

Evaluation Report CCMC 13315-R

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UltraFit DS®/AsureR®

1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “UltraFit DS®/AsureR®”, 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 2005:

- Clause 1.2.1.1.(1)(a), Division A, using the following acceptable solutions from Division B:
 - Clause 9.25.2.2.(1)(d) Insulation Materials
 - Sentence 9.25.2.4.(4) Installation of Loose-Fill Insulation

This opinion is based on CCMC's evaluation of the technical evidence in Section 4.1 provided by the Report Holder.

2. Description

The products are loose-fill, glass fibre, thermal insulation that are installed in walls using a blowing machine. The pneumatic hoses on the machine mists the thermal insulation with water as the insulation is being injected into the walls. The dry insulation is misted with water during the installation process to cause the moistened fibre to meld at interstitial points, forming a cohesive mat.

A water-activated adhesive is added to the thermal insulation at the manufacturing plant.

The thermal insulation used is “Guardian Ultra Fiberglass Blowing Insulation,” CCMC 12117-L, which is compliant with CAN/ULC-S702-97, “Mineral Fibre Thermal Insulation for Buildings.”

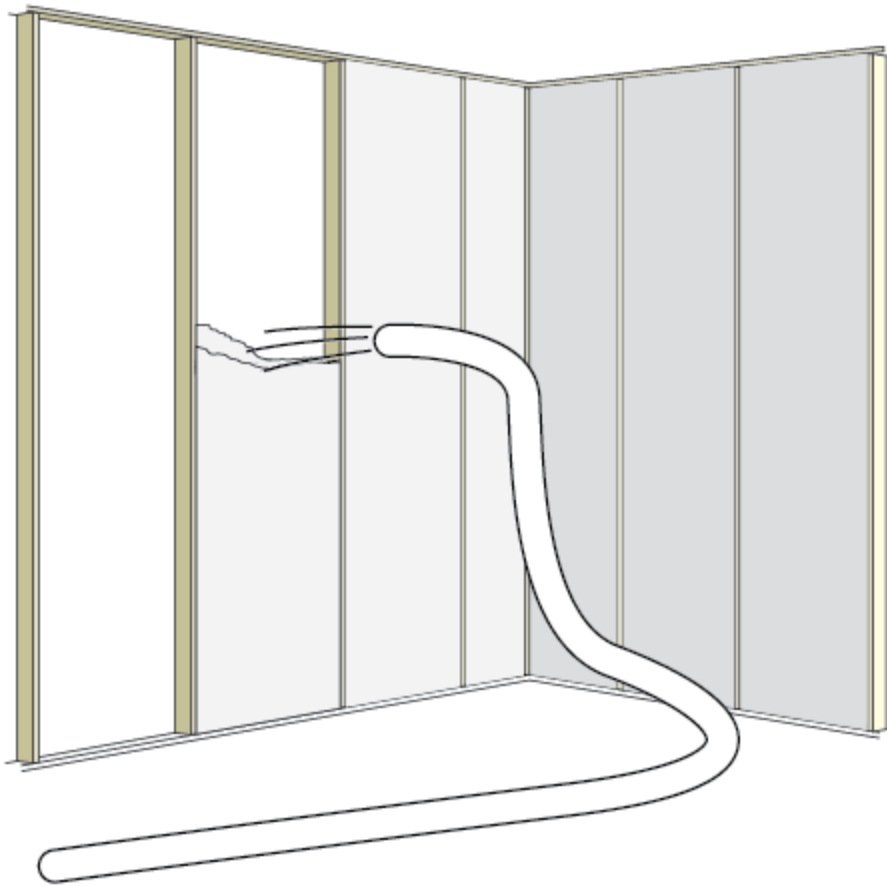


Figure 1. Installation details for “UltraFit DS®/AsureR®”

3. Conditions and Limitations

CCMC's compliance opinion in Section 1 is bound by the “UltraFit DS®/AsureR®” being used in accordance with the conditions and limitations set out below.

- The installation must be done by a licensed installer in accordance with the manufacturer’s installation instructions. The person or persons installing the product must carry a certification card bearing their signature and must be certified as competent in such work by Guardian Fiberglass Inc. or a licensee holding a current “UltraFit DS®/AsureR®” license agreement. The licensee shall be responsible for ensuring that installation work performed under a license agreement is done in a workmanlike manner and in accordance with recommendations provided by Guardian Fiberglass Inc.
- The products must be applied to framed walls where one side is closed. Cavities between studs must be filled one at a time, applying the insulation from the bottom to the top. If necessary, screed the excess insulation flush with the stud face. Vapour barriers may only be installed after the thermal insulation is measured to have a moisture content of 15% or less. The application density can vary with the type of blowing apparatus used. The local licensed applicator should be consulted for the correct application density.
- The insulation must be kept at least 75 mm (or as required in building regulations or safety codes) from heat-emitting devices such as recessed light fixtures. There should be a minimum 50-mm (2-in.) clearance from the sidewalls of Type A chimneys (see ULC standard CAN/ULC-S604-M91, “Factory-Built Type A

Chimneys”) or of Type B and Type L vents (see CSA standards CSA-B149.1-05, “Natural Gas and Propane Installation Code” and CSA-B149.2-05, “Propane Storage and Handling Code”).

- The installer must comply with the requirements of Sentence 9.25.2.4.(4) and Article 9.3.2.5., Moisture Content, of Division B of the NBC 2005, i.e. the moisture content of lumber must not be greater than 19% at the time of installation. This can be confirmed in one of the following ways:
 - the moisture content of the wood frame may be checked with a moisture meter and proven to be below 19%, or
 - if the roof and external insulating sheathing have been applied and the indoor space (with or without additional space heating) allows drying of the wood-frame members, a seven-day drying period may be considered to have achieved the appropriate moisture content.
- The application of these products is limited to walls that enclose the thermal insulation with wall coverings. Exposed applications and horizontal applications are not permitted. The following table is the coverage chart for the products:

Table 3.1 Coverage chart

RSI (m²·K/W)	Cavity Depth (mm)	Applied Density (kg/m³)	Bag Usage (Bags/100 m²)	Maximum Coverage (m²/bag)
2.5	89	25.6	15.9	6.3
3.9	140		24.4	4.1
5.1	184		32.5	3.1
6.5	235		41.4	2.4
2.7	89	30.4	18.8	5.3
4.2	140		29.6	3.4
5.5	184		39.0	2.6
7.1	235		49.8	2.0

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 Material Requirements

4.1.1 Thermal Insulation

The thermal insulation used is “Guardian Ultra Fiberglass Blowing Insulation,” CCMC 12117-L, which is compliant with CAN/ULC-S702.

4.2 Performance Requirements

4.2.1 Moisture Content and Density

The results for density and moisture content were determined from material taken from three identical wall cavities. The insulation was installed in accordance with the manufacturer’s instructions at densities ranging from 30.4 kg/m³ to 36.0 kg/m³. Samples from each cavity were taken, conditioned and then weighed to give the results tabulated in Table 4.2.1.1 below.

Table 4.2.1.1 Moisture content and density test results

Specimen	Moisture Content %	Density (kg/m ³)
A	15.2	31.56
B	19.0	34.14
C	12.5	30.75
Average	15.6	32.15

4.2.2 Thermal Resistance

The average test specimen density was within $\pm 5\%$ of 35.2 kg/m³ of the average manufacturer's design density at a thickness of 88.9 mm and with the depth of the wall cavity constructed with nominal 50.5-mm x 101.6-mm framing. The thermal resistance arithmetic mean for the three tests was measured to be 2.39 m²·K/W.

Table 4.2.2.1 Thermal resistance test results

Specimen	Specimen Density (kg/m ³)	Corresponding Thermal Resistance (m ² ·K/W)
A	28.4	2.31
B	35.1	2.39
C	34.4	2.46
Average	32.6	2.39

5. Other Technical Evidence**5.1 Additional Performance Data Requested by the Report Holder**

Data in this section does not form part of CCMC's opinion in Section 1.

Table 5.1 Smoulder resistance and surface burning characteristics test results

Property	Result
Smoulder resistance	No evidence of flaming combustion during the tests
Flame-spread classification (FSC)	5
Smoke-developed classification (SD)	5

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