

SECTION 077233

ROOF HATCHES

****Note to Specifier**** This specification contains component and configuration options.
Where indicated, choose the appropriate choice for your specific project requirements.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. **[Roof Hatches]** Specialty custom designed, permanent, four-sided railing with spring assisted, self-closing Gate for guarding roof hatch/floor openings.
2. Roof Hatch Hardware.
3. Patent Numbers: 6,095,286; 6,347,685; 6,619,418.

B. Related Sections:

1. Division 07 – Roof Hatches.
2. Division 05 – Pipe and Tube Railings.
3. Division 05 – Structural Steel Framing.

1.2 SUBMITTALS

A. 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 instructions.

B. Shop Drawings: Provide shop drawings showing layout, profiles, and product components, including anchorage, hardware, and finishes. Include dimensional plans, applicable material specifications, elevations and sections detailing mounting and connections.

1. Contractor to provide manufacturer with field measurements and mounting structure prior to commencement of shop drawings.

1.3 CLOSEOUT SUBMITTALS

A. Provide Operation and Maintenance data to include methods for maintaining installed products, precautions against cleaning materials and methods detrimental to finishes and performance.

1.4 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Manufacturer must demonstrate a minimum of five (5) years successful experience in design and manufacture of similar related closures. Upon request, provide supporting evidence including list of installations, descriptions, name, and method of contact.
- B. **Minimum Qualifications:** Manufacturer must demonstrate compliance and certification of a Quality Management System administered by the International Organization for Standardization (ISO). Documentation of current certification status to be provided upon request.
- C. **Welder Qualifications:** Welders Certified in accordance with American Welding Society Procedures for applicable material used in production of specified product.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging container with identification markings intact until ready for installation.
- B. Protect materials from exposure to moisture during storage.
- C. Store materials in a dry, warm, ventilated weathertight location. If outdoor storage is required, block materials to store at an incline, to prevent pooling of any moisture and promote runoff. Tarp materials in a tent-like arrangement, elevated above the product with open sides to allow airflow. Store loose or high value components in a dry, controlled environment.
- D. Use caution when unloading and handling product to avoid bending, denting, crushing, or other damage to the product.
- E. When using forklifts, use forks of proper length to fully support product being moved. Consult "Approved for Construction" drawings or consult with factory for proper lift points.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's indicated limits.

1.7 COORDINATION

- A. Conduct site survey and provide to manufacturer, prior to manufacturer's commencement of shop drawings, the actual site conditions of the mounting location, to include; material type, dimensions and configuration, interferences with mounting surface, or any other condition that may impact the ability of the gate to be properly installed.
- B. Coordinate work with other operations and installation of adjacent materials to avoid damage.

1.8 WARRANTY

- A. Manufacturer’s Standard Warranty: Product to be free from defects in material and workmanship for a period of one (1) year from date of shipment.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Intended as a visible and physical continuation of adjacent railing systems at elevated openings where required by U.S. Federal OSHA at time of manufacture. Product designed to meet or exceed U.S. Federal requirements of dimensions and load requirements at time of manufacturing.

2.2 HATCHSAFE®

- A. Description: Full Railing System providing four-sided, permanent protection for guarding roof hatch/floor openings, including one (1) Self-Closing Safety Gate, two (2) Integrated Horizontal Grab Bars, one (1) Support Block Kit. HatchSafe® includes two (2) Curb Mounts, four (4) Formed Posts, two (2) Side Hoops, two (2) Hoop Extensions, two (2) Cross Rails, two (2) Assy Rungs, two (2) Support Straps, and hardware.

- 1. Approved Manufacturer: PS Access Solutions™, which is located at: 1150 S. 48th Street, Grand Forks, ND 58201; Toll Free Tel: 877.446.1519; Email: 4psinfo@psindustries.com; Web: www.psaccesssolutions.com or www.psindustries.com

- a. Basis of Design Product: Model: HSF.

- B. Substitutions: Not permitted.

- C. Single Source Responsibilities: Obtain all roof hatches from single manufacturer.

2.3 EQUIPMENT

- A. Products Details:

- 1. The HatchSafe is a Full Railing System, providing four-sided, permanent protection for guarding roof hatch/floor openings.

- a. Model/Min/Max Curb Access Dimensions:

| HSF MODEL # | CURB ACCESS DIMS | | HSF MODEL # | CURB ACCESS DIMS | |
|-------------|------------------|------------|-------------|------------------|-------------|
| | WIDTH | LENGTH | | WIDTH | LENGTH |
| HSF-4848MG | 30” to 48” | 30” to 48” | HSF-4884MG | 30” to 48” | 66” to 84” |
| HSF-6048MG | 48” to 60” | 30” to 48” | HSF-6084MG | 48” to 60” | 66” to 84” |
| HSF-4866MG | 30” to 48” | 48” to 66” | HSF-48102MG | 30” to 48” | 84” to 102” |
| HSF-6066MG | 48” to 60” | 48” to 66” | HSF-60102MG | 48” to 60” | 84” to 102” |

2.4 MATERIALS

- A. HatchSafe® to be fabricated from the following type of material;
 - 1. Steel: Commercial quality, low carbon structural or formed shapes, tubing, and bars of appropriate size and strength with welded construction.
- B. Curb Mount to be manufactured of the same material type and finish as HatchSafe.
 - 1. Formed sheet, 10-gauge sheeting with welded construction.
- C. Formed Post to be manufactured of the same material type and finish as HatchSafe.
 - 1. Formed 1 – ½” square, 11-gauge tubing with welded construction.
 - 2. 10-gauge sheeting with welded construction.
- D. Side Hoop to be manufactured of the same material type and finish as HatchSafe.
 - 1. Formed 1 – ½” square, 11-gauge tubing with welded construction.
- E. Hoop Extension to be manufactured of the same material type and finish as HatchSafe.
 - 1. Formed 1 – ½” square, 11-gauge tubing with welded construction.
 - 2. 10-gauge sheeting with welded construction.
- F. Cross Rail to be manufactured of the same material type and finish as HatchSafe.
 - 1. 1 – ½” square, 11-gauge tubing.
- G. Assy Rung to be manufactured of the same material type and finish as HatchSafe.
 - 1. 1” round, A-36 bar with welded construction.
 - 2. ¼” plate with welded construction.
- H. Support Strap to be manufactured of the same material type and finish as HatchSafe.
 - 1. Formed 3/16” x 1” flat, A-36 bar.
- I. Crush Plate to be manufactured of the same material type and finish as HatchSafe.
 - 1. 12-gauge sheeting.
- J. Ladder Safety Gate.
 - 1. To be fabricated from the following type of material;
 - a. Steel: Commercial quality, low carbon structural or formed shapes, tubing, and bars of appropriate size and strength with welded construction.
 - 2. To be finished from the following Steel Shop Finish;
 - a. Hot Dip Galvanized.

3. Hardware: Provide all Ladder Safety Gate installation hardware.
- K. Placards: Factory mounted, decal labels for product identification.
- L. Hardware/ Fasteners: Finish to correspond with product material Type. Zinc-plated fasteners supplied with Mild Steel Products, except where specifically noted otherwise.
- M. Finish:
 1. Steel Shop Finish: Apply the following paint system in accordance with manufacturer recommendations and instructions;
 - a. Finish: Powder Coat Gray
- N. Packaging: one (1) Self-Closing Safety Gate, two (2) Integrated Horizontal Grab Bars, one (1) LSG Support Block Kit. HatchSafe includes two (2) Curb Mounts, four (4) Formed Posts, two (2) Side Hoops, two (2) Hoop Extensions, two (2) Cross Rails, two (2) Assy Rungs, two (2) Support Straps with hardware, and installation instructions mill cloth bagged.
 1. Standard packaging for HatchSafe has assembled Ladder Safety Gate individually packaged in a cardboard carton with individual components of HatchSafe packaged inside a larger cardboard carton.
 2. Exterior of carton to marked with product name, model, size, and finish.

2.5 FABRICATION

- A. Fit and factory assemble items in largest practical sections, for shipment to site.
- B. Fabricate items with joints tightly fitted and secured.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until mounting substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another subcontractor, notify Architect of uncompleted preparation before proceeding.
- C. Inspect opening for compliance with manufacturer requirements. Verify open conditions are within required tolerances.

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 installation instructions, "Approved for Construction" drawings, shipping, handling, and storage instructions, and product carton instructions for installation.
- B. Tolerances: All dimensional requirements must be in accordance with manufacturer's installation instructions and "Approved for Construction" drawings.
- C. Verify that hinge assemblies operate freely and correctly.
- D. Verify all anchorage is in accordance with manufacturer's installation instructions and applicable data sheets.

3.4 FIELD QUALITY CONTROL

- A. Field Testing:
 - 1. Product to be installed using good general construction methods and practices, in accordance with manufacturer's instructions.

3.5 CLEANING

- A. Touch-up, repair or replace damaged products or components before Substantial Completion.
- B. Clean all sealing surfaces.

3.6 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION