

## SUGGESTED SPECIFICATIONS FOR MODEL WTH-R RAISED WATERTIGHT HATCH

### 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) or approved equal.
- 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
  - 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 hatch including dimensional plans, elevations, sections, details for all mountings and 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/inspection reports showing compliance with specified quality assurance requirements.
- 1.04 **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 latches– stainless steel dog assemblies with bronze wedges. Stainless steel & bronze drop bolts available for infrequently used hatches. Stainless steel quick-acting handwheels available on one or both sides for frequently used hatches.
- D. For higher pressure applications, high strength bronze dogs will be used.
- E. Hinges – hinges to include bronze oil-impregnated thrust bearing and stainless steel hinge pins.
- F. Grab handles included for lifting hatch.
- G. Bushings and bearings for hinges to be oil-impregnated bronze.
- H. Finish – mild steel blasted to near white metal per SSPC-SP-10. Primed with one coat of inorganic zinc primer. Other finishes including epoxy finish paint, galvanizing, passivating, and powder coating available.
- I. Options include spring balancing, gas springs, hold-open braces, and remote operation/indication.

### **2.03 Design**

- A. 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.
- B. Round, rectangular, square, and other custom shapes available.
- C. Frame – provided for bolt-on or weld-on installation for existing openings, or with masonry subframes for embedding in new pour concrete.

### **2.04 Quality Assurance**

- A. Perform shop operational test.
- B. Perform shop chalk test for 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 (optional for critical applications only): 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. 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.

- B. Knife-edge on frame to be ground to a 3/32" radius with surface roughness not to exceed 125 micro inches.
- C. 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.
- D. All butt welds in frame to be full penetration welds.

**3.02 Installation:**

- A. Install watertight hatch in accordance with manufacture'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.