

3-Part CSI Specifications FB55 Bottom-Hinged “Flip-Up” Floodgate

Part 1 - General

- 1.01 Description
 - A. **Work Included:** Provide flood barrier(s) factory assembled with frame(s) and hardware in accordance with the contract documents.
- 1.02 Standards
 - A. Comply with the provisions of (as applicable).
 1. AWS Structural Welding Code.
 2. ASME Structural Welding Code Section IX.
- 1.03 Submittals
 - A. **Manufacturers Data:** Submit installation and maintenance instructions for flood barriers.
 - B. **Shop Drawings:** Submit shop drawings for flood barriers including dimensioned plans and elevations, sections, connections and anchorage, and parts list.
 - C. **Calculations (Optional):** Submit calculations, approved by a qualified engineer, to verify the barrier’s ability to withstand the design pressure loading.
- 1.04 Qualifications
 - A. **Experience:** The manufacturer of the flood barrier(s) shall present evidence attesting to at least 5 years of successful experience in the design and manufacture of both the flood barrier and flood barrier seal of the type specified.

Part 2 - Products

- 2.01 Flood barrier shall be Model FB55 as manufactured by Presray Corporation.
- 2.02 Materials
 - A. **Panel:** Steel Diamond tread plate (6061-T6 aluminum and stainless steel optional, steel plate with non-skid finish.)
 - B. **Conversion Frame:** Low carbon steel (stainless steel optional).
 - C. **Finish:** Panel and conversion frame, brush-off blast clean per SSPC-SP7, primed with one coat rust inhibitive, lead free, red primer.
 - D. **Seals:** Dual Presray type Pneuma-Seal® inflatable gaskets. Each seal shall have an automotive type air inflation stem and independent 0-60 PSI pressure gauge.

- E. **Hardware:**
 - Hinges:** Presray Series heavy –duty low friction precision hinges
 - Latches:** Slide bolts to hold panel in closed position with lockable feature.
 - F. **Optional:** For gates too heavy to be manually raised; hydraulic or winch lift system is available.
 - G. **Optional:** For use where facility air is not available
 - Air Source:** (portable compressors also available for multiple flood barrier installations)
 - H. **Optional:** Control system to include programmable controller key switch for raising and lowering, limit switches and pneumatic valves to automatically stop the hydraulic actuator system, lock the gate into position and inflating the seals. The key switch will also automatically control the seal deflation unlocking and lowering the gate.
- 2.03 Design
 - A. Flood barrier(s) shall be designed with a minimum 2:1 factor of safety based on material yield strength, and shall provide an effective seal against the design flood level.
 - B. Panel and conversion frame shall have lower corners radiused to optimize sealing.
 - C. Conversion frame shall have countersunk mounting holes for expansion anchors and bolts (Options available include epoxy anchors for block walls, and studs for embedment in concrete).
 - D. With panel down and stowed in recess, a hinged diamond plate trench cover shall automatically drop in place and span the gap between the bottom edge and the flood gate and the adjacent surface of the recessed frame.
 - 2.04 Fabrication
 - A. Sealing surfaces shall be finished to 63 microinch to maximize sealing, uninterrupted by steps greater than .015, free from cracks, and with finish lay parallel to seal.
 - B. Frame to be straight within 1/8" over entire length.
 - 2.05 Inspection and Test
 - A. Proof test and leak test inflatable seals per Presray standard practice.

Part 3 — Execution

- 3.01 Installation
 - A. Install flood barriers in accordance with manufacturer's instructions and approved shop drawings.

Part 4 — Warranty

- 4.01 1-year limited against defects and workmanship from date of shipment.