CCMC CANADIAN CODE COMPLIANCE EVALUATION

CCMC 14476-R

CCMC Canadian code compliance evaluation

CCMC number:	14476-R
Status:	Active
Issue date:	2023-03-27
Modified date:	2023-06-20
Evaluation holder:	**Tolko Industries Ltd.** 3000 - 28th Street Vernon BC V1T 9W9 Canada Website: tolko.com Telephone: 250-545-4411 Email: tolko@tolko.com
Product name:	Tolko T-TEC LSL
Code compliance:	NBC 2015, OBC
Evaluation requirements:	CCMC-TG-061710-15A "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 Look for the trusted CCMC mark on products to verify compliance.

Code compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as as structural composite lumber (SCL) 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
4.3.1.1.(1) Buildings and their structural members m ...	Acceptable
9.23.4.2.(3) Spans for built-up wood and glued-lamina ...	Alternative

Ontario Building Code

Ruling No. 23-03-374 (14476-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 2023-06-20 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

Tolko T-TEC LSL

Product description

The product is a laminated strand lumber (LSL), which is a structural composite lumber (SCL) manufactured from strands of aspen and black poplar blended with Lupranate® M20FB, a polymeric methylene diphenyl diisocyanate (MDI) binder (see CCMC 13421-R), oriented in a parallel direction, formed into mats and pressed to the required thickness. The wood species, adhesive, manufacturing parameters, and finished product thickness, width and length are as specified in the quality control manual that contains the manufacturing standard. See Figure 1 for strand orientation and details.

The product is available in thicknesses up to 133 mm, depths up to 610 mm and lengths up to 10.8 m.

The manufacturing quality assurance program and records are verified by APA – The Engineered Wood Association as part of the product certification.

In addition, when the product is treated with Borogard ZB (zinc borate) powder, it goes by the name of Tolko LSL with ZB. It may be used within the building envelope (i.e., protected assemblies) as sill plates over masonry or concrete foundations, footings or slabs for decay resistance. It is intended for Use Category 2 (UC2) only, as per the American Wood Protection Association (AWPA), when interior construction is not in contact with the ground but may be subjected to dampness.

The permitted design values are outlined in Table 1, Table 2 and Table 3.

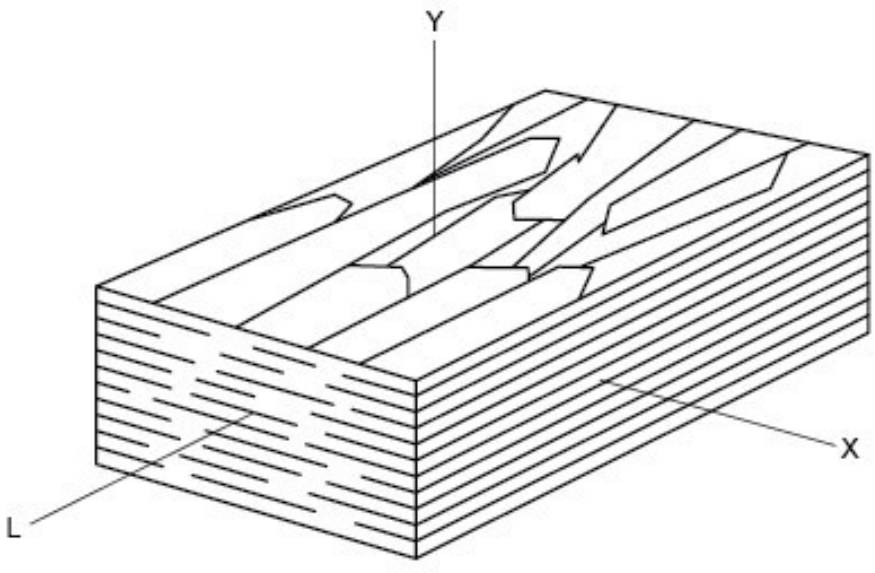

Figure 1. Typical LSL profile showing orientations:

- L direction – parallel to longitudinal direction of member
- X direction – parallel to surface of member and normal to L direction
- Y direction – normal to both L and X directions

Applicability of this evaluation

Applicable to APA-trademarked Tolko T-TEC LSL from the plant below manufactured on or after July 1, 2022.

Manufacturing plant

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

Product name	Manufacturing plant
	Slave Lake, AB, CA
Tolko T-TEC LSL	✓

✓ 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 zinc borate treated product, Tolko LSL with ZB, follows Use Category 2 (UC2) as per AWPA, when interior construction is not in contact with the ground but may be subjected to dampness. Unless noted within this evaluation, all design provisions for the product apply to Tolko LSL with ZB as well.
- 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, "Engineering design in wood", 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, metal-plated truss chords, wall studs, and rim boards are beyond the scope of this evaluation.

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 of 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.

i. Engineering requirements

The design and installation of the product requires engineering on a case-by-case basis. All drawings or related documents must bear the authorized seal of a professional engineer skilled in wood design and licensed to practise under the appropriate provincial or territorial legislation. The engineer must design in accordance with CSA O86 and may use the Engineering Guide for Wood-Frame Construction published by the Canadian Wood Council as a guide.

The specified strengths must not exceed the values set forth in Table 1 in this evaluation. Basic nail, screw, bolt and lag screw capacities must be as shown in Table 2. Nailing of the product must conform to Table 3.

When used as joists, rafters and beams, the ends of all members must be restrained to prevent rollover. This is normally achieved by attaching a diaphragm sheathing to the top or to the compression edge, and to an end wall or shear transfer panel capable of transferring a minimum unfactored uniform load of 730 N/m or the required shear forces due to wind or seismic conditions. Blocking or cross-bracing with equivalent strength may also be used. For beams with a maximum depth-to-width ratio no more than 6.5:1, the compression edge of the beams must be laterally supported at intervals no more than 610 mm to prevent lateral displacement and rotation. When the depth-to-width ratio exceeds 6.5:1 but is less than 9:1, the compression edge of the beams must be continuously laterally supported throughout its length, except where designed in accordance with CSA O86.

ii. Engineering support provided by the manufacturer

Tolko Industries Ltd. will coordinate the engineering support and may be contacted at:

Tel.: 250-545-4411

Fax: 250-550-2550

- Damaged or defective products must not be used, unless repaired in accordance with written instructions from the manufacturer.
- This product must be identified with the phrase “CCMC 14476-R” along the side or top of the SCL member. This CCMC number is only valid when it appears in conjunction with the APA EWS certification mark. In addition, the zinc borate treated product must be further identified with the designations: “Tolko LSL with ZB” and “AWPA UC2.

Technical information

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

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

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.

Design requirements

Table 1. Specified strengths (MPa) of the product (1) (2) (3) (4) (5)

		Beam orientation (L-Y plane)			Plank orientation (L-X plane)			Axial	
Grade	Modulus of elasticity, (6) E	Bending, (7) F_b	Shear, F_v	Compression perpendicular to the grain, F_{cperp}	Bending, F_b	Shear, F_v	Compression perpendicular to the grain, (8) F_{cperp}	Tension, (9) F_t	Compression, $F_{cparallel}$
Unit	MPa (× 10^6 psi)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)	MPa (psi)
1.35E	9 308 (1.35)	23.6 (3 420)	4.0 (580)	9.40 (1 370)	26.3 (3 810)	1.4 (205)	8.6 (1 250)	14.7 (2 130)	18.2 (2 630)
1.55E	10 690 (1.55)	30.1 (4 360)	5.8 (845)	11.3 (1 640)	33.40 (4 840)	1.8 (260)	9.7 (1 405)	18.7 (2 705)	21.5 (3 110)

Notes

1 All values are in accordance with CSA O86.

2 Specified strengths are for standard term load duration and may be adjusted (with the exception of modulus of elasticity [MOE]) using load duration factors in accordance with CSA O86.

3 Specified strengths are based on covered, dry service conditions of use.

4 The specified strengths for “beam” refer to loads applied parallel to the wide face of the strands (the edge of the member). “Plank” refers to loads applied perpendicular to the wide face of the strands (the face of the member). See Figure 2 for loading direction with respect to strand orientation.

5 Values presented are for untreated LSL and zinc-borate treated LSL.

6 The MOE is apparent. The following equation may be used for a simple supported loading condition under uniform load:

$\Delta = (5wL^4)/(384EI) = (5wL^4)/(32Ebd^3)$

where:

Δ = deflection (mm)

w = specified uniform load (N/mm)

L = span (mm)

E = modulus of elasticity (apparent) (MPa)

I = moment of inertia (mm^4)

b = beam width (mm)

d = beam depth (mm)

7 The specified "beam" bending strength, F_b, is based on a reference depth of 305 mm. For other depths, multiply the values of F_b by $(305/d)^{1/8}$ (where d is in mm). For depths less than 64 mm, multiply F_b by the factor for 64 mm depth.

8 The plank compression perpendicular to grain is based on the lesser of the average stress at the proportional limit or at 1 mm (0.04 in.) deformation, in accordance with ASTM D5456-14b. In the calculation of the compressive resistance perpendicular to grain, K_{Zcp} must be 1.0 for the plank orientation (L-X).

9 The specified tension strength, F_t, is based on a reference length of 6 096 mm (20 ft.). For other lengths, multiply F_t by $(6\,096/L)^{1/16}$ (where L is in mm). For lengths less than 914 mm, multiply F_t by the factor for 914 mm length.

Table 2. Equivalent specific gravity for fastener design of the product (1) (2) (3)

Grade	Equivalent specific gravity					
	Nails		Nails and wood screws		Bolts and lag screws installed in face (4)	
	Withdrawal load		Lateral load		Lateral load	
	Installed in edge	Installed in face	Installed in edge	Installed in face	Load applied parallel to grain	Load applied perpendicular to grain
1.35E and 1.55E	0.42	0.44	0.47	0.50	0.50	0.50

Notes

1 Fastener types and orientation not specifically described in this table are beyond the scope of this evaluation. See Table A.11 of CSA O86-19 (A.12.1 of CSA O86-14), for equivalent species based on relative density (specific gravity).

2 Fastener values based on the equivalent specific gravities in this table are for standard term load duration and may be adjusted using load duration factors as per CSA O86.

3	The edge distance for bolts and lag screws when loaded parallel and perpendicular to the grain shall be as specified in CSA O86.
4	Bolts and lag screws shall only be installed into the face (plank orientation) of the LSL.

Table 3. Nail spacing of the product (1)

Nail orientation (2)	Thickness, mm (in.)	Fastener (3) (4)	Minimum end distance, mm (in.) (5)	Closest o.c. nail spacing, mm (in.) (6) – single row	Closest o.c. nail spacing, mm (in.) – multiple rows (6) (7) (8)
Edge	29 (1 ⅛)	64 mm and smaller (8d and smaller)	51 (2)	102 (4)	Not permitted
	29 (1 ⅛)	76 mm and 83 mm (10d and 12d)	64 (2 ½)	127 (5)	Not permitted
	29 (1 ⅛)	89 mm (16d)	76 (3)	152 (6)	Not permitted
	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	64 mm and smaller (8d and smaller)	51 (2)	102 (4)	Not permitted
	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	76 mm and 83 mm (10d and 12d)	51 (2)	102 (4)	Not permitted
	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	89 mm (16d)	64 (2 ½)	127 (5)	Not permitted
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	64 mm and smaller (8d and smaller)	25 (1)	51 (2)	76 (3) (9)
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	76 mm and 83 mm (10d and 12d)	51 (2)	76 (3)	102 (4) (9)
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	89 mm (16d)	64 (2½)	76 (3)	152 (6) (9)
Face	29 (1 ⅛)	64 mm and smaller (8d and smaller)	22 (7/8)	25 (1)	25 (1)
	29 (1 ⅛)	76 mm and 83 mm (10d and 12d)	22 (7/8)	25 (1)	25 (1)
	29 (1 ⅛)	89 mm (16d)	22 (7/8)	38 (1 ½)	38 (1 ½)
	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	64 mm and smaller (8d and smaller)	22 (7/8)	25 (1)	25 (1)
	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	76 mm and 83 mm (10d and 12d)	22 (7/8)	25 (1)	25 (1)

	32 ≤ t < 38 (1 ¼ ≤ t < 1 ½)	89 mm (16d)	22 (7/8)	38 (1 ½)	38 (1 ½)
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	64 mm and smaller (8d and smaller)	13 (½)	25 (1)	25 (1)
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	76 mm and 83 mm (10d and 12d)	13 (½)	25 (1)	25 (1)
	38 ≤ t ≤ 89 (1 ½ ≤ t ≤ 3 ½)	89 mm (16d)	22 (7/8)	38 (1 ½)	38 (1 ½)

Notes

1 Fastener sizes and closest on centre (o.c.) nail spacing not specifically described in this table are beyond the scope of this evaluation.

2 Face orientation applies to nails driven into the face of the LSL member, such that the long axis of the nail is perpendicular to the wide faces of the strands. Edge orientation applies to nails driven into the edge of the LSL member. See Figure 2 for loading direction with respect to strand orientation.

3 Fasteners are common wire or common spiral nails.

4 Nail penetration for edge nailing must not exceed 51 mm (2 in.) for 89-mm (16d 3½ in.) nails and 64 mm (2½ in.) for all nails with a smaller shank diameter to avoid edge nail splitting in installation, but not less than the minimum penetration requirement in CSA O86.

5 Edge distance must be sufficient to prevent splitting, but not less than permitted in CSA O86.

6 The tabulated closest o.c. spacing for the face orientation is applicable to nails that are installed in rows parallel to the direction of the grain (length) of the LSL. For nails in face installed in rows that are perpendicular to the direction of the grain (width/depth) of the LSL, the closest o.c. spacing for the face orientation must be as per CSA O86.

7 Multiple rows must be spaced 13 mm (½ in.) or more from each other and offset one-half of the tabulated minimum nail spacing, as shown in Figure 3.

8 For multiple rows of nails installed on edge, the rows must be equally spaced from the centreline of the edge.

9 For nailing on edge, it is limited to two rows maximum.

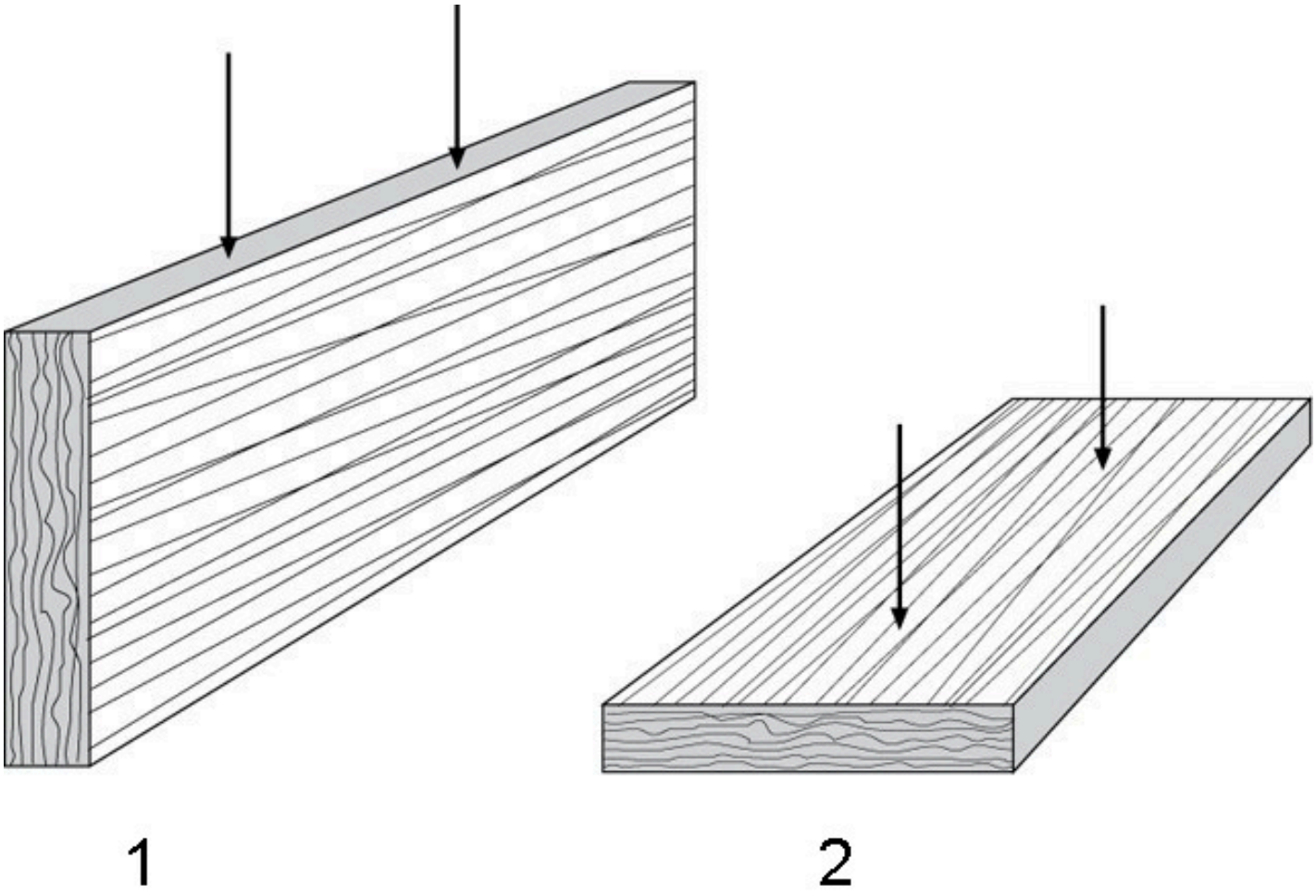

Figure 2. Load direction with respect to wide face strand (WFS) orientation

1. Edge (joist) loading
2. Face (plank) loading

Note: edge/joist loading is parallel to WFS; face/plank loading is perpendicular to WFS.

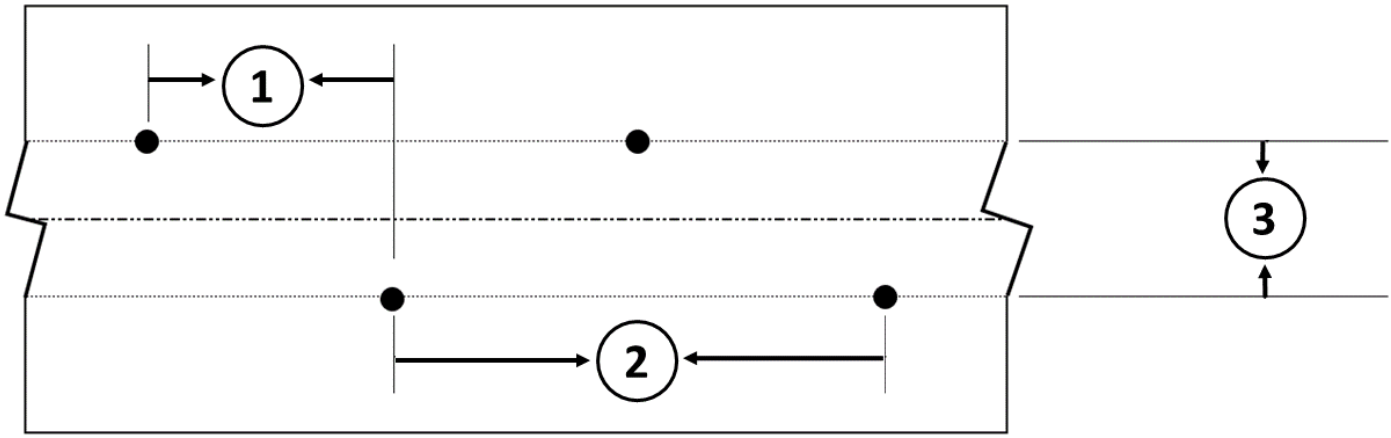

Figure 3. Spacing and offset of multiple rows of nails:

1. Offset one half of the tabulated required spacing
2. Tabulated required spacing
3. Minimum 13 mm (1/2 in.) spacing symmetric about the center line

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 APA EWS as part of the product certification.

Design values obtained from testing to ASTM D 5456-18 and ASTM D 5456-19

The design values obtained from testing to ASTM D 5456-18 and ASTM D 5456-19, which are equivalent to ASTM D 5456-14b specified in CSA O86-14, are summarized below.

Table 4. Additional test information for the product

Property	Test information
Bending	Specimens were tested in edgewise and flatwise bending to establish the characteristic values. Qualification test data has been used to establish the applicable coefficient of variation, CV_w, and the reliability normalization factor from CSA O86 was used to determine the specified strength.
Shear	Specimens were tested in shear (block shear tests) to establish the characteristic values. Qualification test data has been used to establish the applicable coefficient of variation, CV_w, and the reliability normalization factor from CSA O86 was used to determine the specified strength.
Compression parallel to the grain	Specimens were tested in compression parallel to the grain to establish the characteristic values. Qualification test data has been used to establish the applicable coefficient of variation, CV_w, and the reliability normalization factor from CSA O86 was used to determine the specified strength.
Compression perpendicular to the grain	Specimens were tested in compression perpendicular to the grain to establish the characteristic values. In plank orientation, and in accordance with Clause 7.2.3.2 of ASTM D 5456, the lesser of stress at proportional limit and 1 mm (0.04 in.) deformation was selected to determine the characteristic value, and multiplied by 1.81 as per CSA O86, Clause 16.3.3.5. For the joist orientation, and in accordance with Clause 7.2.3.1 of ASTM D 5456, the characteristic value was the stress at 1 mm (0.04 in.) deformation, and multiplied by 1.09 to establish the specified strength in accordance with CSA O86, Clause 16.3.3.5.
Tension parallel to the grain	Specimens were tested in tension to establish the characteristic value. Qualification test data has been used to establish the applicable coefficient of variation, CV_w, and the reliability normalization factor from CSA O86 was used to determine the specified strength.

Property	Test information
Nail withdrawal	Nail withdrawal values were established following ASTM D 1761-12, “Standard Test Methods for Mechanical Fasteners in Wood,” for an 8d common nail having a 31.75-mm penetration. Specimens of 1.35E grade were tested and the equivalent species capacity was determined in accordance with ASTM D 5456-18, A2.4. The values determined apply to 1.55E grade as well.
Nail bearing (lateral)	Nail bearing (lateral) strength was determined as per ASTM D 5764-18, “Standard Test Method for Evaluating Dowel-Bearing Strength of Wood and Wood-Based Products,” using 10d common nails with a nominal diameter of 3.76 mm . Specimens of 1.35E grade were tested and the mean bearing capacity was used to establish the equivalent species capacity as per ASTM D 5456, A2.7. The values determined apply to 1.55E grade as well.
Nail Spacing	Minimum end distance and center to center nail spacing was determined based on testing. Tests were conducted on 29 mm, 32 mm, and 38 mm thick 1.35E grade specimens with 8d, 12d, and 16d nails (3.33 mm, 3.76 mm, and 4.11 mm nominal diameters respectively) driven into the faces and edges of the specimens.
Bolt bearing	Bolt bearing capacity was determined in accordance with ASTM D 5764 with 12.7-mm and 19.1-mm bolts. Specimens of 1.35E grade were tested and the equivalent species capacities were determined for X- and Y-orientation, as per ASTM D 5456, A2.7. The values determined apply to 1.55E grade as well.
Creep and DOL	A total of 30 1.35E grade specimens were tested and a 90-day creep assessment was conducted in accordance with ASTM D 5456 and ASTM D 6815-09(2015), “Standard Specification for Evaluation of Duration of Load and Creep Effects of Wood and Wood-Based Products.” Equivalency to the duration of load behaviour of sawn lumber was demonstrated.
Adhesives	The binder (see CCMC 13421-R) meets CSA O437.2-93, “Evaluation of Binder Systems for OSB and Waferboard,” with modifications. The binder adhesive was evaluated as per ASTM D5456, A5. In addition, after a 14-day soak conditioning, the LSL specimens with an equivalent methylene diphenyl diisocyanate (MDI) binder were subjected to the 90-day creep test of ASTM D 6815 and performance was deemed acceptable .
Zinc borate treatment	The product was treated with zinc borate in accordance with AWPA P51-20, “Standard for Zinc Borate (ZB).” The treatment was found to be effective in controlling decay for environmental conditions expected in sill plate applications. Structural properties were determined for ZB-treated LSL. The structural properties apply to non-treated LSL as well. In addition, the ZB treatment was found not to affect the fastener properties based on a test program.

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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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

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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.

CCMC's code compliance opinions

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