Evaluation Report CCMC 13643-R
SealTite Eplus

MasterFormat:	07 21 19.03
Evaluation issued:	2014-07-10
Re-evaluated:	2017-08-21
Revised:	2019-03-27

1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that "SealTite Eplus," when used as a thermal insulation in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code (NBC) of Canada 2015:

- Clause 1.2.1.1.(1)(b) of Division A, as an alternative solution that achieves at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the following applicable acceptable solutions:
  - Sentence 9.25.2.2.(1), Insulation Materials

This opinion is based on CCMC's evaluation of the technical evidence in Section 4 provided by the Report Holder.

2. Description

The product is a Type 1, spray-in-place, low-density, semi-flexible plastic foam that has an open-cell structure. The product consists of an isocyanate and a resin, which are mixed on-site by a qualified installer using positive displacement equipment in a 1:1 fixed ratio.

The final cured product is yellow and has a density of 7.00 kg/m^3. At a 25.4-mm thickness, the thermal resistance is 0.59 m^2·°C/W.

3. Conditions and Limitations

CCMC's compliance opinion in Section 1 is bound by the "SealTite Eplus" being used in accordance with the conditions and limitations set out below.

- As specified by the manufacturer, the product must be manufactured on-site by qualified installers trained and approved by Accella Polyurethane Systems Canada, Inc. with subsequent field auditing of installers by Morrison Hershfield (MH). MH is the third-party certification organization specified by Accella Polyurethane Systems Canada, Inc. to certify the training program and provide follow-up inspections of qualified installers who are licensed to spray semi-flexible, urethane-based foam insulation in accordance with the Accella Polyurethane Systems Canada, Inc. Installer's Manual.
- The product can be installed in new or retrofit construction. In either case, the product must be installed in open cavities in the following locations of a wood-frame construction that meets the requirements of the NBC 2015:
  - exterior walls including perimeter joists;
  - cathedral ceilings with a vented air space as required by the NBC 2015;
  - floors separating living spaces from a garage;
  - cantilever overhang floors; and
  - interior below-grade foundation walls.
- The application locations are illustrated in Figure 1.
- The building envelope where the product is installed must conform to the requirements of the NBC 2015 for vapour barriers, air barriers, and dampproofing (interior below-grade walls).
- For retrofit applications, whereby there may be occupants in the unaltered part of a building, the qualified installer must ensure that

the spraying area is isolated and negatively pressurized by using an exfiltration rate of 0.3 air changes per hour for at least one (1) day. An independent toxicological assessment determined that this ventilation rate must also be in effect for one (1) day before occupancy is permitted in the newly insulated suite.

- The sprayed material should completely cover the surfaces between the studs, joists and other framing members. The surfaces to be covered should be clean, dry, and not covered in frost, oil, grease, dust or other unsuitable material. As required in Article 9.25.2.3., Installation of Thermal Insulation, of Division B of the NBC 2015, the insulation must be installed so that there is a reasonably uniform insulating value over the entire face of the insulated area.
- The interior side of the applied semi-flexible polyurethane insulation must be covered with an approved thermal barrier as per Article 9.10.17.10., Protection of Foamed Plastics, of Division B of the NBC 2015.
- The insulation must be kept away from heat-emitting devices, such as recessed light fixtures and chimneys, at the minimum distance required by building regulations and safety codes.
- The maximum in-service temperature of the insulation must not exceed 70°C.
- The product must not be used where it may come in contact with water and must not be installed after its expiry date of six (6) months from the date of manufacture.
- The isocyanate and resin components must have their respective containers (i.e., drums) identified by the phrase "CCMC 13643-R."
- The installation procedure must follow the manufacturer's instruction manual. A copy of the manual must be available at the job site at all times during the installation for review by the building official.

1. *The MH field quality assurance program (FQAP) calls for periodic audits to be performed on the installers, usually random inspections with some mandatory inspections of larger projects. Building officials may contact MH (416-499-3110, ext. 1011477) if they require an inspection for a specific job site and/or the building official deems it necessary. In cases where the installation is deemed non-conforming by Accella Polyurethane Systems Canada, Inc. and is not being remedied by the installer, MH/Accella Polyurethane Systems Canada, Inc. will inform the owner/architect/building official of the non-conforming installation.*

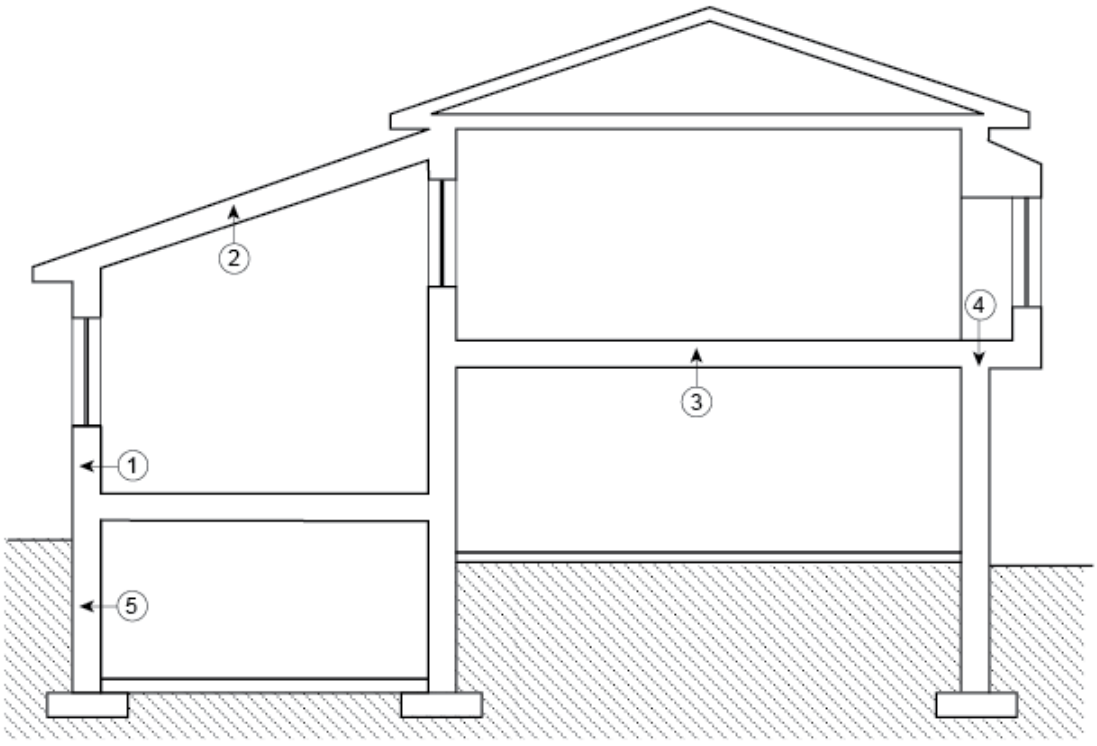

Figure 1. Application locations in a wood-frame construction in open cavities

1. **above-grade wall**
2. **cathedral ceiling (vented)**
3. **floor above garage**
4. **cantilever floor**
5. **interior foundation wall**

4. Technical Evidence

The Report Holder has submitted technical documentation for CCMC's evaluation. Testing was conducted at laboratories recognized by CCMC. The corresponding technical evidence for this product is summarized below.

4.1 Performance Requirements

4.1.1 Test Results

Table 4.1.1 Results of Testing of Performance Requirements of the Product

Property		Unit	Requirement	Result
Density		kg/m^3	≥ 6.8	7.0
Thermal resistance at 25-mm thickness		m^2·°C/W	Report value	0.59
Water vapour transmission for 50-mm thickness		ng/(Pa·s·m^2)	≥ 1 400	1 548
Water absorption		%	Report value	21
Dimensional changes when exposed to	**80°C and ambient RH**	% volumetric	Min. −15	−3.1
			Max. +10	
	70°C and 97 ± 3% RH		Min. −15	−5.2
			Max. +14	
	−29°C and ambient RH		Min. −1	−0.7
			—	
Emissions – time to occupancy		—	[1]	Pass

Note to Table 4.1.1:

1. The volatile organic compound (VOC) emissions under consideration were measured with an assumed room ventilation rate of 0.3 air changes per hour as per the NBC requirements for new construction. The determination of emissions and room concentration calculations were done by Exova. An independent toxicological report recommends a residential time to occupancy of one (1) day. While the testing and evaluation represent the current state-of-the-art in toxicological evaluations, such tests and their results do not purport to be conclusive with respect to the impact on health.

5. Other Technical Evidence

5.1 Additional Performance Data Requested by the Report Holder

5.1.1 Fire Test Results

Table 5.1.1 Results of Testing of Fire Performance Requirements[1, 2]

Property	Requirement	Result
Flame-spread rating (CAN/ULC-S127)	Report value	420
Smoke development (CAN/ULC-S102)	Report value	245

Notes to Table 5.1.1:

1. The sample thickness for the fire testing was irregular and ranged from 100 mm to 254 mm.
2. The samples tested were not cut as per Sentence 9.10.3.2.(2), Flame-Spread Ratings, of Division B of the NBC 2015.

Report Holder

Accella Polyurethane Systems Canada Inc.
2865 Argentia Road, Unit 3
Mississauga, ON L5N 8G6

Telephone: 855-742-3626
Fax: 306-721-3770
Web site: www.accellapolyurethane.com

Plant(s)

Marietta, GA, USA

Disclaimer

This Report is issued by the Canadian Construction Materials Centre, a program of NRC Construction at the National Research Council of Canada. The Report must be read in the context of the entire CCMC Registry of Product Evaluations, including, without limitation, the introduction therein which sets out important information concerning the interpretation and use of CCMC Evaluation Reports.

Readers must confirm that the Report 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.

NRC has evaluated the material, product, system or service described herein only for those characteristics stated herein. The information and opinions in this Report are directed to those who have the appropriate degree of experience to use and apply its contents. This Report 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 Report. 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:
2019-03-27