CAN/ULC 146:2019 (R2025)

Standard Method of Test for the Evaluation of Encapsulation Materials and Assemblies of Materials for the Protection of Structural Timber Elements

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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.

Copies of this National Standard of Canada may be ordered from ULC Standards.

CETTE NORME NATIONALE DU CANADA EST DISPONIBLE EN VERSIONS FRANÇAISE ET ANGLAISE

Standard Method of Test for the Evaluation of Encapsulation Materials and Assemblies of Materials for the Protection of Structural Timber Element, CAN/ULC 146

First Edition, Dated May 31, 2019

Summary of Topics

This reaffirmation of CAN/ULC 146 dated May 6, 2025 is being issued to update the title page to reflect the reaffirmation of this First 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 February 20, 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PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD.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.

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FIRST EDITION . . . . . **MAY 31, 2019**
REAFFIRMED . . . . . MAY 6, 2025

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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.

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PREFACE

This is the First Edition of the Standard Method of Test for the Evaluation of Encapsulation Materials and Assemblies of Materials for the Protection of Structural Timber Elements, CAN/ULC 146.

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 Standards Council of Canada (SCC) for accreditation of a Standards Development Organization.

Only metric SI units of measurement are used in this Standard. If a value of 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 informative, is for information 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.

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 146 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 On-Line 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 test method evaluates the temperature transmission performance of an encapsulation material or assembly of materials installed over a wood substrate when the test specimen is subjected to a standard fire exposure condition following the standard time-temperature curve as described in Section 6 (Test Conditions).

1.2 It is the intent that the encapsulation period established by this test method indicates the period of standard fire exposure when an encapsulated structural timber element is not expected to reach temperatures sufficient to cause charring or combustion, potentially resulting in contribution to fire severity, and shall not be construed as having determined the fire endurance period of the encapsulation material or assembly of materials, or of the structural timber element.

1.3 It is the intent that the encapsulation period established by this test method indicates performance only during the fire exposure period and shall not be construed as determining suitability for use after fire exposure.

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 ULC Standards (prior to May, 2010, identified as
Underwriters Laboratories of Canada)
171 Nepean Street, Suite 400, Ottawa, ON K2P 0B4 Canada
Telephone: (613) 755-2729
www.ulc.ca/ulcstandards

• CAN/ULC-S101-14-REV1, Standard Methods of Fire Endurance Tests of Building Construction and Materials

3 Glossary

3.1 ENCAPSULATION PERIOD – a measure of the elapsed time during which a material, product, or assembly continues to delay the ignition and combustion of a wood substrate by limiting the temperature rise on the surface of the wood substrate under specified exposure conditions.

3.2 FIRE ENDURANCE PERIOD – a measure of the elapsed time during which a material, product, or assembly continues to exhibit fire resistance under specified exposure conditions.

NOTE: Also referred to as a ‘fire resistance rating’ in the National Building Code of Canada. As applied to elements of buildings, it is commonly measured by the methods and to the criteria defined in CAN/ULC S101, Standard Methods of Fire Endurance Tests of Building Construction and Materials.

4 Test Specimen

4.1 The test specimen, consisting of a wood substrate, any required supporting construction, and the encapsulation material or assembly of materials, shall be prepared for testing in a horizontal orientation and requires application of the fire exposure to the underside of the specimen under test.

4.2 The encapsulation material or assembly of materials and the method of securing them to the wood substrate shall be representative of the construction for which classification is required. If the encapsulation material or assembly of materials incorporates joints, at least one such joint shall be

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