SECTION 07 72 00

ROOF OPENING PROTECTION SYSTEMS

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\*\* NOTE TO SPECIFIER \*\* Garlock Safety Systems; Roof Edge and Opening Protection products.   
This section is based on the products of Garlock Safety Systems, which is located at:  
2601 Niagara Ln  
Plymouth, MN 55447  
Toll Free Tel: 877-791-4446  
Tel: 763-694-2624  
Email: [request info (safetyorders@garlockequip.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Garlock+Safety+Systems&coid=43032&rep=&fax=&message=RE:%20Spec%20Question%20(07720gar):%20%20&mf=)  
Web: <http://garlocksafety.com>   
   
 [ [Click Here](http://www.arcat.com/arcatcos/cos43/arc43032.cfm) ] for additional information.  
  
Since 1959, Garlock Safety Systems has been recognized as the leading manufacturer of quality roofing equipment and fall protection equipment for the commercial flat-industrial roofing market. Located in Plymouth, Minnesota. Garlock's manufacturing facility features a highly skilled workforce utilizing many of the latest technology based machining centers used in the manufacture of our products. Garlock has also been recognized as the leading innovator of industrial tools, specializing in fall protection equipment, that roofing contractors use every day to build their business and protect their client's building assets.

In 1980, Garlock Safety Systems developed the Railguard 200 portable railing system. Originally developed to protect roofers working on commercial projects, the Railguard 200 product line quickly developed into a multi-faceted, cross-functional product that is used throughout industrial plants and commercial facilities around the world. The Railguard 200 system is a completely freestanding guardrail system that meets or exceeds all OSHA requirements for fall protection railings. There are no holes to drill, no tools or fasteners required. The system sets up virtually in minutes with the strength and security that comply with OSHA requirements. Multiple railing lengths are available along with swinging gates, transport carts, custom paint colors and finishes.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project. Add others as required.

* + 1. Roof protection systems including the following:
       1. RailGuard 200 Non-penetrating Safety Rail.
       2. RailGuard 200 Fit-Rite (assemble on site) Safety Rail.
       3. SkyDome Skylight Protector.
       4. ScreenGuard Skylight Protector.
       5. SkyGuard Skylight Protector.
       6. HatchProtector roof hatch safety system.
       7. LadderGuard rooftop access safety system.
    2. Temporary construction personnel safety equipment:
       1. RailGuard GC general construction safety railing system.
       2. Slab Grabber general construction perimeter clamp system.
       3. LifePoint Duo Mobile tie-off device.
       4. Cobra Multi-Man fall arrest system.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. Section 07400 - Metal Roofing.
    2. Section 07430 - Composite Roof Panels
    3. Section 07510 - Built-Up Roofing.
    4. Section 07530 - Electrometric Roofing.
    5. Section 07700 - Roof Specialties and Accessories.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. OSHA 29 CFR 1910.23(a) Occupational Health and Safety Standards for General Industry, Subpart Guarding floor and wall openings and holes.
    2. OSHA 29 CFR 1910.29 - Occupational Health and Safety Standards for General Industry, Subpart Manually propelled mobile ladder stands and scaffolds (towers).

\*\* NOTE TO SPECIFIER \*\* Temporary construction safety equipment regulations. Delete if not required.

* + 1. OSHA 29 CFR 1910.29 - Occupational Health and Safety Standards for General Industry, Subpart D Fall protection Systems and Falling Object Protection.
    2. OSHA 29 CFR 1926.502(b).

\*\* NOTE TO SPECIFIER \*\* Temporary construction safety equipment regulations. Delete if not required.

* + 1. OSHA 29 CFR 1926 - Safety and Health Regulations for Construction, Subpart M-Fall Protection.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. [Product Data](http://www.arcat.com/arcatcos/cos43/arc43032.cfm): 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.
     3. Shop Drawings: Complete details of entire railing layout, showing member sizes and part identification, fasteners, anchors, fittings and evidence of compliance with structural performance requirements.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum of 15 years experience manufacturing portable railing systems.
     2. Installer Qualifications: Minimum 2 person crew capable of positioning base plates and installing portable railing systems according to manufacturers instructions.
  3. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Garlock Safety Systems, which is located at: 2601 Niagara Ln; Plymouth, MN 55447; Toll Free Tel: 877-791-4446; Tel: 763-694-2624; Email: [request info (safetyorders@garlockequip.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Garlock+Safety+Systems&coid=43032&rep=&fax=&message=RE:%20Spec%20Question%20(07720gar):%20%20&mf=); Web: <http://garlocksafety.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
  1. DESIGN REQUIREMENTS
     1. Structural Performance: Comply with requirements of applicable local, state, and federal codes.
     2. Structural performance of top rails and supports:
        1. Capable of withstanding a concentrated load of 200 pounds (90.6 kg), applied to the top rail at any point and in any direction.
        2. Capable of withstanding a uniform load of 50 pounds per linear foot (74.3 kg/m) applied to the top rail horizontally with a simultaneous load of 100 pounds per linear foot (148.6 kg/m) applied vertically downward.
        3. Design need not provide for both concentrated and uniform loads to be applied concurrently.
     3. Structural performance of railing infill:
        1. Capable of withstanding a horizontal concentrated load of 200 pounds (90.6 kg), applied to one foot (30.5mm) square area at any point on the infill.
        2. Infill includes panels, intermediate rails, posts and other elements.
        3. Design need not provide for infill loads to be applied concurrently with top rail loading.
        4. Horizontal members not to exceed 12 inch (305 mm) spacing over lens area of skylight if present.
  2. MATERIALS
     1. RailGuard 200 Non-penetrating Safety Rail: Meets OSHA Requirement: OSHA 1910.23(c)
        1. Railing Sections.
           1. Standard rail section 16 gauge welded steel.
           2. Rails: 1.625 inch (41.275 mm) O.D. 16 gage wall HREW tubing.

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard railing lengths. Custom lengths are available, contact Garlock for additional information. Delete lengths not required.

* + - * 1. Length: 5 feet (1524 mm).
        2. Length: 6 feet (1829 mm).
        3. Length: 7 feet 6 inches (2286 mm).
        4. Length: 10 feet (3048 mm).
        5. Height: 42 inches (1067 mm).
        6. Mid-rail: 20 inches (508 mm).
        7. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

Finish: Hot dipped galvanized.

* + - 1. Manual Swing Gate System; 1-5/8 inch (41 mm) O.D. by 0.120 inch (2.7 mm) wall HREW tubing.

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard gate lengths. Custom lengths are available, contact Garlock for additional information. Delete lengths not required.

* + - * 1. Length: 4 feet (1219 mm).
        2. Length: 5 feet (1524 mm).
        3. Length: 10 feet (3048 mm).
        4. Height: 42 inches (1067 mm).
        5. Mid-rail: 20 inches (508 mm).
        6. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

Finish: Hot dipped galvanized.

* + - * 1. Support wheel: positive locking mechanism with ability to swing right or left.
      1. Base Plates.
         1. Material: Cast iron class 20B.
         2. Size: 1 foot 9-1/2 inches by 1 foot 9-1/2 inches (546 by 546 mm).
         3. Carrying handles: built in with a center carrying hook for base transporter.
         4. Toeboard receptacles: two, built in.
         5. Capacity: two railing sections and be able to accommodate adapter to support three or four intersecting rails on the same base.
         6. Holes: Holes for permanent mounting and round holes for pins securing base to rail.
         7. Bottom of base must have a concave recess no less than 125 sq. inches (806 sq.cm) to reduce rocking on uneven surfaces.
         8. Base plate must provide no less than 5 inches (127 mm) of leading edge substrate contact as concentrated load is applied to base.
         9. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

Hot dipped galvanized.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph if project conditions require. Delete if not required.

* + - * 1. Four adhesive pads with directional non-skid resistant ridge pattern and minimum 28 sq. inches (180 sq.cm) of substrate contact each: shall be adhered to the bottom of base plate or a 24" X 24" by .25" 50-60 durometer black neoprene pad to resist slippage on hard surfaces.
      1. Securing Pins.
         1. Material: Cold rolled steel.
         2. Lock: Klick-pin attached to chain to lock into pin shaft.
         3. Finish: Electroplate and zinc dichromate dipped.

\*\* NOTE TO SPECIFIER \*\* Select the optional equipment required from the following paragraphs and delete those not required.

* + - 1. Base Transporter.
         1. Cart shall be able to carry individual base plates easily.
      2. Centurion Cart.
         1. Centurion 4 Wheel cart.
         2. Cart shall be able to carry eight base plates and seven rail sections.
         3. Cart shall have a manual winch to raise and lower base plates.
      3. Goliath Mega Cart.
         1. Goliath 4 Wheel Cart.
         2. Carries 190-feet of railing sections along with a 5 foot swing gate, base transporter and steel toeboards.
         3. Included with Goliath cart are 3 base plate storage racks. Each rack holds 8 base plates. Integrated fork pockets for transport.
      4. Speed Boards.
         1. Material: 4 inches (102 mm) wide, zinc plated steel.
         2. Attachment: Boards shall telescope to fit into toe board brackets on base plate and pinned to the base toe board brackets.
      5. Toe Board fixed length
         1. Material: 4 inches (102 mm) wide, zinc plated steel.
         2. Attachment: Boards shall same length as rail selected to fit into toe board brackets on base plate and pinned to the base toe board brackets.
    1. RailGuard 200 Fit-Rite (assemble on site) Safety Rail: Meets OSHA Requirement: OSHA 1910.23(c) and 1926.502(b).
       1. Railing Sections.
          1. Rails: Nominal 1.25 inch (1.25 inch diameter) schedule 40 galvanized steel pipe.
          2. Length: Shipped in 21 foot (1524 mm) sections for fitting on-site.
          3. Height: 42 inches (1067 mm).
          4. Mid-rail: 20 inches (508 mm).
          5. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required. Galvanized finish is standard.

Finish: Hot dipped galvanized.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

* + - 1. Stanchions:

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard rail fittings. Delete fitting not required.

* + - * 1. Straight Stanchion kit.
        2. Curved Stanchion kit.
        3. Inclined Stanchion kit.
        4. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required. Galvanized finish is standard.

Finish: Hot dipped galvanized.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

* + - 1. Rail Fittings:

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard rail fittings. Delete fitting not required.

* + - * 1. 90 Degree
        2. T-Connector
        3. Long T-Connector
        4. Short Cross
        5. Crossover
        6. Straight Fitting
        7. Expanding Sleeve
        8. Swivel Joint
        9. Crossover T
      1. Base Style:

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard mount devices. Delete those not required.

* + - * 1. Permanent Mount fitting.
        2. Standing Seam base.
        3. Weighted base.

\*\* NOTE TO SPECIFIER \*\* Select the following paragraph for use with weighted base if project conditions require. Delete if not required.

* + - * 1. Four adhesive pads with directional non-skid resistant ridge pattern and minimum 28 sq. inches (180 sq.cm) of substrate contact each: shall be adhered to the bottom of base plate to resist slippage on hard surfaces.
      1. Gate System; Self-closing adjustable gate

\*\* NOTE TO SPECIFIER \*\* Select from the following available standard gate lengths. Custom lengths are available, contact Garlock for additional information. Delete lengths not required.

* + - * 1. Width: 24 - 30 inches (610-762 mm).
        2. Width: 30 - 36 inches (762-914 mm).
        3. Width: 36 - 42 inches (914-1067 mm).
        4. Width: 42 - 48 inches (1067-1219 mm).
        5. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete those not required. Galvanized finish is standard.

Hot dipped galvanized.

Epoxy powder coated safety yellow.

Epoxy powder coated color as selected.

* + 1. Skylight Protector: SkyDome Skylight Protector non-penetrating device.
       1. Meets OSHA 1910.23(a) (4) and 1926.501 (b) (4).
       2. Material:
          1. Tubing: 1-5/8 inch (41 mm) O.D. by 0.065 inch (2.7 mm) wall HREW tubing.
          2. Mesh Cover: Galvanized steel welded wire mesh welded to frame.

\*\* NOTE TO SPECIFIER \*\* Select the following optional paragraphs if required and delete if not required.

* + - * 1. Provide with Hurricane tether.
      1. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Epoxy powder coated safety yellow.
        2. Epoxy powder coated color as selected by Architect.

\*\* NOTE TO SPECIFIER \*\* Select the size required from the following paragraphs. If project requires more than one size indicate size locations on the Drawings. Delete the sizes not required. Standard sizes are listed below, custom sizes are available.

* + - 1. Size (Overall Height/Base Width/Base Length/Curb Height):
         1. 20 inch (508 mm) / 41 inch (1441 mm) / 41 inch (1441 mm) / 10 inch (254 mm)
         2. 9 inch (229 mm) / 30 inch (762 mm) / 54 inch (1372 mm) / 2 inch (51 mm)
         3. 15 inch (381 mm) / 33 inch (838 mm) / 56 inch (1422 mm) / 7 inch (178 mm)
         4. 23 inch (584 mm) / 36 inch (914 mm) / 36 inch (914 mm) / 11 inch (279 mm)
         5. 12 inch (305 mm) / 41 inch (1441 mm) / 41 inch (1441 mm) / 2 inch (51 mm)
         6. 19 inch (483 mm) / 44 inch (1118 mm) / 44 inch (1118 mm) / 8 inch (203 mm)
         7. 25 inch (635 mm) / 48 inch (1219 mm) / 48 inch (1219 mm) / 10 inch (254 mm)
         8. 28 inch (711 mm) / 48 inch (1219 mm) / 109 inch (2769 mm) / 16 inch (406 mm)
         9. 33 inch (838 mm)/ 52 inch (1321 mm) / 90 inch (2286 mm) / 20 inch (508)
         10. 31 inch (787 mm) / 54 inch (1372 mm)/ 54 inch (1372 mm) / 16 inch (406 mm)
         11. 23 inch (584 mm) / 55 inch (1397 mm) / 92 inch (2337 mm) / 9 inch (229 mm)
         12. 29 inch (737 mm) / 55 inch (1397 mm) / 97 inch (2464 mm) / 16 inch (406 mm)
         13. 25 inch (635 mm) / 56 inch (1422 mm) / 76 inch (1930 mm) / 11 inch (279 mm)
         14. 19 inch (483 mm) / 57 inch (1748 mm) / 57 inch (1748 mm) / 5 inch (127 mm)
         15. 23 inch (584 mm) / 58 inch (1473 mm) / 104 inch (2642 mm) / 9 inch (229 mm)
         16. 28 inch (711 mm)/ 59 inch (1499 mm) / 127 inch (3226 mm) / 13 inch (330 mm)
         17. 29 inch (737 mm) / 60 inch (1524 mm) / 60 inch (1524 mm) / 11 inch (279 mm)
         18. 25 inch (635 mm) / 60 inch (1524 mm) / 103 inch (2616 mm) / 10 inch (254 mm)
         19. 30 inch (762 mm) / 64 inch (1626 mm) / 109 inch (2769 mm) / 14 inch (356 mm)
         20. 30 inch (762 mm) / 64 inch (1626 mm / 113 inch (2870 mm) / 14 inch (356 mm)
         21. 28 inch (711 mm)/ 69 inch (1753 mm) / 81 inch (2057 mm) / 11 inch (279 mm)
         22. 29 inch (737 mm) / 74 inch (1880 mm) / 119 inch (3023 mm) / 10 inch (254 mm)
         23. 35 inch (889 mm) / 84 inch (2134 mm) / 84 inch (2134 mm) / 14 inch (356 mm)
         24. 34 inch (864 mm) / 90 inch (2286 mm) / 90 inch (2286 mm) / 12 inch (305 mm)
         25. Custom sizes as indicated on the Drawings.
    1. Skylight Protector: ScreenGuard Skylight Protector. Meets OSHA Requirements: 1910.23(a) (4) and 1926.501 (b) (4)
       1. Description: Clamp on design uses a compression fit to the skylight frame.
       2. Material: Galvanized sheet steel base frame covered with galvanized expanded steel mesh screen.

\*\* NOTE TO SPECIFIER \*\* Select the size required from the following paragraphs. If project requires more than one size indicate size locations on the Drawings. Delete the sizes not required. Custom sizes are available.

* + - 1. Size (Overall Dome Height / Width / Length):
         1. 7 inch (178 mm) / 24 inch (610 mm) / 24 inch (610 mm).
         2. 8 inch (203 mm) / 28 inch (711 mm / 28 inch (711 mm).
         3. 8 inch (203 mm) / 28 inch (711 mm / 52 inch (1321 mm).
         4. 10 inch (254 mm) / 36 inch (914 mm) / 36 inch (914 mm).
         5. 10 inch (254 mm) / 36 inch (914 mm) / 52 inch (1321 mm).
         6. 10 inch (254 mm) / 42 inch (1067 mm) / 76 inch (1930 mm).
         7. 12 inch (305 mm) / 42 inch (1067 mm) / 42 inch (1067 mm).
         8. 12 inch (305 mm) / 42 inch (1067 mm) / 80 inch (2032 mm).
         9. 14 inch (356 mm) / 52 inch (1829 mm) / 52 inch (1829 mm).
         10. 14 inch (356 mm) / 52 inch (1829 mm) / 76 inch (1930 mm).
         11. 14 inch (356 mm) / 52 inch (1829 mm) / 96 inch (2438 mm).
         12. Custom sizes as indicated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Select one of the following load rating paragraphs as required for the project. Delete paragraphs not applicable.

* + - 1. Load Rating:
         1. 24 inch (610 mm) / 24 inch (610 mm) - 500 lbs.
         2. 24 inch (610 mm) / 36 inch (914 mm) - 500 lbs.
         3. 36 inch (914 mm) / 36 inch (914 mm) - 500 lbs.
         4. 36 inch (914 mm) / 48 inch (1219 mm) - 500 lbs.
         5. 48 inch (1219 mm) / 48 inch (1219 mm) - 500 lbs.
         6. 48 inch (1219 mm / 60 inches (1524 mm) - 500 lbs.
         7. 48 inch (1219 mm / 72 inches (1829 mm) - 500 lbs.
         8. 48 inch (1219 mm / 94 inches (2398 mm) - 500 lbs.
         9. 48 inch (1219 mm / 96 inches (2438 mm) - 440 lbs.
    1. Skylight Protector: SkyGuard Skylight Protector meets OSHA Requirements: 1910.23(a) (4) and 1926.501(b) (4)
       1. Description: SkyGuard Skylight Protector system free stands directly to the roof.
       2. Material:
          1. Frame: Galvanized steel corner frame with wide base and rubber foot pads.
          2. Tubing: 1-5/8 inch (41 mm) O.D. by 0.065 inch (2.7 mm) wall HREW galvanized tubing.
          3. Tubing epoxy powder coated safety yellow.

\*\* NOTE TO SPECIFIER \*\* Select the size required from the following paragraphs. If project requires more than one size indicate size locations on the Drawings. Delete the sizes not required. Standard sizes are listed below, custom sizes are available.

* + - 1. Size (Length / Width / Height): Lower rail height is 20 inches (508 mm).
         1. 54 inch (1372 mm) / 54 inch (1372 mm) / 42 inch (1067 mm).
         2. 102 inch (2591 mm) / 54 inch (1372 mm) / 42 inch (1067 mm).
         3. 102 inch (2591 mm) / 102 inch (2591 mm) / 42 inch (1067 mm).
         4. Custom sizes as indicated on the Drawings.
    1. Roof Hatch Protector: HatchProtector roof hatch safety system. Meets OSHA Requirements: 1910.23(a) (4) and 1926.501(b) (4)
       1. Description: Compression fit design mounts directly to the roof hatch.
       2. Material:
          1. Frame: Galvanized steel corner frame and base.
          2. Rails: Telescoping 1-5/8 inch (41 mm) O.D. by 0.065 inch (2.7 mm) wall HREW galvanized tubing for outer tubes.
       3. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Epoxy powder coated safety yellow.
        2. Epoxy powder coated color as selected by Architect.

\*\* NOTE TO SPECIFIER \*\* Select the size required from the following paragraphs. If project requires more than one size indicate size locations on the Drawings. Delete the sizes not required. Standard sizes are listed below, custom sizes are available.

* + - 1. Size (Width / Length):
         1. 30 inch (762 mm) / 36 inch (914 mm).
         2. 36 inch (914 mm) / 36 inch (914 mm).
         3. 30 inch (762 mm) / 54 inch (1372 mm).
         4. 30 inch (762 mm) / 96 inch (2438 mm).
         5. 36 inch (914 mm) / 54 inch (1372 mm).
         6. 36 inch (914 mm) / 96 inch (2438 mm).
         7. 42 inch (1067 mm) / 42 inch (1067 mm).
         8. 48 inch (1219 mm) / 48 inch (1219 mm).
         9. 48 inch (1219 mm) by 60 inch (1524 mm).
         10. Custom sizes as indicated on the Drawings.
      2. Height:
         1. Top Rail: 42 inches (1067 mm).
         2. Mid Rail: 20 inches (508 mm).

\*\* NOTE TO SPECIFIER \*\* Select one or more of the options as required from the following paragraphs and delete those not required.

* + - 1. Gate: Self closing steel gate.
      2. Grab Bars: Mini stairway Grab Bars (1 or 2 required)
      3. Grab Bars: Deluxe Stairway Grab Bars (1 or 2 required)
      4. Grab Bars: Ladder Grab Bars (2 required)
    1. LadderGuard: LadderGuard rooftop access safety system. Meets OSHA Requirements: 1910.23(a) (2)
       1. Description: LadderGuard easily attaches to both flat or round rails and works on parapet or flat roofs or surfaces. Creates a safety egress and ingress zone to guard roof top ladder access starting 6 feet from leading edge.
       2. Railing:
          1. Material: Galvanized 1-5/8 inch (41 mm) O.D. by 0.065 inch (2.7 mm) wall HREW tubing.
          2. Size: 5 foot by 42 inches with 48 inch opening on inboard side.
          3. Top Rail: 42 inches (1067 mm).
          4. Mid Rail: 20 inches (508 mm).
          5. Base Plate: 21.5 inches (546 mm) by 21.5 inches (546 mm)
       3. Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - * 1. Epoxy powder coated safety yellow.
        2. Epoxy powder coated color as selected by Architect.

\*\* NOTE TO SPECIFIER \*\* Select one or more of the options as required from the following paragraphs and delete those not required.

* + - 1. Gate: Self closing steel gate.
      2. Grab Bar Adapters: For 2 inch (51 mm) ladder rails
      3. Grab Bar Adapters: For 3 inch (76 mm) ladder rails

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. TEMPORARY CONSTRUCTION PERSONNEL SAFETY EQUIPMENT
     1. Structural Performance: Comply with requirements of applicable local, state, and federal codes.
        1. OSHA: 29 CFR 1926.502 - Safety and Health Regulations for Construction, Subpart M-Fall Protection.
        2. 29 CFR 1910.29 - Occupational Health and Safety Standards for General Industry, Subpart D Fall protection Systems and Falling Object Protection.
     2. RailGuard GC General construction safety railing system. RailGuard GC, OHSA compliant passive fall protection solution for construction of high-rises, Elevator shafts, and other fall hazards existing during construction.
        1. Features:
           1. Meets OSHA Requirement: 29 CFR 1910.29
           2. One anchor is required per bracket.
           3. Each rail section includes a welded steel toe-board
        2. Description:
           1. Rail Sections:

16 gauge, 1-5/8 inch O.D. welded steel rail sections.

Length:

\*\* NOTE TO SPECIFIER \*\* Select the length(s) required from the following paragraphs and delete the those not required.

5 feet.

7-1/2 feet.

10 feet.

Top Rail Height: 42 inches.

Mid-Rail Height: 20 inches.

Toe Board: Welded steel integrated.

Finish: Powder coated high visibility yellow.

* + - * 1. Base with Rail Posts and Pins:

Dual post mount, 11 inches long, 4.5 inches wide, 5.63 inches high. Weight, 6.5 lbs.

* + 1. Slab Grabber General Construction Perimeter Clamp System. Slab Grabber Clamp perimeter fall protection for new construction slab or deck applications.
       1. Features:
          1. Meets OSHA Requirement: OSHA 1926.502(b)
          2. Fast Setup
          3. Heavy Duty Design
       2. Description:
          1. Overall Dimensions: 4 inches by 8.5 inches by 54 inches.
          2. Spacing: Recommended 6 foot to a maximum 8 feet.
          3. Includes 1 integrated clamp, 1 stanchion.
          4. Clamping Range: Adjustable from 2 inches to 24 inches.
          5. Weight: 24 lbs.
          6. Wood 2 by 4 rails not included.
    2. LifePoint Duo Mobile Tie-Off Device: LifePoint Duo Mobile STOP System, tie-off device for two people
       1. Features:
          1. Meets OSHA 1926.502(d) Fall Arrest.
          2. Non-Penetrating.
          3. Tie-off points for 1 Fall-arrest and 1 Fall-Restraint.
          4. Mobile, easy to reposition
          5. Ratcheted handle enables the weighted body of the unit to lifted safely
       2. Description:
          1. Steel powder coated frame
          2. Zinc Plated weight pan with durable rubber bottom.
          3. Empty Weight: 200 lbs.
          4. Loaded Weight: 930 lbs.
          5. Dimensions with handle retracted; 70 inches long, 28 inches wide, 20 inches high.
          6. Dimensions w/ handle extended190 inches long, 28 inches wide, 42 inches high.
          7. Tires: Flat free solid.
          8. Weights:

\*\* NOTE TO SPECIFIER \*\* Select the weight type required from the following paragraphs and delete the one not required.

Open Concrete type.

Solid Steel type.

* + 1. Cobra Multi-Man: Cobra Multi-Man personal fall arrest system with anchor points for 2 people for fall restraint and up to 3 for fall arrest, the Multi-Man provides up to a 45 degree work zone in either direction of the anchor point.
       1. Features:
          1. Meets OSHA 1926.502(d) (15) Fall Arrest.
          2. Non-Penetrating.
          3. Mobile, easy to reposition
          4. Integrated handle and brake.
          5. Heavy duty cart with flat free tires moves easily across uneven surfaces to follow the work flow.
          6. Large, locking job box provide storage and protection (optional).
          7. Cobra-claw penetrates the surface instantly to arrest a fall and stop cart movement.
          8. Large open deck provides space for generators, compressors, or additional job box.
       2. Description:
          1. Galvanized steel powder coated frame
          2. Rescue winch system.
          3. Weight: 1100 lbs.
          4. Length (with handle): 102 inches
          5. Width: 59 inches
          6. Height: 48 inches
          7. Weight: 1100 lbs.
          8. Fall Arrest Rating: 3 people
          9. Fall Restraint Rating: 2 people
          10. Tires: 18x8.50 Flat-free
          11. Deck Space 25 inches by 40 inches.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Before installation, inspect all parts to insure no damaged parts are used.
      3. Install diagonal braces on corner stanchions and at terminations of cable runs.
      4. Railing must be secured to base with securing pins.
      5. Where there is a danger of falling materials onto someone below insert a steel Speed Board into the toeboard bracket on the base plate and secure with securing pins to base.
      6. Use a Railguard 200 outrigger at any interruption in continuous railing sections. Outrigger assembly consists of a 5 foot railing (1.52 m) with base plate pinned to railing and placed 90 degrees away from danger side of continuous railing.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraph if CageGuard is specified and delete if not required.

* 1. PROTECTION
     1. Protect installed products until completion of project.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION