

SECTION 10 56 13 – METAL STORAGE SHELVING**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section includes post and shelf storage units.
- B. Related sections include the following:
 - 1. Division 06, Section "Miscellaneous Carpentry" for wood blocking and grounds for anchorage or for shims for leveling shelving units.

1.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Provide metal storage shelving capable of withstanding the effects of earthquake motions determined according to the building code in effect for this Project or ASCE 7, "Minimum Design Loads for Buildings and Other Structures," Section 9, "Earthquake Loads," whichever is more stringent.

1.3 SUBMITTALS

- A. Product Data: For each type of metal storage shelving specified. Include details of construction and connections relative to materials, dimensions of individual components, accessories, and finishes.
- B. Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and installation of metal storage shelving, as well as procedures and diagrams. Include plans, elevations, sections, details, and attachments to other work.
 - 1. For installed metal storage shelving indicated to comply with indicated design loadings, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Maintenance Data: For metal storage shelving to include in the maintenance manuals specified in Division 01.

1.4 QUALITY ASSURANCE

- A. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of assemblies that are similar to those indicated for this Project in material, design, and extent.
- B. Source Limitations: Obtain metal storage shelving through one source from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store shelving in a manner to avoid significant or permanent deflection of shelves and posts.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify metal storage shelving placement by field measurements and indicate measurements on Shop Drawings.
- B. Space Enclosure and Environmental Limitations: Do not install metal storage shelving until spaces are enclosed and weatherproof, wet-work in spaces is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are being maintained at the levels indicated for Project when occupied for its intended use.

1.7 COORDINATION

- A. Coordinate layout and installation of metal storage shelving with other construction to which it is attached including floor, partition, wall, and ceiling assemblies.

PART 2 - PRODUCTS**2.1 MANUFACTURERS**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Adjustable Shelving Products; a div. of Karp Associates, Inc.
 - 2. Borroughs Corp.
 - 3. Durand Products Inc.
 - 4. Equipto.
 - 5. Lyon Workspace Products, LLC.
 - 6. Penco Products, Inc.
 - 7. Republic Storage Systems LLC.

2.2 MATERIALS

- A. Steel Sheet: ASTM A 1008 matte finish, suitable for exposed applications and stretcher leveled or roller leveled to stretcher-leveled flatness.

2.3 SHELVING

- A. Shelving Units: Provide open shelving consisting of posts, shelves, and connectors of size, material, and assembly to comply with MH 28.1 for the following evenly distributed shelf load:
 - 1. Shelf Capacity: 50 lb/sq. ft.
- B. Shelving Unit Bracing: Provide as required for stability and load-carrying capacity.
 - 1. Bracing: Diagonal cross bracing.
- C. Post Base: Bolt leveler.
- D. Shelves: Adjustable over the entire height of the post and as follows:
 - 1. Solid steel sheet as indicated, of thickness required for loading capacity.
- E. Shelf Quantity: 6 shelves.
- F. Connectors: Compression clips.

2.4 SHELVING ACCESSORIES

- A. Label Holder: Acrylic, clip on to front edge of shelf.

2.5 FABRICATION

- A. Fabricate metal storage shelving square and rigid with posts plumb and true, and shelves flat and free of dents or distortion. Fabricate exposed metal edges free of sharp edges and burrs. Fabricate connections to form a rigid structure, free of buckling and warping.
- B. Fabricate shelves from one-piece steel sheet.

2.6 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish all steel surfaces and accessories, except prefinished stainless-steel and chrome-plated surfaces.
- C. Appearance of Finished Work: Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 STEEL SHEET FINISHES

- A. Surface Preparation: Clean surfaces of dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel.
- B. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard baked-enamel finish consisting of a thermosetting topcoat. Comply with paint manufacturer's instructions for applying and baking to achieve a minimum dry film thickness of 1.1 mils on posts and shelves.
 - 1. Color and Gloss: As selected by Architect from manufacturer's full range of colors and glosses.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Examine areas and conditions for compliance with requirements for installation tolerances, clearances, and other conditions affecting performance of metal storage shelving.
- B. Examine floors for suitable conditions where metal storage shelving is to be installed, and as follows:
 - 1. Examine walls to which metal storage shelving will be attached for properly located blocking, grounds, or other solid backing for attachment of fasteners.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with metal storage shelving manufacturer's written installation instructions unless more stringent requirements apply.
- B. Install metal storage shelving level, plumb, square, and true.
- C. Anchor shelves to construction by method recommended by manufacturer's written instructions.
- D. Install shelves at spacing indicated or, if not indicated, at equal spacing in each unit.

- E. Install bracing as recommended by manufacturer and as required for stability, extending, and fastening members to supporting structure.

3.3 CLEANING

- A. Clean finish floor over which metal storage shelving is to be installed as follows:
 - 1. Vacuum flooring.
 - 2. Wet mop resilient flooring.

END OF SECTION 10 56 13