



UL 80

STANDARD FOR SAFETY

Steel Tanks for Oil-Burner Fuels and
Other Combustible Liquids

UL Standard for Safety for Steel Tanks for Oil-Burner Fuels and Other Combustible Liquids, UL 80

Twelfth Edition, Dated September 21, 2007

SUMMARY OF TOPICS

This revision of ANSI/UL 80 dated April 26, 2019 is being issued to reflect the reaffirmation of the ANSI approval of the Standard. No technical changes have been made to the document.

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The requirements are substantially in accordance with Proposal(s) on this subject dated February 15, 2019.

The first and second editions were titled Design and Construction of Inside Tank Equipment for Oil Burners. The third edition was titled Inside Storage Tanks for Oil Burners. The fourth and fifth editions were titled Inside Tanks for Oil-Burner Fuel. The sixth through ninth editions were titled Steel Inside Tanks for Oil-Burner Fuel. The tenth and eleventh editions were titled Steel Tanks for Oil-Burner Fuel.

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Liquids

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Twelfth Edition

September 21, 2007

This ANSI/UL Standard for Safety consists of the Twelfth Edition including revisions through April 26, 2019. The most recent designation of ANSI/UL 80 as a Reaffirmed American National Standard (ANS) occurred on April 26, 2019. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

The Department of Defense (DoD) has adopted UL 80 on January 2, 1992. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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 <https://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover steel primary, steel secondary, and steel diked type atmospheric storage tanks from 60 to 660 gallons (227 to 2500 L) intended primarily for the storage and supply of heating fuels for oil burning equipment, or alternately for the storage of diesel fuels for compression ignition engines and motor oils (new and used) for automotive service stations, in aboveground applications.

1.2 Each tank type shall be permitted to be fabricated in various shapes (cylindrical, rectangular or obround), orientations (horizontal, vertical) and may have integral options (tank supports or accessories), as covered in this Standard.

1.3 These shop fabricated tanks are completely fabricated, inspected and tested for leakage before shipment from the factory as completely assembled vessels except for options intended for field assembly in accordance with the manufacturers instructions.

1.4 Each tank shall be permitted to be fabricated as a double bottom tank as covered in this Standard.

1.5 These tanks are intended for installation and use in accordance with the Standard for the Installation of Oil-Burning Equipment, ANSI/NFPA 31, the Flammable and Combustible Liquids Code, ANSI/NFPA 30, the Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 30A, the Uniform Fire Code, ANSI/NFPA 1, and the International Fire Code published by the International Code Council.

1.6 These requirements do not apply to tanks covered by the Standard for Steel Underground Tanks for Flammable and Combustible Liquids, UL 58, the Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, UL 142, the Standard for Fire Resistant Tanks for Flammable and Combustible Liquids, UL 2080, the Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids, UL 2085, or the Outline of Investigation for Non-Metallic Oil Burner Fuel Tanks, SU 2258.

1.7 These requirements do not apply to tanks covered by the Specification for Field-Welded Tanks for Storage of Production Liquids, API 12D; and the Specification for Shop-Welded Tanks for Storage of Production Liquids, API 12F or the Standard for Welded Steel Tanks for Oil Storage, API 650.

1.8 These requirements do not cover storage of waste oils or other combustible liquids with different fire, physical, or material compatibility properties with respect to the intended liquids in [1.1](#), and do not cover fuel blends with more than 20 percent of bio diesel fuel. These requirements do not cover storage of flammable liquids.

1.9 These requirements do not cover special evaluations for resistance to hurricanes, tornadoes, earthquakes, floods, fires or other natural disasters; or resistance to vehicle impact.

2 Components

2.1 Except as indicated in [2.2](#), a component of a product covered by this standard shall comply with the requirements for that component.

2.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Glossary

3.1 For the purposes of this Standard, the following definitions apply.

3.2 ABOVEGROUND TANK (also known as ABOVEGROUND STORAGE TANK or AST) – A storage tank that is intended for installation above grade, at grade or below grade without backfill.

3.3 ATMOSPHERIC TANK – A storage tank that has been designed to operate at pressures from atmospheric through a gauge pressure of 1.0 psig (6.9 kPa) measured at the top of the tank.

3.4 BIO DIESEL – General description of various Class II to IIIB range of long chain fatty acid ester fuels complying with ASTM D6751 processed from vegetable oils or animal fats in pure form (B100). Bio diesel may also be blended with heating fuels or diesel fuels (B1-B99) denoting the percent volume of bio diesel in the mix.

3.5 BOTTOM SUPPLY CONNECTION – A storage tank bottom opening that is intended to provide a means to supply fuel to oil burning equipment or oil to a dispensing device by gravity in addition to providing a means to automatically drain water from the tank.

3.6 DIESEL FUELS – General description of various Class II petroleum distillate grades complying with ASTM D975 including No. 1 and No. 2 Diesel Fuel (also known as on-road diesel, including low sulfur diesel, ultra low sulfur diesel, and bio diesel blends) typically intended for powering compression ignition engines.

3.7 DIKE – A single wall construction forming a bottom and high sides with open or closed top intended to provide integral support and secondary containment of an aboveground tank or tanks but not capable of being pressurized for leak testing. Dikes types include combinations of rectangular or cylindrical shapes or horizontal or vertical orientations. Open top dike constructions do not have covers to prevent precipitation or debris from entering the dike area. Closed top dike constructions have covers to resist precipitation or debris from entering the dike area.

3.8 DIKED PRIMARY TANK – An aboveground primary tank within an open or closed dike intended to provide at least 110 percent containment capacity of the primary tank or tanks and spill containment.

3.9 DIKED SECONDARY TANK – An aboveground secondary tank within an open or closed dike intended to provide at least 110 percent containment capacity of the primary tank or tanks and spill containment.

3.10 DOUBLE BOTTOM TANK – A primary tank with an additional bottom capable of being pressurized and has means for venting and monitoring for leaks in the interstitial space, but does not provide complete secondary containment.

3.11 HEATING FUELS – General description of various Class II petroleum distillate grades complying with ASTM D396 or ASTM D3699, including No. 1 and No. 2 Fuel Oils or K1 Kerosene (also known as oil burner fuel, including low sulfur distillates and bio diesel blends), typically intended for use in oil burning equipment.