



Specifications

Water Pressure Resistant Swinging Doors

Quick Acting Latching Mechanism Single or Pair Swing

Part I - General

1.1 Description

- a) **Work Included:** Provide water pressure-resistant swinging door systems where shown on drawings and as specified herein.
- b) **Related Work:** Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 Quality Assurance

- a) **Experience:** Provide work of this Section designed and furnished by one manufacturer, factory-assembled, completely operable, and shipped as a unit. Use a manufacturer who has been engaged in the manufacture of Pressure-resistant door systems for at least five years immediately prior to the start of this work, and who has a history of successful production acceptable to the Architect.

1.3 Submittals

- a) **Shop Drawings:** Submit a schedule of items to be provided under this section along with shop drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this section with the work of adjacent trades.
- b) **Calculations:** Provide calculations showing conformance with the specified on all design data submitted. In lieu of design calculations, certified test reports from an independent laboratory may be provided to verify the door's ability to resist the specified pressure loads.
- c) **Secondary Requirements:** If fire resistance is required certify that assemblies have been tested in accordance with ASTM E152-81A (UL-10b) for labeled fire doors and frames, and meets the requirements of NFPA 80: If seismic stability is required, submit calculations showing ability of door systems to withstand pertinent seismic forces.
- d) **Installation Instructions:** Provide recommended installation procedures that, upon approval by the architect, will become the basis for acceptance or rejection of the actual procedures used for installation.
- e) **Operation and Maintenance Manual:** Provide operation and maintenance instructions compiled in accordance with the provisions of Section 01730 of these Specifications.
- f) **Warranty:** Upon completion of the work of this section, provide the architect with two (2) copies of the manufacturer's standard written one-year warranty.

Part 2 - Products

2.1 Design

- a) **Design Basis and Type:** Water pressure-resistant door system designs are based on those manufactured by Overly Manufacturing Company, Greensburg, PA 15601-0070. Provide products as specified or approved equal.

- b) **Specific Type:** Pressure-resistant door systems to be designed and built by Overly Manufacturing Company or equal of the dimensions and arrangements shown on the drawings. Swinging doors to be complete with frame, hinges, quick-acting locking devices and gaskets.

2.2 Design Criteria

- a) **Analysis:** Perform a static analysis for ----- foot head of water acting to seat the door and ----- foot head of water acting to unseat the door. Maximum deflection of all components to be limited to a maximum of L/120.
- b) **Leak:** Testing: On each assembly, perform a factory leak test per ASTM A283. Maximum leak rate shall not exceed ----- CFM at ----- in. water gauge.

2.3 Fabrication

- a) **General:** Assemble work using all welded construction conforming to applicable requirements of AWS D1.1.
- b) **Materials:** Water Pressure-resistant doors and doorframes to be constructed from formed sheet or plate shapes, or structural bars and shapes. Sheet steel shall be conforming to ASTM A1008, or hot rolled, pickled and oiled steel conforming to ASTM A1011. Steel plate and shapes shall comply with ASTM A36 and bars with ASTM A108, Grade 1018. Exterior units shall be fabricated from galvanized steel conforming to ASTM A526 (A60 or G60) with a coating weight of not less than 0.60 ounces per square foot.
- c) **Door Design:** Pressure-resistant doors shall be of welded, construction with no visible seams on vertical edges.
- d) **Frame Design:** Pressure-resistant angle coaming shall be welded units complete with embedded angle frames to be poured into the concrete walls. Knocked-down angle frames are not acceptable. After installation, field splices required because of shipping limitations must be field welded by certified welders per manufacturer's instructions and in accordance with requirements of AWS D1.1.
- e) **Hardware:** Doors to be equipped with hardware and reinforcements designed to transfer all applicable pressure loading to frame. Frames to be equipped with anchors designed to transfer all pressure loadings to walls or to embed structural sub-frames.
- f) **Perimeter Seal:** Provide silicone elastomer seals with maximum 25 durometer.
- g) **Latching Mechanism:** Provide a quick-acting latching device comprised of latching dogs activated by a single hand wheel that can be turned to open or unlatch the door. This quick-acting latching device can be locked with a cam attached to the outside hand wheel that will disconnect the outside hand wheel from the mechanism and make the outside handle inoperable. The inside quick-acting wheel is always operable.
- h) **Painting and Cleaning:** After fabrication, all tool marks and surface imperfections shall be removed and exposed faces of all welded joints dressed smooth. Chemically treat all surfaces to insure maximum paint adhesion and coat with a rust-inhibitive primer.

Part 3 - Execution

3.1 Site Storage and Protection of Materials

- a) Store all material on planks or dunnage in a dry location in a vertical position, spaced by blocking to permit air circulation between units. Cover all material or store in a controlled area to protect from damage.
- b) Secure the services of a qualified representative of the manufacturer to visit the job site and instruct the contractor's personnel in proper installation, adjustment and maintenance of the doors.