

**NATIONAL
STANDARD
OF CANADA**

**CAN/ULC-S670:2014
(Including Amendment 1)**

**STANDARD FOR ABOVEGROUND NONMETALLIC TANKS
FOR FUEL OIL AND OTHER COMBUSTIBLE LIQUIDS**

Prepared and Published by:



Approved by:



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CORPORATE HEADQUARTERS

Underwriters Laboratories of Canada
7 Underwriters Road
Toronto, Ontario M1R 3A9
Telephone: (416) 757-3611
Fax: (416) 757-9540

REGIONAL OFFICES

PACIFIC OFFICE

13775 Commerce Parkway, Suite 130
Richmond, British Columbia V6V 2V4
Telephone: (604) 214-9555
Fax: (604) 214-9550

EASTERN OFFICE

6505, Rte Transcanadienne, Suite 330
St-Laurent, Québec H4T 1S3
Telephone: (514) 363-5941
Fax: (514) 363-7014

For further information on ULC standards, please contact:

ULC STANDARDS

171 Nepean Street, Suite 400
Ottawa, Ontario K2P 0B4
Telephone: (613) 755-2729
Fax: (613) 231-5977
E-mail: customerservice@ulc.ca
Web site: www.ulc.ca

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STANDARD FOR ABOVEGROUND NONMETALLIC TANKS FOR FUEL
OIL AND OTHER COMBUSTIBLE LIQUIDS

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AMENDMENT 1**NOVEMBER 2015**

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AMENDMENT NOTICE

ULC STANDARDS

STANDARD FOR ABOVEGROUND NONMETALLIC TANKS FOR FUEL OIL AND OTHER COMBUSTIBLE LIQUIDS	CAN/ULC-S670:2014
AMENDMENT 1	NOVEMBER 2015

The following amendment is being incorporated into CAN/ULC-S670:2014:

1. Added a new Clause 7.1.7 under Section 7, Tank Performance Tests.

NOTICE

PLEASE NOTE THAT THIS STANDARD INCLUDES AMENDMENT(S). THE CURRENT EDITION OF THIS STANDARD IS NOT VALID UNLESS USED TOGETHER WITH THE AMENDMENT(S).

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7.1.7 If obvious visible damage occurs during any test described in Clause 7.1.2 or 7.1.3, it is permitted to cease additional tests on the same tank provided that the manufacturer includes markings and instructions:

- A Requiring the tank not be placed or remain in service (Clause 12.2.1.2 A (i)); and
- B Outlining the damage that is not allowed or how that damage is to be repaired (Clause 13.1.4 E).

NOTE 1: The manufacturer may choose to proceed with additional testing on the same tank if they decide the damage is acceptable (i.e. will not compromise the functionality or structural integrity of the tank).

NOTE 2: Assessment of damage may be conducted after each test, or after completion of all tests in each section. Damage assessments may include leak testing (per Subsection 11.1 to determine if the damage will lead to a hazard) or an autopsy (such as determining damage to the *primary tank* of a secondary system).

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ERRATUM NOTICE

ULC STANDARDS

STANDARD FOR ABOVEGROUND NONMETALLIC TANKS FOR FUEL OIL AND OTHER COMBUSTIBLE LIQUIDS	CAN/ULC-S670:2014
ERRATUM 1	NOVEMBER 2015

The following Errata are being incorporated into CAN/ULC-S670:2014:

1. Revised Clause 8.7.2 under Subsection 8.7, Rain Test.
2. Revised Clause 9.5.2 under Subsection 9.5, Freeze/Thaw Cycle Test.
3. Revised Clause 10.5.1 under Subsection 10.5, Fuel Compatibility Tests.
4. Revised Clause 10.8.1 under Subsection 10.8, Extreme Temperature Tests.
5. Revised the NOTE under Section 12, Markings.
6. Revised Clause 12.2.1.1 under Subsection 12.2, Markings.
7. Revised Clause 12.2.3.1 under Subsection 12.2, Markings.
8. Revised Clause 12.2.5.1 under Subsection 12.2, Markings.
9. Revised Clause 13.1.4 under Section 13, Instructions.
10. Revised title and expanded Table 2, Safety Related Markings and Warnings.
11. Revised reference of Figure 2, Rain Test Spray Head Piping.

NOTICE

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8.7 RAIN TEST

8.7.2 The test tank shall be positioned on a level surface and subjected to a 30 min simulated rain exposure, emitted from a Rain Test Spray Head (Figure 1) with a Rain Test Spray Head Piping (Figure 2) assembly focused on the tank area(s) most likely to allow entry of water. The nozzles shall operate at 34.5 kPa within 900 mm to 1500 mm of the test area:

- A For 15 min at a 45° angle with respect to the tank top; then
- B For 15 min parallel to the tank top.

9.5 FREEZE/THAW CYCLE TEST

9.5.2 The *secondary containment* area shall be filled with water to 2 % of the rated *primary tank* capacity, or a depth of at least 50 mm from the bottom of the *interstitial space*, then subjected to a temperature cycle of 24 h at -20 ± 2 °C followed by 24 h at 20 ± 2 °C followed by 24 h at -20 ± 2 °C.

10.5 FUEL COMPATIBILITY TESTS

10.5.1 The average of three test samples shall retain at least 70 % of the average as-received material property measured as described in Clauses 10.3.4, 10.3.5 or 10.3.6 after 30, 60 and 90 d immersed in the test *fuels* specified in Clause 10.1.6 at 60 ± 2 °C. One additional 90 d sample shall be subjected to the requirements of Subsection 9.8, Comparative Small Scale Fire Test.

10.8 EXTREME TEMPERATURE TESTS

10.8.1 For nonmetallic and composite tank materials that are susceptible to external impact during use, three segments cut from different tank areas shall be subjected to a repeat test according to the requirements of Subsection 8.5, Tank Impact Test, immediately after exposure to at least 12 h at 38 ± 2 °C and at least 12 h at -20 ± 2 °C (Indoor Use rated) or at least 12 h at 60 ± 2 °C and at least 12 h at -35 ± 2 °C (Outdoor Use rated).

12.2 MARKINGS

12 NOTE: Table 2 contains all safety related markings and warnings that are required to be in English and French. In addition some Canadian provincial/territorial authorities may require other markings to be in either or both official languages (English and French).

12.2 MARKINGS

12.2.1.1 Each tank nameplate shall be marked with the following manufacturer identification and general information, as applicable:

Note: Words within "quotes" are the required verbatim markings.

- A The manufacturer's name, trade name, trademark or other descriptive marking which identifies the company responsible for the product and factory ID code, if manufactured at more than one factory;
 - B The manufacturing date in standard format indicating as a minimum, the year/month;
 - C The manufacturer's web address and phone number to obtain installation, inspection and maintenance instructions;
 - D The tank series, model, catalog number or equivalent identification, and nominal capacity in L;
 - E The basic tank design type:
 - "Primary Tank" and << Réservoir primaire >>;
 - "Double Wall Secondary Containment " and << Enceinte de confinement secondaire à double paroi >>; or
 - "Open (or Closed) Secondary Containment " and << Enceinte de confinement secondaire ouverte (ou fermée) >>, as appropriate;
 - F The tank location use rating:
 - "Indoor Use Only" and << Pour utilisation intérieure seulement >>;
 - "Indoor or Outdoor Use" and << Pour utilisation intérieure ou extérieure >> as appropriate; and
 - G The tank *fuel* rating: "General Use Combustible Liquids" and << Pour l'entreposage de combustibles liquides >>.
-

12.2 MARKINGS

12.2.3.1 *Double wall secondary containments*, shall also be marked with additional information as appropriate on the nameplate or other location as specified:

- A Identification of an *interstitial space* opening that requires venting located near the opening:
 - "Interstitial Vent - Do Not Plug "; and
 - << Événement de l'espace interstitielle- Ne pas boucher >>;
 - B Identification of an *interstitial space* opening that is intended for monitoring located near the opening:
 - "Interstitial Monitor" or "Monitor Opening"; and
 - << Surveillance de l'espace interstitielle >> or << Ouverture pour surveillance >>.
-

12.2 MARKINGS



12.2.5.1 Tank components and *tank accessories* conforming to the requirements of Section 5, Tank Components and Tank Accessories, shall also be marked with additional information on the nameplate or other location as follows:

- A Identification of a spill container in compliance with Clause 5.2A, located on the nameplate next to the basic tank type:

“With Spill Container”; and

<< Avec bassin de captation >>;

- B Identification of a *tank support* in compliance with 5.2B, located on the nameplate next to the basic tank type:

“With Support”; and

<< Avec support >>.

13 INSTRUCTIONS

13.1.4 Specific information shall also include, but is not limited to, recommended leak test procedures for each tank design with details for conducting the leak test, use of safety devices and cautionary or safety information for expected problems associated with pressure testing, what to do if leaks are detected, and the following:

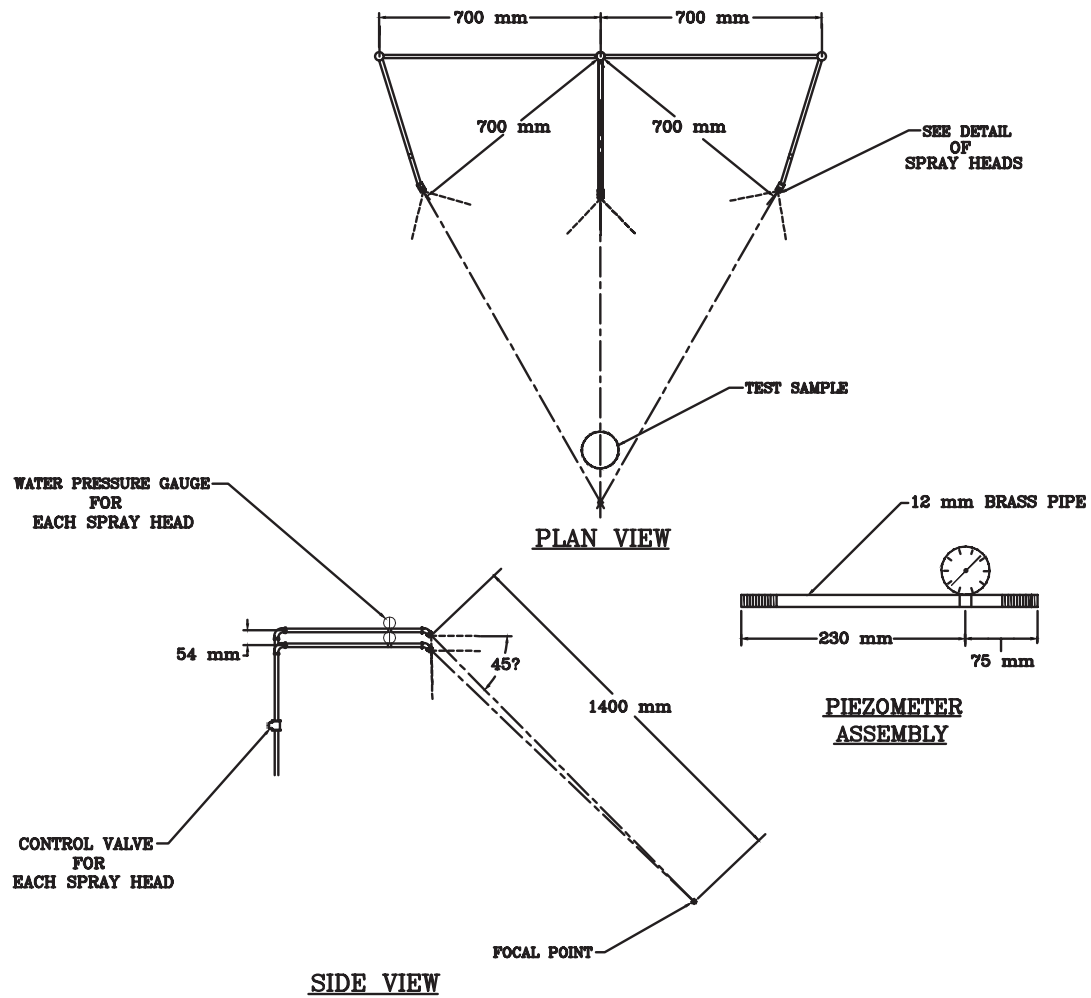
- A Any materials not included in the installation kit which are necessary for proper installation;
- B The manufacturer's recommended fitting type, size and torque values for threaded fittings;
- C Any modifications which are needed to the supplied components such as cutting;
- D The manufacturer's recommended leakage test method for the *primary tank* and, where provided, the *secondary containment* after complete installation of the tank;
- E Instruction for removal of the tank from service or not placing the tank in service if unacceptable damage is identified in Clause 7.1.7; and
- F In accordance with the manufacturer's stated field test pressure (see label on tank).
-

TABLE 2
SAFETY RELATED MARKINGS AND WARNINGS

(Reference: Section 12)

ENGLISH	FRENCH
"Primary Tank"	<< Réservoir primaire >>
"Double Wall Secondary Containment"	<< Enceinte de confinement secondaire à double paroi >>
"Open Secondary Containment"	<< Enceinte de confinement secondaire ouverte >>
"Closed Secondary Containment"	<< Enceinte de confinement secondaire fermée >>
"Indoor Use Only"	<< Pour utilisation intérieure seulement >>
"Outdoor or Indoor Use"	<< Pour utilisation intérieure ou extérieure >>
"General Use Combustible Liquids"	<< Pour l'entreposage de combustibles liquides >>
"IMPORTANT – Assemble and Install according to Installation Code and Manufacturer Instructions"	<< IMPORTANT – Assembler et installer conformément aux codes en vigueur et aux directives du fabricant >>
"CAUTION"	<< MISE EN GARDE >>
"WARNING – Remove Tank From Service Or Do Not Place Tank In Service if Tank is Damaged – Contact Tank Manufacturer"	<< AVERTISSEMENT – Les réservoirs endommagés doivent être mis hors service. Veuillez contacter le fabricant >>
"This Tank Is Intended for Stationary Use Only"	<< Ce réservoir est conçu pour être utilisé pour une installation stationnaire seulement >>
"Do Not Reduce Vent Capacity Below 32 mm (DN) (1-1/4 in NPS)"	<< Ne pas réduire la capacité de ventilation à moins de 32 mm (1-1/4 po NPS) >>
"Inspect Tank Periodically according to Manufacturer's Instructions"	<< Inspecter le réservoir périodiquement conformément aux directives >>
"Do Not Transfer Oil from Old Tank Into This Tank"	<< Ne pas transférer d'huile de l'ancien réservoir dans ce réservoir >>
"CONSULT LOCAL AUTHORITY BEFORE INSTALLING TANK"	<< CONSULTER L'AUTORITÉ LOCALE COMPÉTENTE AVANT L'INSTALLATION >>
"Maximum Test Pressure __ kPa"	<< Pression d'essai Maximum __ kPa >>
"Follow Manufacturer's Instructions for Field Leak Testing"	<< Suivez les instructions du fabricant pour les tests de fuite avant la mise en service. >>
"Interstitial Vent – Do Not Plug"	<< Évent de l'espace interstitielle - Ne pas boucher >>
"Interstitial Monitor"	<< Surveillance de l'espace interstitielle >>
"Monitor Opening"	<< Ouverture pour surveillance >>
"Venting Cover - Do Not Obstruct"	<< Couvercle de ventilation – Ne pas obstruer >>
"With Spill Container"	<< Avec bassin de captation >>
"With Support"	<< Avec support >>

FIGURE 2
RAIN TEST SPRAY HEAD PIPING
 (Reference: Clause 8.7.2)



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