



Evaluation Listing CCMC 14025-L Boreal Lavender and Boreal Nature

MasterFormat:	07 21 19.02
Evaluation issued:	2015-10-16
Revised:	2016-10-05
Re-evaluation due:	2018-10-16

1. Evaluation

The product conforms to CAN/ULC-S705.1-01 (including Amendments 1, 2 and 3) as a Type 2. The minimum density is 33.6 kg/m³. For retrofit applications, the time before occupancy is one (1) day. The long-term thermal resistance (LTTR) for a 50 mm thickness is 2.03 m²·C/W (RSI). The water vapour permeance is 45 ng/(Pa·s·m²) for a 50-mm-thick product.

2. Description

The product is spray-applied rigid polyurethane foam of medium density. The foam system consists of two components: “ISO-A-2732” isocyanate and a polyurethane resin identified as “Boreal” for “Boreal Lavender” and as “Boreal Nature” for “Boreal Nature.” The two components are mixed on-site by a qualified installer with fixed ratio positive displacement equipment.

The colour of the final cured product is lilac for “Boreal Lavender” and lime green for “Boreal Nature.”

3. Standard and Regulatory Information

This is a site manufactured product whereby the Listing Holder of the finished product requires that only specific qualified installers be authorized to install their proprietary spray polyurethane insulation in buildings. In accordance with the Listing Holder’s field quality assurance program (FQAP), a third-party agency is commissioned to audit the specified installers and then reports their results on product conformity and corrective action, if necessary, to the Listing Holder.

3.1 Qualified Installers

SOLUTIONS Genyk Inc., as part of their FQAP for the manufacturing of their spray urethane foam product, requires that installers of their product be qualified installers licensed by the Canadian Urethane Foam Contractors Association (CUFCA) and possess the requisite CUFCA identification card.

3.2 Third-party Field Auditing of Qualified Installers

SOLUTIONS Genyk Inc., as part of their FQAP for the manufacturing of their spray urethane foam product, requires that field audit inspections be conducted by field inspectors licensed by the CUFCA. Field audit inspections that are requested by building officials can be conducted on specific building sites by contacting CUFCA at 1-866-467-7729.

See the Annex appended to this Listing, which summarizes the product standard.

This/These product(s) was/were evaluated to the product standard referenced in the Annex current as of 2011-04-13. Note that the Annex may have been updated since this Listing was issued to include more recent editions of the applicable product standard. Therefore, this Listing may not reflect the requirements contained in any updated version of this product standard.

Listing Holder

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Plant(s) of Finished Products (Foam Insulation)

This is a site manufactured product.

Plant(s) of Raw Materials

Grand-Mère, QC

Disclaimer

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Readers must confirm that the Listing is current and has not been withdrawn or superseded by a later issue. Please refer to http://www.nrc-cnrc.gc.ca/eng/solutions/advisory/ccmc_index.html, or contact the Canadian Construction Materials Centre, NRC Construction, National Research Council of Canada, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6. Telephone: 613-993-6189. Fax: 613-952-0268.

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Date modified:

2016-10-07



Spray-Applied Rigid Polyurethane Foam Insulation, Medium Density [Annex]

MASTERFORMAT: 07 21 19.02

Issued: 2011-04-13

Scope

These Evaluation Listings apply 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”; or
- CAN/ULC-S705.1-01 (including Amendments 1, 2 and 3), “Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification.”

Spray-applied rigid polyurethane foam, medium density, must 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 (FQAP) for the foam product (see product listing).

Standard

Table 1. Technical 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 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	m ² ·°C/W	Declare ² No max.
	90 days at 60 ± 2°C		
Long-term thermal resistance of a 50-mm-thick specimen – Type 1	m ² ·°C/W	1.8	No max.
Long-term thermal resistance of a 50-mm-thick specimen – Type 2	m ² ·°C/W	2.0	No max.
Tensile strength	kPa	200	No max.
Volatile organic emissions	–	Pass ³	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 This requirement is only referenced in CAN/ULC-S705.1-01 (with Amendments 1 and 2).
- ³ “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 the ventilation rate be no less than 0.3 air changes per hour 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 CAN/ULC-S705.1. See the product listing for the time period required before occupancy.

Labelling

In compliance with CAN/ULC-S705.1-01 (with Amendments 1 and 2), each liquid component container must be identified as either the polyisocyanate component (“A”) or the resin component (“B”). Unless otherwise specified, each container must 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 manufacture;
- lot number;
- date of manufacture;
- “use before” date;
- the means to identify the installed product; and
- the phrase “CAN/ULC-S705.1” indicating conformance to the standard.

In compliance with CAN/ULC-S705.1-01 (with Amendments 1, 2 and 3), each liquid component container must be identified as either the polymeric isocyanate component (“A”) or the resin component (“B”). The polymeric isocyanate component must 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 manufacture;
- lot number; and
- date of manufacture.

The resin component must 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 manufacture;
- lot number;
- date of manufacture;
- “use before” date;
- the means to identify the installed product;
- the phrase “CAN/ULC-S705.1” indicating conformance to the standard; and
- LTTR (50 mm) RSI result.

National Building Code of Canada (NBC)

NBC References

CAN/ULC-S705.1-01 is referenced in Table 5.10.1.1. and Clause 9.25.2.2.(1)(g) of Division B of the NBC 2010.

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