

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.