTOMATION FACILITY CONTROLS
25 51 00 Integrated Automation Control of Facility Equipment
25 52 00 Integrated Automation Control of Conveying Equipment
25 53 00 Integrated Automation Control of Fire-Suppression Systems
25 54 00 Integrated Automation Control of Plumbing
25 55 00 Integrated Automation Control of HVAC
25 56 00 Integrated Automation Control of Electrical Systems
25 57 00 Integrated Automation Control of Communications Systems
25 58 00 Integrated Automation Control of Electronic Safety and Security Systems

25 60 00 Unassigned

25 70 00 Unassigned

25 80 00 Unassigned

25 90 00 INTEGRATED AUTOMATION CONTROL SEQUENCES
25 91 00 Integrated Automation Control Sequences for Facility Equipment
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  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 and Cathodic Protection Systems
  26 01 50 Operation and Maintenance of Lighting
    26 01 50.51 Luminaire Relamping
    26 01 50.81 Luminaire Replacement

26 05 00 Common Work Results 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 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 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 46 Utility Poles for Electrical Systems
  26 05 48 Vibration and Seismic Controls for Electrical Systems
  26 05 53 Identification for Electrical Systems
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26 06 00 Schedules for Electrical
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    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 and Cathodic Protection Systems
  26 06 50 Schedules for Lighting
    26 06 50.13 Lighting Panelboard Schedule
    26 06 50.16 Lighting Fixture Schedule

26 08 00 Commissioning of Electrical Systems

26 09 00 Instrumentation and Control for Electrical Systems
  26 09 13 Electrical Power Monitoring and Control
  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 43 Network Lighting Controls
26 09 43.13 Digital-Network Lighting Controls
26 09 43.16 Addressable Fixture Lighting Control
26 09 61 Theatrical Lighting Controls

26 10 00 MEDIUM-VOLTAGE ELECTRICAL DISTRIBUTION
26 11 00 Substations
26 11 13 Primary Unit Substations
26 11 16 Secondary Unit Substations
26 12 00 Medium-Voltage Transformers
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
26 13 00 Medium-Voltage Switchgear
26 13 13 Medium-Voltage Circuit Breaker Switchgear
26 13 16 Medium-Voltage Fusible Interrupter Switchgear
26 13 19 Medium-Voltage Vacuum Interrupter Switchgear
26 18 00 Medium-Voltage Circuit Protection Devices
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

26 20 00 LOW-VOLTAGE ELECTRICAL DISTRIBUTION
26 21 00 Low-Voltage Overhead Electrical Power Systems
26 22 00 Low-Voltage Transformers
26 22 13 Low-Voltage Distribution Transformers
26 22 16 Low-Voltage Buck-Boost Transformers
26 22 19 Control and Signal Transformers
26 23 00 Low-Voltage Switchgear
26 23 13 Paralleling Low-Voltage Switchgear
26 24 00 Switchboards and Panelboards
26 24 13 Switchboards
26 24 16 Panelboards
26 24 19 Motor-Control Centers
26 25 00 Enclosed Bus Assemblies
26 26 00 Power Distribution Units
26 27 00 Low-Voltage Distribution Equipment
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 73 Door Chimes

26 28 00 Low-Voltage Circuit Protective Devices
26 28 13 Fuses
26 28 16 Enclosed Switches and Circuit Breakers

26 29 00 Low-Voltage Controllers
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 30 00 FACILITY ELECTRICAL POWER GENERATING AND STORING EQUIPMENT

26 31 00 Photovoltaic Collectors

26 32 00 Packaged Generator Assemblies
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 16 Steam-Turbine Generators
26 32 19 Hydro-Turbine Generators
26 32 23 Wind Energy Equipment
26 32 26 Frequency Changers
26 32 29 Rotary Converters
26 32 33 Rotary Uninterruptible Power Units

26 33 00 Battery Equipment
26 33 13 Batteries
26 33 16 Battery Racks
26 33 19 Battery Units
26 33 23 Central Battery Equipment
26 33 33 Static Power Converters
26 33 43 Battery Chargers
26 33 46 Battery Monitoring
26 33 53 Static Uninterruptible Power Supply

26 35 00 Power Filters and Conditioners
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 36 Slip Controllers
26 35 43 Static-Frequency Converters
26 35 46 Radio-Frequency-Interference Filters
26 35 53 Voltage Regulators

26 36 00 Transfer Switches
26 36 13 Manual Transfer Switches
26 36 23 Automatic Transfer Switches

26 40 00 ELECTRICAL AND CATHODIC PROTECTION
26 41 00 Facility Lightning Protection
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

26 42 00 Cathodic Protection
26 42 13 Passive Cathodic Protection for Underground and Submerged Piping
26 42 16 Passive Cathodic Protection for Underground Storage Tank

26 43 00 Transient Voltage Suppression
26 43 13 Transient-Voltage Suppression for Low-Voltage Electrical Power Circuits

26 50 00 LIGHTING
26 51 00 Interior Lighting
26 51 13 Interior Lighting Fixtures, Lamps, And Ballasts

26 52 00 Emergency Lighting
26 53 00 Exit Signs
26 54 00 Classified Location Lighting
26 55 00 Special Purpose Lighting
26 55 23 Outline Lighting
26 55 29 Underwater Lighting
26 55 33 Hazard Warning Lighting
26 55 36 Obstruction Lighting
26 55 53 Security Lighting
26 55 59 Display Lighting
26 55 61 Theatrical Lighting
26 55 63 Detention Lighting
26 55 70 Healthcare Lighting

26 56 00 Exterior Lighting
26 56 13 Lighting Poles and Standards
26 56 16 Parking Lighting
26 56 19 Roadway Lighting
26 56 23 Area Lighting
26 56 26 Landscape Lighting
26 56 29 Site Lighting
26 56 33 Walkway Lighting
26 56 36 Flood Lighting
26 56 68 Exterior Athletic Lighting

26 60 00 Unassigned
26 70 00 Unassigned
26 80 00 Unassigned
26 90 00 Unassigned
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27 00 00  COMMUNICATIONS
27 01 00  Operation and Maintenance of Communications Systems
  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
27 05 00  Common Work Results for Communications
  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 28.29  Hangers and Supports for Communications Systems
    27 05 28.33  Conduits and Backboxes for Communications Systems
    27 05 28.36  Cable Trays for Communications Systems
    27 05 28.39  Surface Raceways for Communications Systems
  27 05 43  Underground Ducts and Raceways for Communications Systems
  27 05 46  Utility Poles for Communications Systems
  27 05 48  Vibration and Seismic Controls for Communications Systems
  27 05 53  Identification for Communications Systems
27 06 00  Schedules for Communications
  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
27 08 00  Commissioning of Communications
27 10 00  STRUCTURED CABLEING
27 11 00  Communications Equipment Room Fittings
  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
27 13 00  Communications Backbone Cabling
  27 13 13  Communications Copper Backbone Cabling
    27 13.13.13  Communications Copper Cable Splicing and Terminations
  27 13 23  Communications Optical Fiber Backbone Cabling
    27 13.23.13  Communications Optical Fiber Splicing and Terminations
  27 13 33  Communications Coaxial Backbone Cabling
    27 13.33.13  Communications Coaxial Splicing and Terminations
  27 13 43  Communications Services Cabling
27 13 43.13 Dialtone Services Cabling
27 13 43.23 T1 Services Cabling
27 13 43.33 DSL Services Cabling
27 13 43.43 Cable Services Cabling
27 13 43.53 Satellite Services Cabling

27 15 00 Communications Horizontal Cabling
27 15 00.16 Voice Communications Horizontal Cabling
27 15 00.19 Data Communications Horizontal Cabling
27 15 00.23 Audio-Video Communications Horizontal Cabling
27 15 00.39 Patient Monitoring and Telemetry Communications Horizontal Cabling
27 15 00.43 Nurse Call and Intercom Communications Horizontal Cabling
27 15 00.46 Paging Communications Horizontal Cabling
27 15 00.49 Intermediate Frequency/Radio Frequency Communications Horizontal Cabling
27 15 00.53 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

27 16 00 Communications Connecting Cords, Devices and Adapters
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

27 20 00 DATA COMMUNICATIONS

27 21 00 Data Communications Network Equipment
27 21 13 Data Communications Firewalls
27 21 16 Data Communications Routers, CSU/DSU, Multiplexers, Codec’s, 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

27 22 00 Data Communications Hardware
27 22 13 Data Communications Mainframes
27 22 16 Data Communications Storage and Backup
27 22 19 Data Communications Servers
27 22 23 Data Communications Desktops
27 22 26 Data Communications Laptops
27 22 29 Data Communications Handhelds

27 24 00 Data Communications Peripheral Data Equipment
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

27 25 00 Data Communications Software
27 25 13 Virus Protection Software
27 25 16 Application Suites
27 25 19 Email Software
27 25 23 Graphics/Multimedia Software
27 25 26 Customer Relationship Management Software
27 25 29 Operating System Software
27 25 33 Database Software
27 25 37 Virtual Private Network Software
27 25 39 Internet Conferencing Software

27 26 00 Data Communications Programming and Integration Services
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

27 30 00 VOICE COMMUNICATIONS

27 31 00 Voice Communications Switching and Routing Equipment
27 31 13 PBX/ Key Systems
27 31 23 Internet Protocol Voice Switches

27 32 00 Voice Communications Telephone Sets, Facsimiles and Modems
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 33 00 Voice Communications Messaging
27 33 16 Voice Mail and Auto Attendant
27 33 23 Interactive Voice Response
27 33 26 Facsimile Servers

27 34 00 Call Accounting
27 34 13 Toll Fraud Equipment and Software
27 34 16 Telemangement Software

27 35 00 Call Management
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

27 40 00 AUDIO-VIDEO COMMUNICATIONS

27 41 00 Audio-Video Systems
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 16.61 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 42 00 Electronic Digital Systems
27 42 13 Point of Sale Systems
27 42 16 Transportation Information Display Systems
27 42 19 Public Information Systems
27 50 00  DISTRIBUTED COMMUNICATIONS AND MONITORING SYSTEMS

27 51 00  Distributed Audio-Video Communications Systems
  27 51 13  Paging Systems
    27 51 13.13  Overhead Paging Systems
  27 51 16  Public Address and Mass Notification 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 52 00  Healthcare Communications and Monitoring Systems
  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

27 53 00  Distributed Systems
  27 53 13  Clock Systems
  27 53 16  Infrared and Radio Frequency Tracking Systems
  27 53 19  Internal Cellular, Paging, and Antenna Systems

27 60 00  Unassigned

27 70 00  Unassigned

27 80 00  Unassigned

27 90 00  Unassigned
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28 00 00 ELECTRONIC SAFETY AND SECURITY

28 01 00 Operation and Maintenance of Electronic Safety and Security

28 01 10 Operation and Maintenance of Electronic Access Control and Intrusion Detection

28 01 10.51 Maintenance and Administration of Electronic Access Control and Intrusion Detection

28 01 10.71 Revisions and Upgrades of Electronic Access Control and Intrusion Detection

28 01 20 Operation and Maintenance of Electronic Surveillance

28 01 30 Operation and Maintenance of Electronic Detection and Alarm

28 01 30.51 Maintenance and Administration of Electronic Detection and Alarm

28 01 30.71 Revisions and Upgrades of Electronic Detection and Alarm

28 01 40 Operation and Maintenance of Electronic Monitoring and Control

28 01 40.51 Maintenance and Administration of Electronic Monitoring and Control

28 01 40.71 Revisions and Upgrades of Electronic Monitoring and Control

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28 05 13.13 CCTV Communications Conductors and Cables

28 05 13.16 Access Control Communications Conductors and Cables

28 05 13.19 Intrusion Detection Communications Conductors and Cables

28 05 13.23 Fire Alarm Communications Conductors and Cables

28 05 26 Grounding and Bonding for Electronic Safety and Security

28 05 28 Pathways for Electronic Safety and Security

28 05 28.29 Hangers and Supports for Electronic Safety and Security

28 05 28.33 Conduits and Backboxes for Electronic Safety and Security

28 05 28.36 Cable Trays for Electronic Safety and Security

28 05 28.39 Surface Raceways for Electronic Safety and Security

28 05 48 Vibration and Seismic Controls for Electronic Safety and Security

28 05 53 Identification for Electronic Safety and Security

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28 06 30 Schedules for Electronic Detection and Alarm

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28 08 00 Commissioning of Electronic Safety and Security

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28 13 13 Access Control Global Applications

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28 13 19 Access Control Systems Infrastructure

28 13 26 Access Control Remote Devices

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28 13 33.26 Access Control Interfaces to Intrusion Detection

28 13 33.33 Access Control Interfaces to Video Surveillance

28 13 33.36 Access Control Interfaces to Fire Alarm

28 13 43 Access Control Identification Management Systems

28 13 53 Security Access Detection
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28 13 53.16  Security Access X-Ray Equipment
28 13 53.29  Security Access Sniffing Equipment
28 13 53.23  Security Access Explosive Detection Equipment

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28 16 16  Intrusion Detection Systems Infrastructure
28 16 19  Intrusion Detection Remote Devices and Sensors
28 16 33  Intrusion Detection Interfaces
  28 16 33.13  Intrusion Detection Interfaces to Remote Monitoring
  28 16 33.16  Intrusion Detection Interfaces to Access Control Hardware
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  28 16 33.33  Intrusion Detection Interfaces to Video Surveillance
  28 16 33.36  Intrusion Detection Interfaces to Fire Alarm
28 16 43  Perimeter Security Systems
28 16 46  Intrusion Detection Vehicle Control Systems

28 20 00  Electronic Surveillance
28 23 00  Video Surveillance
28 23 13  Video Surveillance Control and Management Systems
28 23 16  Video Surveillance Monitoring and Supervisory Interfaces
28 23 19  Digital Video Recorders and Analog Recording Devices
28 23 23  Video Surveillance Systems Infrastructure
28 23 26  Video Surveillance Remote Positioning Equipment
28 23 29  Video Surveillance Remote Devices and Sensors

28 26 00  Electronic Personal Protection Systems
28 26 13  Electronic Personal Safety Detection Systems
28 26 16  Electronic Personal Safety Alarm Annunciation and Control Systems
28 26 19  Electronic Personal Safety Interfaces to Remote Monitoring
28 26 23  Electronic Personal Safety Emergency Aid Devices

28 30 00  Electronic Detection and Alarm
28 31 00  Fire Detection and Alarm
28 31 13  Fire Detection and Alarm Control, GUI, and Logic Systems
28 31 23  Fire Detection and Alarm Annunciation Panels and Fire Stations
28 31 33  Fire Detection and Alarm Interfaces
  28 31 33.13  Fire Detection and Alarm Interfaces to Remote Monitoring
  28 31 33.16  Fire Detection and Alarm Interfaces to Access Control Hardware
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  28 31 33.26  Fire Detection and Alarm Interfaces to Intrusion Detection
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  28 31 33.43  Fire Detection and Alarm Interfaces to Elevator Control
28 31 43  Fire Detection Sensors
28 31 46  Smoke Detection Sensors
28 31 49  Carbon-Monoxide Detection Sensors
28 31 53  Fire Alarm Initiating Devices
  28 31 53.13  Fire Alarm Pull Stations
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  28 31 53.33  Fire Alarm Flow Switches
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28 32 33 Radiation and Alarm Detection Sensors
28 32 43 Radiation and Alarm Dosimeters

28 33 00 Fuel-Gas Detection and Alarm
28 33 13 Fuel-Gas Detection and Alarm Control, GUI, and Logic Systems
28 33 23 Fuel-Gas Detection and Alarm Integrated Audio Evacuation Systems
28 33 33 Fuel-Gas Detection Sensors

28 34 00 Fuel-Oil Detection and Alarm
28 34 13 Fuel-Oil Detection and Alarm Control, GUI, and Logic Systems
28 34 23 Fuel-Oil Detection and Alarm Integrated Audio Evacuation Systems
28 34 33 Fuel-Oil Detection Sensors

28 35 00 Refrigerant Detection and Alarm
28 35 13 Refrigerant Detection and Alarm Control, GUI, and Logic Systems
28 35 23 Refrigerant Detection and Alarm Integrated Audio Evacuation Systems
28 35 33 Refrigerant Detection Sensors

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28 46 16 Relay-Logic Detention Monitoring and Control Systems
28 46 19 PLC Electronic Detention Monitoring and Control Systems
28 46 23 Computer-Based Detention Monitoring and Control Systems
28 46 26 Discreet-Logic Detention Monitoring and Control Systems
28 46 29 Discreet-Distributed Intelligence Detention Monitoring and Control Systems

28 50 00 Unassigned

28 60 00 Unassigned

28 70 00 Unassigned

28 80 00 Unassigned

28 90 00 Unassigned
DIVISION 31 – EARTHWORK

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 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 23 Cement and Concrete for Earthwork
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    31 06 10 Schedules for Clearing
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    31 06 60 Schedules for Special Foundations and Load Bearing Elements
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    31 06 70 Schedules for Tunneling and Mining
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    31 09 13 Geotechnical Instrumentation and Monitoring
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      31 13 13 Selective Tree and Shrub Removal
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  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

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31 21 00  Off-Gassing Mitigation
  31 21 13  Radon Mitigation
    31 21 13.13  Radon Venting
  31 21 16  Methane Mitigation
    31 21 16.13  Methane Venting

31 22 00  Grading
  31 22 13  Rough Grading
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31 23 00  Excavation and Fill
  31 23 13  Subgrade Preparation
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    31 23 16.26  Rock Removal
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  31 24 13  Roadway Embankments
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  31 25 13  Erosion Controls
  31 25 23  Rock Barriers
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    31 31 13.16  Rodent Control Bait Systems
    31 31 13.19  Rodent Control Traps
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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
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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 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
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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

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31 35 19.13 Geogrid Slope Protection
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31 36 13 Gabion Boxes
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31 41 16.13 Steel Sheet Piling
31 41 16.16 Plastic Sheet Piling
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31 41 19.13 Aluminum Hydraulic Shoring
31 41 23 Pneumatic Shoring
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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

31 45 00 Vibroflotation and Densification
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31 46 00 Needle Beams
31 46 13 Cantilever Needle Beams

31 48 00 Underpinning
31 48 13 Underpinning Piers
31 48 19 Bracket Piers
31 48 23 Jacked Piers
31 48 33 Micropile Underpinning

31 50 00 Excavation Support and Protection
31 51 00 Anchor Tiebacks
31 51 13 Excavation Soil Anchors
31 51 16 Excavation Rock Anchors

31 52 00 Cofferdams
31 52 13 Sheet Piling Cofferdams
31 52 16 Timber Cofferdams
31 52 19 Precast Concrete Cofferdams

31 53 00 Cribbing and Walers
31 53 13 Timber Cribwork

31 54 00 Ground Freezing
31 56 00 Slurry Walls
31 56 13 Bentonite Slurry Walls
   31 56 13.13 Soil-Bentonite Slurry Walls
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31 56 19 Slurry-Geomembrane Composite Slurry Walls
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31 60 00 SPECIAL FOUNDATIONS AND LOAD-BEARING ELEMENTS

31 62 00 Driven Piles
31 62 13 Concrete Piles
   31 62 13.13 Cast-in-Place Concrete Piles
   31 62 13.16 Concrete Displacement Piles
   31 62 13.19 Precast Concrete Piles
   31 62 13.23 Prestressed Concrete Piles
   31 62 13.26 Pressure-Injected Footings
31 62 16 Steel Piles
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   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
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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
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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
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31 64 13 Box Caissons
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31 64 19 Floating Caissons
31 64 23 Open Caissons
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31 66 00 Special Foundations
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31 66 16 Special Foundation Walls
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  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
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  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 72 00 Tunnel Support Systems
  31 72 13 Rock Reinforcement and Initial Support
  31 72 16 Steel Ribs and Lagging
31 73 00 Tunnel Grouting
  31 73 13 Cement Tunnel Grouting
  31 73 16 Chemical Tunnel Grouting
31 74 00 Tunnel Construction
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  31 74 16 Precast Concrete Tunnel Lining
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  31 77 13 Trench Excavation for Submerged Tunnels
  31 77 16 Tube Construction (Outfitting Tunnel Tubes)
  31 77 19 Floating and Laying Submerged Tunnels

31 80 00 Unassigned
31 90 00 Unassigned
DIVISION 32 – EXTERIOR IMPROVEMENTS

32 00 00  EXTERIOR IMPROVEMENTS
  32 01 00  Operation and Maintenance of Exterior Improvements
    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 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 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
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  32 06 10.13 Pedestrian Walkway Schedule
32 06 30 Schedules for Site Improvements
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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

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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 Asphalitic Base Courses
  32 11 26.13 Plant Mix Asphalitic Base Courses
  32 11 26.16 Road Mix Asphalitic 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 36.13 Lean Concrete Base Courses
  32 11 36.16 Plain Cement Concrete Base Courses
  32 11 36.19 Hydraulic Cement Concrete Base Courses

32 12 00 Flexible Paving
32 12 13 Preparatory Coats
  32 12 13.13 Tack Coats
  32 12 13.16 Asphalitic Tack Coats
  32 12 13.19 Prime Coats
  32 12 13.23 Asphalitic Prime Coats
32 12 16 Asphalt Paving
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<td>32 12 16.16  Road-Mix Asphalt Paving</td>
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<td>32 12 16.19  Porous Friction Asphalt Paving Wearing Courses</td>
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<td>32 12 16.33  Flexible Paving Surface Treatments</td>
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<td>32 12 16.13  Seal Coats</td>
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<td>32 12 16.16  Asphaltic Seal and Fog Coats</td>
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<td>32 12 16.19  Coal Tar Seal Coats</td>
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<td>32 16.19.19  Porous Friction Asphalt Paving Wearing Courses</td>
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<td>32 12 16.23  Fuel-Resistant Sealers</td>
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<td>32 12 16.36  Porous Flexible Paving</td>
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<td>32 12 19.73  Asphalt Paving Joint Sealants</td>
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<td>32 13 13.13  Exposed Aggregate Concrete Paving</td>
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<td>32 13 17  Concrete Paving Joint Sealants</td>
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<td>32 14 29  Recycled-Rubber Paving</td>
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<td>32 15 00  Aggregate Surfacing</td>
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32 16 13.26 Precast Concrete Curbs
32 16 13.29 Precast Concrete Gutters
32 16 19 Asphalt Curbs
32 16 40 Stone Curbs
32 16 40.13 Manufactured Stone Curbs

32 17 00 Paving Specialties
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 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 18 00 Athletic and Recreational Surfacing
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 20 00 Unassigned

32 30 00 SITE IMPROVEMENTS
32 31 00 Fences and Gates
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 19 Decorative Metal Fences and Gates
32 31 23 Plastic Fences and Gates
32 31 26 Wire Fences and Gates
32 31 29  Wood Fences and Gates

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 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 34 00  Fabricated Bridges

32 35 00  Screening Devices
32 35 13  Screens and Louvers
32 35 16  Sound Barriers

32 40 00  Unassigned

32 50 00  Unassigned

32 60 00  Unassigned

32 70 00  Wetlands
32 71 00  Constructed Wetlands
32 72 00  Wetlands Restoration

32 80 00  Irrigation
32 82 00  Irrigation Pumps
32 84 00  Planting Irrigation
   32 84 13  Drip Irrigation
   32 84 23  Underground Sprinklers

32 86 00  Agricultural Irrigation

32 90 00  Planting
32 91 00  Planting Preparation
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

32 92 00  Turf and Grasses
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

32 93 00 Plants
32 93 13 Ground Covers
32 93 23 Plants and Bulbs
32 93 33 Shrubs
32 93 43 Trees

32 94 00 Planting Accessories
32 94 13 Landscape Edging
32 94 16 Landscape Timbers
32 94 33 Planters
32 94 43 Tree Grates
32 94 46 Tree Grids

32 96 00 Transplanting
32 96 13 Ground Cover Transplanting
32 96 23 Plant and Bulb Transplanting
32 96 33 Shrub Transplanting
32 96 43 Tree Transplanting
DIVISION 33 – UTILITIES

33 00 00  UTILITIES
33 01 00  Operation and Maintenance of Utilities
33 01 10  Operation and Maintenance of Water Utilities
33 01 20  Operation and Maintenance of Wells
33 01 30  Operation and Maintenance of Sewer Utilities
33 01 30.13  Sewer and Manhole Testing
33 01 30.16  TV Inspection of Sewer Pipelines
33 01 30.51  Maintenance of Sewer Utilities
33 01 30.52  Pond and Reservoir Maintenance
33 01 30.61  Sewer and Pipe Joint Sealing
33 01 30.62  Manhole Grout Sealing
33 01 30.71  Rehabilitation of Sewer Utilities
33 01 30.72  Relining Sewers
33 01 50  Operation and Maintenance of Fuel Distribution Lines
33 01 50.51  Cleaning Fuel-Storage Tanks
33 01 50.71  Lining of Steel Fuel-Storage Tanks
33 01 60  Operation and Maintenance of Hydronic and Steam Energy Utilities
33 01 70  Operation and Maintenance of Electrical Utilities
33 01 80  Operation and Maintenance of Communications Utilities

33 05 00  Common Work Results for Utilities
33 05 13  Manholes and Structures
33 05 13.13  Manhole Grade Adjustment
33 05 16  Utility Structures
33 05 16.13  Precast Concrete Utility Structures
33 05 16.53  Rebuilding Utility Structures
33 05 19  Pressure Piping Tied Joint Restraint System
33 05 23  Trenchless Utility Installation
33 05 23.13  Utility Horizontal Directional Drilling
33 05 23.16  Utility Pipe Jacking
33 05 23.19  Microtunneling
33 05 23.23  Utility Pipe Ramming
33 05 23.26  Utility Impact Moling
33 05 23.29  Cable Trenching and Plowing
33 05 26  Utility Line Signs, Markers, and Flags

33 06 00  Schedules for Utilities
33 06 10  Schedules for Water Utilities
33 06 20  Schedules for Wells
33 06 30  Schedules for Sanitary sewerage Utilities
33 06 40  Schedules for Storm Drainage Utilities
33 06 40.13  Storm Drainage Schedule
33 06 50  Schedules for Fuel Distribution 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 20  Commissioning of Wells
33 08 30  Commissioning of Sanitary Sewerage Utilities
33 08 40  Commissioning of Storm Drainage Utilities
33 08 50  Commissioning of Fuel Distribution 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 10  Instrumentation and Control for Water Utilities
33 09 20  Instrumentation and Control for Wells
33 09 30  Instrumentation and Control for Sanitary Sewerage Utilities
33 09 40  Instrumentation and Control for Storm Drainage Utilities
33 09 50  Instrumentation and Control for Fuel Distribution Utilities
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  Water Utility Distribution Piping
33 11 13  Public Water Utility Distribution Piping
33 11 16  Site Water Utility Distribution Piping
33 11 19  Fire Suppression Utility Water Distribution Piping
33 12 00  Water Utility Distribution Equipment
33 12 13  Water Service Connections
  33 12 13.13  Water Supply Backflow Preventer Assemblies
33 12 16  Water Utility Distribution Valves
33 12 19  Water Utility Distribution Fire Hydrants
33 12 23  Water Utility Pumping Stations
33 12 33  Water Utility Metering
33 13 00  Disinfecting of Water Utility Distribution
33 16 00  Water Utility Storage Tanks
33 16 13  Aboveground Water Utility Storage Tanks
  33 16 13.13  Steel Aboveground Water Utility Storage Tanks
  33 16 13.16  Prestressed Concrete Aboveground Water Utility Storage Tanks
33 16 16  Underground Water Utility Storage Tanks
33 16 19  Elevated Water Utility Storage Tanks

33 20 00  WELLS
33 21 00  Water Supply Wells
33 21 13  Public Water Supply Wells
33 21 16  Irrigation Water Wells
33 22 00  Test Wells
33 23 00  Extraction Wells
33 24 00  Monitoring Wells
  33 24 13  Groundwater Monitoring Wells
33 25 00  Recharge Wells
33 26 00  Relief Wells
33 29 00  Well Abandonment

33 30 00  SANITARY SEWERAGE UTILITIES
33 31 00  Sanitary Utility Sewerage Piping
  33 31 13  Public Sanitary Utility Sewerage Piping
33 31 16 Industrial Waste Utility Sewerage Piping

33 32 00 Wastewater Utility Pumping Stations
33 32 13 Packaged Utility Lift Stations
33 32 13.13 Packaged Sewage Lift Stations, Wet Well Type
33 32 16 Packaged Utility Wastewater Pumping Stations
33 32 16.13 Packaged Sewage Grinder Pumping Units
33 32 19 Public Utility Wastewater Pumping Stations

33 33 00 Low Pressure Utility Sewerage
33 33 13 Sanitary Utility Sewerage
33 33 16 Combined Utility Sewerage

33 34 00 Sanitary Utility Sewerage Force Mains
33 34 13 Sanitary Utility Sewerage Inverted Siphons

33 36 00 Utility Septic Tanks
33 36 13 Utility Septic Tank and Effluent Wet Wells
33 36 16 Utility Septic Tank Effluent Pumps
33 36 33 Utility Drainage Field

33 39 00 Sanitary Utility Sewerage Structures
33 39 13 Sanitary Utility Sewerage Manholes, Frames, and Covers
33 39 23 Sanitary Utility Sewerage Cleanouts

33 40 00 STORM DRAINAGE UTILITIES
33 41 00 Storm Utility Drainage Piping
33 41 13 Public Storm Utility Drainage Piping

33 42 00 Culverts
33 42 13 Pipe Culverts
33 42 13.13 Public Pipe Culverts
33 42 16 Concrete Culverts
33 42 16.13 Precast Concrete Culverts
33 42 16.16 Cast-in-Place Concrete Culverts

33 44 00 Storm Utility Water Drains
33 44 13 Utility Area Drains
33 44 13.13 Catchbasins
33 44 16 Utility Trench Drains
33 44 19 Utility Storm Water Treatment
33 44 19.13 In-Line Utility Storm Water Filters
33 44 19.16 Catch Basin Insert Utility Storm Water Filters
33 44 19.19 Utility Oil and Gas Separators

33 45 00 Storm Utility Drainage Pumps

33 46 00 Subdrainage
33 46 13 Foundation Drainage
33 46 13.13 Foundation Drainage Piping
33 46 13.16 Geocomposite Foundation Drainage
33 46 16 Subdrainage Piping
33 46 16.13 Subdrainage Piping
33 46 16.16 Geocomposite Subdrainage
33 46 16.19 Pipe Underdrains
33 46 19 Underslab Drainage
33 46 19.13 Underslab Drainage Piping
33 46 19.16 Geocomposite Underslab Drainage
33 46 23 Drainage Layers
33 46 23.16 Gravel Drainage Layers
33 46 23.19 Geosynthetic Drainage Layers
33 46 26 Geotextile Subsurface Drainage Filtration
33 46 33 Retaining Wall Drainage

33 47 00 Ponds and Reservoirs
33 47 13 Pond and Reservoir Liners
  33 47 13.13 Pond Liners
  33 47 13.53 Reservoir Liners
33 47 16 Pond and Reservoir Covers
  33 47 16.13 Pond Covers
  33 47 16.53 Reservoir Covers
33 47 19 Water Ponds and Reservoirs
  33 47 19.13 Water Distribution Ponds
  33 47 19.16 Water Retainage Reservoirs
  33 47 19.23 Cooling Water Ponds
  33 47 19.33 Fire-Protection Water Ponds
33 47 23 Sanitary Sewerage Lagoons
33 47 26 Storm Drainage Ponds and Reservoirs
  33 47 26.13 Stabilization Ponds
  33 47 26.16 Retention Basins
  33 47 26.19 Leaching Pits

33 49 00 Storm Drainage Structures
33 49 13 Storm Drainage Manholes, Frames, and Covers
33 49 23 Storm Drainage Water Retention Structures

33 50 00 FUEL DISTRIBUTION UTILITIES

33 51 00 Natural-Gas Distribution
  33 51 13 Natural-Gas Piping
  33 51 33 Natural-Gas Metering

33 52 00 Liquid Fuel Distribution
  33 52 13 Fuel-Oil Distribution
    33 52 13.13 Fuel-Oil Piping
    33 52 13.23 Fuel-Oil Pumps
  33 52 16 Gasoline Distribution
    33 52 16.13 Gasoline Piping
    33 52 16.23 Gasoline Pumps
  33 52 19 Diesel Fuel Distribution
    33 52 19.13 Diesel Fuel Piping
    33 52 19.23 Diesel Fuel Pumps
  33 52 43 Aviation Fuel Distribution
    33 52 43.13 Aviation Fuel Piping
    33 52 43.16 Aviation Fuel Connections
    33 52 43.19 Aviation Fuel Grounding
    33 52 43.23 Aviation Fuel Pumps

33 56 00 Fuel-Storage Tanks
  33 56 13 Aboveground Fuel-Storage Tanks
  33 56 16 Underground Fuel-Storage Tanks
  33 56 43 Aviation Fuel-Storage Tanks
    33 56 43.13 Aboveground Aviation Fuel-Storage Tanks
    33 56 43.16 Underground Aviation Fuel-Storage Tanks
  33 56 53 Compressed Gases Storage Tanks
### 33 60 00 HYDRONIC AND STEAM ENERGY UTILITIES

**33 61 00 Hydronic Energy Distribution**
- 33 61 13 Underground Hydronic Energy Distribution
- 33 61 23 Aboveground Hydronic Energy Distribution
- 33 61 33 Hydronic Energy Distribution Metering

**33 63 00 Steam Energy Distribution**
- 33 63 13 Underground Steam and Condensate Distribution Piping
- 33 63 23 Aboveground Steam and Condensate Distribution Piping
- 33 63 33 Steam Energy Distribution Metering

### 33 70 00 ELECTRICAL UTILITIES

**33 71 00 Electrical Utility Transmission and Distribution**
- 33 71 13 Electronic Utility Towers
  - 33 71 13.13 Precast Concrete Electronic Utility Towers
  - 33 71 13.23 Steel Electronic Utility Towers
  - 33 71 13.33 Wood Electronic Utility Towers
- 33 71 16 Electrical Utility 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 and Manholes
  - 33 71 19.13 Electrical Manholes and Handholes
- 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 Wiring
  - 33 71 36.13 Overhead Extra-High-Voltage Wiring
- 33 71 39 High-Voltage Wiring
  - 33 71 39.13 Overhead High-Voltage Wiring
  - 33 71 39.23 Underground High-Voltage Wiring
  - 33 71 39.33 Underwater High-Voltage Wiring
- 33 71 49 Medium-Voltage Wiring
  - 33 71 49.13 Overhead Medium-Voltage Wiring
  - 33 71 49.23 Underground Medium-Voltage Wiring
  - 33 71 49.33 Underwater Medium-Voltage Wiring
- 33 71 53 Direct-Current Transmission
- 33 71 73 Electrical Utility Services
  - 33 71 73.33 Electric Meters
- 33 71 83 Transmission and Distribution Specialties

**33 72 00 Utility Substations**
- 33 72 13 Deadend Structures
- 33 72 23 Structural Bus Supports
  - 33 72 23.13 Bus Support Insulators
- 33 72 26 Substation Bus Assemblies
  - 33 72 26.13 Aluminum Substation Bus Assemblies
  - 33 72 26.16 Copper Substation Bus Assemblies
- 33 72 33 Control House Equipment
33 72 33.13 Relays
33 72 33.16 Substation Control Panels
33 72 33.23 Power-Line Carriers
33 72 33.26 Substation Metering
33 72 33.33 Raceway and Boxes for Utility Substations
33 72 33.36 Cable Trays for Utility Substations
33 72 33.43 Substation Backup Batteries
33 72 33.46 Substation Converter Stations
33 72 43 Substation Control Wiring

33 73 00 Utility Transformers
33 73 13 Liquid-Filled Utility Transformers
33 73 23 Dry-Type Utility Transformers

33 75 00 High-Voltage Switchgear and Protection Devices
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 36 High-Voltage Utility Fuses
33 75 39 High-Voltage Surge Arresters
33 75 43 Shunt Reactors

33 77 00 Medium-Voltage Utility Switchgear and Protection Devices
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 33 Medium-Voltage Utility Cutouts
33 77 36 Medium-Voltage Utility Fuses
33 77 39 Medium-Voltage Utility Surge Arresters
33 77 53 Medium-Voltage Utility Reclosers

33 79 00 Site Grounding
33 79 13 Site Improvements Grounding
33 79 13.13 Electric 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 83.13 Grounding Wire, Bar, and Rod
33 79 83.16 Chemical Rod
33 79 83.23 Conductive Concrete
33 79 83.33 Earth Grounding Enhancement
33 79 83.43 Deep Earth Grounding
33 79 93 Site Lightning Protection
33 79 93.13 Lightning Strike Counters
33 79 93.16 Lightning Strike Warning Devices

33 80 00 Communications Utilities
33 81 00 Communications Structures
33 81 13 Communications Transmission Towers
33 81 16  Antenna Towers
33 81 19  Communications Utility Poles
33 81 23  Aerial Cable Installation Hardware
33 81 26  Communications Underground Ducts, Manholes, and Handholes
33 81 29  Communications Vaults, Pedestals and Enclosures
33 81 33  Communications Blowers, Fans, and Ventilation

33 82 00  Communications Distribution
33 82 13  Copper Communications Distribution Cabling
   33 82 13.13  Copper Splicing and Terminations
33 82 23  Optical Fiber Communications Distribution Cabling
   33 82 23.13  Optical Fiber Splicing and Terminations
33 82 33  Coaxial Communications Distribution Cabling
   33 82 33.13  Coaxial Splicing and Terminations
33 82 43  Grounding and Bonding for Communications Distribution
33 82 46  Cable Pressurization Equipment
33 82 53  Cleaning, Lubrication and Restoration Chemicals

33 83 00  Wireless Communications Distribution
33 83 13  Laser Transmitters and Receivers
33 83 16  Microwave Transmitters and Receivers
33 83 19  Infrared Transmitters and Receivers
33 83 23  UHF/VHF Transmitters and Antennas

33 90 00  Unassigned
DIVISION 34 – TRANSPORTATION

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 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

34 08 00 Commissioning of Transportation
  34 08 13 Commissioning of Roadways
  34 08 23 Commissioning of Railways
  34 08 33 Commissioning of Airfields
  34 08 43 Commissioning of Bridges

34 10 00 GUIDeways/Railways
34 11 00 Rail Tracks
  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

34 12 00 Monorails
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

34 13 00 Funiculars
34 13 13 Inclined Railway

34 14 00 Cable Transportation
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

34 20 00 Traction Power
34 21 00 Traction Power Distribution
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

34 23 00 Overhead Traction Power
34 23 13 Traction Power Poles
34 23 16 Overhead Cable Suspension
34 23 23 Overhead Traction Power Cables

34 24 00 Third Rail Traction Power
34 24 13 Bottom-Contact Third Rail
34 24 16 Side-Contact Third Rail
34 24 19 Top-Contact Third Rail

34 30 00 Unassigned

34 40 00 Transportation Signaling and Control Equipment
34 41 00 Roadway Signaling and Control Equipment
34 41 13 Traffic Signals
34 41 16 Traffic Control Equipment
34 41 23 Roadway Monitoring Equipment
34 42 00  Railway Signaling and Control Equipment
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

34 43 00  Airfield Signaling and Control Equipment
34 43 13  Airfield Signals
   34 43 13.13  Airfield Runway Identification Lights
   34 43 13.16  Airfield Runway and Taxiway Inset Lighting
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 16.23  Airfield Short-Approach Lighting Equipment
   34 43 16.26  Airfield Omni-Directional-Approach Lighting Equipment
   34 43 16.29  Airfield Low-Intensity-Approach Lighting Equipment
   34 43 16.33  Airfield High-Intensity-Approach Lighting Equipment
   34 43 16.36  Airfield Precision-Approach Path 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

34 48 00  Bridge Signaling and Control Equipment
34 48 13  Operating Bridge Signals
34 48 16  Operating Bridge Control Equipment

34 50 00  TRANSPORTATION FARE COLLECTION EQUIPMENT

34 52 00  Vehicle Fare Collection
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

34 54 00  Passenger Fare Collection
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

34 60 00 Unassigned

34 70 00 TRANSPORTATION CONSTRUCTION AND EQUIPMENT

34 71 00 Roadway Construction
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

34 72 00 Railway Construction
34 72 13 Railway Line
34 72 16 Railway Siding

34 73 00 Airfield Construction
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

34 75 00 Roadway Equipment
34 75 13 Operable Roadway Equipment
  34 75 13.13 Active Vehicle Barriers

34 76 00 Railway Equipment
34 76 13 Roadway Crossing Control Equipment

34 77 00 Transportation Equipment
34 77 13 Passenger Loading Bridges
  34 77 13.13 Fixed Aircraft Passenger Loading Bridges
  34 77 13.16 Movable Aircraft Passenger Loading Bridges
  34 77 13.23 Ship Passenger Loading Bridges
34 77 16 Baggage Handling Equipment
  34 77 16.13 Baggage Scanning Equipment
  34 77 16.16 Baggage Scales
  34 77 16.19 Baggage Conveying Equipment

34 80 00 BRIDGES

34 81 00 Bridge Machinery
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 82 00 Bridge Specialties
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

34 90 00 Unassigned
DIVISION 35 – WATERWAY AND MARINE CONSTRUCTION

35 00 00 WATERWAY AND MARINE CONSTRUCTION
   35 01 00 Operation and Maintenance of Waterway and Marine Construction
      35 01 10 Operation and Maintenance of Coastal Construction
      35 01 20 Operation and Maintenance of Waterway Construction
      35 01 30 Operation and Maintenance of Marine Construction
      35 01 40 Operation and Maintenance of Waterway Construction
      35 01 50 Operation and Maintenance of Marine Construction
      35 01 60 Operation and Maintenance of Waterway Construction
      35 01 70 Operation and Maintenance of Marine Construction
   35 05 00 Common Work Results for Waterway and Marine Construction
      35 05 10 Common Work Results for Coastal Construction
      35 05 20 Common Work Results for Waterway Construction
      35 05 30 Common Work Results for Marine Construction
      35 05 40 Common Work Results for Waterway Construction
      35 05 50 Common Work Results for Marine Construction
      35 05 60 Common Work Results for Waterway Construction
      35 05 70 Common Work Results for Marine Construction
   35 06 00 Schedules for Waterway and Marine Construction
      35 06 10 Schedules for Coastal Construction
      35 06 20 Schedules for Waterway Construction
      35 06 30 Schedules for Marine Construction
      35 06 40 Schedules for Waterway Construction
      35 06 50 Schedules for Marine Construction
      35 06 60 Schedules for Waterway Construction
      35 06 70 Schedules for Marine Construction
   35 08 00 Commissioning of Waterway and Marine Construction
      35 08 10 Commissioning of Coastal Construction
      35 08 20 Commissioning of Waterway Construction
      35 08 30 Commissioning of Marine Construction
      35 08 40 Commissioning of Waterway Construction
      35 08 50 Commissioning of Marine Construction
      35 08 60 Commissioning of Waterway Construction
      35 08 70 Commissioning of Marine Construction
   35 10 00 WATERWAY AND MARINE SIGNALING AND CONTROL EQUIPMENT
      35 11 00 Signaling and Control Equipment for Waterways
         35 11 10 Signaling Equipment for Waterways
         35 11 20 Control Equipment for Waterways
      35 12 00 Marine Signaling and Control Equipment
         35 12 10 Marine Signaling Equipment
         35 12 20 Lighthouse Equipment
         35 12 30 Marine Navigation Equipment
         35 12 40 Marine Control Equipment
      35 13 00 Signaling and Control Equipment for Dams
         35 13 10 Signaling Equipment for Dams
         35 13 20 Control Equipment for Dams
   35 20 00 WATERWAY AND MARINE CONSTRUCTION AND EQUIPMENT
      35 20 10 Hydraulic Fabrications
         35 20 11 Hydraulic Bifurcation Panels
         35 20 12 Hydraulic Bulkheads
         35 20 13 Hydraulic Manifolds
         35 20 14 Hydraulic Penstocks
         35 20 15 Hydraulic Trashracks
         35 20 16 Hydraulic Gates
   35 - 1
35 20 16.13 Hydraulic Spillway Crest Gates
35 20 16.19 Hydraulic Head Gates
35 20 16.26 Hydraulic Sluice Gates
35 20 16.33 Hydraulic Miter Gates
35 20 16.39 Hydraulic Sector Gates
35 20 16.46 Hydraulic Tainter Gates and Anchorages
35 20 16.53 Hydraulic Vertical Lift Gates
35 20 16.59 Hydraulic Closure Gates
35 20 19 Hydraulic Valves
35 20 19.13 Hydraulic Butterfly Valves
35 20 19.23 Hydraulic Regulating Valves
35 20 23 Dredging
35 20 23.13 Mechanical Dredging
35 20 23.23 Hydraulic Dredging
35 20 23.33 Integrated Dredging and Dewatering

35 30 00 COASTAL CONSTRUCTION
35 31 00 Shoreline Protection
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 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 60 00  Unassigned

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
35 79 00  Auxiliary Dam Structures
   35 79 13  Fish Ladders
   35 79 13.13  Concrete Fish Ladders

35 80 00  Unassigned

35 90 00  Unassigned
DIVISION 40 – PROCESS INTEGRATION

40 00 00 PROCESS INTEGRATION

40 01 00 Operation and Maintenance of Process Integration

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 05 00 Common Work Results for Process Integration

40 05 13 Common Work Results for Process Piping
40 05 13.13 Steel Process Piping
40 05 13.16 Lined or Internally-Coated Steel Process Piping
40 05 13.19 Stainless-Steel Process Piping
40 05 13.23 Aluminum Alloys Process Piping
40 05 13.33 Brass, Bronze, Copper, and Copper Alloys Process Piping
40 05 13.43 Nickel and Nickel Alloys Process Piping
40 05 13.53 Ductile, Malleable, and Cast Iron Alloys Process Piping
40 05 13.63 Titanium and Titanium Alloys Process Piping
40 05 13.73 Plastic Process Piping
40 05 13.76 Fiberglass-Reinforced Plastic and Resins Process Piping
40 05 13.93 Other Metals Process Piping

40 05 23 Common Work Results for Process Valves
40 05 23.13 Carbon Steel Process Valves
40 05 23.16 Low and Intermediate Alloy Steel Process Valves
40 05 23.19 Stainless-Steel Process Valves
40 05 23.33 Brass and Iron Process Valves
40 05 23.43 Nickel and Nickel Alloys Steel Process Valves
40 05 23.73 Plastic and Plastic Lined Process Valves
40 05 23.93 Other Metals Process Valves

40 06 00 Schedules for Process Integration

40 06 10 Schedules for Gas and Vapor Process Piping
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 10 00 GAS AND VAPOR PROCESS PIPING

40 11 00 Steam Process Piping
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

40 12 00 Compressed Air Process Piping
40 12 13 Breathing Compressed Air Process Piping
40 12 16 Non-Breathing Compressed Air Process Piping

40 13 00 Inert Gases Process Piping
40 13 13 Argon Process Piping
40 13 16 Carbon-Dioxide Process Piping
40 13 19 Helium Process Piping
40 13 23 Krypton Process Piping
40 13 26  Neon Process Piping
40 13 29  Nitrogen Process Piping
40 13 33  Xenon Process Piping
40 13 93  Mixed Inert Gases Process Piping

40 14 00  Fuel Gases Process Piping
40 14 13  Blast Furnace Piping
40 14 16  Blue (Water) Fuel Gas Piping
40 14 19  Butane Piping
40 14 23  Carbon-Monoxide Piping
40 14 26  Chlorine Fuel Gas Piping
40 14 29  Coke Oven Gas Piping
40 14 33  Ethane-Gas Piping
40 14 36  Hydrogen Fuel Gas Piping
40 14 39  Liquid Natural-Gas Process Piping
40 14 43  Methylacetylene-Propadiene Fuel Gas Piping
40 14 49  Natural-Gas Process Piping
   40 14 49.13  Synthetic Natural-Gas Piping
   40 14 49.23  Propane-Air Mixes Fuel Gas Piping
40 14 53  Octane Fuel Gas Piping
40 14 59  Propane Fuel Gas Process Piping
40 14 63  Sewage Fuel Gas Piping
40 14 93  Mixed Fuel Gases Piping

40 15 00  Combustion System Gas Piping
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  Disassociated-Ammonia-Gas Combustion System Piping

40 16 00  Specialty and High-Purity Gases Piping
40 16 13  Ammonia Gas Piping
40 16 16  Boron 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 39  Ozone Gas 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

40 17 00  Welding and Cutting Gases Piping
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

40 18 00  Vacuum Systems Process Piping
40 18 13  Low-Vacuum Systems Process Piping
40 18 16  High-Vacuum Systems Process Piping
40 20 00 LIQUIDS PROCESS PIPING
  40 21 00 Liquid Fuel Process Piping
  40 21 13 Bio Fuels 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. 2 Fuel-Oil Process Piping
    40 21 23.16 No. 4 Fuel-Oil Process Piping
    40 21 23.19 No. 5 Fuel-Oil Process Piping
    40 21 23.23 No. 6 Fuel-Oil Process Piping
    40 21 23.26 Kerosene Process Piping
    40 21 23.29 Tar Process Piping
  40 22 00 Petroleum Products Piping
    40 22 13 Heavy-Fractions Petroleum Products Piping
    40 22 16 Light-Fractions Petroleum Products Piping
  40 23 00 Water Process Piping
    40 23 13 De-Ionized Water Process Piping
    40 23 16 Distilled-Water Process Piping
    40 23 19 Process Plant Water 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 36 Sanitary Water Process Piping
  40 24 00 Specialty Liquid Chemicals Piping
    40 24 13 Alcohol Piping
    40 24 16 Gel Piping
    40 24 19 Slurries Process Piping
    40 24 23 Thixotropic Liquid Piping
  40 25 00 Liquid Acids and Bases Piping
    40 25 13 Liquid Acids Piping
    40 25 16 Liquid Bases Piping
  40 26 00 Liquid Polymer Piping

40 30 00 SOLID AND MIXED MATERIALS PIPING AND CHUTES
  40 32 00 Bulk Materials Piping and Chutes
    40 32 13 Abrasive Materials Piping and Chutes
    40 32 16 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 19 Butterfly Bulk Materials Valves
    40 33 23 Cone Bulk Materials Valves
    40 33 26 Diverter Bulk Materials Valves
    40 33 29 Double or Single Dump Bulk Materials Valves
    40 33 33 Knife and Slide Gate Bulk Materials Valves
    40 33 36 Pinch 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 13 Dense Phase Pneumatic Conveying Lines
    40 34 16 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 50 00  Unassigned

40 60 00  Unassigned

40 70 00  Unassigned

40 80 00  COMMISSIONING OF PROCESS SYSTEMS

40 90 00  INSTRUMENTATION AND CONTROL FOR PROCESS SYSTEMS

40 91 00  Primary Process Measurement Devices

40 91 13  Chemical Properties Process Measurement Devices
40 91 13.13 Ammonia Process Measurement Devices
40 91 13.16 Chlorine Process Measurement Devices
40 91 13.19 Fluoride Process Measurement Devices
40 91 13.23 Gas Analysis Process Measurement Devices
40 91 13.26 Gas Chromatograph Process Measurement Devices
40 91 13.29 pH Level Process Measurement Devices
40 91 16 Electromagnetic Process Measurement Devices
40 91 16.13 Amperes Process Measurement Devices
40 91 16.16 Capacitance Process Measurement Devices
40 91 16.19 Conductivity Process Measurement Devices
40 91 16.23 Inductance Process Measurement Devices
40 91 16.26 Lumens Process Measurement Devices
40 91 16.29 Magnetic Field Process Measurement Devices
40 91 16.33 Electrical Power Process Measurement Devices
40 91 16.36 Radiation Process Measurement Devices
40 91 16.39 Electrical Resistance Process Measurement Devices
40 91 16.43 Ultraviolet Sensors
40 91 16.46 Voltage Process Measurement Devices
40 91 19 Physical Properties Process Measurement Devices
40 91 19.13 Density Process Measurement Devices
40 91 19.16 Humidity Process Measurement Devices
40 91 19.19 Mass Process Measurement Devices
40 91 19.23 Particle Counters Process Measurement Devices
40 91 19.26 Gas Pressure Process Measurement Devices
40 91 19.29 Liquid Pressure Process Measurement Devices
40 91 19.33 Stress/Strain Process Measurement Devices
40 91 19.36 Temperature Process Measurement Devices
40 91 19.39 Vapor Pressure Process Measurement Devices
40 91 19.43 Weight Process Measurement Devices
40 91 23 Miscellaneous Properties Measurement Devices
40 91 23.13 Acceleration Process Measurement Devices
40 91 23.16 Angle Process Measurement Devices
40 91 23.19 Color Process Measurement Devices
40 91 23.23 Count Process Measurement Devices
40 91 23.26 Distance Process Measurement Devices
40 91 23.29 Energy Process Measurement Devices
40 91 23.33 Flow Process Measurement Devices
40 91 23.36 Level Process Measurement Devices
40 91 23.39 Physical Resistance Process Measurement Devices
40 91 23.43 RPM Process Measurement Devices
40 91 23.46 Time Process Measurement Devices
40 91 23.49 Turbidity Process Measurement Devices
40 91 23.53 Velocity Process Measurement Devices
40 92 00 Primary Control Devices
40 92 13 Primary Control Valves
40 92 13.13 Electrically-Operated Primary Control Valves
40 92 13.16 Hydraulically-Operated Primary Control Valves
40 92 13.19 Pneumatically-Operated Primary Control Valves
40 92 13.23 Pressure-Relief Primary Control Valves
40 92 13.26 Solenoid Primary Control Valves
40 92 13.29 Specialty Primary Control Valves
40 92 29 Current-To-Pressure Converters
40 92 33 Self-Contained Flow Controllers
40 92 36 Linear Actuators and Positioners
40 92 39 Self-Contained Pressure Regulators
40 92 43  Rotary Actuators
40 92 46  Saturable Core Reactors
40 92 49  Variable Frequency Drives
40 92 53  Voltage-To-Pressure Converters

**40 93 00  Analog Controllers/Recorders**

40 93 13  Analog Controllers
   40 93 13.13  Electronic Analog Controllers
   40 93 13.16  Electro-Hydraulic Analog Controllers
   40 93 13.19  Electro-Pneumatic Analog Controllers
   40 93 13.23  Hydraulic Analog Controllers
   40 93 13.26  Pneumatic Analog Controllers
40 93 23  Chart Recorders

**40 94 00  Digital Process Controllers**

40 94 13  Digital Process Control Computers
   40 94 13.13  Host Digital Process Control Computers
   40 94 13.16  Personal Digital Process Control Computers
   40 94 13.19  Personal Digital Assistant Digital Process Control Computers
40 94 23  Distributed Process Control Systems
40 94 33  Human – Machine Interfaces
40 94 43  Programmable Logic Process Controllers

**40 95 00  Process Control Hardware**

40 95 13  Process Control Panels and Hardware
   40 95 13.13  Local Process Control Panels and Hardware
   40 95 13.23  Main Process Control Panels and Hardware
40 95 20  Process Control Display Devices
40 95 23  Process Control Input/Output Modules
40 95 26  Process Control Instrument Air Piping and Devices
40 95 33  Process Control Networks
   40 95 33.13  Cabled Process Control Networks
   40 95 33.23  Fiber Optic Process Control Networks
   40 95 33.33  Wireless Process Control Networks
40 95 43  Process Control Hardware Interfaces
40 95 46  Process Control Mounting Racks and Supports
40 95 49  Process Control Routers
40 95 53  Process Control Switches
40 95 56  Process Control Transformers
40 95 63  Process Control Wireless Equipment
   40 95 63.13  Process Control Wireless Transmitters
   40 95 63.16  Process Control Wireless Receivers
   40 95 63.19  Process Control Wireless Repeaters
40 95 73  Process Control Wiring
   40 95 73.23  Process Control Cable
   40 95 73.33  Process Control Conduit, Raceway and Supports
   40 95 73.43  Process Control Junction Boxes

**40 96 00  Process Control Software**

40 96 10  Process Control Software Architecture
40 96 15  Process Control Software Input/Output Lists
40 96 20  Process Control Software Instrument Lists
40 96 25  Process Control Software Logic Diagrams
40 96 30  Process Control Software Loop Diagrams
40 96 35  Process Control Software Programming
40 96 40  Process Control Software Reports
### 40 97 00 Process Control Auxiliary Devices

- **40 97 10** Process Control Annunciators
- **40 97 15** Process Control Gages
- **40 97 20** Process Control Rotameters
- **40 97 25** Process Control Potentiometers
- **40 97 30** Process Control Test Equipment
DIVISION 41 – MATERIAL PROCESSING AND HANDLING EQUIPMENT

41 00 00 MATERIAL PROCESSING AND HANDLING EQUIPMENT

41 01 00 Operation and Maintenance of Material Processing and Handling Equipment
   41 01 10 Operation and Maintenance of Bulk Material Processing Equipment
   41 01 20 Operation and Maintenance of Piece Material Handling Equipment
   41 01 30 Operation and Maintenance of Manufacturing Equipment
   41 01 40 Operation and Maintenance of Container Processing and Packaging
   41 01 50 Operation and Maintenance of Material Storage
   41 01 60 Operation and Maintenance of Mobile Plant Equipment

41 06 00 Schedules for Material Processing and Handling Equipment
   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

41 08 00 Commissioning of Material Processing and Handling 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

41 14 00  Batching Equipment
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

41 20 00  PIECE MATERIAL HANDLING EQUIPMENT

41 21 00  Conveyors
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

41 22 00  Cranes and Hoists
41 22 13  Cranes
        41 22 13.13 Bridge Cranes
        41 22 13.16 Gantry Cranes
        41 22 13.19 Jib Cranes
        41 22 13.23 Mobile Cranes
        41 22 13.26 Tower Cranes
        41 22 13.29 Specialty Cranes
41 22 23  Hoists
        41 22 23.13 Fixed Hoists
        41 22 23.16 Portable Hoists
        41 22 23.19 Monorail Hoists
        41 22 23.23 Specialty Hoists
41 22 33  Derricks

41 23 00  Lifting Devices
41 23 13  Clamps
41 23 16  Grabs
41 23 19  Hooks
41 23 23  Lifts
41 23 26  Slings
41 23 29  Spreaders 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 Extrusion 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
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**42 50 00 Unassigned**
**42 60 00 Unassigned**
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**42 80 00 Unassigned**
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