UL 1738

STANDARD FOR SAFETY

Venting Systems for Gas-Burning Appliances, Categories II, III, and IV

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UL Standard for Safety for Venting Systems for Gas-Burning Appliances, Categories II, III, and IV, UL 1738

Fifth Edition, Dated April 7, 2026

Summary of Topics

This new Fifth Edition of ANSI/UL 1738 dated April 7, 2026, includes the following changes in requirements:

– Resistance to Condensate-Exposure Corrosion Test for Metals – Alternate method; 39.4

– This new edition also incorporates editorial changes including renumbering and reformatting to align with the current style.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated October 24, 2025.

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UL 1738

Standard for Venting Systems for Gas-Burning Appliances, Categories II, III, and IV

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Fifth Edition

April 7, 2026

This ANSI/UL Standard for Safety consists of the Fifth Edition.

The most recent designation of ANSI/UL 1738 as an American National Standard (ANSI) occurred on April 7, 2026. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

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 venting systems intended for venting Category II, III, or IV gas-burning appliances as defined by the Standard for Gas-Fired Central Furnaces (except Direct-Vent Central Furnaces), ANSI Z21.47 and the National Fuel Gas Code, NFPA 54. Venting systems covered by these requirements are intended to be used with Category II, III, and IV appliances that have been installed in accordance with NFPA 54, and with codes such as the BOCA National Mechanical Code, the Standard Mechanical Code, the Uniform Mechanical Code, and local codes.

2 Components

2.1 A component of a product covered by this Standard shall:

a) Comply with the requirements for that component as specified in this Standard;

b) Be used in accordance with its rating(s) established for the intended conditions of use; and

c) Be used within its established use limitations or conditions of acceptability.

2.2 A component of a product covered by this Standard is not required to comply with a specific component requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product;

b) Is superseded by a requirement in this Standard; or

c) Is separately evaluated when forming part of another component, provided the component is used within its established ratings and limitations.

2.3 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 Units of Measurement

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

4 Referenced Publications

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.

4.2 The following publications are referenced in this Standard:

ASTM A90, *Standard Test Method for Weight [Mass] of Coating on Iron or Steel Articles with Zinc or Zinc-Alloy Coatings*

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

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ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

ASTM D638, *Standard Test Method for Tensile Properties of Plastics*

ASTM D648, *Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position*

ASTM D1784, *Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds*

ASTM D1822, *Standard Test Method for Tensile-Impact Energy to Break Plastics and Electrical Insulating Materials*

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

ASTM D2860, *Standard Test Method for Adhesion of Pressure-Sensitive Tape to Fiberboard at 90° Angle and Constant Stress*

ASTM D5420, *Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact)*

ASTM G151, *Standard Practice for Exposing Non-metallic Materials in Accelerated Test Devices That Use Laboratory Light Sources*

ASTM G155, *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-metallic Materials*

CSA/ANSI Z21.47, *Standard for Gas-Fired Central Furnaces (except Direct-Vent Central Furnaces)*

NFPA 54, *National Fuel Gas Code*

UL 94, *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances*

UL 746A, *Polymeric Materials – Short Term Property Evaluations*

UL 746B, *Polymeric Materials – Long Term Property Evaluations*

UL 969, *Marking and Labeling Systems*

5 Glossary

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

5.2 APPLIANCE – A gas burning device constructed and installed in accordance with nationally recognized standards, as appropriate.

5.3 APPLIANCE ADAPTER – A special gas vent fitting which typically joins non-metallic vent systems to the outlet of a fuel gas-burning appliance.

5.4 CATEGORY II APPLIANCE – An appliance that operates with a nonpositive vent static pressure and with a flue loss less than 17 % in accordance with ANSI Z21.47.

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5.5 CATEGORY III APPLIANCE – An appliance that operates with a positive vent static pressure and with a flue loss not less than 17 % in accordance with ANSI Z21.47.

5.6 CATEGORY IV APPLIANCE – An appliance that operates with a positive vent static pressure and with a flue loss less than 17 % in accordance with ANSI Z21.47.

5.7 COMBUSTIBLE MATERIAL – Material made of or surfaced with wood, compressed paper, plant fibers, or other material that will ignite and burn, 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 considered as combustible even though flameproofed, fire-retardant treated, or plastered.

5.8 CONDENSING TYPE APPLIANCE – Any Category II or IV appliance.

5.9 FLEXIBLE VENTING SYSTEM – A venting system that is intended to be bent during the installation process to avoid obstacles or to change direction, and whose bending capability is inherent in the vent gas conduit.

5.10 NONCOMBUSTIBLE MATERIAL – For the purpose of this Standard, a material which is not capable of being ignited and burned, such as materials consisting entirely of, or a combination of, steel, iron, brick, tile, concrete, slate, asbestos, glass, and plaster.

5.11 OFFSET VENT – A venting system that incorporates elbows.

5.12 PRODUCT – The term "product" as used in these requirements refers to all venting systems or any part thereof covered by these requirements unless specifically noted otherwise.

5.13 RADIATION SHIELD – A panel or panels interposed between heating surfaces and jackets to reduce heat loss through radiation.

5.14 TEMPERATURE RATING – The maximum use temperature specified by the vent manufacturer for which the venting system is intended. The marked temperature rating is equal to the minimum vent input temperature selected from Table 19.1.

5.15 THIMBLE – The part of a venting system that is intended to provide a means for routing the venting system through a combustible wall in a horizontal installation.

5.16 VENT GAS CONDUIT – The part of a venting system that is directly exposed to vent gas products.

5.17 VENT GAS INPUT TEMPERATURE – The vent gas temperature at the location where the venting system attaches to an appliance.

5.18 VENT TERMINATION OR CAP – The fitting at the end of the vent pipe that directs the flue products into the outdoor atmosphere.

5.19 VENTING SYSTEM – The gas vent, chimney or single-wall metal pipe, and vent connector when used, assembled to form a continuous open passageway from the flue collar or draft hood outlet of a gas appliance to the outside atmosphere for the purpose of removing vent gases.

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