CCMC CANADIAN CODE COMPLIANCE EVALUATION

CCMC EVALUATION

CCMC 12070-R

CCMC Canadian code compliance evaluation

CCMC number:	12070-R
Status:	Active
Issue date:	1990-01-16
Modified date:	2024-02-29
Evaluation holder:	**Huntsman Building Solutions (Canada) Inc.** 870, Curé-Boivin Boisbriand QC J7G 2A7 Canada Website: huntsmanbuildingsolutions.com/en-CA/ Telephone: 450-437-0123 Email: infocanada@huntsmanbuilds.com
Product name:	Classic™
Compliance:	NBC 2015, NBC 2020
Criteria:	CAN/ULC-S712.1:2017, "Standard for Thermal Insulation – Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Material Specification" CAN/ULC-S712.1:2020, "Standard for Thermal Insulation - Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam - Material Specification"

In most jurisdictions this document is sufficient evidence for approval by Canadian authorities.
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Compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as an insulation material in accordance with the conditions and limitations stated in this evaluation, complies with the following codes:

National Building Code of Canada 2015

Code provision	Solution type
5.9.1.1. Compliance with Applicable Standards	Alternative
9.25.2.5. Installation of Spray-Applied Polyurethane	Alternative
9.25.2.2. Insulation Materials	Alternative

National Building Code of Canada 2020

Code provision	Solution type
5.9.1.1. Compliance with Applicable Standards	Alternative
9.25.2.2. Insulation Materials	Alternative
9.25.2.5. Installation of Spray-Applied Polyurethane	Alternative

The above opinion(s) is/are based on the evaluation by the CCMC of technical evidence provided by the evaluation holder, and is bound by the stated conditions and limitations. For the benefit of the user, a summary of the technical information that forms the basis of this evaluation has been included.

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Product information

Product name

Classic™

Product description

The product is an open-cell, spray-applied, semi-rigid polyurethane foam of light density. The foam system consists of two components that must be labelled, along with "CCMC 12070-R", as follows:

- Isocyanate (Component A): A-100; and
- Resin (Component B): Classic™.

The colour of the installed product is yellow/off-white.

Site-manufactured product

This is a site-manufactured product; it must be finished on site only by certified installers through the spray-application of raw materials bearing a CCMC number that are produced only at the manufacturing plant(s) below. See installation of spray-applied polyurethane insulation for more information on the requirements for installation and site quality assurance.

Manufacturing plant

This evaluation is valid only for products produced at the following plant:

Product name	Manufacturing plant
	Mississauga, ON, CA
Classic™	⊘

⊘ Indicates that the product from this manufacturing facility has been evaluated by the CCMC

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Conditions and limitations

The CCMC's compliance opinion is bound by this product being used in accordance with the conditions and limitations set out below.

- This is a site-manufactured product, whereby the installation of spray-applied polyurethate foam must be performed following a site quality assurance program (SQAP) by certified installers trained by the evaluation holder (or their representative) and licensed by the designated SQAP provider.
- The product must be installed in open cavities in locations in wood-frame constructions (see Figure 1) that meet the requirements of the applicable building codes:
  - exterior walls, including perimeter joists;
  - cathedral ceilings with a vented air space as required by the NBC 2015 and the NBC 2020;
  - floors separating living spaces from a garage;
  - cantilever overhang floors; and
  - interior below-grade foundation walls.

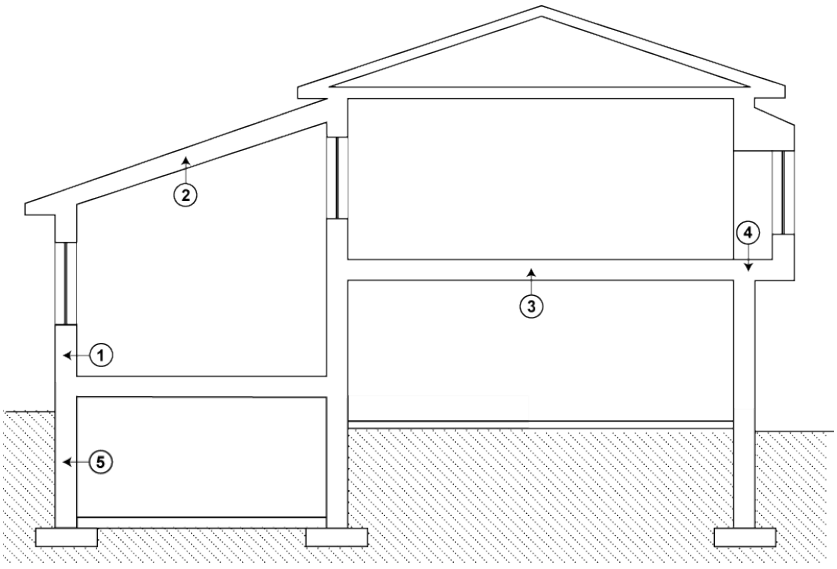

Figure 1. Application locations in open cavities in a wood-frame construction

1. Above-grade wall
2. Cathedral ceiling (vented)
3. Floor above garage
4. Cantilever floor
5. Interior foundation wall

- The building envelope where the product is installed must conform to the requirements of the NBC 2015 and the NBC 2020 for vapour barriers, air barriers and dampproofing (interior below-grade walls).
- For applications where there may be occupants in the 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 25 hours. An independent toxicological assessment determined that this ventilation rate must also be in effect 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 contaminants. As required in Article 9.25.2.3., Installation of Thermal Insulation, of Division B of the NBC 2015

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and the NBC 2020, 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 in accordance with Article 9.10.17.10., Protection of Foamed Plastics, of Division B of the NBC 2015 and the NBC 2020.
- 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 6 months from the date of manufacture.
- The isocyanate and resin components must have their respective containers (i.e., drums) identified with the phrase "CCMC 12070-R."

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Technical information

This evaluation is based on demonstrated conformance with the following criteria:

Criteria number	Criteria name
CAN/ULC-S712.1:2017	Standard for Thermal Insulation – Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Material Specification
CAN/ULC-S712.1:2020	Standard for Thermal Insulation - Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam - Material Specification

Design values

The product's minimum site density, design thermal resistance value (RSI), water vapour permeance (WVP) and time-to-occupancy values are provided below.

Table 1. Minimum site density, design RSI and time-to-occupancy specifications for the product

Property	Minimum site density (1) (kg/m^3) [$lb/ft.^3$]	50 mm design RSI ($m^2 \cdot °C/W$)	50 mm WVP (2) ($ng/(Pa \cdot s \cdot m^2)$)	Time to occupancy (3) (hours)
Classic™	8.7 [0.54]	1.24	1 319	25

Notes

1 Based on the qualification testing to CAN/ULC-S712.1, the specified minimum site density must comply with CAN/ULC-S712.1 as measured on site in accordance with CAN/ULC-S712.2-17, "Thermal Insulation – Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Installation."

2 The WVP is determined from a core sample with the top and bottom skins removed. Due to the effect of the skins, the WVP at this thickness may be lower in the site-installed product.

3 For applications where there may be occupants in the building, the time to occupancy is 25 hours when the spraying area is isolated and ventilated as required by CAN/ULC-S712.2 during installation of the product. The volatile organic compound (VOC) emissions were measured with an assumed room ventilation rate of 0.3 air changes per hour in accordance with CAN/ULC-S712.1. The determination of emissions and room concentration were completed by an accredited testing laboratory. The time to occupancy is based on the recommendations of an independent toxicologist. Reported results from emission tests indicate that the product would be unlikely to cause major adverse health problems. While the testing and evaluation represent the current state of the art in toxicological evaluation, such tests and their results do not purport to be conclusive with respect to the impact on health.

Fire test results

Data in this section does not form part of the CCMC's Code compliance opinion.

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Table 2. Results of fire tests conducted on the product [(1)]

Property	Requirement	Result
Surface burning characteristics: flame-spread rating [(2)] (CAN/ULC-S102 and CAN/ULC-S127)	Report value	385
Smoke development classification	Report value	760

Notes

1 The thickness of the tested product was nominal 100 mm.

2 The published value is based on average results from three specimens tested with the skin intact for comparison purposes. For compliance with Part 9, Housing and Small Buildings, of Division B of the NBC 2015 and the NBC 2020, flame-spread rating is not required. When the product is installed in buildings other than Part 9 buildings, the flame-spread rating must be determined in compliance with the requirements of Part 3, Fire Protection, Occupant Safety and Accessibility, of Division B of the NBC 2015 and the NBC 2020. Contact Huntsman Solutions Canada Inc. for a flame-spread rating when required for code compliance.

Site quality assurance program (SQAP)

Installation of spray-applied polyurethane insulation

In addition to the material qualification above spray-applied polyurethane foams must be installed in accordance with their respective installation standard and under a Site Quality Assurance Program (SQAP). This evaluation holder has engaged the designated SQAP provider below to operate it's SQAP program for the installation of this product by certified installers, and to provide third-party site auditing, as required. As with any evaluation, the evaluation holder is responsible for the quality of the finished product (installed foam), and therefore is required to ensure resolution of non-conforming installations.

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.

Certified installers

The evaluation holder requires that only specific, certified installers be authorized to install its proprietary spray-polyurethane insulation in buildings. All installers must be certified for the installation of this product by the designated SQAP provider, having a valid photo-identification license at the time of installation, and be able to present the license on request.

Third-party site auditing

As part of its SQAP, the evaluation holder also stipulates that periodic site-audit inspections be conducted by the designated SQAP provider. Upon completion of the site audit, the designated SQAP provider will report the product’s

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conformity results and any corrective action required, if necessary, to the evaluation holder. Building officials can contact the SQAP provider to request a site-audits at a specific building site.

Designated SQAP provider

The following organization has been designated by the evaluation holder as their SQAP provider, and is recognized by the CCMC as an ISO/IEC 17024 accredited personnel certification body, and ISO/IEC 17020 accredited inspection body.

Caliber Quality Solutions Inc. (Caliber)
605 - 2323 Yonge Street
Toronto, Ontario, M4P 2C9
Telephone: 1-888-5-QAP-HELP (1-888-572-7435)
Email: QAP@caliberqa.com
Website: www.caliberqa.com

Administrative information

Use of Canadian Construction Materials Centre (CCMC) assessments

This assessment must be read in the context of the entire CCMC Registry of Product Assessments, any applicable building code or by-law requirements, and/or any other regulatory requirements (for example, the Canada Consumer Product Safety Act, the Canadian Environmental Protection Act, etc.).

It is the responsibility of the user to confirm that the assessment they are using is current and has not been withdrawn or superseded by a later version on the CCMC Registry of Product Assessments.

Disclaimer

The National Research Council of Canada (NRC) has evaluated only the characteristics of the specific product described herein. The information and opinions in this evaluation are directed to those who have the appropriate degree of experience to use and apply its contents (such as authorities having jurisdiction, design professionals and specifiers). This evaluation is valid when the product is used as part of permitted construction, respecting all conditions and limitations stated in the evaluation, and in accordance with applicable building codes and by-laws.

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Language

Une version française de ce document est disponible.
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> Most Canadian authorities having jurisdiction (AHJs) consider CCMC product assessments acceptable as evidence for product approval.

CCMC assessments are recognized by construction authorities across Canada:

Alliance of Canadian Building Official Associations (ACBOA)	(Alliance of Canadian Building Official Associations (ACBOA))
First Nations National Building Officers Association (FNNBOA)	(First Nations National Building Officers Association (FNNBOA))
Canadian Home Builders' Association (CHBA)	(Canadian Home Builders' Association (CHBA))
Alberta Building Officials Association (ABOA)	(Alberta Building Officials Associations (ABOA))
Saskatchewan Building Officials Association (SBOA)	(Saskatchewan Building Officials Association (SBOA))
Manitoba Building Officials Association (MBOA)	(Manitoba Building Officials Association (MBOA))
Ontario Building Officials Association (OBOA)	(Ontario Building Officials Association (OBOA))
New Brunswick Building Officials Association (NBBOA)	(New Brunswick Building Officials Association (NBBOA))
Nova Scotia Building Officials Association (NSBOA)	(Nova Scotia Building Officials Association (NSBOA))

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For more information, contact the CCMC by phone at (613) 993-6189 or by email at ccmc@nrc-cnrc.gc.ca

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Code compliance as an acceptable solution

Code Compliance via Acceptable Solutions

> If a building design (e.g. material, component, assembly or system) can be shown to meet all provisions of the applicable **acceptable solutions** in Division B (e.g. it complies with the applicable provisions of a referenced standard), it is deemed to have satisfied the objectives and functional statements linked to those provisions and thus to have complied with that part of the Code.
>
> — **National Building Code of Canada, Sentence A-1.2.1.1.(1)(a)**

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Acceptable Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

All CCMC evaluation reports are opinions of code compliance established in accordance with the National Building Code of Canada, Subsection 1.2.1. "Compliance with this Code," which requires compliance to be achieved by:

- complying with the applicable acceptable solutions in Division B, or
- using an alternative solution that will achieve at least the minimum level of performance required by Division B in the areas defined by the objective and functional statements attributed to the applicable acceptable solutions.

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Code compliance as an alternative solution

Code Compliance via Alternative Solutions

> Where a design differs from the acceptable solutions in Division B, then it should be treated as an "**alternative solution**." A proponent of an alternative solution must demonstrate that the alternative solution addresses the same issues as the applicable acceptable solutions in Division B and their attributed objectives and functional statements. However, because the objectives and functional statements are entirely qualitative, demonstrating compliance with them in isolation is not possible. Therefore, Clause 1.2.1.1.(1)(b) identifies the principle that Division B establishes the quantitative performance targets that alternative solutions must meet. In many cases, these targets are not defined very precisely by the acceptable solutions [...] Nevertheless, Clause 1.2.1.1.(1)(b) makes it clear that an effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B—not “well enough” but “as well as.”
>
> — **National Building Code of Canada, Sentence A-1.2.1.1.(1)(b)**

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Alternative Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

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- complying with the applicable acceptable solutions in Division B, or
- using an alternative solution that will achieve at least the minimum level of performance required by Division B in the areas defined by the objective and functional statements attributed to the applicable acceptable solutions.

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