

# CCMC 13534-R

## CCMC Canadian code compliance evaluation

<b>CCMC number:</b>	13534-R
<b>Status:</b>	Active
<b>Issue date:</b>	2011-02-02
<b>Modified date:</b>	2023-11-08
<b>Evaluation holder:</b>	<p><b>Deksmart Products Ltd.</b> 364 Cherry Ave. Penticton BC V2A 3L7 Canada Telephone: 888-399-9222; 250-492-4131</p>
<b>Product name:</b>	DekSmart™ Ultra
<b>Compliance:</b>	NBC 2015
<b>Criteria:</b>	CCMC-TG-075419.01-15, "CCMC Technical Guide for "PVC Sheet-Applied Decking membranes (Exposed to light Pedestrian Traffic)"

**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 waterproof membrane covering for decks and balconies that will be subject to light pedestrian traffic 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
9.26.1.2.(1) Roofs shall be protected with roofing, i ...	<u>Acceptable</u>
9.26.2. Roofing Materials	<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

DekSmart™ Ultra

### Product description

The product is a polyvinyl chloride membrane with a nominal thickness of 1.5 mm and a heat-set polyester fabric attached to the back. The surface of the product is embossed to provide a textured finish. The membrane is manufactured in rolls that are 1 829 mm wide and 22 m long.

The product is available in a variety of colours.

A typical roof/deck application is shown in the figure below.

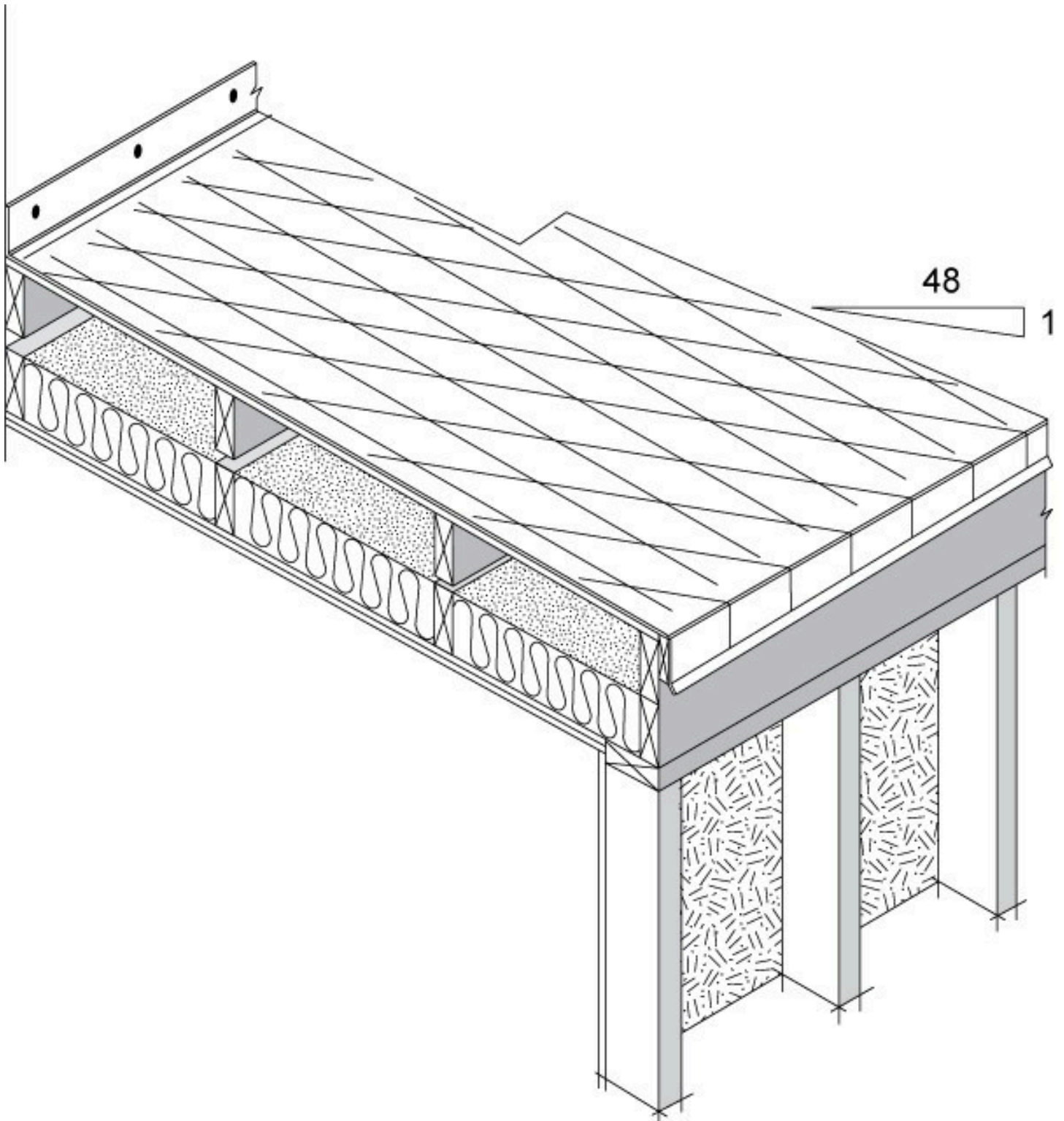


Figure 1. Typical roof/deck application for “DekSmart™ Ultra”

## Manufacturing plant

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

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Product name	Manufacturing plant
	Winchester, VA, US
DekSmart™ Ultra	☑

☑ 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 must be used in conjunction with plywood or concrete substrates. The membrane must be fully adhered to the substrate using the HB Fuller SC-0122 adhesive, and applied as outlined in the installation manual, dated January 2008.
- The product can be considered as an alternative solution to materials referenced in Section 9.26. of Division B of the NBC 2015.
- The product is limited for use in areas that are subject to traffic loads generated by residential occupancies only (light pedestrian traffic).
- The product is limited for use where the roof or deck surface has a minimum slope of 1:48.
- The product must not be exposed to chemical attack or spillage. In situations where extended contact with chemicals or pollutants may occur, the suitability of the product must be determined.
- Any physical or chemical damage to the membrane must be repaired in accordance with the manufacturer's instructions.
- The product must not be installed with butt seam joints.
- Joints must be shingle-lapped in order to shed water.
- The product must be installed by manufacturer-trained installers and in strict conformance with the current installation manual.
- The product or its packaging must be identified with the following information:
  - manufacturer's name or logo; and
  - the phrase "CCMC 13534-R."

## Technical information

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

Criteria number	Criteria name
CCMC-TG-075419.01-15	CCMC Technical Guide for "PVC Sheet-Applied Decking membranes (Exposed to light Pedestrian Traffic)"

## Material requirements

### Test results for material properties

Property	Unit	Requirement	Result
Overall thickness	mm	Report result	1.5
Coating thickness	mm	≥ 0.4 (no single measurement < 0.32)	N/A

## Performance requirements

Table 1. Test results for performance properties

Property		Requirement	Result
Load strain properties - strain energy (kN/m)		Average ≥ 30	42.7 (MD) (1)
		(no single value < 26)	37.3 (XD) (2)
Water vapour transmission (g/m <sup>2</sup> /d)		≤ 4.0	0.86
Effect of water absorption - mass increase (%)		≤ 3.0	3.0
Static puncture		Rating > 3	3
Dynamic puncture		Rating > 3	4
Low temperature impact	original	8 out of 10 pass	Pass
	after accelerated weathering		
Low temperature flexibility	original	Material shall not crack or exhibit any visible defects	Pass
	after heat aging		
	after accelerated weathering		
Lap joint strength - strain energy (%)	original	Min. 75% of original membrane	76 (MD) (1)
			86 (XD) (2)
	after heat aging	Min. 70% of original membrane	83 (MD) (1)

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Property		Requirement	Result
			73 (XD) <sup>(2)</sup>
Resistance to accelerated weathering (visual inspection)		No cracking, blistering or colour change	Pass
Abrasion resistance (g)		Weight loss ≤ 0.4 g (with maximum depth of wear of 0.30 mm)	Pass <sup>(3)</sup>
Adhesion to substrate (N)		≥ 125	130 <sup>(4)</sup>
Slip resistance	dry condition	leather ≥ 0.50	Pass
		rubber ≥ 0.70	
	wet condition	leather ≥ 0.60	
		rubber ≥ 0.65	

**Notes:**

- 1 "MD" means "machine direction."
- 2 "XD" means "cross-machine direction."
- 3 The performance was deemed acceptable for intended use based on ASTM D 1242, Method A. The test result was 0.025 mm loss of thickness.
- 4 HB Fuller SC-0122, the solvent-based adhesive, was used in the test.

# 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))

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)



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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)

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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.

### CCMC's code compliance opinions

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