SECTION 105613 - METAL STORAGE SHELVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Case-type metal storage shelving. “Gondola” style.

1.2 COORDINATION

A. Coordinate sizes and locations of blocking and backing required for installation of metal storage shelving attached to wall assemblies.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of specified product.

1. Include rated capacities, construction details, material descriptions, dimensions of individual components and profiles, and finishes for metal storage shelving.

B. Shop Drawings: For metal storage shelving.

1. Include plans, elevations, sections, and attachment details.
2. Include installation details of connectors, lateral bracing, and special bracing.

C. Product Schedule: For metal storage shelving. Use same designations indicated on Drawings.

D. Delegated Design Submittals: For seismic restraint of metal storage shelving.

1. Seismic restraint design submittal shall be prepared for review by the Structural Engineer of Record on the project.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Seismic Qualification Certificates: For metal storage shelving, accessories, and

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components, from manufacturer.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal storage shelving.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install metal storage shelving until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at levels intended for building occupants during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design metal storage shelving, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

2.2 CASE-TYPE METAL STORAGE SHELVING

A. Case-Type Metal Storage Shelving (Toy Shelving): Complying with MH 28.1; freestanding units and field assembled from factory-formed components. Shelves span between two independent supporting sheet metal end panels that allow shelf-height adjustment over full height of shelving unit. Provide fixed back and bottom shelves, adjustable intermediate shelves, and accessories indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Lozier Corp. (www.lozier.com) Gondola Shelving units

2. Load-Carrying Capacity per Shelf: 500 lbs, uniformly distributed.

3. Back Panel: One piece, Woodgrain back panels..
4. Shelves: Fabricated from cold-rolled steel sheet. Fabricate shelves with vertical front that is flanged and returned.

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a. Shelf-Divider Slots on Metal Uprights: 1 inch o.c..
b. Steel Sheet Thickness, Nominal: As required for load-carrying capacity per shelf and number of shelves.

5. Components: Steel uprites & trims, Standard deck base, base front, base bracket & trim, Center rails, top rails, and other accessories as needed for a full system as shown on the drawings.
6. Shelf Quantity: Five shelves per shelving unit in addition to bottom shelf.
7. Base: Closed front, with base strips fabricated from same material and with same finish as end panels.
8. Corner Closure Panels: Provide mfr. standard corner closure panels with matching finish.
9. Mounting Hardware: Include mfr. standard floor and wall mounting hardware. Cordinate with structural design documents.
10. Overall Unit Width: Various width units, as shown on drawings.
11. Overall Unit Depth: 16" shelves, 18 1/2" overall depth.
12. Overall Unit Height: 84 inches.

13. Steel Finish: Baked enamel or powder coat.

a. Color and Gloss: As selected by Architect from manufacturer's full range.

2.3 ANCHORS

A. Floor Anchors: Galvanized-steel, post-installed expansion anchors. Provide number per unit recommended by manufacturer unless additional anchors are indicated in Structural calculations.

B. Wall Anchors: Manufacturer's standard, galvanized-steel anchors designed to secure metal storage shelving to adjacent wall. Provide one per shelving unit for each shelving unit adjacent to a wall unless additional anchors are indicated in calculations.

2.4 FABRICATION

A. Fabricate metal storage shelving components to provide field-assembled units that are square and rigid, with posts plumb and true and shelves flat and free of dents or distortion. Fabricate connections to form a rigid structure, free of buckling and warping.

1. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.
2. Build in straps, plates, brackets, and other reinforcements as needed to support shelf loading.
3. Cut, reinforce, drill, and tap metal fabrications to receive hardware, fasteners, and similar items.

B. Form metal in maximum lengths to minimize joints. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work. Form backs of shelving units of up to 48 inches wide from one piece.

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C. Form edges and corners free of sharp edges or rough areas. Fold back and crimp exposed edges of unsupported sheet metal to form a hem on the concealed side; ease edges of metal plate to radius of approximately **1/32 inch**. Shear and punch metals cleanly and accurately. Remove burrs.

D. Weld corners and seams continuously to develop strength, minimize distortion, and maintain the corrosion resistance of base metals. At exposed locations, finish welds and surfaces smooth and blended so surface is smooth after finishing and contour of welded surface matches that of adjacent surface. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces before finishing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine floors for suitable conditions where metal storage shelving will be installed.

C. Examine walls to which metal storage shelving will be attached for properly located blocking, grounds, or other solid backing for attachment of support fasteners.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Vacuum and clean finished floor over which metal storage shelving is to be installed.

3.3 INSTALLATION

A. Install metal storage shelving level, plumb, square, rigid, true, and with shelves flat and free of dents or distortion. Make connections to form a rigid structure, free of buckling and warping.

1. Install exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible.
2. Install braces, straps, plates, brackets, and other reinforcements as needed to support shelf loading and as required for stability.
3. Adjust post-base bolt leveler to achieve level and plumb installation.
4. Anchor shelving units to floor with floor anchors through floor plate. Shim floor plate to achieve level and plumb installation.
5. Install seismic restraints.
6. Connect side-to-side and back-to-back shelving units together.
7. Install shelves in each shelving unit at equal spacing.

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a. Case-Type Metal Storage Shelving: Install adjustable shelf clips at front and back of each shelf.

B. Accessories:

1. Install finished end panels and trim at exposed ends of shelving units.

3.4 ERECTION TOLERANCES

A. Erect case-type metal storage shelving to a maximum tolerance from vertical of **1/4 inch** in up to **7 ft.** of height.

3.5 ADJUSTING

A. Adjust metal storage shelving so that connectors and other components engage accurately and securely.

B. Adjust and lubricate operable components to operate smoothly and easily, without binding or warping. Check and readjust operating hardware.

C. Touch up marred finishes or replace metal storage shelving that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by metal storage shelving manufacturer.

D. Replace metal storage shelving components that have been damaged beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 105613

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