



SECTION 05522

METAL GUARDRAIL AND ROOFTOP FALL PROTECTION

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cantilever Loading Dock Safety Gate
- B. Rolling Safety Gate
- C. Industrial Removable Guardrail

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 Manufacturer: *Edge Fall Protection, LLC*, which is located in Minneapolis, MN 55419. Contact: E-mail: info@edgefallprotection.com Website: 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 LOADING DOCK AND MEZZANINE FALL PROTECTION

- A. Cantilever Loading Dock Safety Gate: Provide *EDGE Fall Protection LLC's* Single or Double Cantilever EDGE Loading Dock Safety Gate. Contact: info@edgefallprotection.com; TF/Fax: 844-314-1374. System provides leading edge protection at access points for loading docks, mezzanines, or other areas when fall hazard is present. Placement of system at the location(s) indicated on the Drawings.
 1. Product: Single or Double Cantilever EDGE Loading Dock Safety Gate
 - 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: 2" square aluminum crossbars.
 4. Features:

- a. Pneumatic lift assist cylinders
 - b. Auto-lock in upright position
5. Single Cantilever EDGE Loading Dock Safety Gate Standard Sizing:
- a. Clear opening width: 72"; Nominal Open Height: 115"
 - b. Clear opening width: 84"; Nominal Open Height: 127"
 - c. Clear opening width: 96"; Nominal Open Height: 139"
 - d. Clear opening width: 108"; Nominal Open Height: 151"
 - e. Clear opening width: 120"; Nominal Open Height: 163"
 - f. Clear opening width: 132"; Nominal Open Height: 175"
 - g. Clear opening width: 144"; Nominal Open Height: 187"
6. Double Cantilever EDGE Loading Dock Safety Gate Standard Sizing:
- a. Clear opening width: 96"; Nominal Open Height: 92"
 - b. Clear opening width: 120"; Nominal Open Height: 104"
 - c. Clear opening width: 144"; Nominal Open Height: 116"
 - d. Clear opening width: 168"; Nominal Open Height: 128"
 - e. Clear opening width: 192"; Nominal Open Height: 140"
 - f. Clear opening width: 216"; Nominal Open Height: 152"
 - g. Clear opening width: 240"; Nominal Open Height: 164"
- B. EDGE Rolling Safety Gate: Provide *EDGE Fall Protection LLC's* Rolling Dock Gate. Contact: info@edgefallprotection.com; TF/Fax: 844-314-1374. System provides leading edge protection at access points for loading docks, mezzanines, or other areas when fall hazard is present. Placement of system at the location(s) indicated on the Drawings.
- 1. Product: EDGE Rolling Dock Safety Gate
 - 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: 1.625", 14 gauge steel.
 - 4. Features:
 - a. 5" rolling wheels
 - b. PVC tube roller
 - c. Stanchions reversible for gate to roll in either direction
 - 5. EDGE Rolling Dock Safety Gate Standard Sizing:
 - a. Clear opening width: 4'
 - b. Clear opening width: 5'
 - c. Clear opening width: 6'

- d. Clear opening width: 7'
- e. Clear opening width: 8'
- f. Clear opening width: 9'
- g. Clear opening width: 10'
- h. Clear opening width: 11'
- i. Clear opening width: 12'

- C. Industrial Removable Safety Rail Guardrail System: Provide Industrial Removable Safety Rail by *EDGE Fall Protection LLC*. Contact: info@edgefallprotection.com; TF/Fax: 844-314-1374. System is a removable or fixed pedestrian egress barrier system, including pipe railings, uprights, mounts, accessories and fittings in the configuration and locations indicated on the Drawings.
- 1. Product: Permanent Guardrail 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), and 48 inches (1219 mm).
 - 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: Available as single and double post mounts.
 - a. Face mount, removable.
 - b. Flush mount, removable.
 - c. Floor mount, removable.
 - d. Floor mount, permanent.
 - 5. Receiver Posts: Provided with a positive pin locking system securing railing into mounting plates. Receiver posts shall have drain holes.
 - 6. Rail Accessories:
 - a. Toe Board Brackets.
 - 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.

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