CAN/ULC-S710.1-11-R2018
(Reaffirmed 2018)

STANDARD FOR THERMAL INSULATION – BEAD-APPLIED ONE COMPONENT POLYURETHANE AIR SEALANT FOAM, PART 1: MATERIAL SPECIFICATION

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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 for Thermal Insulation – Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification, CAN/ULC-S710.1-11-R2018

Second Edition, Dated December 2011

Summary of Topics

This revision of CAN/ULC-S710.1 is being issued to update the title page to reflect the reaffirmation of this Second Edition National Standard of Canada. No changes in requirements are involved.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated June 30, 2016.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD.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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ICS 91.100.50; 91.120.10

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STANDARD FOR THERMAL INSULATION – BEAD-APPLIED ONE COMPONENT POLYURETHANE AIR SEALANT FOAM, PART 1: MATERIAL SPECIFICATION

PREFACE

This is the Reaffirmation of the Second Edition of the Standard for Thermal Insulation – Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification, CAN/ULC-S710.1.

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

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.

Annexes A and B, 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 Second Edition National Standard of Canada was based on the First Edition, and has now been reaffirmed.

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.

The review and action to revise or reaffirm this Standard will not exceed 5 years from the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

This Standard is intended to be used for conformity assessment.

1 SCOPE

1.1 This Standard specifies the requirements and test methods for bead-applied *one component polyurethane foam* used as an insulating air sealant for both building and non-building applications. This Standard covers bead-applied one component polyurethane air sealant foam whether applied on a building site or in a prefabrication (manufacturing) process. The one-component polyurethane foam is factory pre-packaged.

1.2 The requirements in this Standard apply only to the use of bead-applied *one component polyurethane foam* when the continuous service temperature is in the range of -60 to +110 °C.

1.3 The test methods used to determine the material properties provide a means of comparing different polyurethane air sealant foams. They are intended for use in specifications, product evaluations and quality control.

1.4 Applications and requirements for the applications are included in the CAN/ULC-S710.2 Installation Standard.

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 appropriate health and safety practices in conjunction with any existing applicable regulatory requirements prior to its use.

2 REFERENCE PUBLICATIONS

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 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 C177-10, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus.

• ASTM C390-08, Standard Criteria for Sampling and Acceptance of Preformed Thermal Insulation Lots.

• ASTM C518-10, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

• ASTM C1536-10, Standard Test Method for the Yield of Aerosol Foam Sealants.

• ASTM D618-08, Standard Practice for Conditioning Plastics for Testing.

• ASTM D1621-10, Test Method for Compressive Properties of Rigid Cellular Plastics.

• ASTM D1622-08, Standard Test Method for Apparent Density of Rigid Cellular Plastics.

• ASTM D1623-09, Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.

• ASTM D2126-09, Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.

• ASTM D6226-10, Standard Test Method for Open-Cell Content of Rigid Cellular Plastics.

• ASTM E283-04, Standard Test Method for Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

• ASTM E514/514M-09, Standard Test Method for Water Penetration and Leakage through Masonry.

• ASTM E2178-10, Air Permeance of Building Materials.

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

• AAMA/WDMA/CSA 101/I.S.2/A440-08, NAFS – North American Fenestration Standard/Specification for windows, doors and skylights.

• AAMA/WDMA/CSA 101/I.S.2/A440-S1-09, Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440-08 Standard/Specification for windows, doors and skylights.

• CSA A440.4-07 UPD 1, Window, door, and skylight installation.

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

ISO Central Secretariat: International Organisation for Standardization (ISO)
BIBC II, 1, Chemin de Blandonnet 8, CP 401, 1214 Vernier Geneva, Switzerland
Telephone: +41 22 749 01 11; Fax: +41 22 733 34 30
www.iso.ch

Standards Council of Canada (SCC)
55 Metcalfe Street, Suite 600
Ottawa, ON, K1P 6L5
Telephone: (613) 238-3222; Fax: (613) 569-7808
www.scc.ca

• ISO 12576-1:2001, Thermal Insulation – Insulating Materials and Products for Buildings – Conformity Control Systems – Part 1: Factory Made Products.

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-S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

• CAN/ULC-S710.2-11, Standard for Thermal Insulation – Bead-Applied One Component Polyurethane Air Sealant Foam, Part 2: Installation.

• CAN/ULC-S773-09, Standard for Thermal Insulation Terminology.

• CAN/ULC-S774-09, Standard Laboratory Guide for the Determination of Volatile Organic Compound Emissions from Polyurethane Foam.

3 TERMS AND DEFINITIONS

3.1 INTRODUCTION

3.1.1 Defined terms used in this Standard appear in italics throughout the text. Definitions common to ULC 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. Additional definitions not listed in CAN/ULC-S773 but required for this Standard have also been listed below.

AUTHORITY HAVING JURISDICTION — A representative of a government (federal, provincial or municipal) agency predominantly involved in regulating by statute the use of products, materials and services (CAN/ULC-S773).

BEAD-APPLIED POLYURETHANE AIR SEALANT FOAM — A foamed in place insulating sealant material intended to be installed at junctions between different building assemblies and around penetrations through a building assembly (example: windows, doors, pipes, etc.) to control air leakage (CAN/ULC-S773).

INSTALLATION MANUAL — The document governing all aspects of transportation, installation and application of a material.

KNOWLEDGEABLE INSTALLER — An installer who has the knowledge for proper installation in accordance with the requirements of this Standard and the manufacturer's instructions.

ONE COMPONENT POLYURETHANE FOAM — A single mix of chemicals in one pressurized can or tank, formulated so that it will cure when exposed to moisture present in the air (CAN/ULC-S773).

SPECIMEN — The portion of a sample taken for measurement of a given property or characteristic.

4 CLASSIFICATION

4.1 FLAME SPREAD RATINGS

4.1.1 *Bead-applied* one component *polyurethane air sealant foam* shall be specified in accordance with flame spread ratings as follows:

(i) Class 1: Flame Spread Classification (FSC) $\leq$ 25;

(ii) Class 2: 25 < FSC $\leq$ 75:

(ii) Class 3: 75 < FSC $\leq$ 150.