Multi-Panel Lip Seal Flood Barrier (WK Model# FP-M) Specifications

Part 1 – General

1.01 Description: Provide flood barrier(s) factory assembled with frame(s) and all operating components in accordance with contract specifications and approved drawings.

1.02 **Acceptable Manufacturers**: Flood barrier shall be as manufactured by Walz & Krenzer, Inc (203-267-5712; sales@wkdoors.com).

1.03 **Standards:** Comply with the provisions of the following (as applicable):

A. AISC "Specifications for Design, Fabrication, and Erection of Structural Steel for Buildings".
B. The Aluminum Assoc. "Aluminum Design Manual".
C. AWS Structural Welding Code D1.1, D1.2, D1.3, D1.6.
D. ASME Structural Welding Code Section IX.
E. FEMA Bulletin 3-93, #102 & #114.

1.04 Submittals:

A. Manufacturers Data: Submit installation and maintenance manuals for flood barrier.
B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for flood barriers including dimensional plans, elevations, sections, details for all mountings/connections, and parts list.
C. Calculations (optional for critical applications): Submit calculations approved by licensed Professional Engineer verifying the flood barrier's ability to withstand the design pressure loading.
D. QA Submittals: Submit test reports showing compliance with specified performance characteristics.

1.05 Qualifications: Manufacturer shall present evidence attesting to at least five years successful experience in the design and manufacture of similar closures.

Part 2 – Products

2.01 Product Description: Flood Barrier shall be Model FP-M as manufactured by Walz & Krenzer, Inc.

2.02 Materials:

A. Panel: 5051-H32 aluminum plate with 6061-T6 aluminum stiffeners.
B. Frame: 304 stainless steel (options include aluminum and 316 stainless steel).
C. Latches: stainless steel sliding latch bolts.

D. Gasket: Walz & Krenzer EPDM lip seal gasket, 60 duro with fully molded corners.
E. Finish: aluminum panel painted with INSL-X CheckRust acrylic paint. Stainless steel frame to be abrasively cleaned only.
F. Grab Handle and Panel Stops: 6061-T6 aluminum.
G. Storage brackets: ASTM A-36 steel.
H. Removable support brace: for side-by-side panels, diagonal brace(s) are mounted to the front of the panels, with one brace located at every seam between the panels. The diagonal brace attaches to a flush sub plate, embedded in the ground in front of the flood barrier. Other bracing options are available.

2.03 Design:

A. Design Pressure: # (in feet of water). Specify seating (pushing gate closed) or unseating direction (pushing gate open).
B. Side frames are available as angles for mounting on the exterior face of the wall surface, or as flatbars for mounting inside door jambs.
C. Bottom frame is a ½" flatbar, which can be recessed ½" into floor surface to achieve a flush bottom sill.
D. Corners of flood barriers have small (2") radius.
E. Frame(s) shall have mounting holes for expansion anchors (options include masonry subframe with welded anchors for embedment in concrete).
F. Two storage brackets per panel included.
G. Flood barriers over 10' in width and 6' in height may require multiple panels, available in both side by side, and/or stacked configurations. Side by side multiple panel flood barriers are provided with removable braces (and without mullions). Stacked flood barriers (stacked on top of each other) may not require bracing.
H. Square gasket corners are used at the junction of the center panels. Very slight leakage may occur at the square gasket corner. However, the leakage rate is well under the allowable FEMA leakage rate for the protected area.
I. Removable braces are typically diagonal braces mounted from a flush embedded sub plate, located in front of the flood barriers and at the seam between the panels. Other bracing options are available if standard diagonal bracing is not compatible with site conditions.
J. Additional requirements such as hydrodynamic loads, impact loads and breaking wave loads shall be added as required by the specific application.

2.04 Quality Assurance:

A. Perform shop operational test.
B. Perform shop leakage test.

C. Liquid Penetrant Test (for critical applications): Welds in the "potential" leak path shall be liquid penetrant inspected in accordance with Appendix VIII of Section VIII of ASME Code Div. 1.

Part 3 – Execution

3.01 Fabrication:

A. The finished product shall be rigid, neat in appearance, and free from all defects, warps, and buckles. All exposed joints and corners shall be well rounded.
B. The panel and frame shall be flat within 1/8" in any 6' length.
C. All butt welds in frame to be full penetration welds.

3.02 Installation:

A. Install flood barrier in accordance with manufacturer's instructions and approved shop drawings.
B. After installation, perform field operational test per manufacturer's instructions to verify seal.
C. Finish paint (if applicable) after installation.

3.03 Warranty: Flood barrier shall operate satisfactorily and be free of defects in material and workmanship for a period of not less than one year from the date of delivery.