




 **ELEMENT 13**  
Next Generation Tank Products

Specification for Internal Floating Roofs

SP-I-1302

Rev	Date	Prepared By	Checker Approval	Operations Approval	Management Approval
D	August/2023	KHP	CAB	KRK	BEL

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**I. Deck Skin**

- A. Typical ultimate tensile strength: 24 KSI (1687 kg/cm<sup>2</sup>) or 27 KSI (1898 kg/cm<sup>2</sup>)
- B. Thickness: 0.025" (0.635mm)
- C. U.S. Standard: 3003 H14 or H18
- D. A.S.T.M. B-209

**II. Pontoon Flotation Members**

- A. Typical ultimate tension strength: 24 KSI (1687 kg/cm<sup>2</sup>)
- B. Outside diameter: 10" (254mm)
- C. Wall thickness: 0.050" (1.27mm)
- D. Type: seam welded tube
- E. End closure and ear thickness: 1/4" (6.35mm)
- F. U.S. Standard: 3003 H16 (pontoon tube)
- G. U.S. Standard: 5052 H32 (end cap)
- H. A.S.T.M. B-209
- I. Welding procedure: Laser
- J. Quality control: Individually shop leak tested at 5 psi (351 kg/cm<sup>2</sup>)

**III. Deck Skin Support Beams**

- A. Typical ultimate tensile strength: 38 KSI (2672 kg/cm<sup>2</sup>)
- B. U.S. Standard: 6005A T61
- C. A.S.T.M. B-221 74

**IV. Support Legs and Extruded Section**


- A. Typical ultimate tensile strength: 38 KSI (2672 kg/cm<sup>2</sup>)
- B. Outside diameter: 1.90" (48.30mm)
- C. Wall thickness: 0.062" (1.57mm)
- D. U.S. Standard: 6061 T6
- E. A.S.T.M. B-221 74

**V. Suspension Cables**

- A. Material: 304 stainless steel, 1/4" (6.4mm) dia.
- B. Typical breaking strength: 6,400 pounds (2,900 kg)

**VI. Rim Plate**

- A. Typical ultimate tensile strength: 35 KSI (2460 kg/cm<sup>2</sup>)
- B. Rim Section: channel 12" (305mm) vertical leg, 3" (76.20mm) horizontal leg
- C. Thickness: 1/8" (3.175mm) rim plate
- D. U.S. Standard: 5052 H32, 6005A T5 or 6005A T61
- E. A.S.T.M. B-209
- F. Extruded option available upon request

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**VII. Static Ground Cables**

- A. Material: 304 stainless steel, 1/8" (3.20mm) dia.
- B. Resistance: 0.031 ohms/ft (0.102 ohms/m)

**VIII. Anti-Rotation Cable**

- A. Material: 304 stainless steel, 1/8" (3.20mm) dia.
- B. Typical breaking strength: 3,200 pounds (1,450 kg)

**IX. Fasteners**

- A. Material: 304 stainless steel
- B. Typical tensile strength: 92 KSI (6468 kg/cm<sup>2</sup>)

**X. Cover To Shell Seal**

**Wiper Seal (For Hydrocarbon and Chemical Applications)**

Typical composition: Vinyl-nitrile blend or Polyurethane

**Mechanical Shoe Seal**


Swing Arm type stainless steel (304), 18Ga Shoe with a Teflon vapor barrier

**XI. Peripheral Roof Vent [optional]**

- A. Typical material: Aluminum or fiber glass with UV outer coating available
- B. Hinged or customized vents available upon request

**XII. Warranty**

- A. Materials and workmanship are guaranteed for a period of one (1) year from the date of material delivery. A limited structural warranty is guaranteed for a period of three (3) years from the date of material delivery. Structural defects, faulty workmanship, or defective material shall be reported to be repaired or replaced to Element 13 within 10 working days from discovery, or the suggested structural defects, faulty workmanship, or defective material shall not be subject to this warranty. Faulty workmanship of installation shall not be covered if Element 13 does not perform the installation of materials.
- B. This warranty does not cover defects in any component parts or labor of the aluminum tank products which are not considered the structural components or which were not manufactured by Element 13; defects in any items or labor which are covered by a separate warranty from the original manufacturer of any part that is used by Element 13 in the structural components; deterioration due to normal wear, tear and exposure; repairs or replacements made necessary by negligence, negligent use of, misuse of, abuse of, loading the unit beyond its gross weight

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limitations, accidents, acts of God, modifications or alterations in or to the structural components by anyone, and failure to maintain or care for the structural components, and any and all matters which were not within the control of the Element 13; neglect of the product or structural components; repairs or replacements made necessary by reason of a failure of the original retail consumer purchaser or others to follow ordinary maintenance procedures as recommended by the Element 13 or the manufacturer or dealer of the Structural components; any defects in work, labor, materials or parts not actually manufactured by, performed by or made by Element 13; delamination caused by water intrusion from lack of required exterior seal maintenance; routine maintenance and adjustments; damage that has occurred as a result of misuse, abuse, neglect, or lack of maintenance; damage caused by unregulated water pressure, tank over-fill or plumbing system modifications resulting in flooding; damage caused by overloading or improper weight distribution.

- C. If Element 13 did not perform the installation of materials, and structural defects or faulty workmanship is discovered, the Client can provide a change order for Element 13 to visit the worksite and determine the nature of faulty workmanship. Element 13 will not be responsible for repairs or additional installation requirements at that point but will provide recommendations for repairs and the option to repair at the Client's expense.
- D. Any warranty work performed will not extend the term of the original warranty period. Element 13's warranty is limited in scope and liability to repairing or redoing the nonconforming Work or materials. Element 13 shall not be obligated under warranty or otherwise to repair or replace defects caused by operating abuse, neglect, erosion, corrosion, acts of God, or other similar causes or normal wear and tear. No credit shall be allowed for any cost or expense Customer may incur in replacing or connecting materials or workmanship hereunder, unless prior written notice to Element 13 is provided and Element 13 has had the reasonable opportunity to perform and has agreed not to perform in exchange for a credit. Except as expressly provided in herein, Element 13 provides no Warranties, express or implied, of merchantability, fitness for use or otherwise.

END OF SPECIFICATION