

CCMC 11161-R

CCMC Canadian code compliance evaluation

CCMC number:	11161-R
Status:	Active
Issue date:	1986-04-03
Modified date:	2022-10-03
Evaluation holder:	<p>Weyerhaeuser P.O. Box 6049 Federal Way WA 98063-6049 United States Telephone: 888-453-8358</p>
Product name:	Parallam® PSL
Code compliance:	NBC 2015, OBC
Evaluation requirements:	CCMC-TG-061710A-15A "CCMC Technical Guide for Structural Composite Lumber"

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

[Learn more about CCMC recognition](#)

Code compliance opinion

National Building Code of Canada 2015

Code provision	Solution type
4.3.1.1.(1) Buildings and their structural members m ...	Acceptable
9.23.4.2.(3) Spans for Joists, Rafters and Beams	Alternative

Ontario Building Code

Ruling No. 05-18-142 (11161-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 2006-01-31 (revised 2017-09-19) pursuant to s.29 of the Building Code Act, 1992 (see Ruling for terms and conditions). This Ruling is subject to periodic revisions and updates.

The above opinion is 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

Parallam
PSL

Product description

The product is a parallel strand lumber (PSL), which is a type of SCL manufactured from strands of wood species or species combinations coated with a phenol formaldehyde based adhesive. The wood species, species combinations and adhesive used are as specified in the product manufacturing standards. Strands are oriented to the length of the member and fed into a continuous press. The material is compressed and cured with microwave energy. See [Figure 1](#) for strand orientation details.

The product is available in cross sections up to 280 mm × 1 372 mm and lengths up to 20.2 m. Some cross sections may have had a secondary lamination. The minimum product thickness (perpendicular to the wide face of the strand) is 44 mm.

Independent third-party monitoring and inspection is conducted by PFS Corporation, Los Angeles, California and/or by Intertek Testing Services (ITS) NA Ltd., Coquitlam, British Columbia.

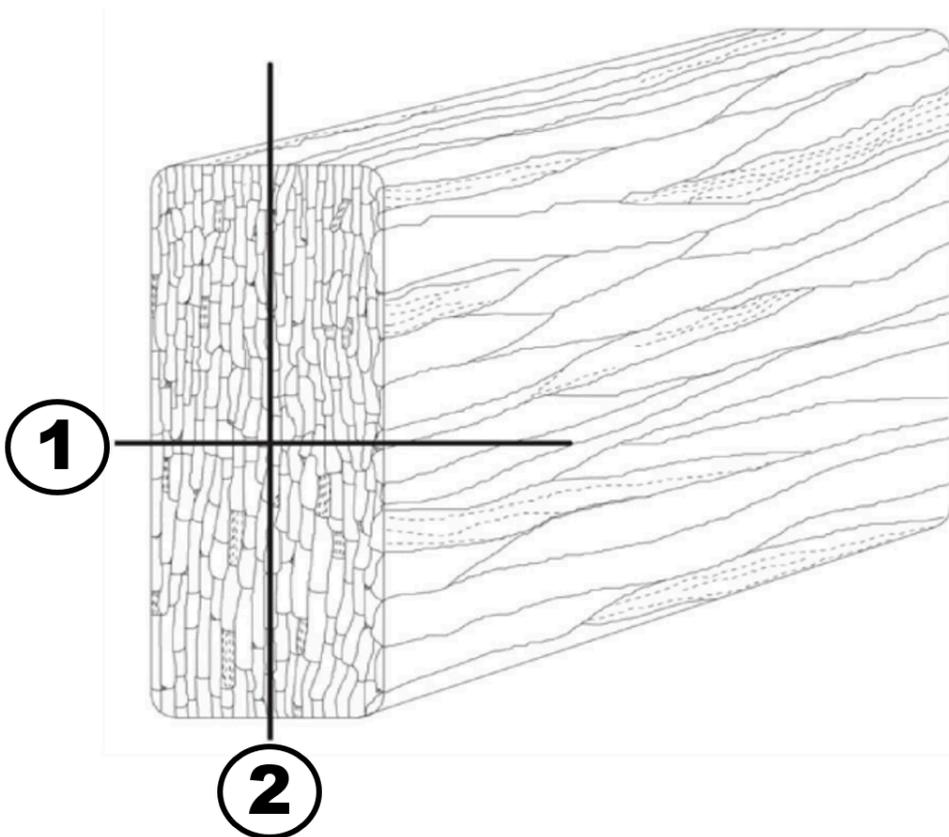


Figure 1. Strand orientation details

This PDF is an alternative version. This document was published on 2022-10-03 and may not be the latest version of this evaluation. Users should consult the latest [published assessment](#) on the [CCMC Registry of Product Assessments](#), which contains the most up to date information. This PDF is intended for use as a record, not the latest information available.

1. perpendicular to the wide face of the strand
2. parallel to the wide face of the strand

Manufacturing plants

This evaluation is limited to products produced at the following plants:

Product name	Manufacturing plants	
	Annacis Island, BC, CA	Buckhannon, WV, US
Parallam® PSL	◇	◇

◇ 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, as with all SCL, is intended for dry service applications only. ⁽¹⁾
- The product is intended for use in construction as an alternative material to lumber. Proprietary design values presented for the product are to be used by professional engineers for design in accordance with CSA O86-14, for structural applications such as beams, headers, joists, rafters and columns as intended by the product manufacturer. The specific application must be qualified through testing and validated by the manufacturer. Applications such as I-joist flanges, studs and metal-plated truss chords are beyond the scope of this evaluation.

i. **Manufacturer's pre-engineered tables** ⁽²⁾

The pre-engineered tables in the documents listed below have been provided to the CCMC by the manufacturer to demonstrate compliance with Part 9 of the NBC 2015 for acceptance by the local authority having jurisdiction (AHJ).

When the product is used to support uniform loads only, the installation must be in accordance with the tables and installation details in the following documents published by Weyerhaeuser:

1. "Beams, Headers, and Columns (TJ-9500) (Limit States Design for Eastern Canada)," June 2019; or
2. "Headers, Beams, and Columns (TJ-9505) (Limit States Design for Western Canada)," June 2019.

Except where a floor is required to support a concentrated load or a specified unfactored live load in excess of 1.9 kN/m² and in lieu of the engineering design, the spans for the product, when used as floor joists, rafters and beams, may conform to the spans for Select Structural Grade for the Douglas Fir – Larch group in Tables 9.23.4.2-A to 9.23.4.2-I of the NBC 2015. Maximum deflections must conform to Subsection 9.4.3., Deflections, of Division B of the NBC 2015. Floor joists must be designed to meet the deflection and vibration set in the NBC for lumber.

The product must be installed in accordance with the manufacturer's installation guidelines noted in the above-referenced documents for those applications falling within the scope of the documents. Applications outside the scope of these installation guidelines require engineering on a case-by-case basis.

When used in heavy timber construction, the fire-resistance rating of the product members may be determined by following the equations developed for glued-laminated timber in Appendix D-2.11., Glue-Laminated Timber Beams and Columns, of Division B of the NBC 2015.

Intertek Testing Services considers the product an equivalent to lumber floor joists with respect to fire-resistance rating for equivalent member sizes and spacing within a rated floor assembly (see the ITS Directory of Listed Products).

ii. **Manufacturer's installation details**

The manufacturer's pre-engineered details within the documents outlined in i. above are limited in scope to building designs where the anticipated loads on the following structural details are not exceeded:

- floor and/or snow pounds per lineal foot (plf) tables (pages 10-11 of (1), and pages 8-9 of (2));
- beam installation details (pages 12-13 of (1) and pages 10-11 of (2));
- allowable holes in beams (page 14 of (1) and page 12 of (2));
- beam connection details (pages 17-18 of (1) and pages 15-16 of (2));
- multiple member connections for side-loaded beams (pages 16-17 of (1) and pages 14-15 of (2));
- multiple member connections for top-loaded beams (page 18 of (1) and page 16 of (2)); and
- columns (page 19 of (1) and page 17 of (2)).

In the attachment of the product, nails and bolts must be used and installed in accordance with the manufacturer sizing and spacing specifications.

iii. Engineering required

For structural applications beyond the scope and limitations of the above-referenced manufacturer publications or when required by the AHJ, the drawings or related documents must bear the authorized seal of a professional engineer, or other certified authority approved by the AHJ, skilled in wood design and licensed to practice under the appropriate provincial or territorial legislation.

The engineer must design in accordance with CSA O86-14 and may use as a guide *Engineering Guide for Wood-Frame Construction*, published by the Canadian Wood Council.

The specified strengths and fastener limits for the product must not exceed the values set forth in [Table 1](#) and [Table 3](#), respectively.

The ends of all beams must be restrained to prevent rollover. This is normally achieved by attaching diaphragm sheathing either to the top or the compression edge, and to an end wall or shear transfer panel capable of transferring a minimum unfactored load of 730 N/m or required shear forces due to wind or seismic conditions. The compression edges of all beams must be continuously laterally supported at least every 610 mm, except when the design is done in accordance with CSA O86-14.

iv. Engineering support provided by manufacturer

Weyerhaeuser may provide engineering services in conjunction with Weyerhaeuser product specifications and offers the following support contact number for its Canadian offices: 888-453-8358.

- This product must be identified with the phrase “CCMC 11161-R” along the side of the product. This CCMC number is only valid when it appears in conjunction with the WHI certification mark of Intertek Testing Services and/or the mark of PFS Corporation.

Notes

- ¹ All lumber, wood-based panels and proprietary engineered wood products are intended for dry service conditions. “Dry service conditions” is defined as the in-service environment in which the average equilibrium moisture content (MC) of lumber is 15% or less over a year and does not exceed 19% at any time. Wood contained within the interior of dry, heated or unheated buildings has generally been found to have an MC between 6% and 14% depending on season and location. During construction, all wood-based products should be protected from the weather to ensure that the 19% MC is not exceeded in accordance with Article 9.3.2.5., Moisture Content, of Division B of the NBC 2015.
-

2 The pre-engineered tables present the pre-engineered factored resistance of the beam. The AHJ may require additional engineering information to determine the factored load in accordance with Part 4, Structural Design, of Division B of the NBC 2015.

Technical information

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

Criteria number	Criteria name
CCMC-TG-061710A-15A	CCMC Technical Guide for Structural Composite Lumber

The evaluation holder has submitted technical documentation for the CCMC's evaluation. Testing was conducted at laboratories recognized by the CCMC. The corresponding technical evidence for this product is summarized below. Technical evidence provided in Appendix A shows some properties were tested in accordance with a previous edition of CSA O86 and are applicable to CSA O86-14.

Design requirements

Table 1. Product specified strengths (MPa) (1) (2) (6) (7) (10)

Species	Grade	Axial		Load parallel to WFS (joist/beam)			Load perpendicular to WFS (plank)			MOE (6)
		F _t (3)	F _c	F _b (4) (5) (9)	F _v	F _c perp	F _b (4)	F _v	F _c perp	
Douglas fir (DF)-larch	1.8E	22.35	27.50	31.85	2.95	6.84	30.60	2.45	6.82	12 410
Douglas fir (DF)-larch	1.9E	24.10	29.70 (8)	34.40	3.35	7.28	32.17	2.55	7.31	13 100
Douglas fir (DF)-larch	2.0E	25.85	31.90 (8)	36.95	3.70	7.84	33.77	2.70	7.96	13 790
Douglas fir (DF)-larch	2.1E	25.85	31.90 (8)	36.95	3.70	7.84	33.77	2.70	7.96	14 480
Douglas fir (DF)-larch	2.2E	25.85	31.90 (8)	36.95	3.70	7.84	33.77	2.70	7.96	15 170
Southern pine (SP)	1.8E	22.35	27.50	31.85	2.95	7.50	30.60	2.45	7.49	12 410
Southern pine (SP)	1.9E	24.10	29.70 (8)	34.40	3.35	8.50	33.15	2.55	8.33	13 100
Southern pine (SP)	2.0E	25.85	31.90 (8)	36.95	3.70	9.40	35.70	2.70	9.24	13 790
Southern pine (SP)	2.1E	27.55	34.15 (8)	39.50	4.10	10.35	38.25	2.85	10.08	14 480
Yellow poplar (YP) or YP/red maple (RM)	1.8E	22.35	27.50	31.85	2.95	7.50	30.60	2.45	9.24	12 410
Yellow poplar (YP) or YP/red maple (RM)	1.9E	24.10	29.70 (8)	34.40	3.35	8.50	33.15	2.55	10.50	13 100
Yellow poplar (YP) or YP/red maple (RM)	2.0E	25.85	31.90 (8)	36.95	3.70	9.40	35.70	2.70	11.90	13 790
Yellow poplar (YP) or YP/red maple (RM)	2.1E	27.55	34.15 (8)	39.50	4.10	10.35	38.25	2.85	13.16	14 480

Notes

- 1 WFS = wide face of strand; see Figure 1 for details on strand orientation. SP, YP and YP/RM are permitted to be combined as eastern species (ES). When using the species group designation ES, specified strengths are the lowest values for the species in the group.

- 2 Specified strengths are based on covered, dry service conditions of use. Dry service conditions of use are those in which 19% moisture content will not be exceeded.
- 3 The F_t values in the table above are reduced to reflect the volume effects of length, depth and thickness for a range of common application conditions. The F_t values for the product may be higher when approved by the manufacturer for use as a component of engineered products, which are manufactured under a recognized quality control program.
- 4 F_b values include allowances for variations in span-to-depth ratio and method of loading, and may be used without further adjustments except as noted below. For product depths other than 305 mm, regardless of thickness, multiply table values by $(305/d)^{0.111}$. Adjustments for common depths are shown below. For product depths less than 89 mm, the multiplier for the 89 mm depth must be used.

Depth (mm)	89	140	184	241	305	406	457	610
Multiplier	1.15	1.09	1.06	1.03	1.00	0.97	0.96	0.93

- 5 When structural members qualify as repetitive members in accordance with CSA O86-14, a 4% increase is permitted for F_b in addition to the increases permitted in Table Note 4. This increase does not apply to field-assembled, multi-member beams.
- 6 Simple span uniform load deflection is calculated as follows:

$$\Delta = [(156WL^4 \times 10^6)/(Ebd^3)] + [(2400WL^2)/(Ebd)]$$

where

Δ = deflection, mm

W = specified uniform load, N/m

L = span, m

E = modulus of elasticity (MOE) (shear-free), MPa

b = beam width, mm

d = beam depth, mm

- 7 The specified strengths shown in this table also apply when secondary laminating is done in accordance with the manufacturer's quality control manuals for secondary laminating.
- 8 For column applications, member design must account for load eccentricity (where applicable) and initial member eccentricity due to curvature perpendicular to the wide face of the strand using the following equation:
- $$e_2 = \text{load eccentricity} + \text{initial member curvature} = (t/6) + (L^2/3.37 \times 10^6)$$
- where
- e_2 = overall load eccentricity in the direction perpendicular to the wide face of the strand, mm
- t = thickness of the narrow face of the column (perpendicular to the wide face of the strand), mm
- L = column unbraced length for buckling about a weak axis (perpendicular to the wide face of the strand), mm
- 9 When member thickness perpendicular to the wide face of the strand is less than 65 mm, multiply value by 0.93.

- 10 Some grades may not be currently under production; however, the manufacturer has qualified the grades listed in the table. Contact the manufacturer for further information. These unproduced prequalified grades may be reintroduced to the market after the manufacturer and the third-party certification agency verify the specified design values are as per the relevant requirements of the CSA O86 version current at the time. The manufacturer and the third-party certification agency are responsible for maintaining the values and informing the CCMC of any changes.

Table 2. Results of testing the fire resistance properties of the product

Specimen	Size (mm)	Estimated fire resistance as per Appendix D-2.11. Equations of Division B of the NBC 2015 (min)	Tested fire resistance (min)
Column	267 × 267 × 3 810	53.4	59.25
Beam No. 1	200 × 406 × 4 700	70	99
Beam No. 2	225 × 300 × 4 700	73	112

Table 3. Equivalent wood species for determining fastener capacities

Fastener property	Nail orientation	Load direction	Specific gravity (SG) of equivalent species for design purposes
Nail withdrawal	edge	withdrawal	Douglas fir – larch (N), SG = 0.50
Nail withdrawal	face	withdrawal	Douglas fir – larch (N), SG = 0.50
Lateral nail capacity	edge	parallel to grain	Douglas fir – larch (N), SG = 0.50
Lateral nail capacity	edge	perpendicular to grain	Douglas fir – larch (N), SG = 0.50
Lateral nail capacity	face	parallel to grain	Douglas fir – larch (N), SG = 0.50
Lateral nail capacity	face	perpendicular to grain	Douglas fir – larch (N), SG = 0.50
Bolt axial capacity	–	parallel to grain	Douglas fir – larch (N), SG = 0.50
Bolt axial capacity	–	perpendicular to grain	Douglas fir – larch (N), SG = 0.50

Manufacturing quality assurance program

The manufacturing quality assurance program has been updated to include requirements specified in ASTM D 5456-14b, “Standard Specification for Evaluation of Structural Composite Lumber Products,” and has been verified by independent, third-party monitoring and inspection conducted by PFS Corporation and Intertek Testing Services NA Ltd. as part of the product certification.

Appendix A - additional information

The design values obtained from testing to ASTM D 5456 as specified in CSA O86 are summarized below.

Table 4. Additional test information for the product ⁽¹⁾

Property	Test information
Bending	Specimens were tested in edgewise and flatwise bending to establish the characteristic value. Data from quality control (QC) tests have been used to establish the applicable coefficient of variation, CV_w , and the reliability normalization factor from CAN/CSA-O86-14 was used to determine the specified strength.
Shear	Specimens were tested in shear to establish the characteristic value. Data from QC tests have been used to establish the applicable coefficient of variation, CV_w , and the reliability normalization factor from CSA O86-01 was used to determine the specified strength.
Compression parallel to grain	Specimens were tested in compression parallel to grain to establish the characteristic value. Data from QC tests have been used to establish the applicable coefficient of variation, CV_w , and the reliability normalization factor from CSA O86-01 was used to determine the specified strength.
Compression perpendicular to grain	Specimens were tested in compression perpendicular to grain to establish the characteristic value for edgewise compression perpendicular to grain. The characteristic value was multiplied by 1.09 to establish the specified strength in accordance with CSA O86-01. Specimens were tested in compression perpendicular to grain following ASTM D 5456-14b to establish the characteristic value for flatwise compression perpendicular to grain. The characteristic value was multiplied by 1.81 to establish the specified strength in accordance with CSA O86-14. More conservative values were then chosen to be published in the report.
Tension parallel to grain	Specimens were tested in tension to establish the characteristic value. Data from QC tests have been used to establish the applicable coefficient of variation, CV_w , and the reliability normalization factor from CSA O86-01 was used to determine the specified strength.
Nail withdrawal	Nail withdrawal values were established following ASTM D 1761, "Standard Test Methods for Mechanical Fasteners in Wood," for an 8d common nail having a 31.75 mm penetration. Specimens were tested and equivalent species capacity was determined in accordance with ASTM D 5456-98, A2.4.
Nail bearing	Dowel bearing strength was determined as per ASTM D 5764-95, "Standard Test Method for Evaluating Dowel-Bearing of Wood and Wood-Based Products," using 10d common nails with a nominal diameter of 3.76 mm and a lead hole diameter of 2.77 mm. Specimens were tested and the mean bearing capacity was used to establish the equivalent species capacity as per ASTM D 5456-98, A2.5.
Bolt bearing	Bolt bearing capacity as per ASTM D 5764-95 with 12.5 mm and 19 mm bolts was determined.
Creep and recovery	Creep testing was conducted in accordance with the CCMC creep and recovery test. After conditioning of the specimens, the creep and recovery performance was considered favourable. Long-term (90 day) creep testing was also conducted, which demonstrated equivalency to duration of load behaviour of lumber.
Fire resistance	Full-scale column and beam time-to-failure fire tests were undertaken, as well as charring rate measurements to demonstrate equivalency to the fire resistance of heavy timber beams and columns.
Adhesive	PSL manufacturing: CSA O112.6-M1977, "Phenol and Phenol-Resorcinol Resin Adhesives for Wood (High-Temperature Curing)"; and for secondary lamination CSA O112.7-M1977, "Resorcinol and Phenol-Resorcinol Resin Adhesives for Wood (Room- and Intermediate-Temperature Curing)."
Durability	Specimens were tested for adhesive, product and connection durability (edge nailing durability), in accordance with ASTM D 5456-07 (as part of the work in ASTM D 07.02.03 Task Group).

Note

This PDF is an alternative version. This document was published on 2022-10-03 and may not be the latest version of this evaluation. Users should consult the latest [published assessment](#) on the [CCMC Registry of Product Assessments](#), which contains the most up to date information. This PDF is intended for use as a record, not the latest information available.

1 Design values were developed in accordance with the referenced standards found herein. The requirements met have not changed in the current editions of the standards referenced in CSA O86-14.

Administrative information

Disclaimer

This evaluation is issued by the Canadian Construction Materials Centre (CCMC), a part of the Construction Research Centre at the National Research Council of Canada (NRC). The evaluation must be read in the context of the entire [CCMC Registry of Product Assessments](#) and the legislated applicable building code in effect.

The CCMC was established in 1988 on behalf of the applicable regulator (i.e., the provinces and territories) to ensure—through assessment—conformity of alternative and acceptable solutions to regional building codes as determined by the local authority having jurisdiction (AHJ) as part of the issuance of a building permit.

It is the responsibility of the local AHJs, design professionals, and specifiers to confirm that the evaluation is current and has not been withdrawn or superseded by a later issue. Please refer to [the website](#) or contact:

Canadian Construction Materials Centre

Construction Research Centre
National Research Council of Canada
1200 Montreal Road
Ottawa, Ontario, K1A 0R6
Telephone: 613-993-6189
Fax: 613-952-0268

The NRC has evaluated the material, product, system or service described herein only for those characteristics stated 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 (i.e., AHJs, design professionals and specifiers). This evaluation is only valid when the product is installed in strict compliance with the stated conditions and limitations of evaluation and the applicable local building code. In circumstances where no applicable local building permit is issued and that no confirmation of compliance 'for use in the intended field application' is undertaken, this evaluation is null and void in all respects. This evaluation is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the NRC provides no endorsement for any evaluated material, product, system or service described herein. The NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this evaluation with respect to its compliance to the referenced code(s) and standard(s). The NRC is not undertaking to render professional or other services on behalf of any person or entity nor to perform any duty owed by any person or entity to another person or entity.

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.

Copyright

© His Majesty the King in Right of Canada, as represented by the National Research Council of Canada, 2022

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the CCMC.

This PDF is an alternative version. This document was published on 2022-10-03 and may not be the latest version of this evaluation. Users should consult the latest [published assessment](#) on the [CCMC Registry of Product Assessments](#), which contains the most up to date information. This PDF is intended for use as a record, not the latest information available.

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)



[\(New Brunswick Building Officials Association \(NBBOA\)\)](#)

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

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.

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.