

SECTION 05520 - FALL PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Free-standing guardrail system of fall restraint for worker safety.
- B. Related Sections:
 - a. Section 07400 – Membrane Roofing
 - b. Section 07510 – Built-Up Roofing
 - c. Section 07700 – Roof Specialties and Accessories

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. American National Standard Institute (ANSI)
 - a. ANSI A21.1 – Safety Requirements for Floor and Wall Openings, Railings and Toe Boards.
- C. Occupational Health And Safety Administration (OSHA)
 - a. OSHA 1910.21 – Guarding Floor and Wall Openings and Holes
 - b. OSHA 1926.502 – Fall Prevention Systems Criteria and Practices

1.03 SYSTEM DESCRIPTION

- A. General: Provide free-standing guardrail system capable of withstanding loads and stresses within limits and under conditions specified in OSHA and other applicable safety codes.
- B. Design Requirements: Guardrail shall withstand, without failure, a minimum point load of 200 pounds applied in any direction at any point on the top edge, 150 pounds applied in any direction at the mid-rail, and 50 pounds applied in any downward or outward direction at the toe-board if applicable.

1.04 SUBMITTALS

- A. Product Data: For each type of device specified, including manufacturer's standard fabrication details and installation instructions.
- B. Shop Drawings: Show layout, profiles, and details. Provide engineering calculations demonstrating compliance with the references of Section 1.02.
- C. Maintenance Data: Written instructions for maintenance of fall prevention safety devices to be included in the operation and maintenance manual.
- D. Test Reports: Indicate compliance with performance requirements.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm having at least 10 years continuous experience in manufacturing fall safety equipment similar to systems specified and exhibiting records of successful in-service acceptability and performance. Firm must employ personnel dedicated to provide regularly scheduled Authorized and Competent Person Training courses as mandated by OSHA 1926 and 1910 for owner's authorized safety personnel.
- B. OSHA Standards: Comply with Occupational Safety and Health Administration Standards for the Construction Industry 29 CFR § 1926.500 Subpart M (Fall Protection), and with applicable State Administrative Code safety standards for railing.

1.06 COORDINATION

- A. Contractor to coordinate placement & installation of roofing system, insulation, and requirements of guardrail system manufacturer regarding proper installation.

1.07 WARRANTY

- A. Provide manufacturer's standard warranty to guarantee products will be free from defects for a period of 12 months from date of shipment.

PART 2 – PRODUCTS

2.01 MANUFACTURER

- A. Provide fall protection system manufactured by Guardian Fall Protection Inc., 6305 South 231st Street Kent, WA, phone 800-466-6385, fax 800-670-7892, or equal.

2.02 MATERIALS

- A. Railing Sections:
 - a. Rails: 1-1/4" HRS tubing
 - b. Height: 42 inches
 - c. Mid-rail: 21 inches between base and top rail
 - d. Standard length: 6-foot, 8-foot, 10-foot, and 12-foot
 - e. Length optional: custom lengths available per manufacturer requirements
 - f. Finish: powder coated safety yellow (Pantone 116C)
 - g. Finish optional: galvanized or custom colors per request
- B. Standard Base Plate:
 - a. Size: 10" x 36"
 - b. Weight: 74 lbs.
 - c. Railing capacity: two intersecting railing sections on the same base
 - d. Skid resistant and requiring no rooftop attachment
 - e. Finish: galvanized
 - f. Finish optional: powder coated to custom colors per request
 - g. Toe board attachments (sold separately) may be used with standard base plate if required
- C. Multi-Directional Base Plate:
 - a. Size: 22" x 22"
 - b. Weight: 84 lbs.
 - c. Railing capacity: four intersecting railing sections on the same base
 - d. Toe board receptacles: four, built-in
 - e. Skid resistant and requiring no rooftop attachment
 - f. Finish: powder coated safety yellow (Pantone 116C)
 - g. Finish optional: galvanized or custom colors per request

2.03 FABRICATION

- A. Fabricate work true to dimension, square, plumb, level, and free from distortions or defects detrimental to appearance and performance.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine framing and substrate and verify conditions comply with structural requirements for proper system performance.
- B. Proceed with installation of guardrail system only after verifying conditions are satisfactory.

3.02 INSTALLATION

- A. General: Installation of guardrail system to be performed by contractor according to manufacturer's instructions and recommendations.

3.03 ADJUSTMENT AND INSPECTION

- A. Ensure all guardrail systems have been installed in accordance with fall protection manufacturer's engineering documentation and specifications.
- B. Provide plan drawings with any deviations in guardrail locations as installed.