SECTION 105143 - WIRE MESH STORAGE LOCKERS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. RELATED DOCUMENTS
          1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
       2. SUMMARY
          1. Section includes wire mesh storage lockers.
       3. DEFINITIONS

Retain terms that remain after this Section has been edited for a Project. "Intermediate Crimp" is also called "intercrimped" and "triple crimped." Lock crimp has a smoother appearance than intermediate crimp.

* + - * 1. Intermediate Crimp: Wires pass over one and under the next adjacent wire in both directions, with wires crimped before weaving and with extra crimps between the intersections.
      1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.
         5. Sustainable Design Submittals:
         6. Shop Drawings: Include plans, elevations, sections, details, and attachments.
         7. Samples: For units with factory-applied color finishes.

Retain "Delegated-Design Submittal" Paragraph below if design services have been delegated to Contractor.

* + - * 1. Delegated-Design Submittal: For wire mesh storage lockers indicated to comply with performance requirements and design criteria.

Include analysis data signed and sealed by the qualified professional engineer, licensed in the State of New York, responsible for their preparation.

Coordinate "Qualification Data" Paragraph below with qualification requirements in "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer.

Retain "Welding certificates" Paragraph below if retaining "Welding Qualifications" Paragraph in "Quality Assurance" Article.

* + - * 1. Welding certificates.
      1. QUALITY ASSURANCE
         1. Installer Qualifications: [**Fabricator of products**] [**An employer of workers trained and approved by manufacturer**].

Retain "Welding Qualifications" Paragraph below if shop or field welding is required. If retaining, also retain "Welding certificates" Paragraph in "Informational Submittals" Article.

* + - * 1. Welding Qualifications: Qualify procedures and personnel according to the following:

AWS D1.1, "Structural Welding Code - Steel."

AWS D1.3, "Structural Welding Code - Sheet Steel."

* + - 1. DELIVERY, STORAGE, AND HANDLING

Packaging in Paragraph below may increase cost but may be required for painted items.

* + - * 1. Deliver wire mesh storage lockers with cardboard protectors on perimeters of panels and doors and with posts wrapped to provide protection during transit and Project-site storage. Use vented plastic.
      1. FIELD CONDITIONS

If possible, design wire mesh storage lockers so that they do not have to fit other construction and delete this article.

* + - * 1. Field Measurements: Verify actual dimensions of construction contiguous with wire mesh storage lockers by field measurements before fabrication.

1. PRODUCTS

See Editing Instruction No. 1 in the Evaluations for cautions about named manufacturers and products.

* + - 1. MANUFACTURERS
         1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Folding Guard Corporation.

Kenco Wire & Iron Products Inc.

Newark Wire Works Inc.

Approved equivalent.

* + - 1. PERFORMANCE REQUIREMENTS

Retain "Delegated Design" Paragraph below if Contractor is required to assume responsibility for design.

* + - * 1. Delegated Design: Engage a qualified Professional Engineer, licensed and registered to practice in the State of New York, to design wire mesh units.
        2. Seismic Performance: Wire mesh storage lockers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

For life-safety components required to function after an earthquake (such as components that contain hazardous content, and storage racks in structures open to the public), the Component Importance Factor is 1.5. For other components, the Component Importance Factor is 1.0 unless the structure is in Seismic Use Group III and component is necessary for continued operation of facility or failure of component could impair continued operation of facility, in which case the Component Importance Factor is 1.5.

Component Importance Factor: [**1.5**] [**1.0**].

* + - 1. MATERIALS
         1. Steel Wire: ASTM A510.
         2. Steel Plates, Channels, Angles, and Bars: ASTM A36.
         3. Steel Sheet: Cold-rolled steel sheet, ASTM A1008, Commercial Steel (CS), Type B.
         4. Metallic-Coated Steel Sheet: ASTM A653, Commercial Steel (CS), Type B, with G60 zinc (galvanized) or A60 zinc-iron-alloy (galvannealed) coating designation.
         5. Panel-to-Panel Fasteners: Manufacturer's standard steel bolts, nuts, and washers.
         6. Post-Installed Anchors: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E488, conducted by a qualified independent testing agency.

Material in "Material" Subparagraph below protects against corrosion in an indoor atmosphere.

Material: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941, Class Fe/Zn 5, unless otherwise indicated.

Retain "Power-Driven Fasteners" Paragraph below if power-driven fasteners are allowed.

* + - * 1. Power-Driven Fasteners: ICC-ES AC70.

"Seismic Bracing" Paragraph below is an example only. Revise to suit Project.

* + - * 1. Seismic Bracing: Angles with legs not less than 1-1/4 inch wide, formed from 0.040-inch- thick, metallic-coated steel sheet; with bolted connections and 1/4-inch- diameter bolts.

Retain one or more of "Shop Primers," "Universal Shop Primer," and "Zinc-Rich Primer" Paragraphs below. Retain first Paragraph if primers are specified in another Section. Retain second for a typical shop primer for painted finishes that provides minimum protection to steel. Retain third for a typical primer for high-performance coating. If retaining second or third Paragraph, indicate location of each primer on Drawings or in a schedule.

* + - * 1. Shop Primers: Provide primers that comply with Section 099123 "Interior Painting."
        2. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer, complying with MPI#79.

Retain Subparagraph below if zinc-rich primer is used.

Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

* + - * 1. Zinc-Rich Primer: Compatible with topcoat, complying with SSPC-Paint 20 or SSPC-Paint 29.

Retain "Galvanizing Repair Paint" Paragraph below for galvanized fabrications.

* + - * 1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.
      1. WIRE MESH STORAGE LOCKERS
         1. Unit Sizes:

Width: [**36 inches**] [**48 inches**].

Depth: [**36 inches**] [**48 inches**] [**60 inches**].

Height: 90 inches.

* + - * 1. Mesh: 0.135-inch (10 ga) - diameter, intermediate-crimp steel wire woven into [**1-1/2-inch diamond**] [**1-by-2-inch rectangular**] mesh.
        2. Wall Panels: 1-1/4-by-1-1/4-by-1/8-inch steel angle framing on top, bottom, and back sides, and 3-by-1/8-inch cold-rolled steel flat bar framing on front side, with wire mesh welded to framing.

Horizontal Panel Stiffeners: 1-1/4-by-1-1/4-by-1/8-inch steel angles or 3/4-by-1/4-inch hot-rolled steel flat bars.

Retain "Backs" Paragraph below if lockers are placed back to back or in a row away from a wall.

* + - * 1. Backs: [**0.028-inch (24 ga)-**] [**0.034-inch (20 ga)-**] thick, metallic-coated steel sheet. Required for [**back-to-back units only**] [**all units, including those attached to walls**].

Retain "Tops" Paragraph below if a gap of more than 6 inches exists between ceiling and lockers.

* + - * 1. Tops: [**Fabricated from same mesh and framing as wall panels**] [**0.028-inch (24 ga)- thick, metallic-coated steel sheet**].

Retain one of two "Horizontal Dividers/Shelves" Paragraphs below for double-tier lockers. Verify availability of materials with manufacturers.

* + - * 1. Horizontal Dividers/Shelves: 0.043-inch (20 ga)- thick,[**metallic-coated**] steel sheet with flanged edges[**and reinforced across width with 3/4-by-1/4-inch steel stiffeners**].
        2. Horizontal Dividers/Shelves: Fabricated from same framing as wall panels, with 0.192-inch (6 ga)- diameter steel wire resistance welded into 1-1/2-by-2-1/2-inch rectangular mesh.
        3. Doors: Fabricated from same mesh as wall panels, with framing fabricated from 1-1/4-by-1-1/4-by-1/8-inch steel angles on four sides with wire mesh welded to framing. Include padlock hasp.

Horizontal Stiffeners for Single-Tier Doors: 3/4-by-1/4-inch steel flat bars.

Hinges: Full-surface type, 2-1/2-by-2-1/2-inch steel, [**1-1/2 pairs per single-tier door**] [**and**] [**1 pair per double-tier door**]; bolted, riveted, or welded to door and jamb framing.

* + - * 1. Finish for Uncoated Ferrous Steel: [**Hot-dip galvanized**] [**Hot-dip galvanized and shop primed for field painting**] [**Shop primed for field painting**] [**Enamel finish**] [**Powder-coated finish**] unless otherwise indicated.

Color: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - 1. FABRICATION
         1. General: Fabricate wire mesh storage lockers from components of sizes not less than those indicated. Use larger size components as recommended by wire mesh manufacturer. Furnish bolts, hardware, and accessories required for complete installation with manufacturer's standard finishes.

Fabricate wire mesh storage lockers to be readily disassembled.

Retain one of four options in "Welding" Subparagraph below; options are listed with best appearance and highest cost first.

Welding: Weld corner joints of framing and [**grind smooth, leaving no evidence of joint**] [**finish sand**] [**remove spatter**] [**leave as applied**].

* + - * 1. Wire Mesh Storage Lockers: Fabricate initial storage locker with front and two sides. Fabricate additional storage lockers [**similarly, so each unit is independent**] [**as add-on units designed to share one side with initial storage locker**].

Fabricate wall panel and door framing with slotted holes for connecting adjacent panels.

Prehang doors in factory.

* + - 1. STEEL AND IRON FINISHES
         1. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153 for steel and iron hardware and with ASTM A123 for other steel and iron products.

Retain Subparagraph below if galvanized items are painted.

Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

* + - * 1. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean items of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
        2. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

Retain "Shop Priming," "Enamel Finish," or "Powder-Coat Finish" Paragraph below or insert another. Paint finish options for wire mesh units vary widely. For exact finish, insert names of coating manufacturers and products.

* + - * 1. Shop Priming: Apply shop primer to uncoated surfaces of wire mesh units unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
        2. Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard enamel finish, suitable for use indicated, with a minimum dry film thickness of 2 mils.

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - * 1. Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard baked-on powder-coat finish, suitable for use indicated, with a minimum dry film thickness of [**2 mils**].

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
          2. Examine floors for suitable conditions where wire mesh storage lockers will be installed.
          3. Examine walls to which wire mesh storage lockers will be attached for properly located blocking, grounds, and other solid backing for attachment of support fasteners.
          4. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. WIRE MESH STORAGE LOCKERS ERECTION
          1. Anchor wire mesh storage lockers to floor with 3/8-inch- diameter expansion anchors at 12 inches o.c. through bottom panel framing. Shim panel framing as required to achieve level and plumb installation.

Retain Subparagraph below if power-actuated fasteners are permitted.

Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if indicated on Shop Drawings.

* + - * 1. Anchor wire mesh storage lockers to walls at 12 inches o.c. through back corner panel framing and as follows:

Retain Subparagraphs below if applicable or revise to suit Project.

For concrete and solid masonry anchorage, use expansion anchors.

For hollow masonry anchorage, use toggle bolts.

For wood stud partitions, use lag bolts set into wood backing between studs. Coordinate with carpentry work to locate backing members.

For steel-framed gypsum board assemblies, use lag bolts set into wood backing between studs. Coordinate with stud installation to locate backing members.

For structural steel, use bolts.

Retain Subparagraph above or below if steel studs are used. Revise if plaster is used rather than gypsum board.

For steel-framed gypsum board assemblies, fasten brackets directly to steel framing or concealed reinforcements using self-tapping screws of size and type required to support structural loads.

* + - * 1. Attach adjacent wire mesh storage lockers to each other through side panel framing.
        2. Install horizontal dividers/shelving in double-tier storage lockers.
        3. Install doors complete with door hardware.
      1. ADJUSTING AND CLEANING
         1. Adjust doors to operate smoothly and easily without binding or warping. Adjust hardware to function smoothly. Confirm that hasps engage accurately and securely without forcing or binding.
         2. Remove and replace defective work, including doors and framing that are warped, bowed, or otherwise unacceptable.
         3. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
         4. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780.

END OF SECTION 105143