CAN/ULC 102:2019 (R2024)

Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies

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Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies, CAN/ULC 102

Eighth Edition, Dated June 1, 2018

Summary of Topics

This revision of CAN/ULC 102 dated May 22, 2024 is being issued to update the title page to reflect the reaffirmation of this Eighth Edition National Standard of Canada. No changes in requirements are involved.

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 January 26, 2024.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD.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

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Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies

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PREFACE

This is the Eighth Edition of the Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies, CAN/ULC 102.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Fire Tests.

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.

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

Appendix B and C, identified as informative, are for informational purposes only.

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 Eighth Edition National Standard of Canada is based on, and now supersedes, the Seventh Edition.

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.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This CAN/ULC 102 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 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.

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1 SCOPE

1.1 This method of test for surface burning characteristics of building materials is applicable to any type of building material that, by its own structural qualities or the manner in which it is applied, is capable of supporting itself in position or may be supported in the test furnace as described in this Standard (see Appendix A) or in a manner comparable to its recommended use.

1.2 The following materials shall be tested and classified in accordance to CAN/ULC-S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies:

A Materials which cannot be tested as described in Clause 1.1 without the use of supporting material that is not representative of the intended installation;

B Materials which, when tested in the manner described in Clause 1.1, melts or drips, or otherwise disintegrates and continues to burn on the floor of the test chamber;

C Materials designed for use in a relatively horizontal position with only its top surface exposed to air; or

D Thermoplastic materials.

1.3 For material with a low thermal inertia which demonstrate anomalous behaviour in the test chamber (see Clause 9.2.4), the materials shall additionally be tested in accordance with CAN/ULC-S127, Standard Corner Wall Method of Test for Flammability Characteristics of Non-Melting Foam Plastic Building Materials. See Appendix C.

1.4 For multilayer or composite materials in which only the surface materials melts or drips during the test and the remainder of the test specimen remains self-supporting, one test is conducted with support and one test is conducted without support. An additional test in conformance with the requirements of CAN/ULC-S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies, shall be conducted. Triplicate testing shall then be conducted and reported using the method that produces the highest Flame Spread Value (FSV).

1.5 Where a material cannot be readily determined to be thermoplastic or thermoset, one test is conducted in accordance with this standard and one additional test in conformance with requirements of CAN/ULC-S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies. Triplicate testing shall then be conducted and reported using the method that produces the highest FSV.

1.6 The primary purpose of the test is to determine the comparative burning characteristics of the material or assembly under test by evaluating the flame spread over its surface when exposed to a test fire and thus establish a basis on which surface burning characteristics of different materials or assemblies may be compared, without specific considerations of all the end use parameters that might affect these characteristics.

1.7 Smoke Developed Value (SDV) and Flame Spread Value (FSV) are recorded in this test. However, there is not necessarily a relationship between these two measurements.

1.8 It is the intent of this method to register performance during the period of exposure, and not to determine suitability for use after the test exposure.

1.9 This method does not establish standards of performance for specific applications. It is a means of evaluating the response of materials, products or assemblies to a particular fire exposure under controlled laboratory conditions.

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1.9.1 The Flame Spread Rating (FSR) and the Smoke Developed Classification (SDC) determined by this Standard shall be restricted to the application of applicable to the materials and assemblies as tested. See Appendix A for specific mounting methods for various materials and assemblies.

1.10 Durability requirements, as a product of exposure and influence (if any) due to environmental conditions or climate change, are outside the scope of this standard. (Refer to Appendix D).

2 REFERENCE PUBLICATIONS

2.1 The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard.

Documents Published by the American Society for Testing and Materials (ASTM International)
100 Barr Harbour Drive, PO Box C700, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585
www.astm.org

• ASTM D4442-15, Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials

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Document published by National Lumber Grades Authority (NLGA)
960 Quayside Drive, Suite 406, New Westminster, B.C. V3M 6G2 Canada
Telephone: (604) 524-2393
www.nlga.org

• Standard Grading Rules for Canadian Lumber, January 2014

Document Published by the National Research Council Canada (NRC)
1200 Montreal Road, Bldg. M-58, Ottawa, ON K1A 0R6 Canada
Telephone: (613) 993-9101 or 1-877-672-2672
www.nrc-cnrc.gc.ca

• National Building Code of Canada, 2015

Documents Published by ULC Standards
171 Nepean Street, Suite 400, Ottawa, ON K2P 0B4 Canada
Telephone: (613) 755-2729
www.ulc.ca/ulcstandards

• CAN/ULC-S102.2:2018, Standard Method of Test for Surfacing Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies
• CAN/ULC-S114:2018, Standard Method of Test for Determination of Non-Combustibility in Building Materials
• CAN/ULC-S127-14, Standard Corner Wall Method of Test for Flammability Characteristics of Non-Melting Foam Plastic Building Materials

3 SIGNIFICANCE

3.1 This method defines the relative surface burning characteristics under specific test conditions. Although the procedure is applicable to materials, products and assemblies used in building construction

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