



Evaluation Listing CCMC 14140-L BOREAL NATURE elite

MasterFormat: 07 21 19.02

Evaluation issued: 2019-10-03

1. Evaluation

The product conforms to CAN/ULC-S705.1-15, “Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification.” The product’s minimum density, long-term thermal resistance (LTTR), water vapour permeance (WVP) and the time-to-occupancy values are provided in Table 1.1.

Table 1.1 Site Density, LTTR, WVP and Time-to-Occupancy Specifications for the Product

Product	Minimum Site Density ⁽¹⁾ (kg/m ³) [lb/ft ³]	50 mm Design LTTR (m ² ·°C/W)	50 mm WVP ⁽²⁾ (ng/(Pa·s·m ²))	Time-to-Occupancy ⁽³⁾ (day)
BOREAL NATURE elite	32.0 [2.00]	1.96	34	1

Notes to Table 1.1

- (1) Based on the qualification testing to CAN/ULC-S705.1, the specified minimum site density must comply with CAN/ULC-S705.1, as measured on site in accordance with CAN/ULC-S705.2-05, “Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application.”
- (2) The WVP is determined from a core sample with the skin removed. Due to the effect of the skins, the WVP at this thickness would be lower in the site-installed product.
- (3) For retrofit construction, the time to occupancy is one (1) day when the segregated retrofit area is ventilated as required by CAN/ULC-S705.2 during installation of the product. See Table 1, Note 3 in the Annex for the product for further details.

2. Description

The product is a spray-applied, rigid polyurethane foam of medium density. The foam system consists of two components (isocyanate and resin) that must be labelled as follows with “CCMC 14140-L:”

- Isocyanate (Component A): “ISOCYANATE A-2732”, and
- Resin (Component B): “BOREAL NATURE elite” resin.

The two components are mixed on site by a SOLUTIONS Genyk Inc.-qualified installer (see Section 3.1) with fixed-ratio positive displacement equipment. The colour of the final cured product is lime green.

3. Standard and Regulatory Information

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 2019-10-07. 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.

3.1 Qualified Installers

This is a site-manufactured product whereby SOLUTIONS Genyk Inc. requires that only specific, qualified installers be authorized to install its proprietary spray-polyurethane insulation in buildings. In accordance with the SOLUTIONS Genyk Inc. site quality assurance program (SQAP), the certification organization (CO) Urethane Foam Consultants (UFC) has been commissioned to license the specified installers and issue them the requisite UFC identification card. All specified installers must have a UFC identification card.

3.2 Third-Party Field Auditing of Qualified Installers

As part of its SQAP, SOLUTIONS Genyk Inc. also stipulated that site-audit inspections be conducted by site inspectors licensed by UFC. Upon completion of the site audit, UFC will report the product's conformity results and any corrective action required, if necessary, to SOLUTIONS Genyk Inc. Building Officials who would like site-audit inspections to be conducted on specific building sites can contact UFC at:

Urethane Foam Consultants (UFC)
160 Main St. South, Suite 547
Brampton ON L6W 4C1

Telephone: 905-702-2555

Listing Holder

SOLUTIONS Genyk Inc.
1701 3rd Avenue
Shawinigan QC G9T 2W6

Telephone: 819-729-0395
Fax: 819-729-0383
Email: info@genyk.com
Web site: www.genyk.com

Site-Finished Product

The foam insulation is a site-manufactured product.

Plant – Raw Materials

Shawinigan, QC

Disclaimer

This Listing is issued by the Canadian Construction Materials Centre, a program of the Construction Research Centre at the National Research Council of Canada. The Listing must be read in the context of the entire CCMC Registry of Product Evaluations.

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, Construction Research Centre, National Research Council of Canada, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6. Telephone 613-993-6189. Fax 613-952-0268.

NRC has evaluated the material, product, system or service described herein only for those characteristics stated herein. The information and opinions in this Listing are directed to those who have the appropriate degree of experience to use and apply its contents. This Listing is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the National Research Council of Canada (NRC) provides no endorsement for any evaluated material, product, system or service described herein. NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this Listing. NRC is not undertaking to render professional or other services on behalf of any person or entity nor to perform any duty owed by any person or entity to another person or entity.

Date modified:
2019-10-21



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

MasterFormat: 07 21 19.02
Issued: 2019-10-07

Scope

These Evaluation Listings apply to spray-applied, rigid polyurethane foam of 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 of -60°C to $+80^{\circ}\text{C}$.

The proponent has demonstrated that the product meets one or all of the following standards (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;”
- CAN/ULC-S705.1-01 (including Amendments 1, 2 and 3), “Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification;” or
- CAN/ULC-S705.1-15, “Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification.”

Spray-applied, rigid polyurethane foam of 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 site quality assurance program (SQAP) for the foam product (see product Listing).

Standard

Table 1. Technical Requirements for Physical Properties

Property	Unit	Requirement for CAN/ULC-S705.1-01 ⁽¹⁾		Requirement for CAN/ULC-S705.1-15		
		Minimum	Maximum	Minimum	Maximum	
Air permeance (mandatory material testing)	L/s @ 75 Pa	No min.	0.02	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.	28	No max.	
Compressive strength	kPa	170	No max.	170	No max.	
Dimensional stability volume change at:	–20°C	%	No min.	–1	–2	5
	80°C	%	–1	8	–2	8
	70°C, 97 ± 3% RH	%	No min.	14	–2	14
Surface burning characteristics – flame spread rating	–	No min.	500 ⁽²⁾	No min.	500 ⁽²⁾	
Fungi resistance	–	–	–	No growth	–	
Open-cell content volume	%	No min.	8	No min.	10	
Initial thermal resistance of a 50-mm-thick specimen after 3 days at 23 ± 2°C	m ² ·°C/W	Declare	No max.	–	–	
Conditioned thermal resistance of a 50-mm-thick specimen after:	180 days at 23 ± 2°C, or	m ² ·°C/W	Declare ⁽³⁾	No max.	–	–
	90 days at 60 ± 2°C					
Long-term thermal resistance (LTTR) ⁽⁵⁾ of a 50-mm-thick specimen –	Type 1	m ² ·°C/W	1.8	No max.	–	–
	Type 2		2.0			
Long-term thermal resistance (LTTR) ⁽⁵⁾ of a 50-mm-thick specimen at	25-mm-thick	m ² ·°C/W	–	–	Declare	No max.
	50-mm-thick				1.80	
	75-mm-thick				Declare	
Tensile strength	kPa	200	No max.	200	No max.	
Volatile organic emissions	–	Pass ⁽⁴⁾	–	–	–	
Volatile organic emissions (time-to-occupancy)	d - days	–	–	No min.	30	
Water absorption by volume	%	No min.	4	No min.	4	
Water vapour permeance of a 50-mm-thick specimen	ng/(Pa·s·m ²)	No min.	60	No min.	60	

Notes to Table 1:

1. These requirements are valid for both CAN/ULC-S705.1-01 (including Amendments 1 and 2) and CAN/ULC-S705.1-01 (including Amendments 1, 2, and 3).
2. 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.”
3. This requirement is only referenced in CAN/ULC-S705.1-01 (including Amendments 1 and 2).
4. “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.
5. The LTTR determined in accordance with CAN/ULC-S770-09, “Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams,” which is referenced in CAN/ULC-S705.1-15, is a more complex procedure than CAN/ULC-S770-03, which is an earlier version referenced in CAN/ULC-S705.1-01 (Amendment 3). Therefore, results may differ for the same spray polyurethane product obtained from both test methods.

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.

In compliance with CAN/ULC-S705.1-15, 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:

- supplier’s name;
- material name;
- type of material (e.g., closed cell spray applied medium density);
- net mass of the contents of the containers;
- country of manufacturer; and
- lot number.

The resin component must be marked with the following information:

- supplier’s name;
- material name;
- type of material (e.g., closed cell spray applied medium density);
- net mass of the contents of the containers;
- manufacturing location;
- lot number;
- date of manufacture;
- expiry date;
- means to identify the installed material;
- CAN/ULC-S705.1;
- LTTR (50 mm) RSI X.XX; and
- The statement “required to be installed according to CAN/ULC-S705.2.”

National Building Code (NBC) of Canada

NBC 2015 References

CAN/ULC-S705.1-01 (including Amendments 1, 2 and 3) is referenced in Table 5.9.1.1., Sentence 9.25.2.2.(1) and Table A-9.36.2.4.(1)-D of Division B of the NBC 2015 – First printing.

CAN/ULC-S705.1-15 is referenced in Table 5.9.1.1., Sentence 9.25.2.2.(1) and Table A-9.36.2.4.(1)-D of Division B of the NBC 2015 – Second Printing (Includes Revisions and Errata released on September 28, 2018).

CAN/ULC-S705.2-05 is referenced in Table 5.9.1.1., and Sentence 9.25.2.5.(1) of Division B of the NBC 2015.

NBC 2010 References

CAN/ULC-S705.1-01 (including Amendments 1 and 2) is referenced in Table 5.10.1.1. and Clause 9.25.2.2.(1)(g) of Division B of the NBC 2010 – Second Printing (Includes Revisions and Errata released on December 21, 2012).

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.