Raised Watertight Hatch (WK Model# WTH-R) Specifications

Part 1 – General

1.01 Description: Provide raised watertight hatch factory assembled with frame and all operating components in accordance with contract specifications and approved drawings.

1.02 **Acceptable Manufacturers**: Watertight hatch 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, D1.2, D1.3, D1.6.
D. ASME Structural Welding Code Section IX.
E. FEMA Bulletin 3-93, #102 & #114.
F. ASTM A36, D2000.
G. American Iron and Steel Institute (AISI) CL 304, 316, 316L.

1.04 Submittals:

A. Manufacturers Data: Submit installation and maintenance manuals for watertight hatch.
B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for watertight hatch 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 watertight hatch'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: Watertight hatch shall be Model WTH-R as manufactured by Walz & Krenzer, Inc.

2.02 Materials:

A. Panel & Frame: ASTM A-36 steel (options include aluminum and 304 or 316 stainless steel).

B. Gasket: ASTM D2000 GR DE neoprene gasket, 25 duro with fully molded corners. Note – 40-duro gasket used for hatches designed to seal against a pressure exceeding 10-psi. Optional gasket material for unusual environmental conditions includes viton, silicon, hypalon, and others. O-rings used for high pressure hatches.
C. Securing dogs: Stainless steel dog assemblies with bronze wedges. Dogs on flush side of hatch to be recessed, and operable via T-wrench. For higher pressure applications, high strength bronze dogs will be used.
D. Hinges: To include bronze oil-impregnated thrust bearing and stainless steel hinge pins.
E. Recessed grab handles included for lifting hatch.
F. Finish: mild steel blasted to near white metal per SSPC-SP-10 and primed with one coat of inorganic zinc primer. Finish coat with epoxy finish is available.
G. Options include spring balancing, panic bar, hold-open braces, and remote operation/indication

2.03 Design:

A. Design Pressure: # (in feet of water). Specify seating (pushing hatch closed) or unseating direction (pushing hatch open).
B. Raised hatches can be operable from one or both sides via individual dogs or drop bolts for infrequent use. Quick-acting handwheels are recommended for hatches that are used frequently.
C. Round, rectangular, square, and other custom shapes available.
D. Frame: provided for bolt-on or weld-on installation for existing openings, or with masonry subframes for embedding in new pour concrete.
E. Hatch size and design pressure direction shall determine the quantity and type of dog. Dogs are designed to adjust gasket compression in the field.

2.04 Quality Assurance:

A. Perform shop operational test.
B. Perform shop chalk test to ensure 100% watertight/airtight seal.
C. All welding shall be performed in accordance with the requirements of the applicable AWS or ASME standards.
D. 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.
E. Hydrostatic Test (optional for critical applications only): Provide hydrostatic test data certifying that the closure furnished, or a closure of similar design, has been satisfactorily tested to verify that it will withstand the designed hydrostatic pressure with no visible leakage

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. Edge of panel and knife-edge of frame to be flat with 1/8" with a maximum deviation of 1/16" in a 6' length.
C. Knife-edge on frame to be ground to a 3/32" radius with surface roughness not to exceed 125 micro inches.
D. All butt welds in frame to be full penetration welds.

3.02 Installation:

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

3.03 Warranty: Watertight hatch 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.