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ROOFTOP METALWALK SYSTEM & SAFETY HANDRAIL SPECIFICATIONS

SECTION 07720 ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. A guard rail consisting of a pipe rail at 42" High and a mid-rail at 21" High, assembled with structural slip-on pipe fittings, vertical posts 5'-0" typical on-center and attached to Railing Support Plates, METALWALK Grating Sections, and special attachment to existing metal Standing Seam Roof panels without penetrations. Allows access to rooftop units, also provides protection to roof panels and safety for service personnel.

1.02 REFERENCE

- A. ASTM A526-90 Standard Specification for Steel sheet, Zinc coated (Galvanized) by hot-dip process, commercial quality.
- B. ASTM A792-89 Standard Specification for Steel sheet, Aluminum-Zinc alloy coated by the hot-dip process, General requirements.
- C. ASTM B209-86 Specification for Aluminum and Aluminum Alloy sheet and plate.
- D. ASTM B221 Specification for Aluminum (S-5™ Clamps).
- E. ASTM A569 Posts and Top Rails, General performance.
- F. ASTM B117 Salt Spray Test - Exterior and Interior Zinc coating on tubing.
- G. QQ-A-371F ASTM B275 or QQ-A-601F ASTM B26 high tensile 525.2 Aluminum/Magnesium Alloy slip on/bolt-on pipe fittings.
- H. FF-S-200, ANSI/ASME B 18.3 - 1986 Type C counterbored knurled cup point.
- I. QQ-P-416-E type I Federal Cadmium plating.
- J. CEGS-05500, NFGS-05500, CW-05502 Federal specifications.

1.03 QUALITY ASSURANCE

- A. Shop drawings:
 - 1. Architect / Contractor submit proposed layout and detail to manufacturer for review.
 - 2. A Design / Structural Engineer should be consulted to determine feasibility of application, load bearings and safety measures.
- B. Manufacturer provides erection details and Bill of Materials.

1.04 DELIVER, STORAGE AND HANDLING

- A. Deliver METALWALK Grating, Railing and Accessories to job site properly packaged to protect against transportation damage.
- B. Handling of material to prevent bending, twisting and loss.
- C. Store all materials and accessories off the ground on platforms. All material should be stored under cover.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. METALWALK Grating Sections: GS Metals - Pinckneyville, IL.
- B. Rail Tubing: Allied Tube & Conduit - Harvey, IL.
- C. Structural Slip-On/Bolt-On Pipe Fittings: Hollaender Manufacturing Company - Cincinnati, OH or Kee Industrial Products - Buffalo, NY
- D. Components and Hardware: Design Components, Inc. - Atlanta, GA.

2.02 MATERIALS

A. RAILING

1. All handrails shall be fabricated using CMT-20 cold rolled high strength steel tubing with a three step exterior coating process consisting of Hot-Dipped Uniform Zinc Galvanizing, a Conversion coating and a clear Polymer topcoat. Interiors walls to have corrosion resistant coating.
2. Dimensions - Normal Pipe Size 1 5/8" O.D. (1.660" actual), 1 1/4" NPS., 14 gauge (.083 min.)
3. Standard Length - 21'-0" (other lengths available).

B. PIPE FITTINGS

1. Speed Rail® Slip-On Fittings with setscrews; wrench size = 3/16".
Fittings shall be high tensile Aluminum Magnesium Alloy.
2. Kee Lite® Slip-On Fittings with setscrews; wrench size = 5/16".
Fittings shall be high grade Aluminum Silicon Magnesium Alloy.

C. METALWALK Grating Sections

1. 18 gauge, AZ-50 Galvalume Steel, ASTM-A792
2. Section Width - 12.0"
3. Standard Length - 20'-0" (other lengths available)
4. Channel Height - 2 1/2" (other heights available)
5. Flange Options - Female/Male, Male/Male
6. Surface Condition - Anti-Skid

D. COMPONENTS & ACCESSORIES

1. Hat Section Supports - 14 gauge Galvalume Steel, pre-punched to accept Square Base Flange for Vertical Post.
2. Splice Channels, Ledger Angles - 18 & 14 gauge Galvalume Steel.
3. Clips, Clamps, Bolts, Nuts and Washers will be Stainless Steel, compatible non-corrosive material, or Electro-Plated and size as specified.
4. S-5™ Clamps 6061-T6 Aluminum with Stainless Steel Set Screws, Bolt and Washer.

E. LOAD TABLE

1. Grating - Average weight 3.0 pounds per lineal foot or square foot (12" wide).
2. Handrail - Average weight 1.40 pounds per lineal foot (single rail).
3. Vertical Posts - Average weight 5 lbs each.

2.03 FABRICATION

- A. Railing is continuously roll-formed to tubular shape, then welded along its length to form virtually seamless tubing.
- B. Roll form METALWALK Grating in continuous lengths.
- C. Fabricated Supports, Splice Channels and Ledger Angles by press brake and punch press.
- D. Special clips die formed or Cast Aluminum
- E. S-5™ Clamps 6061-T6 Aluminum

2.04 FINISH

- A. Mill Finish - Standard
- B. Painted - Powder Coat after fabrication by manufacturer
- C. By others in the field

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install METALWALK Grating sections in accordance with manufacturer's recommendations and shop drawings.
- B. Position METALWALK Grating sections flat and square with ends bearing a minimum of 2" on supporting structure.
- C. Keep METALWALK Grating sections at least 1/4" away from structural steel and 1/2" from concrete walls.
- D. Allow clearance at joints between grating sections of maximum 1/4" at Splice Channels.
- E. Allow clearance at perpendicular intersection of a maximum 3/8" at the end.
- F. A Design/Structural Engineer should be consulted to determine feasibility of application, load