ULC 636:2026

Standard for Type BH Gas Venting Systems

ULC Standards
Normes ULC

Underwriters Laboratories of Canada (ULC) was established in 1920 by letters patent issued by the Canadian Government. It maintains and operates laboratories and certification services for the examination, testing and certification of appliances, equipment, materials, constructions and systems to determine their relation to life, fire and property hazards as well as providing inspection services.

ULC Standards develops and publishes standards and other related publications for building construction, security and burglar protection, environmental safety, electrical equipment, fire protection equipment, gas and oil equipment, thermal insulation products, materials and systems, energy use in the built environment and electrical utility safety.

ULC Standards is a not-for-profit organization and is accredited by the Standards Council of Canada as a Standards Development Organization.

National Standards of Canada developed by ULC Standards conform to the criteria and procedures established by the Standards Council of Canada. Such standards are prepared using the consensus principle by individuals who provide a balanced representation of interests relevant to the subject area on a national basis.

For further information on ULC standards, please contact:

ULC STANDARDS
Telephone: 1-888-853-3503
E-mail: ClientService@shopULStandards.com

To purchase ULC Standards, visit: http://www.shopulstandards.com

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 the particular application.

Standard for Type BH Gas Venting Systems, ULC 636

Fourth Edition, Dated February 22, 2024

Summary of Topics

This revision of ULC 636 dated April 7, 2026 includes alternate method resistance to condensate (metallic vents): 4.10, 12.3 and Section 29A.

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 new and revised requirements are substantially in accordance with Proposal(s) on this subject dated December 9, 2025.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

Standard for Type BH Gas Venting Systems

ICS 27.060.20; 91.140.10; 91.140.20; 91.140.30; 91.140.65; 97.100.20

ULC Standards
Normes ULC

First Edition . . . . . November 1985
Second Edition . . . . . April 1995
Third Edition . . . . . July 2008
FOURTH EDITION . . . . . FEBRUARY 22, 2024
REVISION . . . . . APRIL 7, 2026

© 2026

ULC Standards

All rights reserved. No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior permission.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

CONTENTS

ULC COMMITTEE ON FACTORY-BUILT FIREPLACES, CHIMNEYS AND VENTS 7

PREFACE 9

INTRODUCTION

1 Scope 11
2 Referenced Publications 11
3 Glossary 12

CONSTRUCTION

4 Materials 12
4.19.1 Combustibility 14
4.19.2 Thermal properties 14
4.19.3 Aging 14
5 Assembly 14
6 Joints 15
7 Spacers 15
8 Supports 17
9 Radiation Shields 17
10 Caps 19
11 Termination Assemblies 19
12 Appliance Connections 19

PERFORMANCE

13 General 20
14 Test No. 1 – Temperature, Structure 21
14.1 Test installation 21
14.2 Temperature measurement 30
14.3 Test procedure 31
15 Test No. 2 – Wind Load 33
16 Test No. 3 – Strength 36
16.1 Impact 36
16.2 Pull 39
16.3 Torque 41
17 Test No. 4 – Support 43
18 Test No. 5 – Rain 43
19 Test No. 6 – Freezing and Thawing of Nonmetallic Materials Absorbing Water 46
20 Test No. 7 – Joint Adhesive Conditioning for Class I Nonmetallic Vent Pipes 47
21 Test No. 8 – Sulphuric Acid Extraction for Porcelain Enamelled Steel Used for Flue-Gas Conduit 51
22 Test No. 9 – Condensing Sulphur Dioxide (Metallic Vents) 51
23 Test No. 10 – Vent Sag 54
24 Test No. 11 – Sealing Compound 54
25 Test No. 12 – Gas Leakage 54
26 Test No. 13 – Combustibility (Nonmetallic Vents) 54
27 Test No. 14 – Thermal Properties (Nonmetallic Vents) 56
28 Test No. 15 – Aging (Nonmetallic Vents) 58
29 Test No. 16 – Resistance to Condensate (Metallic Vents) 59
29A Test No. 16A – Alternate Method Resistance to Condensate (Metallic Vents) 60

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

30 Test No. 17 – Bending (Flexible Metallic Vents).....60
31 Test No. 18 – Torsion (Flexible Metallic Vents).....60
32 Test No. 19 – Cyclic Strength Test for Class I Nonmetallic, Non-Positive Locking Joints.....61
33 Test No. 20 – Internal Stress (Class I Nonmetallic Vents).....63
34 Test No. 21 – Condensate Conditioning of Class I Nonmetallic Vent Pipe and Fittings.....63
35 Test No. 22 – Environmentally Induced Stress Cracking on Class I Nonmetallic Vent Material.....64

MANUFACTURING AND PRODUCTION TESTS (CLASS I NONMETALLIC VENTS)

36 General.....65
37 Longitudinal Pull and Torque Tests.....65
38 Internal Stress Test (Class I Nonmetallic Vents).....65

MARKINGS

39 General.....65

INSTALLATION INSTRUCTIONS

40 General.....67

ANNEX A – (Normative)

A1 Excerpt from Interim Requirement Ir65, Test for Connection Between BH Venting and Appliance Vent Outlet.....70

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

ULC COMMITTEE ON FACTORY-BUILT FIREPLACES, CHIMNEYS AND VENTS

NAME	AFFILIATION	CATEGORY	REGION
E. Adair	Hearth Patio & Barbecue Association	General Interest	USA
J. Brania	UL Solutions	Testing & Stds Org	USA
I. Brodzinski	UL Standards & Engagement	Project Manager	Canada
M. Brunt	Z-FLEX INC	Producer	USA
Q. Choudry	Office of the Ontario Fire Marshal and Emergency Management	AHJ	Ontario
L. Cleroux	Industrial Chimney Co Inc	Non-voting	Canada
E. Dufour	Security Chimneys International LTD	Producer	Canada
G. Faber	SCM Risk Management Services	General Interest	Canada
Z. Gadomski	WETBC	Commercial / Industrial User	Canada
L. Gill	IPEX Management Inc.	Producer	USA
T. Hardin	UL Solutions	Non-voting	USA
M. Harwood	IV3CUS/IV3 SOLUTIONS	General Interest	Canada
M. Kulik	Technical Standards & Safety Authority (TSSA)	AHJ	Ontario
E. Lamy	Industrial Chimney Company (ICC)	Producer	Canada
A. Marcakis	Association DES Professionnels DU Chauffage	Commercial / Industrial User	Quebec
H. Nagtegaal	Winnipeg Chimney Service Inc.	Commercial / Industrial User	Canada
S. Scott	NORTH AMERICAN PIPE, A WESTLAKE CHEMICAL CO, DIV OF ROYAL PIPE & FITTINGS	Non-voting	Canada
M. Skierkiewicz	UL Solutions	Non-voting	USA
Laura Werner	UL Standards & Engagement	TC Chair	Canada
B. Yanik	SITE	Commercial / Industrial User	Canada
B. Ziegler	Intertek	Testing & Stds Org	USA
R. Zimmerman	UL Solutions	Non-voting	Canada

This list represents the membership at the time the Committee balloted on the final text of this edition. Since that time, changes in the membership may have occurred.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

PREFACE

This is the Fourth Edition of the Standard for Type BH Gas Venting Systems, ULC 636.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Factory-Built Fireplaces, Chimneys and Vents.

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

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

Annex A, identified as normative, forms a mandatory part of this Standard.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

This ULC 636 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of 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.

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.

This Standard is intended to be used for conformity assessment.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

INTRODUCTION

1 Scope

1.1 These requirements cover the design, construction, and performance of gas venting systems intended for negative or positive pressure venting of gas-fired appliances producing flue gases having temperatures as specified in Clauses 1.2 and 1.3.

1.2 Class I venting systems are suitable for gas-fired appliances producing flue gas temperatures of more than 135 °C but not more than 245 °C.

1.3 Class II venting systems are suitable for gas-fired appliances producing flue gas temperatures of 135 °C or less.

1.4 Class II venting systems are further classified into four temperature ratings as follows:

a) Up to and including 65 °C;

b) Up to and including 90 °C;

c) Up to and including 110 °C; and

d) Up to and including 135 °C.

NOTE: Compliance of a venting system with this Standard does not imply that the venting system is acceptable for use on a gas appliance without supplemental tests in the applicable gas appliance standard resulting in the listing of the appliance for use with the specific type(s) of venting system covered by this Standard.

2 Referenced Publications

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.

2.2 The following publications are referenced in this Standard:

ANSI Z21.10.1 Incl. Addenda A – 02/06 & Addenda B – 04/06/CSA 4.1, *Gas Water Heaters Volume I, Storage Water Heaters With Input Ratings of 75,000 Btu Per Hour or Less*

ANSI Z21.10.3/CSA 4.3, *Gas Water Heaters; Volume III – Storage Water Heaters with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous*

ANSI Z21.13a, Incl. Addenda A – 04/05/CSA 4.9a, *Standard for Gas-Fired Low Pressure Steam and Hot Water Boilers*

ANSI Z21.47/CSA 2.3, *Gas-Fired Central Furnaces*

ASTM A653M, *Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process*

ASTM D638M, *Standard Test Method for Tensile Properties of Plastics [Metric]*

ASTM D1784a, *Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds*

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

ASTM D1822M, *Standard Test Method for Tensile-Impact Energy to Break Plastics and Electrical Insulating Materials [Metric]*

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

ASTM D2661, *Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings*

ASTM D3163, *Standard Test Method for Determining Strength of Adhesively Bonded Rigid Plastic Lap-Shear Joints in Shear by Tension Loading*

ASTM D5048, *Standard Test Method for Measuring the Comparative Burning Characteristics and Resistance to Burn-Through of Solid Plastics Using a 125 mm Flame*

ASTM F628, *Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core*

CSA-B149.1 Incl. Supplement No. 1, *Natural Gas and Propane Installation Code*

CSA-B149.2 Incl. Supplement No. 1, *Propane Storage and Handling Code*

3 Glossary

3.1 The definitions contained in the Natural Gas and Propane Installation Code, CSA-B149.1, shall apply throughout this Standard.

3.2 Appliance adapter – A fitting which connects a vent system to a fuel-burning appliance outlet.

CONSTRUCTION

4 Materials

4.1 A part normally in contact with flue gases shall be made of corrosion-resistant materials or have a corrosion-resistant finish to resist corrosion by flue-gas condensate. Metals shall not be used in combinations such as to cause detrimental galvanic action, which will adversely affect any part of the assembly.

4.2 Materials shall incorporate appropriate strength, rigidity, corrosion-resistance, thermal properties and gas tightness.

4.3 The thickness of sheet metal employed for a venting system component or sub assembly shall be not less than that indicated below, except that sheet metal of lesser thickness may be employed if, upon investigation (consideration being given to the shape, size and function of the component or sub assembly), it is found to have adequate mechanical strength and to be otherwise suitable for the purpose.

Aluminum Alloys.....0.40 mm

Zinc-Coated Steel (Refer to 4.7).....0.46 mm

Aluminum-Coated Steel (122 g/m^2 and where the bond between the steel and the aluminum is an iron-aluminum alloy).....0.46 mm

Stainless Steel .....0.30 mm

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.