



## SECTION 05522

### METAL GUARDRAIL AND ROOFTOP FALL PROTECTION

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#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Non-Penetrating EDGE 360 Mobile Safety Railing Fall Restraint.

## 1.2 RELATED SECTIONS

- A. Section 05500 – Metal Fabrications: Associated metal supports.
- B. Section 05510 – Metal Stairs and Ladders.
- C. Section 07400 - Membrane Roofing: Coordination of roof edge protection installation.
- D. Section 07411 – Membrane Roof Panels: Coordination of roof edge protection installations.

## 1.3 REFERENCES

- A. American Welding Society: AWS D1.1 - Structural Welding Code - Steel.
- B. American Welding Society: AWS D1.3 - Structural Welding Code – Sheet Steel.
- C. Occupational Safety & Health Administration (OSHA): 29 CFR 1910.23 - Guarding Floor and Wall Openings and Holes.
- D. Occupational Safety & Health Administration (OSHA): 29 CFR 1910.27 - Fixed Ladders.
- E. Occupational Safety & Health Administration (OSHA): 29 CFR 1926.500 - Scope, Application, and Definitions Applicable to this Subpart.
- F. Occupational Safety & Health Administration (OSHA): 29 CFR 1926.501 - Duty to Have Fall Protection.
- G. Occupational Safety & Health Administration (OSHA): 29 CFR 1926.502 - Fall Protection Systems Criteria and Practices.
- H. Occupational Safety & Health Administration (OSHA): 29 CFR 1926.503 - Training Requirements.
- I. California Occupational Safety & Health Administration (CAL OSHA)

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings: Drawings showing plans, elevations, sections and details of components. Show member sizes and part identification, fasteners, anchors, fittings and evidence of compliance with structural performance requirements.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns
- E. Manufacturer's Certificates:
  - 1. Certify that products are made in USA. Provide steel mill and foundry certificates for verification prior to shipment.
  - 2. Manufacturer must be American Welding Society Welding Certified for Welding Standards AWS D1.1 & AWS D1.3. Third party qualification documentation required prior to shipment.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job site in good condition and adequately protected against damage as handrails are a finished product.
- B. Inspect rail sections for damage before signing the receipt from the trucking company. Truck driver must note damaged goods on the bill of lading if damaged product is found
- C. Store products in manufacturer's unopened packaging until ready for installation.
- D. Products to be palletized and labeled by roof level or designated drop zone.

#### 1.6 PROJECT CONDITIONS

- A. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication.

## 1.7 WARRANTY

- A. Warranty: Provide manufacturer's limited two year warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Supplier: *Edge Fall Protection, LLC*, which is located at in Minneapolis, MN 55419. Contact: E-mail: [info@edgefallprotection.com](mailto:info@edgefallprotection.com) Website: [www.edgefallprotection.com](http://www.edgefallprotection.com) Toll Free/Fax: 844-314-1374.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 2.2 ROOFTOP FALL PROTECTION

- A. Non-Penetrating Mobile Railing System: Provide *EDGE Fall Protection LLC's* EDGE 360 Mobile Safety Rail System. Contact: [info@edgefallprotection.com](mailto:info@edgefallprotection.com); TF/Fax: 844-314-1374. System is a non-penetrating freestanding pedestrian egress barrier system on roof, including railing sections, weighted base plates and accessories in the configuration and locations indicated on the Drawings.
  1. Product: 360 Mobile Safety Rail System.
    - a. System top and mid rail provided in accordance with OSHA Standards - 29 CFR 1910.23 (a)(2).
    - b. Structural Load: 200 lb (90.7 kg), minimum, in any direction to all components in accordance with OSHA Regulation 29 CFR 1926.502.
  2. Height: 42 inches (1067 mm), minimum.
  3. Railings: 1-5/8 inch (41 mm) O.D. hot rolled pickled electric weld tubing, free of sharp edges and snag points.
  4. Mounting Bases: 104# Class 30 gray iron material cast with four receiver posts. Rubber pads are standard on bottom of bases.

5. Receiver Posts: Provided with a positive pin locking system into base and rail interface that allow rails to be mounted in any direction. Receiver posts shall have drain holes.
6. Rail Accessories:
  - a. Toe Board Brackets.
  - b. Finishing Rail: D-shaped railing extension for ladder landings, length of rail section and D-loop as indicated on the Drawings and as required.
7. Securing Pins: 1010 carbon steel, zinc plated and yellow chromate dipped. Pins shall consist of collared pin and latch that connects to lynch pin.
8. Roof Accessories:
  - a. Roof Pads: Provide EPDM Roof Pad under each base to protect roof membrane.
  - b. Base Mover: Provide Base Mover, Part #400062 two-wheeled steel cart to transport one base unit.
9. Finish: Steel surfaces
  - a. Hot Dip Zinc Galvanized
  - b. Factory finished powder coat paint.
  - c. Hot Dip Zinc Galvanized & Factory finished powder coat paint.
  - d. Color:
    - 1) None
    - 2) Safety Yellow.
    - 3) Color Specified by Architect

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

#### 3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION