CAN/ULC 113:2016 (R2026)

Standard Specification for Wood Core Doors Meeting the Performance Required by CAN/ULC 104 for Twenty Minute Fire Rated Closure Assemblies

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Standard Specification for Wood Core Doors Meeting the Performance Required by CAN/ULC 104 for Twenty Minute Fire Rated Closure Assemblies, CAN/ULC 113

Fourth Edition, Dated February 1, 2016

Summary of Topics

This reaffirmation of CAN/ULC 113 dated May 20, 2026 is being issued to update the title page to reflect the reaffirmation of this Fourth 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 March 6, 2026.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD.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 Specification for Wood Core Doors Meeting the Performance Required by CAN/ULC 104 for Twenty Minute Fire Rated Closure Assemblies

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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 Fourth Edition of the Standard Specification for Wood Core Doors Meeting the Performance Required by CAN/ULC 104 for Twenty Minute Fire Rated Closure Assemblies, CAN/ULC 113.

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 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.

This Fourth Edition National Standard of Canada is based on, and now supersedes, the Third 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.

This CAN/ULC 113 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 These requirements cover the design and construction of single swing Wood Core Flush Doors, which have shown by fire tests to possess sufficient properties to warrant a 20 min fire-protection rating when tested in accordance with CAN/ULC 104, Standard Method for Fire Tests of Door Assemblies.

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.

Document 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 D1037-12, Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

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Document Published by the Canadian General Standards Board (CGSB)
Place du Portage III, 6B1, 11 Laurier Street, Gatineau, QC K1A 1G6 Canada
Telephone: (819) 956-0425 or 1-800-665-2472
www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html

• CAN/CGSB-11.3-M87, Hardboard

Documents Published by the CSA Group
178 Rexdale Blvd., Toronto, ON M9W 1R3 Canada
Telephone: (416) 747-4000 or 1-800-463-6727
www.csagroup.org

• CSA O112 Series-M1977 (withdrawn), CSA Standards for Wood Adhesives
• CSA O112.10-08 (R2013), Evaluation of adhesives for structural wood products (limited moisture exposure)

Document Published by the National Lumber Grades Authority (NLGA)
Suite 105, 13401 108th Ave., Surrey, BC V3T 5T3 Canada
Telephone: (604) 584-2393; Fax: (604) 584-2890
www.nlga.org

• Standard Grading Rules for Canadian Lumber (January 2014)

Document Published by ULC Standards
171 Nepean Street, Suite 400, Ottawa, ON K2P 0B4 Canada
Telephone: (416) 757-3611, ext. 61744; Fax (613) 231-5977, “ATTN: Publications”
E-mail: publications@ulc.ca
www.ulc.ca

• CAN/ULC 104-15, Standard Method for Fire Tests of Door Assemblies

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3 SIZE AND TYPE

3.1 Wood core flush doors are manufactured in various core constructions, and with hardboard, plywood or plastic veneered faces.

3.2 The size of the finished doors shall be in accordance with TABLE 1.

4 MATERIALS

4.1 WOOD SPECIES

4.1.1 Wood species used in the core and in the stiles and rails shall have an average minimum mass density of at least 430 kg/m^3 (with an individual reading of not less than 385 kg/m^3) at 12 % moisture content, when measured in accordance with acceptable industry practice.

NOTE: For a partial list of wood species that may meet the average minimum density requirements refer to Appendix A.

4.2 PARTICLEBOARD

4.2.1 Mat-formed wood particleboard core material shall have a minimum mass density of 430 kg/m^3 and a thickness of 38 ± 1.6 mm.

4.2.2 The water absorption and thickness expansion of the mat-formed wood particleboard shall be determined after a 2 h submersion (horizontally) following the method described in ASTM D1037, Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.

4.2.3 The water absorption of the mat-formed wood particleboard core material in the unconditioned state (i.e. at the time of fabrication) shall not exceed 40 % by weight, after 2 h.

4.2.4 The thickness expansion of the mat-formed wood particleboard core material in the unconditioned state (i.e. at the time of fabrication) shall not exceed 15 % after 2 h immersion in water.

4.3 EXTRUDED PARTICLEBOARD (TUBULAR CORE)

4.3.1 Extruded particleboard (tubular core) shall have a thickness of 38 ± 1.6 mm and a minimum area density of 17.5 kg/m^2. The core holes shall have a maximum diameter of 20 mm and be at 30 mm minimum on centre.

4.3.2 The water absorption and thickness expansion of the extruded particleboard (tubular core) shall be determined after a 2 h submersion (horizontally) following the method described in ASTM D1037, Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.

4.3.3 The water absorption of the extruded particleboard (tubular core) in the unconditioned state (i.e. at the time of fabrication) shall not exceed 90 % by weight, after 2 h.

4.3.4 The thickness expansion of the extruded particleboard (tubular core) in the unconditioned state (i.e. at the time of fabrication) shall not exceed 2 % after 2 h immersion in water.

4.4 ADHESIVES

4.4.1 The adhesive to be utilized in the bonding between the veneer plies of wood door face panels and between the door faces and the frame and core unit shall comply with the requirements in CSA O112

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Series-M1997, CSA Standards for Wood Adhesives or CSA O112.10, Evaluation of adhesives for structural wood products (limited moisture exposure).

4.4.2 Typical door assembly using thermoplastic-based adhesives conforming to CSA O112.10, Evaluation of adhesives for structural wood products (limited moisture exposure) shall be tested in accordance to CAN/ULC 104, Standard Method for Fire Tests of Door Assemblies, and achieve at least a 20 min fire-protection rating.

4.5 FACE MATERIALS

4.5.1 General

4.5.1.1 Faces of wood core flush doors may be of hardboard, plywood or plastic laminate.

4.5.2 Hardboard

4.5.2.1 The hardboard shall be Type I Standard or Type II Tempered as specified in CAN/CGSB-11.3-M87, Hardboard.

4.5.2.2 The minimum thickness shall be 3 mm with a minimum mass density of 930 kg/m^3.

4.5.3 Plywood

4.5.3.1 The plywood shall be not less than 2.5 mm thick after sanding.

4.5.3.2 Two plies or more are to be bonded to the core such that the doors are of 5-ply or 7-ply construction.

4.5.4 Plastic Laminate

4.5.4.1 Plastic laminate, 1.6 mm or thinner, may be used as a face material on framed block non-glued cores, mat-formed particleboard (pieces not glued together) or extruded particleboard (tubular core) (pieces not glued together), providing a backing of either hardboard or plywood is utilized. The hardboard or plywood shall conform to the specifications described in Clauses 4.5.2 and 4.5.3.

4.5.4.2 Plastic laminate, 1.6 mm, may be used without backing as a face material on the following cores:

A Framed Block glued core;

B Mat-formed particleboard core (pieces glued together or of one continuous piece); and

C Extruded particleboard (tubular core) (pieces glued together or of one continuous piece).

5 DETAILS OF CONSTRUCTION

5.1 GLASS LIGHTS

5.1.1 Cutout for glass lights may be provided in doors employing wood block or mat-formed particleboard core construction only, as detailed by FIGURE 1 and FIGURE 2.

5.1.2 The maximum area of exposed glass per door leaf is limited to 0.064 m^2 with the width not exceeding 255 mm and the height 635 mm.

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