CAN/ULC 679:2026

Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids

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Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids, CAN/ULC 679

Second Edition, Dated August 31, 2026

Summary of Topics

This new Second Edition of CAN/ULC 679 dated August 31, 2026 incorporates editorial changes including renumbering and reformatting to align with current style, as well as the following changes in requirements:

- ***Obsolete Reference to ASTM Fuel No. 2; Table 4.2***
- ***Addition of Compatibility Test Fluid for Alignment with UL 971 and UL 971A; Table 4.2***
- ***Table 4.2 Revision;***
- ***Correction to Interstitial Communication Requirement; 18.2***
- ***Editorial Updates – Cross Reference Corrections; 17.1.13, 17.1.14, 19.4***
- ***Style Manual Updates and Miscellaneous Editorial Corrections; 2.1, 2.2, 3.4***
- ***Revising the Number of Samples Required for the Pull Strength Test; 16.2.1***
- ***Revising the Number of Samples Required for the Permeation Test; 22.1***
- ***Update to Table 4.1;***

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated March 13, 2026, June 17, 2026, and July 21, 2026.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids

ICS 23.040.40; 23.040.50; 75.160.20; 75.200

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PREFACE

This is the Second Edition of the Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids, CAN/ULC 679.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Fueling Accessories for Flammable and Combustible Liquids.

This Standard has been developed in compliance with the requirements of SCC for accreditation of a Standards Development Organization.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Second Edition National Standard of Canada is based on, and now supersedes, the First Edition of CAN/ULC 660, Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids, and the First Edition of CAN/ULC 667, Standard for Metallic Underground Piping for Flammable and Combustible Liquids.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

This CAN/ULC 679 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.org.

This Standard is intended to be used for conformity assessment.

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INTRODUCTION

1 Scope

1.1 This Standard sets forth minimum requirements for primary carrier, secondary containment, integral primary/secondary, normal vent and vapour recovery, metallic, composite and nonmetallic pipe, fittings, and systems (products) intended for use underground for the distribution and venting applications of petroleum-based flammable and combustible liquids, alcohols, and alcohol-blended fuels as identified in this document.

1.2 For the purpose of this Standard, flammable and combustible liquids mean gasoline, fuel oil, kerosene and diesel fuel, including gasoline with small amounts of additives such as detergents, solvents for detergents and anti-icing chemicals; diesel with up to 5 % biodiesel and gasoline with up to 15 % ethanol.

1.3 This Standard covers metallic, composite and nonmetallic thermoplastic (flexible) and thermoset (rigid) plastic piping with manufacturer-supplied fittings for underground use only. The products covered by this Standard have been evaluated for assembly in normal soil applications by qualified persons in accordance with the manufacturer's instructions.

1.4 The products covered by this Standard have not been evaluated for applications in sumps [more than 305 mm (12 inches) inside a sump wall], as connector pipe (between underground pipe and dispensing device), aboveground or marine use, or other applications exceeding normal temperatures.

1.5 Products covered by this Standard are intended to be installed and used in accordance with, but not limited to, any of the following documents:

a) National Fire Code of Canada, Part 4; and

b) CCME PN 1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.

2 Reference Publications

2.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

2.2 The following publications are referenced in this Standard:

ASTM A653/A653M, *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc- Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*

ASTM D471, *Standard Test Method for Rubber Property – Effect of Liquids*

ASTM D1193, *Standard Specification for Reagent Water*

ASTM D2143, *Standard Test Method for Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe*

ASTM D2412, *Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading*

ASTM D2837, *Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products*

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ASTM D3567, *Standard Practice for Determining Dimensions of "Fiberglass" (Glass-Fiber- Reinforced Thermosetting Resin) Pipe and Fittings*

ASTM G153, *Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials*

ASTM G155, *Standard Practice for Operating Xenon Arc Lamp Apparatus for Exposure of Materials*

CCME PN 1326, *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products*

CSA C22.2 No. 0.15, *Adhesive Labels*

National Fire Code of Canada

UL 797, *Electrical Metallic Tubing – Steel*

UL 969, *Marking and Labeling Systems*

3 Glossary

3.1 For the purpose of this Standard the following definitions apply.

3.2 ASTM IRM 903 – High-swelling petroleum base oil described in ASTM D471.

3.3 ASTM REFERENCE FUEL C – A blend of 50 % Isooctane and 50 % Toluene by volume.

3.4 AUTHORITY HAVING JURISDICTION (AHJ) – The governmental body responsible for the enforcement of any part of this Standard or the official or agency designated by that body to exercise such a function.

3.5 BARRIER LINER – The thin inner or outer layer of a composite pipe that contains internal fuels, provides permeation resistance, and protects the outer structural pipe wall from exposure to fuels or external fluids.

3.6 BREAKDOWN – The pressure at which severe leakage, rupture or burst occurs.

3.7 CHASE PIPE – An underground pipe that is used to route primary carrier, secondary containment, or integral primary/secondary pipe between storage tanks and containment sumps. Typically used to extract the pipe without excavation, and is not considered secondary containment.

3.8 CLOSED SECONDARY CONTAINMENT PIPING SYSTEM – A secondary piping system with ends normally closed at the tank and sump with a minimum rated pressure of 350 kPa.

3.9 COMBUSTIBLE LIQUID(S) – Any liquid having a flash point at or above 37.8 ±2 °C and below 93.3 ±2 °C and as defined in the National Fire Code of Canada.

3.10 COMPOSITE PIPE / PIPING (SYSTEM) – An underground piping system in which the pipe design contains both metallic and nonmetallic major and critical components.

3.11 FITTING(S) – A manufacturer-supplied component(s) designed to connect, branch, or terminate pipe sections and contain liquids. Connections may be threaded, welded, crimped, clamped, compressed, thermo fused, solvent welded, or adhesive joined. Sump boots are not considered fittings.

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3.12 FLAMMABLE LIQUID(S) – Any liquid having a flash point below 37.8 ±2 °C and having a vapour pressure not exceeding 275 kPa (absolute) at 37.8 ±2 °C and as defined in the National Fire Code of Canada.

3.13 FLEXIBLE (PIPE/PIPING) – Pipe with a manufacturer's recommended minimum bend radius less than or equal to 1.8 m. Typically constructed from thermoplastic materials.

3.14 INTEGRAL – Two or more separate components physically joined together or combined at the manufacturer to form a single part. Primary and secondary pipe joined in the field with a common fitting is not considered integral.

3.15 INTEGRAL PRIMARY/SECONDARY (PIPE) – A single pipe, constructed at the manufacturing site that combines both primary carrier and secondary containment with an interstitial space that can be monitored for leakage.

3.16 LOW TEMPERATURE – Temperature at minus 30 ±2 °C.

3.17 METALLIC(S) – Pipe(s), fitting(s), or component(s) primarily consisting of metals (typically corrosion-resistant malleable types such as steel, aluminum, copper, and brass) with or without minor nonmetallic components (such as gaskets, seals, sleeves or bushings).

3.18 NON-INTEGRAL PRIMARY/SECONDARY PIPE – A piping system with independent primary carrier and secondary containment connected in the field with an interstitial space that can be monitored for leakage.

3.19 NONMETALLIC(S) – Pipe(s), fitting(s), or component(s) primarily consisting of nonmetals (typically polymeric thermoplastics, thermosets or composites) with or without minor metallic components (such as foils, braids, tapes, sleeves, or bushings).

3.20 NORMAL TEMPERATURE – Temperature at +23 ±2 °C.

3.21 NORMAL VENT (PIPE) – A piping system intended to transfer displaced gases (air and fluid vapours) from the top of a tank to provide atmospheric pressure equalization.

3.22 OPEN SECONDARY CONTAINMENT PIPING SYSTEM – A secondary piping system with ends normally open at the sump and a minimum rated operating pressure of 35 kPa (5 psi).

3.23 PIPE/PIPING – A long cylindrical thin-walled structure designed for the intended use of underground burial and conveying or containing liquids. The pipe structure may be formed from homogenous (single material), composite (multiple materials mixed together) or integral (individual materials joined as one component) elements.

3.24 PIPING SYSTEM(S) (SYSTEMS) – A combination of pipes and fittings joined to contain liquids transferred between a storage tank and sumps or dispensers (primary, secondary, integral or non-integral primary/secondary types) and vapour or air transfer between dispenser or tank to atmosphere (normal vent and vapour recovery types). The system may be primary, secondary, or an integral or non-integral primary/secondary type.

3.25 PRIMARY CARRIER (PIPE) – Pipe intended to be in continuous contact with the liquid flowing in a piping system under normal use. Also known as carrier pipe, primary pipe, or product pipe.

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