

Preface

Spray-Applied Rigid Polyurethane Foam Insulation, Medium Density

Scope

This Evaluation Listing applies to spray-applied rigid polyurethane foam, medium density, intended for use as thermal insulation for both building and non-building applications, whether applied on a building site or in a prefabrication (manufacturing) process. This material is also known as foamed in-situ insulation. The continuous-use temperature is within the range -60°C to $+80^{\circ}\text{C}$.

The proponent has demonstrated that the product meets the following standard (see Table 1 for the performance requirements):

- CAN/ULC-S705.1-01 (including Amendments 1 and 2), "Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification."

Spray-applied rigid polyurethane foam, medium density, shall be installed by a licensed installer in accordance with the manufacturer's instructions and the following standard:

- CAN/ULC-S705.2-05, "Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application."

For compliance to CAN/ULC-S705.2, users should contact the third-party organization that has been identified by the foam manufacturer as the third party operating the field quality assurance program for the foam product (see product listing).

Standard

Table 1. Performance Requirements for Physical Properties

| Property | Unit | Requirement | |
|--|---------------------------|---------------------|--------------------|
| | | Minimum | Maximum |
| Air permeance (mandatory material testing) | L/s @ 75 Pa | No min. | 0.02 |
| Air permeance (optional system testing) | L/s @ 75 Pa | No min. | 0.05 |
| Apparent core density | kg/m ³ | 28 | No max. |
| Compressive strength | kPa | 170 | No max. |
| Dimensional stability volume change at: | | | |
| • -20°C | % | No min. | -1 |
| • 80°C | % | -1 | +8 |
| • 70°C, 97 ± 3% RH | % | No min. | +14 |
| Surface burning characteristics • flame spread | No units | No min. | 500 ⁽¹⁾ |
| Open-cell content volume | % | No min. | 8 |
| Initial thermal resistance of a 50-mm-thick specimen after 3 days at 23 ± 2°C | m ² ·°C/W | 2.5 | No max. |
| Conditioned thermal resistance of a 50-mm-thick specimen after • 180 days at 23 ± 2°C or • 90 days at 60 ± 2°C | m ² ·°C/W | Declare | No max. |
| Long-term thermal resistance of a 50-mm-thick specimen • Type 1 • Type 2 | m ² ·°C/W | 1.8 2.0 | No max. |
| Tensile strength | kPa | 200 | No max. |
| Volatile organic emissions | No units | Pass ⁽²⁾ | No max. |
| Water absorption by volume | % | No min. | 4 |
| Water vapour permeance of a 50-mm-thick specimen | ng/(Pa·s·m ²) | No min. | 60 |

Notes to Table 1:

- (1) Results are valid for qualification to the standard. As noted in the standard, “for building code purposes, the flame-spread rating shall be conducted in accordance with the code-specified flame-spread test details with respect to the number of specimens to be tested, specimens tested intact and cut specimens.”
- (2) “Pass” means that after 30 days the volatile compound emissions do not exceed the maximum indoor air concentration stated in Table 2 of CAN/ULC-S705.1.

In cases of retrofit construction (e.g. occupied buildings), CAN/ULC-S705.2 requires that a ventilation rate of 0.3 air changes be provided within the working area during the application of the product and that the working area be isolated during spraying. The same ventilation rate is required after the product has been sprayed and for the time period determined in accordance with the CAN/ULC-S705.1. See the product listing for the time period required before occupancy.

Labeling

In compliance with CAN/ULC-S705.1, each liquid component container shall be identified as either polyisocyanate component ("A") or resin component ("B"). Unless otherwise specified, each container shall be marked with the following information:

- manufacturer's name;
- product name;
- type of material (e.g. insulation);
- net mass of the contents of the packaged material;
- country of manufacturer;
- lot number;
- date of manufacture;
- "use before" date;
- the means to identify their installed product; and
- conformance with "CAN/ULC-S705.1".

National Building Code of Canada (NBC)

NBC References

The CAN/ULC-S705.1-01 standard is referenced in the NBC 2010, Table 5.10.1.1. and Clause 9.25.2.2.(1)(g).

The CAN/ULC-S705.2-05 standard is referenced in the NBC 2010, Sentence 5.3.1.3.(3), Table 5.10.1.1 and Sentence 9.25.2.5.(1).



Evaluation Listing CCMC 13244-L

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| Re-evaluation in Progress | |

Airmetic[®] SOYA, Heatlok[®] SOYA, Polar Foam SOYA

1. Evaluation

Conforms to CAN/ULC-S705.1-01 (including Amendments 1 and 2), Type 2.

For retrofit constructions, time before occupancy is one (1) day.

2. Description

A Type 2, spray-applied rigid polyurethane foam of medium density. The foam system consists of two components: “A100” or “A1004” isocyanate and a polyurethane resin identified as “B02230/B02400/PF73000” for “Airmetic[®] SOYA, Heatlok[®] SOYA, Polar Foam SOYA,” respectively. The two components are mixed on site by a qualified installer with fixed-ratio positive displacement equipment.

The final cured product for “Airmetic[®] SOYA, Heatlok[®] SOYA” is green.

The final cured product for “Polar Foam SOYA” is peach.

3. Standard and Regulatory Information

Canadian Urethane Foam Contractors Association (CUFCA) has been identified by Demilec Inc. as the third-party organization that operates the field quality assurance program (FQAP) for “Airmetic[®] SOYA, Heatlok[®] SOYA, Polar Foam SOYA” in accordance with CAN/ULC-S705.2-05.

CUFCA can be contacted at: (866) 467-7729 or 1-866-GO-SPRAY.

See the [Preface](#) and the standard for explanation.

Listing Holder: Demilec Inc.
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Plant(s): Boisbriand, QC

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