

## CCMC 14049-R

### CCMC Canadian code compliance evaluation

<b>CCMC number:</b>	14049-R
<b>Status:</b>	Active
<b>Issue date:</b>	2016-10-27
<b>Modified date:</b>	2021-11-17
<b>Evaluation holder:</b>	<p><b>Elastochem Specialty Chemicals Inc.</b>            37 Easton Road            Brantford ON N3P 1J4            Canada            Website: <a href="http://www.elastochem-ca.com">www.elastochem-ca.com</a>            Telephone: 519-754-1678            Email: <a href="mailto:info@elastochem-ca.com">info@elastochem-ca.com</a></p>
<b>Product name:</b>	Wrapsulate® Foam Jacket insulating sheathing
<b>Code compliance:</b>	NBC 2015, OBC
<b>Evaluation requirements:</b>	CCMC-TG-072510.13-15 "CCMC Technical Guide for Low Density, Open Cell, Spray-Applied Polyurethane Foam Thermal Insulation Material used as an Insulation Sheathing Membrane"

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

[Learn more about CCMC recognition](#)

## Code compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as an exterior thermally insulated sheathing membrane in accordance with the conditions and limitations stated in this evaluation, complies with the following code:

### National Building Code of Canada 2015

Code provision	Solution type
9.25.2.2. Insulation Materials	<u>Alternative</u>
9.27.3.2. Sheathing Membrane Material Standard	<u>Alternative</u>

### Ontario Building Code

Ruling No. 17-08-345 (14049-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 2017-06-26 pursuant to s.29 of the Building Code Act, 1992 (see Ruling for terms and conditions). This Ruling is subject to periodic revisions and updates.

The above opinion is 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.

## Product information

### Product name

Wrapsulate  
Foam Jacket insulating sheathing

### Product description

The product is spray-in-place, light density, semi-flexible polyurethane foam with a primarily open cell structure. The product consists of “Wrapsulate® Foam Jacket” Part A isocyanate and “Wrapsulate® Foam Jacket” Part B 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 17 kg/m<sup>3</sup> (1.06 lb/ft<sup>3</sup>). At a thickness of 25.4 mm (1 in.), the thermal resistance is RSI 0.75 (m<sup>2</sup>·°C/W) R-4.3 (ft<sup>2</sup>·°F·hr/BTU·in.).

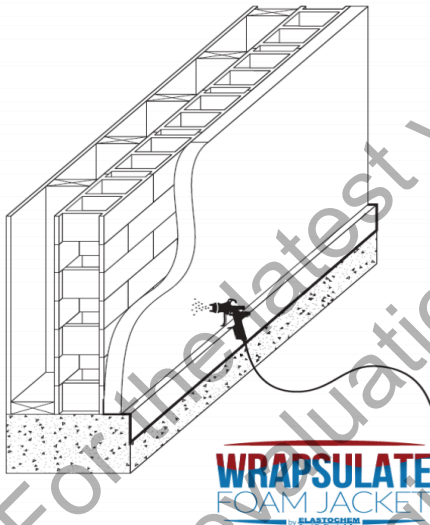


Figure 1. “Wrapsulate® Foam Jacket”

### Manufacturing plants

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

- Brantford, Ontario, Canada

## 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.

- As specified by the manufacturer, the product must be manufactured on-site by qualified installers trained by Elastochem Specialty Chemicals Inc. and approved by a third-party certification organization (UFC). <sup>(1)</sup> This organization must be specified by Elastochem Specialty Chemicals Inc. to administer an ISO/IEC 17024 compliant field quality assurance program (FQAP), including administration of a training program and conducting random follow-up inspections of field applications of the product according to the principles of CAN/ULC-S705.2.
- The product must be protected from weather and exposure to ultraviolet (UV) radiation from the sun within 60 days.
- The installation must be performed according to the manufacturer's instruction manual and the principles of CAN/ULC-S705.2. A copy of those instructions must be available at the job site at all times during the installation for review by the building officials.
- The product must be applied at an ambient temperature range of 5°C to 40°C.
- The sprayed material must be applied only to above-grade plywood, oriented strandboard (OSB), gypsum, concrete, and cement board substrates. The product must completely cover the substrate surface, forming a continuous envelope around the building. The surface to be covered should be clean, dry and not covered in frost, oil, grease, dust or other unsuitable material.
- The maximum moisture content (MC) of the substrate before application must be as specified in the manufacturer's written recommendations and in accordance with the NBC 2015. The MC must be confirmed by a moisture meter in a representative number of locations and recorded for future reference; for example, the maximum allowable MC of the substrate must be 19% for wood-based products.
- The manufacturer must provide to CCMC the maximum in-service temperature of the insulation surface (not to exceed 70°C) and the shelf life of the product.
- The product is installed with a minimum 19 mm vented air space between the product and the cladding.
- A concealed air space exceeding 25 mm in width must contain proper fire blocking in accordance with Subsection 9.10.16., Fire Blocks, of Division B of the NBC 2015.
- The components must have their respective containers (i.e., drums) identified by the phrase "CCMC 14049-R."

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### Notes:

- 1 The UFC FQAP requires periodic audits of the installers, which are usually random inspections with some mandatory inspections of larger projects. Building officials may contact UFC at 905-702-2555 and request an inspection for a specific job site if they deem it necessary. In cases where the installation is deemed non-conforming by UFC/Elastochem Specialty Chemicals Inc. and is not being remedied by the installer, UFC/Elastochem Specialty Chemicals Inc. will inform the owner/architect/building official of the non-conforming installation.
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## Technical information

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

Criteria number	Criteria name
CCMC-TG-072510.13-15	CCMC Technical Guide for Low Density, Open Cell, Spray-Applied Polyurethane Foam Thermal Insulation Material used as an Insulation Sheathing Membrane

The Report Holder has submitted technical documentation for the CCMC evaluation. Testing was conducted at the National Research Council of Canada and laboratories recognized by the CCMC. The corresponding technical evidence for this product is summarized below.

For the latest version of this evaluation consult the CCMC Registry of Product Assessments

## Performance requirements

### Results of testing the product to the CCMC technical guide

Property		Unit	Requirement	Result
Air permeance		L/s·m <sup>2</sup>	Declare	0.0005
Apparent core density		kg/m <sup>3</sup>	12 < ρ ≤ 28	17
Dimensional stability	28 days at -20°C and ambient relative humidity (RH)	% volume	± 1	0.008
	28 days at 70°C and 97 ± 3% RH		± 3	-2.3
	28 days at 80°C and ambient RH		± 9	-9.0
Water vapour permeance at 50 mm thickness		ng/(Pa·s·m <sup>2</sup> )	≥ 700	745
Water absorption	initial	% volume	≤ 5	1.39
	after UV and aging		≤ 10	2.35
Fungi resistance			No growth	No growth
Open cell content		% volume	≥ 80	98.6
Surface-burning characteristics per CAN/ULC-S102			< 500	174
Water penetration – wall performance			No water leakage at 137 Pa	No water leakage at 1 000 Pa
Thermal resistance at 25.4 mm thickness	initial	m <sup>2</sup> ·°C/W	Declare	0.75
	aged		≥ 95% of initial	Pass
Resistance to ice lensing <sup>(1)</sup>			No ice lenses observed	Pass
Thermal resistivity	initial	m·K/W	Declare	28.5
	after ice lenses <sup>(1)</sup> conditioning		≥ 80% retention of initial thermal resistance	100% (28.5)
Tensile strength	initial	kPa	Declare	94
	after ice lenses conditioning		≥ 80% retention of initial tensile strength	100% (94)

#### Notes:

- 1 The scope of this test was to determine if the product can resist the formation of ice lenses within the product or any signs of degradation between the product and exterior sheathing when subjected to the effects of moisture driven from the interior through the exterior wall in typical winter conditions.

# Administrative information

## Disclaimer

This evaluation is issued by the Canadian Construction Materials Centre (CCMC), a part of the Construction Research Centre at the National Research Council of Canada (NRC). The evaluation must be read in the context of the entire [CCMC Registry of Product Assessments](#) and the legislated applicable building code in effect.

The CCMC was established in 1988 on behalf of the applicable regulator (i.e., the provinces and territories) to ensure—through assessment—conformity of alternative and acceptable solutions to regional building codes as determined by the local authority having jurisdiction (AHJ) as part of the issuance of a building permit. It is the responsibility of the local AHJs, design professionals, and specifiers to confirm that the evaluation is current and has not been withdrawn or superseded by a later issue. Please refer to [the website](#) or contact:

**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

The NRC has evaluated the material, product, system or service described herein only for those characteristics stated 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 (i.e., AHJs, design professionals and specifiers). This evaluation is only valid when the product is installed in strict compliance with the stated conditions and limitations of evaluation and the applicable local building code. In circumstances where no applicable local building permit is issued and that no confirmation of compliance 'for use in the intended field application' is undertaken, this evaluation is null and void in all respects. This evaluation is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the NRC provides no endorsement for any evaluated material, product, system or service described herein. The NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this evaluation with respect to its compliance to the referenced code(s) and standard(s). The 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.

## Language

Une version française de ce document est disponible.  
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**This PDF is an alternative version.** This document was published on 2021-11-17 and may not be the latest version of this evaluation. Users should consult the latest [published assessment](#) on the [CCMC Registry of Product Assessments](#), which contains the most up to date information. This PDF is intended for use as a record, not the latest information available.

## CCMC recognition

The Canadian Construction Materials Centre (CCMC) assesses compliance with Canadian building, energy and safety codes. We are the only construction code compliance service supported and operated by the Government of Canada. Trusted by over 6,000 regulators across Canada.

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 \(NSBOA\)\)](#)



The CCMC provides code compliance assessments to Canadian code requirements, consulting nationwide with construction regulators to elicit regional variations in code requirements as well as provincial and local interpretations. Users are advised to review the technical information presented in CCMC assessments when making approval decisions. [Learn more about how the CCMC provides a unique service for Canada.](#)

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

## 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.

The CCMC assesses compliance with Canadian building, energy and safety codes, and is trusted by over 6,000 regulators across Canada.

# 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

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:

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