UL 441

STANDARD FOR SAFETY

Gas Vents

UL Standard for Safety for Gas Vents, UL 441

Eleventh Edition, Dated April 8, 2016

Summary of Topics

This revision of ANSI/UL 441 dated April 2, 2024 is being issued to update the title page to reflect the most recent designation as a Reaffirmed American National Standard (ANS). No technical changes have been made.

Text that has been changed in any manner or impacted by ULSE'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 16, 2024.

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APRIL 8, 2016
(Title Page Reprinted: April 2, 2024)

UL 441

Standard for Gas Vents

First Edition – September, 1958
Second Edition – January, 1969
Third Edition – January, 1971
Fourth Edition – July, 1973
Fifth Edition – July, 1979
Sixth Edition – March, 1986
Seventh Edition – September, 1991
Eighth Edition – October, 1994
Ninth Edition – January, 1996
Tenth Edition – March, 2010

Eleventh Edition

April 8, 2016

This ANSI/UL Standard for Safety consists of the Eleventh Edition including revisions through April 2, 2024.

The most recent designation of UL 441 as a Reaffirmed American National Standard (ANS) occurred on April 2, 2024. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

The Department of Defense (DoD) has adopted UL 441 on September 16, 1991. 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 ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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INTRODUCTION

1 Scope

1.1 These requirements cover Types B and BW gas vents and Types B and BW gas vent roof jacks intended for venting gas appliances equipped with draft hoods to burn only gas. Type B vents are also intended for use with other Category I appliances that specify they are for use with Type B gas vents.

1.2 The gas vents covered by these requirements are intended for installation in accordance with the National Fire Protection Association Standards for Chimneys, Fireplaces, Vents, and Solid-Fuel Burning Appliances, NFPA 211 the National Fuel Gas Code, NFPA 54, the Department of Housing and Urban Development Mobile Home Construction and Safety Standards, Chapter II of 24 CFR, Part 280, the International Mechanical Code, and the Uniform Mechanical Code.

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 need not comply with a specific requirement that:

a) Involves a feature or characteristic not needed 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 recognized rating established for the intended conditions of use.

2.4 Specific components are recognized as being 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 for which they have been recognized.

3 Units of Measurement

3.1 If a value for measurement is followed by a value in other units in parentheses, the second value may be only approximate. The first stated value is the requirement.

4 Undated References

4.1 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.

5 Glossary

5.1 For the purpose of this standard, the following definitions apply.

5.2 CATEGORY I APPLIANCE – An appliance that operates with a nonpositive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent.

5.3 COMBUSTIBLE MATERIAL – Material made of or surfaced with wood, compressed paper, plant fibers, or other material that ignites and burns, as applied to materials adjacent to or in contact with heat-

producing appliances, chimney connectors and vent connectors, steam and hot water pipes, and warm air ducts. Such material shall be identified as combustible even though flameproofed, fire-retardant treated, or plastered.

5.4 NONCOMBUSTIBLE MATERIAL – A material that, in the form in which it is used and under the conditions anticipated, does not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat.

5.5 ROOF JACK – A factory-built assembly for conveying flue gases through a roof and that includes a flue gas passageway, an insulating means, flashing, and a cap.

5.6 TYPE B GAS VENT – A gas vent for venting gas appliances with draft hoods and other Category I gas appliances listed for use with Type B gas vents.

5.7 TYPE BW GAS VENT – A gas vent for venting gas-fired vented wall furnaces.

CONSTRUCTION

6 Materials

6.1 A gas-vent and a roof-jack part shall be made of noncombustible corrosion-resistant materials. Metals shall not be used in combinations that result in galvanic action at any location within the assembly.

6.2 The minimum thickness of sheet metal, including any coatings, shall be as referenced in Table 6.1 unless otherwise specified.

6.3 Aluminum alloys containing more than 1.0 percent magnesium shall not be used when the reflectivity of the material is utilized to reduce the risk of fire.

6.4 A flue-gas conveying conduit shall be of a material having durability and resistance to corrosion and heat equivalent to that of Type 1100 aluminum, Series 300 or Types 430 and 446 stainless steel, or porcelain-coated steel complying with the requirements contained herein. Except as noted in 6.5, parts in contact with flue gases or flue gas-air mixtures, or subject to condensation, shall be of material having durability and resistance to corrosion and heat equivalent to Type 1100 aluminum or Series 300 or Types 430 and 446 stainless steel.

Table 6.1
Minimum metal thickness

	Inch	(mm)
Aluminum alloys (1100, 3003) – inner pipe	0.012	(0.30)
Aluminum alloys (1100, 3003) – other than inner pipe	0.016	(0.41)
Steel	0.016	(0.41)
Galvanized steel (G90 coating class)	0.018	(0.46)
Aluminum-coated steel (0.40 ounces per square foot)	0.018	(0.46)
Stainless steel (Type 430)	0.012	(0.30)

6.5 An outer casing or other structural part shall be of stainless steel, galvanized steel, or aluminum-coated steel when:

a) Deterioration or corrosion of the part results in the venting system to collapse or otherwise increase the risk of injury to persons;