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STANDARD FOR SAFETY

ANSI/CAN/UL/ULC 1369:2018, Standard for Aboveground Piping for Flammable and Combustible Liquids

ANSI/CAN/UL/ULC 1369:2018



ANSI/UL 1369-2018



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UL Standard for Safety for Aboveground Piping for Flammable and Combustible Liquids, UL/ULC 1369

First Edition, Dated August 31, 2018

Summary of Topics

The First Edition of UL/ULC 1369 has been issued to reflect the ANSI and SCC approval dates, and to incorporate the proposals dated May 4, 2018 and July 13, 2018.

The requirements are substantially in accordance with Proposal(s) on this subject dated May 4, 2018 and July 13, 2018.

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ANSI/UL 1369-2018



AUGUST 31, 2018

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UL/ULC 1369

Standard for Aboveground Piping for Flammable and Combustible Liquids

First Edition

August 31, 2018

This ANSI/CAN/UL/ULC Safety Standard consists of the First Edition.

The most recent designation of ANSI/UL 1369 as an American National Standard (ANSI) occurred on August 30, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This standard has been approved as a National Standard of Canada (NSC) by the Standards Council of Canada (SCC).

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Preface

This is the First Edition of the ANSI/CAN/UL/ULC 1369, Standard for Aboveground Piping for Flammable and Combustible Liquids.

UL is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

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

Appendix A, identified as Normative, forms a mandatory part of this Standard. Appendix B, identified as Informative, is for information purposes only.

This ANSI/CAN/UL/ULC 1369 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and 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.

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.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

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This Edition of the Standard has been formally approved by the Joint UL/ULC Technical Committee (TC) on Aboveground Piping for Flammable and Combustible Liquids.

This list represents the TC 1369 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

TC 1369 Membership

Name	Representing	Interest Category	Region
Barker, A.	Technical Standards & Safety Authority	AHJ	Canada
Boyd, D.	BP America Inc	Commercial / Industrial User	USA
Crellin, K.	Brugg Pipe Systems North America (BPNA)	Non-voting member	USA
Fisher, L.	State Water Resources Control Board – Sacramento	AHJ	USA
Legault, P.	Integrated Review Services – Consulting	General Interest	Canada
Mailvaganam, G.	M Mailvaganam	General Interest	Canada
Murck, J.	Core Engineered Solutions, Inc	Supply Chain	USA
Nelson, B.	Franklin Fueling Systems, Inc	Non-voting member	USA
Prusko, J.	Underwriters Laboratories Inc.	Non-voting member (Project Manager)	USA
Renkes, R.	Fiberglass Tank & Pipe Institute	General Interest	USA
Riegel, R.	UL LLC	Testing and Standards	USA
Rivest, D.	Omegaflex, Inc	Producer	USA
Sanderson, D.	Hall Tank Co	Producer	USA
Schubert, M.	Brugg Pipesystems GMBH	Producer	Germany
Thompson, J.	Association For Petroleum & Explosives Administration	AHJ	UK
Ticci, A.	Franklin Fueling Systems Ltd	Producer	UK
Wade, J. A.	ULC Standards	Non-voting member (STP Chair)	Canada

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This Standard is intended to be used for conformity assessment.

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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INTRODUCTION

1 Scope

1.1 These requirements cover primary, secondary, and coaxial types of aboveground pipes intended for transfer and containment of specific flammable and combustible liquids and fuels or fuel components (and vapors thereof) identified in this Standard, at their manufacturing, processing and distribution facilities, commercial (public) or fleet (private) motor vehicle fueling stations or similar fuel dispensing applications, and piping systems for fuel supply of generators, burners or similar equipment.

1.2 These pipes may be flexible or rigid types constructed with metallic, nonmetallic, or composite materials in single continuous or multiple joined lengths with integral end fittings in nominal sizes from 12.7 mm to 152.4 mm (0.5 in to 6.0 in) diameters, and are typically intended for use in the following applications:

- a) General aboveground use either directly on or suspended above the ground, such as piping between tanks and dispensers or within buildings, such as fuel supply lines to rooftop generators or basement boilers, which may include short lengths routed in below grade containment sumps and underground chase pipe where accessible, but not where directly buried; or
- b) Special aboveground uses that requires an additional evaluation for a specific purpose, such as marinas, and where specific liquids or extreme environments are not represented by the general test liquids and expected exposures conditions.

1.3 These pipes are intended for commercially available fuels and fuel components, and similar flammable and combustible liquids under the expected use conditions, and exposures that have similar chemical, physical and material compatibility properties as represented in these requirements.

1.4 Products covered by this Standard are intended to be installed and used in accordance with the applicable Codes and Regulations as determined by the Authority Having Jurisdiction (AHJ), such as, but not limited to:

In the United States:

- a) Standard for the Installation of Stationary Pumps for Fire Protection, NFPA 20;
- b) Flammable and Combustible Liquids Code, NFPA 30;
- c) Code for Motor Fuel Dispensing Facilities and Garages, NFPA 30A;
- d) Standard for the Installation of Oil-Burning Equipment, NFPA 31;
- e) Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, NFPA 37;
- f) Standard for Aircraft Fuel Servicing, NFPA 407;
- g) Uniform Fire Code, NFPA 1;
- h) International Fire Code published by the International Fire Council; and/or

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- i) Other applicable federal and state regulations for piping.

In Canada:

- a) The National Fire Code of Canada;
- b) CAN/CSA-B139, Installation Code for Oil Burning Equipment;
- c) CCME PN 1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; and/or
- d) Provincial or other Regulations.

1.5 The following Recommended Practices may be used as determined by the Authority Having Jurisdiction (AHJ):

- a) Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling, PEI/RP 200;
- b) Recommended Practices for Installation of Bulk Storage Plants, PEI/RP 800;
- c) Recommended Practices for the Installation of Marina Fueling Systems (2014 Edition), PEI/RP 1000;
- d) Recommended Practices for the Design, Installation, Service, Repair and Maintenance of Aviation Fueling Systems (2013 Edition), PEI/RP 1300;
- e) Recommended Practices For The Design And Installation Of Fueling Systems For Emergency Generators, Stationary Diesel Engines And Oil Burner Systems (2014 Edition), PEI/RP 1400.

1.6 These products are factory manufactured and intended for on-site field assembly, inspection, and leak testing for the specified applications and use conditions by qualified persons in accordance with the manufacturer's instructions and local requirements.

1.7 These products are intended to be periodically inspected and maintained for continued service, or taken out of service if necessary, by qualified persons in accordance with industry recommended practices and/or the manufacturer's instructions.

1.8 These products have not been evaluated for use after natural disasters, fires or exposures to chemicals not representative of the test liquids, or excessive physical damage beyond the expected assembly, installation and uses as identified in these requirements.

1.9 These products have not been evaluated for applications where exposed to heavy or continuous physical abuses, excessive mechanical stresses; and environments that are highly corrosive; or operate outside of the expected ambient use temperature range for significant times.

1.10 These requirements do not cover aboveground piping products for liquid fuels, which are within the scope of UL 180, Liquid-Level Gauges for Oil Burner Fuels and Other Combustible Liquids and ULC/ORD-C180, Liquid Level Gauges And Indicators For Fuel Oil And Lubricating Oil Tanks; or underground piping products which are found in CAN/ULC-S679, Standard for Metallic and Nonmetallic Underground Piping for Flammable and Combustible Liquids; UL 971, Standard for Nonmetallic Underground Piping For Flammable Liquids; and UL 971A, Outline of Investigation for Metallic Underground Fuel Pipe.

1.11 These requirements do not cover aboveground piping products for gaseous fuels (such as natural gas, liquefied petroleum gas, propane, butane, etc.), which are found in UL 536, Standard for Flexible Metallic Hose; and ULC/ORD-C536, Flexible Metallic Hose.

1.12 These requirements do not cover flexible metal connector piping or flexible elastomeric fuel dispensing and vapor recovery hose, which are found in UL 2039, Standard for Flexible Connector Piping for Fuels; UL 330A, Outline of Investigation for Hose and Hose Assemblies for Use With Dispensing Devices Dispensing Gasoline and Gasoline/Ethanol Blends With Nominal Ethanol Concentrations Up To 85 Percent (E0 – E85); UL 330B, Standard for Hose and Hose Assemblies for Use With Dispensing Devices Dispensing Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends With Nominal Biodiesel Concentrations Up To 20 Percent (B20), Kerosene, and Fuel Oil; and CAN/ULC-S633, Standard for Flexible Connector Piping for Fuels.

2 General

2.1 Units of measurement

2.1.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

2.2 Undated references

2.2.1 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. Refer to Appendix B for a list of referenced publications and publishing organizations.

3 Glossary

NOTE: For the purposes of this Standard the following definitions apply.

3.1 COMPOSITE PIPE SYSTEM – A piping system in which the pipe design contains both metallic and nonmetallic major, critical components.

3.2 FITTING – A manufacturer-supplied component 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.

3.3 FLEXIBLE PIPING – Pipe which is permitted to be bent to the manufacturer's recommended minimum bend radius.

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

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

3.6 METALLIC – Pipe, fittings, or components 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).

3.7 METALLIC PIPE SYSTEM – An aboveground piping system in which the pipe design contains major critical components that are formed from metals.

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

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

3.10 NONMETALLIC PIPE SYSTEM – A piping system in which the pipe design contains major critical components that are not formed from metals.

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

3.12 PIPE OR FITTING SIZE – Nominal or trade size (inches or mm) based on inside diameters of pipe and fittings.

NOTE: Nominal or trade sizes may not be equivalent to the actual measurements.

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

3.14 PRIMARY PIPE (aka CARRIER PIPE, PRODUCT PIPE) – Pipe intended to be in continuous contact with the liquid and vapor flowing in a piping system under normal use.

3.15 QUALIFIED PERSON – A worker specifically trained by the manufacturer to perform proper installations of its piping systems in the field in accordance with the specified instructions. The qualified person is not required to be an employee of the manufacturer.