

# CCMC 14124-R

## CCMC Canadian code compliance evaluation

<b>CCMC number:</b>	14124-R
<b>Status:</b>	Active
<b>Issue date:</b>	2019-05-02
<b>Modified date:</b>	2022-11-18
<b>Evaluation holder:</b>	<p><b>Kingspan Insulation LLC</b>                  2100 Riveredge Parkway, Suite 175                  Atlanta GA 30328                  United States                  Website: <a href="http://www.kingspaninsulation.com">www.kingspaninsulation.com</a>                  Telephone: 678-589-7309                  Email: <a href="mailto:craig.lynch@kingspan.com">craig.lynch@kingspan.com</a></p>
<b>Product name:</b>	Kingspan GreenGuard® HPW
<b>Compliance:</b>	NBC 2015
<b>Criteria:</b>	CCMC-TG-072510.03-15 "CCMC Technical Guide for Sheathing Membrane, Breather Type"

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

[Learn more about CCMC recognition](#) [Look for the trusted CCMC mark on products to verify compliance.](#)

## Compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as a breather-type 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
9.27.3.2. Sheathing Membrane Material Standard	<u>Alternative</u>

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.

# Product information

## Product name

Kingspan GreenGuard® HPW

## Product description

The product consists of a non-perforated, non-woven polyolefin base fabric with a breathable polyolefin film; non-perforated. These two components are combined through a process using heat lamination and adhesion. The product prevents the passage of water but permits the passage of water vapour.

The product colour is white. The product is 0.43 mm thick and available in rolls ranging from 2.7432 m to 3.0480 m wide and 45.7200 m long. The roll material is applied over exterior sheathing material to form a continuous envelope around the entire building.

The figure below illustrates the application of the product.



Figure 1. Application of Kingspan GreenGuard® HPW

## Manufacturing plant

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

Product name	Manufacturing plant
	Winchester, VA, US
Kingspan GreenGuard® HPW	☑

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

## 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.

- The product can be used as a breather-type sheathing membrane under commonly used types of exterior cladding to reduce the risk of water infiltration. The main purpose of the membrane is to create a continuous envelope around the occupied areas of residential or light commercial construction. Such continuity is achieved by overlapping or sealing the product either to itself using CCMC-evaluated contractor sheathing tape or to other construction materials using an acoustical sealant.
- A conforming installation must be:
  - installed with the printed side facing outward;
  - protected from exposure to ultraviolet (UV) radiation from the sun within 60 days;
  - installed according to Article 9.27.3.3., Required Sheathing Membrane and Installation, of Division B of the NBC 2015 and the manufacturer's current instructions;
  - installed with a minimum 10-mm air space between the sheathing membrane and the cladding, unless the cladding has been deemed to not require an air space (i.e., deemed by the CCMC or by building officials based on past cladding performance); and
  - installed with the material overlapping 100 mm at vertical joints and 100 mm at horizontal joints. Note: joints must be taped and the material must be sealed around both window and door openings.
- A concealed air space exceeding 25 mm in width must contain proper fire blocks in accordance with Subsection 9.10.16., Fire Blocks, of Division B of the NBC 2015.
- The product must be clearly identified with the phrase "CCMC 14124-R."

## Technical information

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

Criteria number	Criteria name
CCMC-TG-072510.03-15	CCMC Technical Guide for Sheathing Membrane, Breather Type

The evaluation holder has submitted technical documentation for the CCMC evaluation. Testing was conducted at laboratories recognized by the CCMC. The corresponding technical evidence for this product is summarized below.

## Performance Requirements

Table 1. Results of testing the product to the CCMC technical guide

Property	Unit	Requirement	Result
Sheet width	–	Tolerance: –6 mm of specified width	Pass
Tensile strength	N/mm	≥ 3.5	4.6
Water vapour permeance	ng/(Pa·s·m <sup>2</sup> )	≥ 170	977
Water vapour permeance of UV- and heat-aged samples	ng/(Pa·s·m <sup>2</sup> )	≥ 170	578
Tensile strength after UV exposure	% retention of original	≥ 90	90
Tensile strength after UV and heat aging	% retention of original	≥ 85	86
Water ponding of original samples	–	No leakage	Pass <sup>(1)</sup>
Water ponding of UV- and heat-aged samples	–	No leakage	Pass <sup>(1)</sup>

### Notes:

- <sup>1</sup> The water ponding test requires that the membrane retain 25.4 mm of water with no water passing through the membrane for 2 hours.

# 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.

In the case of any discrepancy between the English and French version of this document, the English version shall prevail.

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## 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))

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New Brunswick Building Officials Association (NBBOA)



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(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)

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# Code compliance as an acceptable solution

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## 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.

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