



Evaluation Report CCMC 13488-R AiRclad (Sheathing Membrane/Insulation Board)

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1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “AiRclad (Sheathing Membrane/Insulation Board)”, when used as an exterior insulating sheathing with an integral sheathing membrane (weather side) in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code (NBC) of Canada 2015:

Insulation Panel

- 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

Sheathing Membrane

- 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 9.27.3.2., Sheathing Membrane Material Standard

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 2 preformed, moulded, expanded polystyrene rigid insulation panel (conforming to CAN/ULC-S701). The panels are plant-laminated to a spun-bonded olefin sheathing membrane (Tyvek® HomeWrap™ CCMC 12808-R made by E.I. DuPont Canada Company) with a hot melt adhesive that is applied every 20 mm in three 2-mm strips and spaced at 5 mm on centre (o.c.). The panels are commonly 2 438 mm × 1 219 mm or 2 743 mm × 1 219 mm and are available in 12.7 mm to 76.2 mm thicknesses.

3. Conditions and Limitations

CCMC’s compliance opinion in Section 1 is bound by the “AiRclad (Sheathing Membrane/Insulation Board)” being used in accordance with the conditions and limitations set out below:

- The product must be installed:
 - with the printed side facing outward and must be protected from exposure to ultraviolet (UV) radiation from the sun within 60 days of its application,
 - in accordance with Article 9.27.3.3., Required Sheathing Membrane and Installation, of Division B of the NBC 2015 and the manufacturer’s current instructions, and
 - with a minimum 10-mm air space between the sheathing membrane and the cladding, unless the cladding has been deemed not to require an air space (e.g., deemed by CCMC or deemed by building officials based on past cladding performance).
- CCMC-evaluated sheathing tape must be used to seal all joints.
- When the product is used in applications where a concealed air space exceeds 25 mm in width, the concealed air space must contain proper fire blocking, in accordance with Subsection 9.10.16., Fire Blocks, of Division B of the NBC 2015.

- When sheathing is required, the product must have a minimum thickness of 38 mm as per Table 9.23.17.2.-A., Wall Sheathing Thickness and Specifications, of Division B of the NBC 2015.
- Product thicknesses greater than 50 mm and having a water vapour permeance of less than 60 ng/Pa·s·m² must comply with Article 9.25.5.2., Position of Low Permeance Materials, of Division B of the NBC 2015.
- Use of this product as part of an air barrier system is covered under a separate CCMC Evaluation Report (see CCMC 13490-R).
- The product must be clearly identified with the phrase “CCMC 13488-R” and the name of the manufacturer or logo.

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 Sheathing Membrane (Tyvek® HomeWrap™) with the Adhesive

Table 4.1.1.1 Results of Testing the Adhesive Properties of the Product

Property		Unit	Requirement	Result
Tensile strength		N/mm	≥ 3.5	5.37
Breaking force		N	≥ 180 MD ¹	307.9 MD
			≥ 160 XD ¹	417.1 XD
Water vapour permeance		ng/Pa·s·m ²	≥ 170	1 770
Water ponding	original	–	No leakage	Pass
Tensile strength after UV exposure	% retention of the original	%	≥ 90	91.6%
Tensile strength after UV exposure and heat aging		%	≥ 85	92%
Water vapour permeance	after UV exposure and heat aging	ng/Pa·s·m ²	≥ 170	2 687
Water ponding		–	No leakage	Pass

Note to Table 4.1.1.1:

1. Machine direction (MD); cross-machine direction (XD).

4.1.2 “AiRclad” Composite Insulation Panel

Table 4.1.2.1 Result of Testing the Water Vapour Permeance of the Insulation Panel

Property	Unit	Requirement	Result
Water vapour permeance with NBC-required directionality (57.3-mm-thick specimen) ¹	ng/Pa·s·m ²	≥ 60	71

Note to Table 4.1.2.1:

1. From the interior to the exterior side of the wall.

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