



CANADIAN CODE
COMPLIANCE EVALUATION



CCMC 13645-R

CCMC Canadian code compliance evaluation

CCMC number:	13645-R
Status:	Active
Issue date:	2015-05-25
Modified date:	2025-01-23
Evaluation holder:	Canadian General Tower Ltd. 52 Middleton St., P.O. Box 160 Cambridge ON N1R 5T6 Canada
Product name:	Tower Decking FB
Compliance:	NBC 2015, NBC 2020
Criteria:	CCMC-TG-075419.01-15, "CCMC Technical Guide for "PVC Sheet-Applied Decking membranes (Exposed to light Pedestrian Traffic)"" CCMC-TG-075419.01-20, "CCMC Technical Guide for "PVC Sheet-Applied Decking Membrane (Exposed to Light Pedestrian Traffic)""

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

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National Research
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Canada

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 subject to light pedestrian traffic in accordance with the conditions and limitations stated in this evaluation, complies with the following codes:

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>

National Building Code of Canada 2020

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

Tower Decking FB

Product description

The product is a polyvinyl chloride (PVC) membrane with a non-woven polyester fleece backing. The membrane thickness is 1.5 mm. The surface of the product is embossed to provide a textured finish. The membrane is available in rolls that are 1 829 mm wide and that vary from 23 m to 140 m in length. The product can be cut to required lengths and is available in a variety of colours.

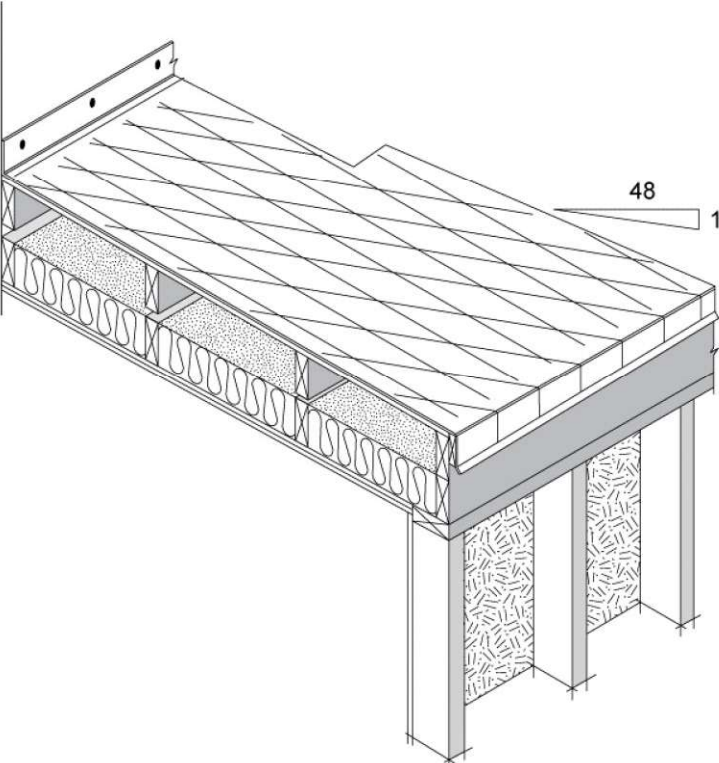


Figure 1. Tower Decking FB - typical deck application.

Manufacturing plant

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

Product name	Manufacturing plant
	Cambridge, ON, CA
Tower Decking FB	☑

☑ 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 membrane that is fully adhered to a continuous solid substrate, such as plywood or concrete, for decks and balconies that are subject to light pedestrian traffic.
- The product must be used only in conjunction with plywood or concrete substrates. The membrane must be fully adhered to the substrate with the following adhesive:
 - Bostik Pliobond™ 7008 (on concrete or plywood substrates)
- The product is limited for use in areas that are subject to loads generated by light pedestrian traffic only.
- 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.
- The product is limited for use where the roof or deck surface has a minimum slope of 1:48.
- The product must not be installed with butt seam joints.
- The product has a unique attribute: during installation, the heat-welding includes thermal degradation of the backing, where the backing remains in place during the heat-welding process.
- Joints must be shingle-lapped in order to shed water.
- The product must be installed by qualified applicators only and in strict conformance with the current installation instructions (Rev. 2 - 241122).
- The product or its packaging must be identified with the manufacturer's name or logo and the phrase "CCMC 13645-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)"
CCMC-TG-075419.01-20	CCMC Technical Guide for "PVC Sheet-Applied Decking Membrane (Exposed to Light Pedestrian Traffic)"

Physical property requirements

Table 1. Results of physical property testing of the product

Property	Unit	Requirement	Result
Dimensional tolerance (width)	%	Tolerance must be within 0% and +3% of reported width	1
Overall thickness of the PVC membrane	mm	$\geq 1.2 \pm 10\%$ of thickness	1.5

Mechanical property requirements

Table 2. Results of mechanical property testing of the product

Property		Unit	Requirement	Result
Breaking strength, as received	MD ⁽¹⁾	N / 25-mm width	≥ 245	563
	CMD ⁽²⁾	N / 25-mm width	≥ 245	485
Breaking strength, with backing removed	MD ⁽¹⁾	N / 25-mm width	≥ 245	570
	CMD ⁽²⁾	N / 25-mm width	≥ 245	465
Elongation, as received	MD ⁽¹⁾	%	≥ 25	316
	CMD ⁽²⁾	%	≥ 25	344
Elongation, with backing removed	MD ⁽¹⁾	%	≥ 250	321
	CMD ⁽²⁾	%	≥ 250	321
Tear resistance		N	≥ 45	71
Static puncture		kg	≥ 15	No puncture at 15 kg (for both stainless steel plate and rubber stopper)

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Property		Unit	Requirement	Result
Dynamic puncture		J	≥ 20	No puncture at 20 kg (for both stainless steel plate and rubber stopper)
Low temperature impact		-	No cracks at -30°C	No cracks
Low temperature flexibility		-	No cracks at -40°C	No cracks
Dimensional changes	MD ⁽¹⁾	%	≤ 2.0	-1.7 (shrinkage)
	CMD ⁽²⁾	%	≤ 2.0	-0.1 (shrinkage)
Abrasion resistance		Cycles	$\geq 5\,000$	5 433
Slip resistance		-	DCOF ⁽³⁾ ≥ 0.42	0.67
Fungi resistance	sustained growth	-	No growth	No growth
	discoloration	-	No discoloration	No discoloration
Fabric adhesion to membrane		kN/m	≥ 0.525	0.525
Crack bridging		-	No cracking, splitting or pinholes	No cracking, splitting or pinholes
Adhesion to plywood	with adhesive Bostik Pliobond™ 7008	KPa	Report value	207
Adhesion to concrete	with adhesive Bostik Pliobond™ 7008	KPa	Report value	189
Water resistance	weight change	%	≤ 3	0
	retained breaking strength (MD)	%	≥ 90	100
	retained breaking strength (CMD)	%	≥ 90	105
	retained elongation (MD)	%	≥ 90	97
	retained elongation (CMD)	%	≥ 90	91
Heat aging	visual inspection	-	No cracking, crazing or blistering	No cracking, crazing or blistering
	weight change	%	≤ 5	1
	retained breaking strength (MD)	%	≥ 90	95
	retained breaking strength (CMD)	%	≥ 90	101
	retained elongation (MD)	%	≥ 90	93

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Property		Unit	Requirement	Result
	retained elongation (CMD)	%	≥ 90	95
	low temperature impact	-	Report value	No cracks at -30°C
	abrasion resistance	Cycles	≥ 1 500	4 584
	slip resistance	-	DCOF ⁽³⁾ ≥ 0.42	0.67
	fungi resistance	-	No growth or discoloration	Fungi growth and discoloration ⁽⁴⁾
	falling weight impact resistance	J	Report value	8.16
Accelerated weathering	visual inspection	-	No cracking, crazing or blistering	No cracking, crazing or blistering
	retained breaking strength (MD)	%	≥ 80	106
	retained breaking strength (CMD)	%	≥ 80	106
	retained elongation (MD)	%	≥ 80	97
	retained elongation (CMD)	%	≥ 80	91
	low temperature flexibility	-	Report value	No cracks at -30°C
	abrasion resistance	Cycles	≥ 1 500	4 103
	slip resistance	-	DCOF ⁽³⁾ ≥ 0.42	0.66
Seam strength	reference (no seam)	N / 25-mm width	Report value	447
	unconditioned	%	≥ 75	88
	after heat aging	%	≥ 70	91
	after 7 days in boiling water	%	≥ 70	90
	after freeze-thaw cycle	%	≥ 70	89
Watertightness	after 7 days in boiling water	-	No leakage	Pass
	after freeze-thaw cycle	-	No leakage	Pass

Notes

- 1 MD: Machine direction.
 - 2 CMD: Cross-machine direction.
 - 3 DCOF: Dynamic coefficient of friction.
 - 4 Fungi growth and discoloration were observed for the membrane with the backing removed. However, the re-test with the membrane as received indicated no fungi growth and discoloration for the same heat-aging protocol.
-

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.

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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:

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(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)



(New Brunswick Building Officials Association (NBBOA))

Nova Scotia Building Officials Association (NSBOA)



(Nova Scotia Building Officials Association (NSBOA))

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For more information, contact the CCMC by phone at (613) 993-6189 or by email at ccmc@nrc-cnrc.gc.ca

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Code compliance as an acceptable solution

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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