

**GUIDE FOR PREPARING THERMAL INSULATION
STANDARDS, PART 1 – MATERIAL SPECIFICATION**



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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 this particular application.

GUIDE FOR PREPARING THERMAL INSULATION STANDARDS, PART 1 — MATERIAL SPECIFICATION

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GUIDE FOR PREPARING THERMAL INSULATION STANDARDS, PART 1 — MATERIAL SPECIFICATION

PREFACE

This is the Second Edition of the Guide for Preparing Thermal Insulation Standards Part 1 - Material Specification, ULC-S771.1.

NOTE: This standard provides for continuity in format with all other ULC Thermal Insulation Standards. This guide provides for content consistent with the requirements for the development of ULC Thermal Insulation Standards by the ULC Committee on Thermal Insulation Materials and Systems.

This Edition of the Standard has been formally approved by the ULC Committee on Thermal Insulation Materials and Systems.

NOTE: This guide for thermal insulation material standard specifications is presented on two columns. The left column defines the format and general content and includes the mandatory inclusions (Sections). The right column provides non-mandatory instructions and explanations to Task Groups for the writing of standards.

NOTE: It is important to note that it remains the responsibility of the ULC Committee on Thermal Insulation Material and Systems, combined with advice from the Industry Task Group, to judge the guide's suitability for that particular thermal insulation material.

NOTE: The Requirements and Procedures for the Request for, Development, Approval, Preparation, and Maintenance of National Standards of Canada are defined by the Standard Council of Canada (SCC) in CAN-P-2. This requires that, in the process of preparing National Standards of Canada (NSC), existing International and Regional standards be considered, to the fullest extent possible, as the basis for the document so as to achieve the greatest practicable degree of harmonization of standards on the same or similar subjects. It is mandatory that Task Groups first consider the adoption, in whole or in part, of ISO standards. Task Groups shall also consider Regional Standards before developing a separate NSC. Note that it is not mandatory to adopt, in whole or in part, the considered standards. A list of the standards that were considered must be circulated with the draft standard for ballot, and forwarded to SCC with the application for approval to publish a NSC.

NOTE: The ULC Thermal Insulation Materials and Systems Committee adopted the allocation of Standard number suffixes ".1" indicating a material standard (manufacture), ".2" indicating an installation (installation contractor) and ".3" indicating an applications standard (design). Task Groups are instructed to apply these suffix numbers (that is, CAN/ULC-S7XX.1, CAN/ULC-S7XX.2 and CAN/ULC-S7XX.3) in Standards development wherever feasible.

NOTE: The consolidated lists of product properties, test methods and intended uses of properties in Section 6 and Annex B of this guide have been compiled mainly from a harmonized list of standard test methods; this consolidated list may be useful for designers, specifiers, manufacturers, testing labs and users of thermal insulation material Standards and products.

NOTE: It is the objective of the ULC Committee on Thermal Insulation Materials and Systems to have common test methods for each type of insulation material, which may be specified for a particular application to permit direct comparisons of various available materials. All efforts shall be made by Task Groups to use the test methods included in this guide unless there are compelling reasons not to do so. Task Groups shall consider the use of ISO standard test methods.

NOTE: Administrative Requirements. The Standards Council of Canada (SCC) requires that, “unless specifically requested with compelling reason by a proponent and with the approval of the standards development committee, references to certification or administrative requirements relating to conformity assessment, marks of conformity and other non-technical issues, including promotional information, shall not be included in the normative content of a NSC. Such requirements may be included in the preface, notes to preface, foreword, or informative annexes”. When the Task Group and SDO determine that such administrative requirements are necessary in the Normative Section of the standard, then the SDO shall provide an explanation of why it is beneficial to the clarity and understanding of the standard

NOTE: Published thermal insulation material NSCs typically contain requirements for packaging, marking, labelling, and the reporting of results when a product is tested according to the standard, as shown in this guide. These have not been identified as administrative requirements by the SCC in the past and therefore do not necessitate the preparation of the explanation described above. Obviously, in all cases the context of publication shall be taken into account.

Note that this Standard Guide was formerly published as the First Edition of ULC-S771. It is now published as the Second Edition of ULC-S771.1 to conform to the numbering convention for ULC Thermal Insulation Standards.

NOTE: This paragraph is to appear in the text of Standard ULC-S771 only, i.e. it must be deleted from the drafts of all other S700 series Standards.

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/es [insert annex number], identified as normative, forms a mandatory part of this standard.

NOTE: All Tables and Figures positioned between the Normative text and the first Annex must be cited in that text and hence form part of the Normative elements of the Standard. Figures and Tables within Normative Annexes are evidently Normative, and Figures and Tables within Informative Annexes are evidently Informative.

Annex/es [insert annex number], identified as informative, is/are for informational purposes only.

NOTE: All Normative Annexes shall be positioned ahead of the Informative Annexes.

In Canada there are two official languages, English and French. Attention is drawn to the possibility that some Canadian authorities may require 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 patents rights. Underwriters' Laboratories of Canada shall not be held responsible for identifying any or all such patents rights.

Requests for interpretation of this Standard should be sent to the Standards Department of Underwriters' Laboratories of Canada. 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 standard is intended to be used for conformity assessment.

1. SCOPE

1.1 This Standard specifies the requirements for [insert description for type of insulation or system].

NOTE: In 2008, the ULC Thermal Insulation Materials and Systems Committee adopted the allocation of Standard number suffixes “.1” indicating a material standard (manufacture), “.2” indicating an installation (installation contractor) and “.3” indicating an applications standard (design). This convention for the use of these three terms shall be applied throughout this Standard.

NOTE: This guide covers thermal insulation material standard specifications. If an installation standard is to be developed, then the material Standard specifications shall use Standard number suffix “.1” (CAN/ULC-S7XX.1).

NOTE: The ULC Thermal Insulation Committee directed the Task Groups that the term Thermal Insulation shall be included in the Scope, but not necessarily in the Title of all S700 series Standards.

NOTE: Use general terms to prevent needlessly long lists which may be incomplete.

NOTE: This Scope Section shall not contain any specific technical requirement.

1.2 The following number of Types, Classes, or Grades of insulation are applicable to this standard.

NOTE: Use Types, Classes or Grades when applicable.

1.3 Insulation applicable to this Standard is intended for use as [insert text].

1.4 The following limitations apply in the use of [insert description for type of insulation] insulation described in this Standard.

NOTE: For example, include any maximum and minimum temperature limits. In this particular case, state that the product cannot be installed or used outside a given temperature range as opposed to a statement that it can be installed or used within a certain temperature range.

1.5 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.

NOTE: This safety caveat is required in the Scope of every ULC Thermal Insulation Standard.

2. REFERENCE PUBLICATIONS

NOTE: The documents not referenced in the normative part of this Standard shall be included in a Bibliography at the end of the Standard.

2.1 The following referenced documents are indispensable for the application of this Standard. The referenced documents indicate the edition and/or revision of the document that shall be used with this Standard.

NOTE: The Task Group shall include here all the documents cited in the normative part of the Standard. The Task Group shall also determine which edition and/or revision shall be used for all referenced documents.

Documents Published by International Organization for Standardization (ISO) available from:

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- ISO(space)(standard number)(colon)(year of publication with 4 digits), (title).
- ISO 291, Standard atmospheres for conditioning and testing.
- ISO 844, Rigid cellular plastics – Determination of compression properties.
- ISO 845, Cellular plastics and rubbers – Determination of apparent density.
- ISO 1209-1, Rigid cellular plastics – Determination of flexural properties – Part 1: Basic bending test.
- ISO 1209-2, Rigid cellular plastics – Determination of flexural properties – Part 2: Determination of flexural strength and apparent flexural modulus of elasticity.
- ISO 1663, Rigid cellular plastics – Determination of water vapour transmission properties.
- ISO 1922, Rigid cellular plastics – Determination of shear strength.
- ISO 1923, Cellular plastics and rubbers – Determination of linear dimensions.
- ISO 1926, Rigid cellular plastics – Determination of tensile properties.
- ISO 2394, General principles on reliability for structures.
- ISO 2796, Rigid Cellular plastics – Test for dimensional stability.
- ISO 2896, Rigid cellular plastics – Determination of water absorption.
- ISO 4590, Rigid cellular plastic – Determination of the volume percentage of open cells and of closed cells.
- ISO 4897, Rigid cellular plastics – Determination of the coefficient of linear thermal expansion of rigid materials at sub-ambient temperature.
- ISO 7616, Cellular plastics, rigid – Determination of compressive creep under specified load and temperature conditions.