CAN/ULC 704.1:2026

Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced

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Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced, CAN/ULC 704.1

Fifth Edition, Dated July 20, 2022

Summary of Topics

This revision of CAN/ULC 704.1 dated May 12, 2026 includes the following changes:

– Reduction of the Number of Classes: 1.5, Table 4.1, and C1.4; and

– Revision to the Reporting and Marking/Labeling Sections: 11.1, 11.1A, 11.4(d), 13.3(h), and 13.4(b)

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 revised requirements are substantially in accordance with Proposal(s) on this subject dated December 12, 2025 and April 10, 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PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD.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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PREFACE

This is the Fifth Edition of the Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced, CAN/ULC 704.1.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Thermal Performance and Energy Use in the Built Environment.

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 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.

Annexes A and B, identified as Normative, form a mandatory part of this Standard.

Annexes C, D, and E, identified as Informative, are 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 Fifth Edition National Standard of Canada is based on, and now supersedes, the Fourth 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 704.1 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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INTRODUCTION

1 Scope

1.1 Products that comply with the requirements of this Standard are intended for use as thermal insulation in building construction. This Standard covers requirements and test methods for closed cell polyurethane and polyisocyanurate foam thermal insulation in the form of flat rigid boards covered on both sides with a facing material which impart some physical characteristics, particularly water vapor permeance and thermal resistance.

1.2 This closed cell polyurethane and polyisocyanurate foam thermal insulation is primarily intended for use in applications where the continuous use temperature is within the range -60 °C to +93 °C.

1.3 These rigid boards are not intended to be used as structural panels.

1.4 This Standard covers only products in which the facing material has been bonded to the foam core in the original foam manufacturing process. This Standard does not apply to products using fibreboard, perlite board, gypsum board, oriented strand board, or any other rigid board, as a facing material on one or both sides (users are referred to ASTM C1289, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board, for these products).

1.5 The products covered by this standard are classified into six Types based on mechanical properties and two Classes based on water vapour permeance.

1.6 This document does not purport to address all the health and safety aspects associated with its use. Anyone using this Standard has the responsibility to consult the appropriate authorities and to establish health and safety practices, in conjunction with any existing applicable regulatory requirements, prior to its use.

2 Referenced Publications

2.1 The documents shown below are referenced in the text of this Standard. Any undated reference to a standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

ASTM C177, *Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus*

ASTM C203, *Standard Test Method for Breaking Load and Flexural Properties of Block-Type Thermal Insulation*

ASTM C303, *Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation*

ASTM C518, *Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus*

ASTM C550, *Standard Test Method for Measuring Trueness and Squareness of Rigid Block and Board Thermal Insulation*

ASTM D618, *Standard Practice for Conditioning Plastics for Testing*

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ASTM C1045, *Standard Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions*

ASTM C1114, *Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus*

ASTM C1289, *Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*

ASTM D1621, *Standard Test Method for Compressive Properties of Rigid Cellular Plastics*

ASTM D1623, *Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics*

ASTM D2126, *Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging*

ASTM D2842, *Standard Test Method for Water Absorption of Rigid Cellular Plastics*

ASTM D3985, *Standard Test Method for Oxygen Gas Transmission Rate Through Plastic Film and Sheathing using a Coulometric Sensor*

ASTM E96/E96M, *Standard Test Methods for Water Vapor Transmission of Materials*

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

CAN/ULC 770, *Standard Test Method for Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams*

CAN/ULC-S773, *Standard for Thermal Insulation Terminology*

3 Terminology

Definitions common to ULC S700 thermal insulation Standards are given in CAN/ULC-S773, Standard for Thermal Insulation Terminology, and some of these have been listed below with a (CAN/ULC-S773) identifier.

3.1 BLOWING AGENT – a compounding ingredient used to provide gas by chemical or thermal action, in the manufacture of cellular plastics (CAN/ULC-S773).

3.2 CELLULAR PLASTIC (FOAM) – a two-phase manufactured product where the continuous phase is solid polymer and the discontinuous one is gas and which, by design, may be rigid or flexible with open or closed cell structure (CAN/ULC-S773).

3.3 CORE – the part of a product generally located between the outer layers (CAN/ULC-S773).

3.4 FACING – a functional or decorative surface material such as paper, fabric, plastic film or metal foil (CAN/ULC-S773).

3.5 POLYISOCYANURATE FOAM – a cellular thermoset plastic product obtained by reacting an excess of isocyanates with polyols and expanding the product with blowing agent(s). The product is called a polyurethane-modified polyisocyanurate thermal insulation foam. The material thus obtained is normally rigid and of closed or open cell structure (CAN/ULC-S773).

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