

STANDARD INFORMATION

Standard: ULC 601

Standard ID: Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids [ULC 601:2025 Ed.6]

Previous Standard ID: Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids [ULC S601:2014 Ed.5+R:20Oct2021]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: June 27, 2027

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Note: The 6th edition has been renumbered from ULC S601 to ULC 601.

Overview of Changes: Specific details of new/revise requirements are found in table below.

- Integrally Contained Tank Markings
- Specific Gravity > 1.0 and Static Head Tanks
- Double Wall Tank Terminology Change
- Generator-Base Tank
- Marking Section Revisions
- Generator Base Tank Venting

Specific details of new/revise requirements are found in table below

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i>
	Info	CONSTRUCTION
4	Info	General
4.6	Info	Venting
		<i>New clause added;</i>
4.6.7		If provided, normal venting and/or emergency venting devices shall comply with UL/ULC 2583 and shall not be of a nominal connection size less than the applicable opening. For e-vent devices, the marked flow rating at the marked maximum allowable venting pressure shall not be less than the minimum flow rating per Table 4.2, Column 5 and the maximum venting pressure found in notes of Table 4.2.
		<i>New clause added;</i>
4.6.8		Except for vacuum monitored tanks as described in 7, each interstitial space shall be equipped with: a) Emergency venting per Table 4.2, and b) Normal venting with an open area of a minimum 4 mm diameter hole. This vent may be combined with either the emergency vent or the interstitial monitoring opening.
		<i>New clause added;</i>
4.6.9		The wetted surface area of a rectangular tank shall be calculated as 75 % of the exposed surface area. Column 2 of Table 4.2 shall be used to determine the required normal and emergency vent opening size. The bottom of a tank intended to rest directly on grade need not be included in the exposed surface area.
		<i>New clause added;</i>
4.6.10		Tanks less than or equal to 2500L intended and marked only for combustible liquids (combustible liquid-fired equipment base and workbench tanks) are permitted to reduce emergency vent opening size per ULC-S602.



CLAUSE	VERDICT	COMMENT
5	Info	Single Wall Tanks <i>New section added;</i> Workbench tanks 5.7 Workbench tanks shall have a flat steel working surface 0.5 to 1.0 m high and shall be evaluated for structural integrity per 9.6 followed by leak testing per 9.3. See standard for details.
		Combustible liquid-fired equipment base tanks 5.8 Combustible Liquid-Fired Equipment Base tanks shall have structural framework and attachment points to support a generator and shall be evaluated for structural integrity per 9.6 followed by leak testing per 9.3. See standard for details.
6	Info	Secondary Containment Tanks
6.2	Info	All tanks
6.2.3	Info	Construction 6.2.3.1 For horizontal cylindrical tanks, the secondary containment head thickness shall be equal to the primary tank head thickness. <u>A horizontal cylindrical secondary containment shall cover a minimum of 300° of the lower circumferential surface area of the primary tank or provide a minimum of 95 % containment, whichever is greater. Horizontal cylindrical primary tank heads shall be covered 100 %.</u> 6.2.3.2 For rectangular and vertical cylindrical tanks, the secondary containment bottom thickness shall be equal to the primary tank bottom thickness. <u>A vertical or rectangular secondary containment tank shall, at a minimum, cover the bottom and sides up to 50 mm from the highest point of the vertical shell of the primary tank or provide a minimum of 95 % containment, whichever is greater.</u> 6.2.3.3 The secondary containment shell thickness of cylindrical tanks shall be <u>at least equal to the primary shell thickness. If the secondary containment shell is in intimate contact with the primary tank shell, the secondary containment shell thickness may be reduced in accordance with Table 6.1.</u> <i>New clause added;</i> 6.2.3.4 If the secondary containment of a horizontal cylindrical tank shell extends more than 300 mm past the head of the primary tank, the portion of the secondary shell that is not in direct contact with the primary tank shall have, at a minimum, equal thickness to that of the primary shell.



CLAUSE	VERDICT	COMMENT
6.2.6	Info	Performance – production testing <i>New clause added;</i>
6.2.6.4		As an option to the leakage test described in 7.2.2 and 7.2.3, the annular space may be tested by applying a vacuum of at least 13 in of Hg (44 kPa) for a minimum of 12 hours. If the tank is unable to maintain the vacuum (± 2 in of Hg [6 kPa]) for the specified time, the tank shall be retested using the method described in 7.2.2 and 7.2.3. <i>New clause added;</i>
6.2.6.5		If any welding occurs on the primary tank after its initial production leak test, the tank must be retested in accordance with 10, Production Leak Test.
7	Info	Vacuum monitored tanks
7.1	Info	General <i>New clause added;</i>
7.1.1		Vacuum monitored tanks shall have the secondary containment wall in intimate contact with the primary tank wall. <i>New clause added;</i>
		Interstitial Space Inspection and Emergency Vent Openings
7.2		All interstitial spaces created by secondary containments shall be provided with an emergency vent opening in compliance with 4.6. Each interstitial space shall also be provided with an opening to facilitate determination of leakage. See standard for details.
8	Info	Accessories <i>New section added;</i>
		Tanks storing liquids with specific gravity greater than 1.0
8.7		Tanks optionally covered for storage of liquids with a specific gravity greater than 1.0 shall meet the following construction and performance requirements based on the maximum specific gravity for which it was designed, which shall be identified in the 19.1 marking. See standard for details.



CLAUSE	VERDICT	COMMENT
<i>New section added;</i>		
Static head tanks		
8.8		Tanks optionally covered for storage of liquids operating as a static head tank shall meet the following construction and performance requirements based on the maximum static head for which it was designed, which shall be identified in the 20.1 marking. See standard for details.
10	Info	Production Leak Test
<i>New clause added;</i>		
10.4		For a static head tank, the primary tank shall be hydrostatically tested at a pressure equal to 1.5 times the maximum static head pressure and shall not leak or exhibit evidence of permanent deformation.
	Info	MARKINGS
13	Info	All Tanks
		Each tank shall be clearly marked per 21 with the following information, located as indicated: b) Located adjacent to each normal opening where: 1) A factory-installed normal vent compliant with UL/ULC 2583 is present: <u>"N-VENT(S) INCLUDED – DO NOT REMOVE"</u> Exception: For tanks with venting that has been welded on, this marking is not applicable. 2) A factory-installed normal vent is not present: <u>"INSTALL N-VENT(S) BEFORE USE. DO NOT PLUG OR USE FOR ALTERNATE PIPING";</u> f) Located adjacent to each combined emergency and normal vent opening, per 4.6.2, where: 1) A factory-installed vent is present: <u>"COMBINED N-VENT AND E-VENT INCLUDED – DO NOT REMOVE"</u> Exception: For a vent that has been welded on, this marking is not applicable. 2) A factory-installed vent is not present: <u>"INSTALL COMBINED N-VENT AND E-VENT BEFORE USE. DO NOT PLUG OR USE FOR ALTERNATIVE PIPING."</u>



CLAUSE	VERDICT	COMMENT
14	Info	Rectangular Tanks <p>In addition to the markings required by Section 13, Marking – All Tanks, each rectangular tank shall be clearly marked per 21 with the following information, located as indicated:</p> <p>d) For combustible liquid-fired equipment base tanks adjacent to the lift lugs: “MAX WEIGHT OF COMBUSTIBLE LIQUID-FIRED EQUIPMENT _____ KG”</p> <p>e) For combustible liquid-fired equipment base tanks: “WARNING: TANK MAY CONTAIN COMBUSTIBLE LIQUID. KEEP IGNITION SOURCES AWAY FROM TANK FILL AND VENT.” and « AVERTISSEMENT : CE RÉSERVOIR PEUT CONTENIR DU LIQUIDE COMBUSTIBLE. TENIR LES SOURCES D’INFLAMMATION ÉLOIGNÉES DU REMPLISSAGE ET DE L’ÉVÉNEMENT DU RÉSERVOIR. »</p> <p>14.1 f) For combustible liquid-fired equipment base tanks: “FOLLOW COMBUSTIBLE LIQUID-FIRED EQUIPMENT MANUFACTURER’S INSTRUCTIONS FOR MOUNTING OF COMBUSTIBLE LIQUID-FIRED EQUIPMENT AND ANCILLARY EQUIPMENT.”</p> <p>g) For combustible liquid-fired equipment base tanks: “FOR _____ ONLY:” NOTE: “Combustible Liquid” or specific combustible liquid identified by the manufacturer.</p> <p>h) For combustible liquid-fired equipment base tanks tested in accordance to 9.2.2, the following marking will be required on two opposite sides of the tank and adjacent to a lift lug. “FOR LIFTING EMPTY TANK ONLY EXCLUDING COMBUSTIBLE LIQUID-FIRED EQUIPMENT”</p>
16	Info	All Secondary Containment Tanks <p>Each secondary containment tank shall be clearly marked per 21 with the following information:</p> <p>16.2 a) “CONSULT AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION” b) Located next to a leak detection port, except for vacuum monitored tanks: “INSPECT REGULARLY FOR LIQUID. IF FOUND, CONTACT TANK OPERATOR”</p>
17	Info	Vacuum Monitored Tanks <p>In addition to the markings required by Section 13, All Tanks and Section 16, All Secondary Containment Tanks, each vacuum monitored tank shall be clearly marked per 21 with the following information:</p> <p>17.1 a) Located adjacent to all secondary emergency vents: “E-VENTING DO NOT REMOVE” b) Located adjacent to the vacuum monitor device: “VACUUM MONITOR – DO NOT OPEN VALVE OR REMOVE. IF GAUGE READING IS ≥ 42 kPa CONTACT TANK MANUFACTURER IMMEDIATELY”</p>



CLAUSE	VERDICT	COMMENT
		<i>New section added;</i>
		Tanks Storing Liquids with Specific Gravity Greater than 1.0
19		<p>In addition to the markings found in Section 13, All Tanks, each tank storing liquids with a specific gravity greater than 1.0 shall be clearly marked per 21 with the following information, located as indicated:</p> <p>See standard for details.</p>
		<i>New section added;</i>
		Static Head Tanks
20		<p>In addition to the markings found in Section 13, All Tanks, each static head tank shall be clearly marked per 21 with the following information, located as indicated:</p> <p>See standard for details.</p>
		<i>New clause added;</i>
		Marking Method
21		<p>The required marking shall be embossed, etched, stamped on a nameplate of corrosion resistant metal, or as described in 21.2.</p> <p>Sees standard for details.</p>