

SECTION 08390
WATERTIGHT DOORS

Part 1. GENERAL

1.1 SECTION INCLUDES

- A. EzDam; Model EZD-600

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 04810 - Unit Masonry Assemblies.
- C. Section 05120 - Structural Steel.

1.3 REFERENCES

- A. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- B. ASTM B 211 - Standard Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire.
- C. Aluminum Association - Specification for Aluminum Structures, 7th Edition.
- D. ASME Structural Welding Code Section IX.
- E. FEMA Technical Bulletin 3-93 - Non-Residential Flood Proofing.
- F. SEI/ASCE 7-02 - Minimum Design Loads for Buildings and Other Structures.
- G. AWS D1.2 - Structural Welding Code - Aluminum.
- H. Aluminum Structures - A Guide to Their Specifications and Design.
- I. U.S. Army Corps of Engineers, EP 1165-2-314 - Flood Proofing Regulations, 15 December 1995.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Design watertight EzDam to perform under hydrostatic loads to control short-term load pressures indicated. All water pressure loads and operating loads are transferred to the building structure.
- B. Standard loading: Standard EzDam is designed for hydrostatic loading, and have no additional allowances included for hydrodynamic loads, wave loads or debris impact loads.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. 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.

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- C. Calculations: Upon signed finalization and approval of dimensions, mounting location material and configuration, and load requirements;

****Note to Specifier** Choose one (1) of the following statements.**

- (1) Engineering calculations are not required for this barrier.
- (2) Submit stamped calculations by a registered professional engineer from within the state or territory where the project will be constructed or substantially improved, to verify the flood door's ability to withstand the design loading.

- D. 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.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer must demonstrate a minimum of five years successful experience in design and manufacture of similar flood 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 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 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.

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.

Part 2. PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: PS INDUSTRIES INCORPORATED, which is located at: 1150 S. 48th Street, Grand Forks, ND 58201; Toll Free Tel: 887-446-1519; Tel: 701-746-4519; Fax: 701-746-8340; Email: 4psinfo@psindustries.com; Web: www.psfloodbarriers.com or www.psindustries.com
- B. Substitutions: Not permitted.
- C. Obtain all flood barrier assemblies from single manufacturer.

2.2 EQUIPMENT

- A. Watertight Barriers: Provide the following barriers:
 - (1) EzDam: Model EZD-600
- B. Products Details:
 - (1) Sealing Requirements: EzDam and gasket design shall provide an effective against short-term high water situations, to the protection level of 36 inches.
 - (2) Operation: Manually deployed, latching operable from both sides (typical).
 - (3) Mounting/Load Transfer: Anchor to existing structure. EzDam designed for specified hydrostatic pressure and will transfer loads to adjacent structure.
 - (4) Frames to be anchored utilizing mechanical anchor types as designed. Manufacturer to include all anchors and sealants, as designed.
 - (5) Loading Direction to be Positive Pressure Loading; (Direction of loading against EzDam so as to further compress gaskets against flood plank frame-"seating").
 - (6) Provide compression gasket which requires no inflation.

2.3 MATERIALS

- A. EzDam: Panel to be fabricated from formed aluminum sheets and aluminum tubing, factory welded construction.
- B. Gaskets to be factory mounted to flood panel assembly on sides and bottom of panel. Gaskets to be compressible EPDM rubber type, field replaceable.
- C. Jamb Members to be of PS INDUSTRIES INCORPORATED'S design, members as indicated on drawings, for field installation on existing structure. Frame members to be fabricated from formed members.
 - (1) Aluminum of appropriate size and strength with welded or mechanical fastened construction.
- D. Frame Mounting Hardware: Provide anchors and sealant as required.
- E. Operating Hardware: Include all sealants and hardware necessary for installation, latching and retaining flood barrier as designed.
- F. Aluminum products to be mill finish, exposed, interfering welds are ground, not filled or polished. Exposed welds are factory acid washed, neutralized and rinsed.
- G. Warranty: PS INDUSTRIES INCORPORATED warrants this product and components to be free from manufacturing defects for a period of One (1) year from date of shipment.

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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. Fastener and hardware material and finish as noted on drawings.

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/Jambs shall be installed level, square, plumb, and rigid.
- C. Sealants to be applied per product application directions and in accordance with manufacturer's instructions.
- D. Tolerances: All dimensional requirements must be in accordance with manufacturer's installation instructions and shop drawings.
- E. Field Testing:
 - (1) Perform visual dry test for gasket alignment, continuity contact and pre-compression.
 - (2) Construct temporary water barrier and test installed flood plank.

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 latching assemblies operate freely and correctly.
- C. Verify all anchorage is in accordance with manufacture's installation instructions and applicable data sheets.

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3.5 CLEANING

- A. Repair or replace damaged installed products or components.
- B. Clean all sealing surfaces.
- C. 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

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