



## Evaluation Report CCMC 14049-R Wrapsulate® Foam Jacket

|                           |             |
|---------------------------|-------------|
| <b>MasterFormat:</b>      | 07 25 10.13 |
| <b>Evaluation issued:</b> | 2016-10-27  |
| <b>Re-evaluation due:</b> | 2019-10-27  |

### 1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “Wrapsulate® Foam Jacket,” when used as an exterior thermally insulated sheathing membrane 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), 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:
  - Article 9.25.2.2., Insulation Materials
  - Article 9.27.3.2., Sheathing Membrane Material Standard

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

### 2. 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.).

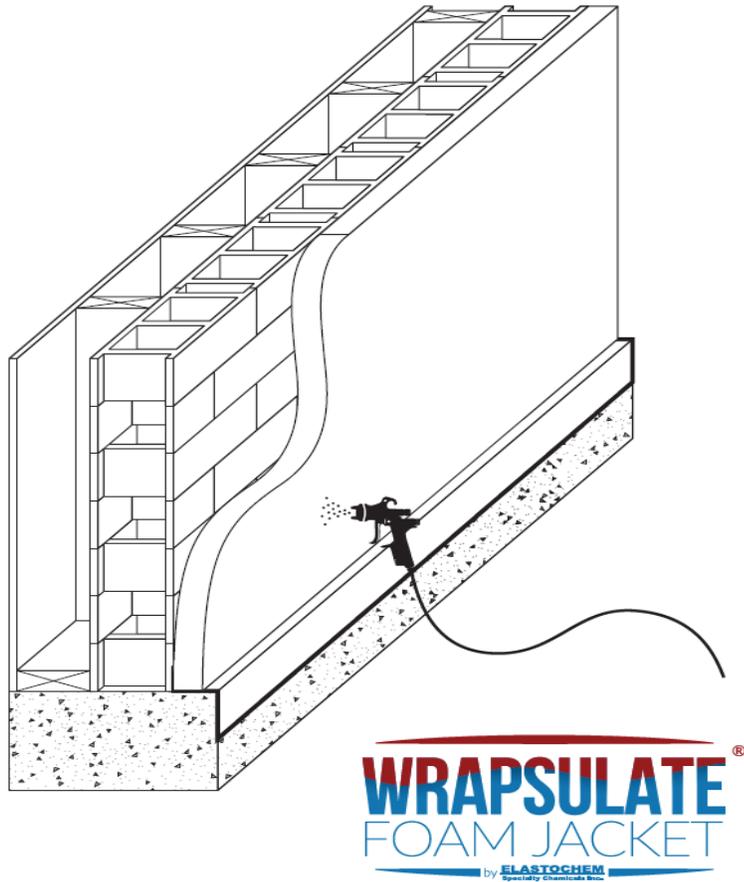


Figure 1. “Wrapsulate® Foam Jacket”

### 3. Conditions and Limitations

The CCMC compliance opinion in Section 1 is bound by the “Wrapsulate® Foam Jacket” 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.

---

1. The UFC FQAP requires periodic audits of the installers that 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.

- 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.”

## 4. Technical Evidence

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 CCMC. The corresponding technical evidence for this product is summarized below.

### 4.1 Performance Requirements

**Table 4.1.1 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)                    |

#### Note to Table 4.1.1:

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.

## Report Holder

Elastochem Specialty Chemicals Inc.  
37 Easton Road  
Brantford, ON N3P 1J4

**Telephone:** 519-754-1678

**Fax:** 519-754-4487

## Plants

Brantford, ON

## 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](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:**

2016-11-21