

SECTION 07700/07720
INDUSTRIAL SLIDING ROOF HATCH

Part 1. GENERAL

1.1 SECTION INCLUDES

- A. Industrial Sliding Roof Hatch

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications.
- B. Section 07500 - Roofing.
- C. Section 07910 - Joint Sealants.
- D. Section 08710 - Door Hardware

1.3 REFERENCES

- A. ASTM A 36 - Standard Specification for Carbon Structural Steel.
- B. ASTM A 167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- C. ASTM A 276 - Standard Specification for Stainless Steel Bars and Shapes.
- D. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- E. AISI CL 304 - American Iron and Steel Institute.
- F. ASME Structural Welding Code Section IX.
- G. AWS D1.1 - Structural Welding Code - Steel.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Design roof hatch to perform under positive and negative wind/draft pressures and snow loads. Specific wind/draft pressure or loading must be provided by Architect.

1.5 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 instructions.
- C. Shop Drawings: Provide shop drawings showing layout, profiles, and product components, including anchorage, hardware, and finishes. Include dimensional plans,

Rev. Date: 112816

applicable material specifications, elevations and sections detailing mounting and connections.

- D. Calculations: Submit calculations approved by a qualified engineer.
- E. Closeout Submittals: Provide Operation and Maintenance data to include methods for maintaining installed products, precautions against cleaning materials and methods detrimental to finishes and performance.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer must demonstrate a minimum of five 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. Welder Qualifications: Welders Certified in accordance with American Welding Society Procedures: AWS-1-GMAW-S, WPS No. B2.004.90 for applicable material used in production of specified product.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging container with identification labels intact until ready for installation.
- B. Protect materials from exposure to moisture.
- C. Store materials in a dry, warm, ventilated, weather-tight 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 all other hardware 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 shop drawings or consult with factory for proper lift points.

1.8 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 absolute limits.

1.9 COORDINATION

- A. Coordinate work with other operations and installation of adjacent materials to avoid damage.

Rev. Date: 112816

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: PS Corporation, 4212 Gateway Dr., Grand Forks, ND 58203.
Phone Toll Free: 877-446-1519. Phone: 701-746-4519. Fax: 701-146-8340.
Web Site: www.psdoors.com. E-mail: 4psinfo@psdoors.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- D. Obtain all industrial sliding roof hatch assemblies from single manufacturer.

2.2 EQUIPMENT

- A. Industrial Sliding Roof Hatch: Provide the following Roof Hatch:
 - (1) Industrial Sliding Roof Hatch – Specify Size.
- B. Products Details:
 - (1) Hatch Panel: Hatch panel to be a nominal 5" thickness, with an internal welded steel structural framework. Framework voids to be insulated with fiberglass. Top and bottom face of panel to be sheeted with 18-gauge steel sheeting welded in place. Standard Panel designed for 30 lbs. live load. Panel shall have drip ledge on trail edge of panel and a minimum slope of 1:48 over the width of the hatch panel.
 - (2) Extension Track Frame: To be factory-welded construction with factory located splice tabs for field attachment to curb frame. Adjustable height support legs extending to roof surface with minimum of 8" square roof pads.
 - (3) Weatherhood to be an integral part of the hatch panel, to be fabricated from 12-gauge steel.
 - (4) Hardware: Provide two (2) 12" x 3" bow handles mounted to the top surface of the hatch panel. Rollers to be minimum 6" diameter nylon, axles shall be minimum 1/2" diameter of high strength steel. All rollers to be non-corrosive and of spark-less design.
 - (5) Perimeter Safety Railing to be a four (4) sided, removable railing to include 1.5" square 11-gauge steel tubing vertical posts, and horizontal railings of 1.74" outside diameter, 0.065" wall thickness mild steel, pre-galvanized before fabrication, tubing. Provide top rail and mid-rail sized and dimensioned to provide a safety railing system, which meets Federal OSHA requirements for Standard Railings at time of production.
 - (6) Weatherseals: Weatherseals shall be nylon brush with a mill finish aluminum retainer at perimeter of opening.
 - (7) Options
 - a) Electric Operator: Provide one (1), NEMA 1 chain drive operator with weatherhood. Include one (1) surface mount, 3-button (Open-Close-Stop) Control Station.
 - b) Hatch Curb: To be sized and dimensioned to the requirements of the opening and hatch. Constructed of formed 16-gauge galvanealed steel. Curb to be insulated with rigid insulation.
 - c) Latch Hardware
 - d) Other custom options available, consult PS Corporation.

Rev. Date: 112816

2.3 MATERIALS

- A. Industrial Sliding Roof Hatch Panel:
 - (1) Steel: Structural or formed steel shapes conforming to ASTM A 36; tubing conforming to ASTM A 500 Grade B, ASTM A 513; bars conforming to ASTM A 36, M1020; of appropriate size and strength with welded construction.
 - (2) Stainless Steel: Stainless steel conforming to ASTM A 276.
- B. Hatch Panel Sheeting: Panel to be sheeted with galvanized steel sheeting or plate, Commercial Quality-Low Carbon ASTM-A-569, ASTM-A-366, ASTM-A-36 welded in place. Optional materials include Stainless Steel (304 or 316).
 - (1) Steel: Commercial Quality-Low Carbon steel conforming to ASTM A 569, ASTM A 366, ASTM A 36; of appropriate size and strength with welded construction.
 - (2) Stainless Steel: Stainless steel conforming to ASTM A 167, 304 or 316 alloy.
- C. Weatherseals to be compressible rubber type or brush, typically EPDM and Nylon Brush Seal unless otherwise noted, and to be field replaceable.
- D. Frame to include four sided frame members and track extension for field locating and installation on structure. Members to be designed and fabricated with appropriate material as required for the loading.
 - (1) Steel: Structural or formed steel shapes conforming to ASTM A 36 of appropriate size and strength.
 - (2) Stainless Steel: Stainless steel conforming to ASTM A 167 using 304 or 316 alloy of appropriate size and strength.
- E. Frame Mounting Hardware: Provide anchors, as required.
- F. Operating Hardware: Provide hardware sized for the size and weight of the industrial sliding roof hatch. Hardware to be factory located as practical. Latching hardware to be as indicated on Drawings. Hatch Panel to be factory prepared for applicable latching devices.
- G. Steel Shop Finish: Apply in accordance with manufacturer recommendations and instructions.
 - (1) Primer: One shop coat of manufacturer's standard shop primer (S-W Kemflash Primer E61-R-26).
 - (2) Optional Finish: One shop coat of Standard Industrial Enamel (S-W Industrial Coatings B54 Series)
- H. Stainless Steel products to be mill finish, welds ground smooth, not polished, and are factory acid washed, neutralized and rinsed after fabrication.

2.4 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

Rev. Date: 112816

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 installations instructions, approved shop drawings, shipping, handling, and storage instructions, and product carton instructions for installation.
- B. Frames shall be installed level, square, plumb, and rigid.
- C. Tolerances: All dimensional requirements must be in accordance with manufacturer's installation instructions and shop drawings.

3.4 FIELD QUALITY CONTROL

- A. Products to be operated and field verified including the sealing surfaces to assure that they maintain contact at the correct sealing points.
- B. Verify that rollers and latching assemblies operate freely and correctly.
- C. Verify all anchorage is in accordance with manufacture's installation instructions and applicable data sheets.

3.5 CLEANING

- A. Repair or replace damaged installed products or components.
- B. Touch up damaged finish.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

Rev. Date: 112816