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NATIONAL STANDARD

# ANSI/CAN/UL/ULC 2583:2021

# STANDARD FOR SAFETY

## Fuel Tank Accessories for Flammable and Combustible Liquids

Approved American National Standard

ANSI/UL 2583-2021

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## SCC FOREWORD

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UL Standard for Safety for Fuel Tank Accessories for Flammable and Combustible Liquids, ANSI/CAN/UL/ULC 2583

First Edition, Dated December 8, 2021

***Summary of Topics***

***This First edition of ANSI/CAN/UL/ULC 2583 dated December 8, 2021, Standard for Fuel Tank Accessories for Flammable and Combustible Liquids, has been issued to reflect the latest ANSI and SCC approval dates, and to incorporate the proposals dated March 5, 2021 and July 30, 2021.***

The requirements are substantially in accordance with Proposal(s) on this subject dated March 5, 2021 and July 30, 2021.

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ANSI/UL 2583-2021

DECEMBER 8, 2021






# ANSI/CAN/UL/ULC 2583:2021

## Standard for Fuel Tank Accessories for Flammable and Combustible Liquids

**First Edition**

**December 8, 2021**

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

The most recent designation of ANSI/UL 2583 as an American National Standard (ANSI) occurred on December 8, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This standard has been designated as a National Standard of Canada (NSC) on December 8, 2021.

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# Preface

This is the First Edition of ANSI/CAN/UL/ULC 2583, Standard for Fuel Tank Accessories 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). ULC Standards is accredited by 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.

This ANSI/CAN/UL/ULC 2583 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.

This joint American National Standard and National Standard of Canada is based on, and now supersedes, CAN/ULC-S661, CAN/ULC-S663, and Outline of Investigation, UL 2583.

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 On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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This Edition of the Standard has been formally approved by the UL Standards Technical Panel (STP) on Valves for Flammable Fluids, STP 842.

This list represents the STP 842 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

**STP 842 Membership**

| Name | Representing | Interest Category | Region |
|---|---|---|---|
| Barker, Ann-Marie | Technical Standards and Safety Authority (TSSA) | AHJ | Ontario |
| Bishoff, Mark | Lorax Systems Inc. | Producer | Canada |
| Boyd, Dennis | BP America Inc. | Commercial/Industrial User | USA |
| Brossett, Matt | Morrison Bros Co. | Producer | USA |

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| Name | Representing | Interest Category | Region |
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| Deschamps, Claude | Régie du Bâtiment du Québec (RBQ) | AHJ | Quebec |
| Dutton, John | J Dutton | General Interest | Canada |
| Fasel, Mark | Viega LLC | Producer | USA |
| Henderson, Tom | State Water Resources Control Board | AHJ | USA |
| Koch, Wolf | Technology Resources International | General Interest | USA |
| Kuehn, Justin | Franklin Fueling Systems Inc. | Producer | USA |
| Lauber, Matt | OPW Fueling Components | Producer | USA |
| Legault, Pierre | Integrated Review Services – Consulting | General Interest | Ontario |
| Meyer, Jeanne Murphy | Core Engineered Solutions Inc. | Supply Chain | USA |
| Petersen, James | Petersen Engineering | General Interest | USA |
| Prusko, Jeffrey | Underwriters Laboratories Inc. | Project Manager – Non-voting | USA |
| Wade, John A. | ULC Standards | STP Chair – Non-voting | Canada |
| Werner, Laura | ULC Standards | Project Manager – Non-voting | Canada |
| Wiegert, B. | PMMIC | General Interest | USA |
| Wolff-Klammer, Edgar | UL LLC | Testing and Standards Org | USA |

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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 mechanical type accessories that are typically intended for attachment to storage tanks or connecting pipe for flammable and combustible liquids in commercial (public) or private (fleet) automotive fueling station and similar storage or dispensing applications and are designed to provide automatic safety or operational functions.

1.2 These products may be used with underground or aboveground tank systems and with liquid and/or vapor phases of the fuels and similar fuels or liquids covered by each Part of this Standard as identified below:

a) Part I Vapor Control Products – applies to functional devices and accessories intended for connection to tank top openings (directly on fittings or indirectly on pipe) and perform safety or operational functions in vapor spaces, such as emergency vents, normal vents, interstitial vacuum/e-vent plugs, adapters and caps.

b) Part II Liquid Control Products – applies to functional devices and accessories intended for connection to tank top openings (directly on fittings or indirectly on pipe) and perform safety or operational functions in liquid spaces, such as spill containment devices, overfill prevention devices, and liquid level gauges.

c) Part III Structural and Containment Products (reserved for future use) – applies to metallic components such as access devices, manways, supports, and dikes.

d) Part IV Corrosion Protection Products (reserved for future use) – applies to components such as tank anchors, coatings and resins.

e) Part V Miscellaneous Products – applies to devices and accessories such as portable/mobile tank spill prevention devices, lift lugs, striker plates and monitor well caps.

1.3 These products are intended for use with storage tanks or fueling systems containing automotive fuels and similar fuels or liquids under the expected use conditions and exposures that have similar chemical, physical and material compatibility properties as represented in these requirements. The applicable fuels are intended to be formulated as:

a) Petroleum products, including petroleum hydrocarbon fuels with low-biofuels blends, and similar flammable or combustible liquid petroleum derivatives, such as fuel components (cetane, hexane, heptane), and oils (lubricating, hydraulic, machine);

b) Oxygenated fuel blends, including all “petroleum product” liquids plus petroleum hydrocarbon fuels with low-biofuels blends;

c) Oxygenates, including all “petroleum product” and “oxygenated fuel blends” liquids plus pure/denatured or highest oxygenated blend stocks for use in mixing of dispensed lower fuel blends and components, such as biodiesel and ethanol; and

d) Other flammable and combustible liquids (for which the test fuels in Annex A are not considered to be sufficient or applicable) that can be demonstrated or determined to be compatible with the accessory materials as determined by the certifier.

1.4 Products covered by this Standard are intended to be installed and used in accordance with the applicable documents in the following list:

a) In the United States:

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1) NFPA 30, Flammable and Combustible Liquids Code;

2) NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages;

3) NFPA 1, Fire Code;

4) International Fire Code published by the International Fire Council; or

5) Other Applicable Federal and State regulations for the specific product or application it is being utilized in, such as DOT for portable/mobile tanks.

b) In Canada:

1) National Fire Code of Canada;

2) CAN/CSA-B139, Installation code for oil-burning equipment;

3) CCME PN1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; and

4) Regulation of the authority having jurisdiction.

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

1.6 Requirements for use in hazardous locations are also provided for any electrical devices and components that form part of the accessory(ies).

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 requirements do not address use of the accessories after natural disasters, fires or exposures to chemicals not representative of the test liquids/vapors or excessive physical damage beyond the expected assembly, installation and uses as identified in these requirements.

1.9 These requirements do not address special applications where the accessories are exposed to heavy or continuous physical abuses, excessive mechanical stresses, or environments that operate outside of the expected atmospheric conditions and ambient use temperature range.

1.10 Emergency vent (E-vent) and Pressure/Vacuum vent (P/V-vent) requirements do not cover flame arrester features. The applicable requirements are found in the Standard for Flame Arresters, UL 525, but may optionally be addressed by EPA 40 CFR Part 63 Subpart CCCCCC, CARB (CP-201), CCME PN1184, Environmental Code of Practice for Vapour Recovery During Vehicle Refueling at Service Stations and Other Gasoline Dispensing Facilities, or other air quality regulations at the request of the manufacturer.

1.11 The requirements for Overfill Preventers do not cover any general-purpose manual or automatic safety valves. The applicable requirements are found in UL/ULC 842, UL 842A and UL 842B. Requirements for combustible liquid only rated devices are found in UL/ULC 180.

1.12 The requirements for Spill Containers are intended for aboveground tank applications and do not cover long term fuel exposures or use as a tank sump for underground or below-grade applications, which are found in UL 2447 and CAN/ULC-S664.

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1.13 Communication requirements, for characteristics such as electromagnetic compatibility (EMC), electromagnetic interference (EMI) including regulations of the Federal Communications Commission (FCC) or Industry Canada for wired or wireless options are not covered under this Standard.

## 2 Units of Measurement

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

## 3 Reference Publications

3.1 The documents shown below are referenced in the text of this Standard. 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.

### UL Standards

UL 157, *Standard for Gaskets and Seals*
UL 525, *Standard for Flame Arresters*
UL 842A, *Standard for Valves for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent (E0 – E85)*
UL 842B, *Standard for Valves for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil*
UL 913, *Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations*
UL 969, *Standard for Marking and Labeling Systems*
UL 1203, *Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations*
UL 1238, *Standard for Control Equipment for Use with Flammable Liquid Dispensing Devices*
UL 1332, *Standard for Organic Coatings for Steel Enclosures for Outdoor Use Electrical Equipment*
UL 2447, *Outline of Investigation for Containment Sumps, Fittings and Accessories for Fuels*
UL 60079-1, *Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”*
UL 60079-5, *Explosive Atmospheres – Part 5: Equipment Protection by Powder Filling “q”*
UL 60079-6, *Explosive Atmospheres – Part 6: Equipment Protection by Liquid Immersion "o"*
UL 60079-7, *Explosive Atmospheres – Part 7: Equipment Protection by Increased Safety “e”*
UL 60079-11, *Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”*
UL 60079-15, *Explosive Atmospheres – Part 15: Equipment Protection by Type of Protection "n"*
UL 60079-18, *Explosive Atmospheres – Part 18: Equipment Protection by Encapsulation "m"*
UL 60079-28, *Explosive Atmospheres – Part 28: Protection of Equipment and Transmission Systems Using Optical Radiation*
UL 61010-1, *Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements*
UL 121201, *Standard for Safety for Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations*

### ULC Standards

CAN/ULC-S601, *Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids*
CAN/ULC-S603, *Steel Underground Tanks for Flammable and Combustible Liquids*
CAN/ULC-S603.1, *External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids*
CAN/ULC-S664, *Standard for Containment Sumps, Sump Fittings, and Accessories for Flammable and Combustible Liquids*

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