



CANADIAN CODE
COMPLIANCE EVALUATION



CCMC 14935-R

CCMC Canadian code compliance evaluation

CCMC number:	14935-R
Status:	Active
Issue date:	2026-09-02
Modified date:	2026-09-14
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 LVL
Compliance:	NBC 2020
Criteria:	CCMC-TG-061710-20, "CCMC Technical Guide for Structural Composite Lumber"

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

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National Research
Council Canada

Conseil national de
recherches Canada

Canada

Compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used 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 2020

Code provision	Solution type
4.3.1.1.(1) Buildings and their structural members m ...	<u>Acceptable</u>
9.4.1. Structural Design Requirements and Application Limitations	<u>Acceptable</u>
9.23.4.2.(2) Spans for floor joists that are not sele ...	<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

Tolko T-TEC LVL

Product description

The product is a laminated veneer lumber (LVL), which is a type of structural composite lumber (SCL) manufactured by laminating veneer sheets of wood species coated with adhesives conforming to CSA O112.9-10, "Evaluation of adhesives for structural wood products (exterior exposure)," and CSA O112.10-08, "Evaluation of adhesives for structural wood products (limited moisture exposure)" in specific lay-up patterns that are fed into a continuous press with all grain oriented parallel to the length of the member (see [Figure 1](#)). The wood species, veneer grades, lay-up specifications and adhesives used are as specified in the "Tolko Laminated Veneer Lumber (LVL) Manufacturing Standard."

Tolko T-TEC LVL is available in thicknesses ranging from 25 mm to 133 mm, widths ranging from 89 mm to 610 mm and lengths up to 15 m.

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

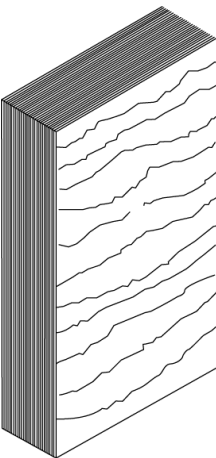


Figure 1. TOLKO T-TEC® LVL

Manufacturing plant

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

Product name	Manufacturing plant
	Kamloops, BC, CA
Tolko T-TEC LVL	☑

☑ 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 O86:19, "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 specific 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) Engineering requirements

The product must be designed in accordance with the requirements of the National Building Code of Canada 2020 (NBC 2020) and CSA O86. The "Engineering Guide for Wood Frame Construction," published by the Canadian Wood Council, may be used as a guide.

The specified strengths for the product must not exceed the values set forth in [Table 1](#), and the equivalent specific gravity for fastener design of the product must be as shown in [Table 2](#).

(ii) Product installation

The product must be installed in accordance with the recommendations provided by the manufacturer. Nail spacing of the product must conform to [Table 3](#).

(iii) Engineering support provided by manufacturer

Tolko Industries Ltd. provides engineering support for their product and may be contacted by email at EWPSupport@tolko.com or by telephone at 250-545-4411.

- Damaged or defective products must not be used, unless repaired in accordance with written instructions from the manufacturer.
- The product must be identified with the CCMC 14935-R mark along the side of the product. This mark is only valid when it appears in conjunction with the APA EWS certification mark.

¹ All lumber, wood-based panels and proprietary engineered wood products are intended for dry service conditions. "Dry service conditions" are 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 a 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.

Technical information

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

Criteria number	Criteria name
CCMC-TG-061710-20	CCMC Technical Guide for Structural Composite Lumber

Design requirements

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 to support the evaluation of this product is summarized in [Table 4](#) below.

Table 1. Specified strengths and modulus of elasticity of the product ⁽¹⁾ ⁽²⁾

Product grade	Modulus of elasticity, E ⁽³⁾ (MPa)		Bending, f _b (MPa)		Tension parallel to grain, f _t ⁽⁴⁾ (MPa)	Compression parallel to grain, f _c (MPa)	Compression perpendicular to grain, f _{cp} ⁽⁵⁾ (MPa)		Horizontal shear, f _v (MPa)	
	Joist	Plank	Joist ⁽⁶⁾	Plank			Joist	Plank ⁽⁷⁾	Joist	Plank
1.6E-2250F _b	11 030	11 030	28.7	28.7	16.8	25.9	9.41	6.86	3.72	1.92
1.8E-2750F _b	12 410	12 410	35.0	35.0	19.0	26.4	9.41	6.86	3.72	1.92
2.1E-2950F _b	14 480	14 480	37.6	37.6	21.8	35.2	9.41	8.11	3.72	1.92

Notes:

- 1

The tabulated values are specified strengths and modulus of elasticity for standard-term load duration. All values, except for E, are permitted to be adjusted for other load durations as permitted by CSA O86.
- 2

The tabulated values for “Joist” refer to loads applied parallel to the wide face of the veneers (the edge of the member). The tabulated values for “Plank” refer to loads applied perpendicular to the wide face of the veneers (the face of the member).
- 3

The values are the shear-free modulus of elasticity and do not include the effect of shear deformation. For uniformly loaded simple-span beams, deflection is calculated as follows:

$$\Delta = \frac{156.25 \omega L^4 \times 10^6}{Ebd^3} + \frac{2\,400 \omega L^2}{Ebd}$$

Where:

- Δ

= deflection, mm
- ω

= specified uniform load, N/m
- L

= design span, m
- E

= modulus of elasticity in [Table 1](#), MPa
- b

= beam width, mm
- d

= beam depth, mm

- 4 The tabulated values are based on a reference length of 6 096 mm (20 feet). For other lengths, the specified strength in tension parallel to grain (f_t) must be multiplied by $(6\,096/L)^{0.08}$, where L is the member length in mm. For lengths less than 1 219 mm (4 feet), use the specified strength in tension in [Table 1](#) unadjusted.
- 5 The size factor for bearing, K_{Zcp} , shall be equal to 1.0.
- 6 The tabulated values are based on a reference depth of 305 mm (12 in.). For depths between 64 mm (2½ in.) and 619 mm (24 in.), when loaded edgewise, the specified strength in bending (f_b) must be multiplied by $(305/d)^{1/8}$, where d is the member depth in mm. For depths less than 64 mm (2½ in.), the factor for the 64 mm (2½ in.) depth must be used.
- 7 The tabulated compression strength perpendicular to grain (f_{cp}) value (plank) is based on the average stress at the proportional limit or 1 mm (0.04 in.) deformation, whichever is less.

Table 2. Equivalent relative density for fastener design of the product [\(1\)](#) [\(2\)](#) [\(3\)](#)

Product grade	Nails		Nails and wood screws		Bolts and lag screws installed in face orientation ⁽⁴⁾	
	Withdrawal load		Lateral load		Lateral load	
	Installed in edge orientation	Installed in face orientation	Installed in edge orientation	Installed in face orientation	Parallel to grain	Perpendicular to grain
1.6E-2250Fb, 1.8E-2750Fb, 2.1E-2950Fb	0.50	0.50	0.50	0.50	0.50	0.50

Notes:

- 1 Fastener types and orientations not specifically described above are beyond the scope of this evaluation.
- 2 Fastener resistances calculated using the tabulated equivalent relative densities given above are for standard-term load duration and are permitted to be adjusted for other load duration as permitted by the CSA O86.
- 3 Fastener spacing, end distances and edge distances shall be as specified in CSA O86, except that nail spacing and end distances shall be as specified in [Table 3](#).
- 4 Bolts and lag screws shall only be installed into the face (plank) orientation of the product.

Table 3. Nail spacing requirements for the product (all grades) ⁽¹⁾

Thickness	Orientation ⁽²⁾	Common nail size ⁽³⁾ ⁽⁴⁾	Minimum end distance	Minimum nail spacing	
				Single row	Multiple rows ⁽⁵⁾ ⁽⁶⁾
35 mm ≤ t < 44 mm (1 3/8 in. ≤ t < 1 3/4 in.)	Edge ⁽⁷⁾	64 mm (2 1/2 in.) (8d) & smaller	76 mm (3 in.)	102 mm (4 in.)	NR ⁽⁸⁾
		76 mm (3 in.) (10d) & 83 mm (3 1/4 in.) (12d)	76 mm (3 in.)	127 mm (5 in.)	NR ⁽⁸⁾
		89 mm (3 1/2 in.) (16d)	89 mm (3 1/2 in.)	152 mm (6 in.)	NR ⁽⁸⁾
	Face ⁽⁹⁾	64 mm (2 1/2 in.) (8d) & smaller	38 mm (1 1/2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	76 mm (3 in.)
		76 mm (3 in.) (10d) & 83 mm (3 1/4 in.) (12d)	51 mm (2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	89 mm (3 1/2 in.)
		89 mm (3 1/2 in.) (16d)	51 mm (2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	89 mm (3 1/2 in.)
44 mm ≤ t ≤ 133 mm (1 3/4 in. ≤ t ≤ 5 1/4 in.)	Edge ⁽⁷⁾	64 mm (2 1/2 in.) (8d) & smaller	76 mm (3 in.)	102 mm (4 in.)	NR ⁽⁸⁾
		76 mm (3 in.) (10d) & 83 mm (3 1/4 in.) (12d)	76 mm (3 in.)	127 mm (5 in.)	NR ⁽⁸⁾
		89 mm (3 1/2 in.) (16d)	76 mm (3 in.)	152 mm (6 in.)	NR ⁽⁸⁾
	Face ⁽⁹⁾	64 mm (2 1/2 in.) (8d) & smaller	38 mm (1 1/2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	76 mm (3 in.)
		76 mm (3 in.) (10d) & 83 mm (3 1/4 in.) (12d)	51 mm (2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	76 mm (3 in.)
		89 mm (3 1/2 in.) (16d)	51 mm (2 in.), 64 mm (2 1/2 in.) ⁽¹⁰⁾	76 mm (3 in.)	76 mm (3 in.)

Notes:

- 1 Edge distance must be sufficient to prevent splitting, but not less than permitted in CSA O86.
- 2 Face orientation applies to nails driven into the face of the LVL member, such that the long axis of the nail is perpendicular to the wide faces of the veneers. Edge orientation applies to nails driven into the edges of the LVL member.
- 3 83 mm (3 1/4 in.) (16d) sinker nail may be spaced the same as 83 mm (3 1/4 in.) common wire nail.

- 4 Nails listed are common wire nails. For box nails, the spacing and end distance requirements for the next smaller common nail diameter listed in above table may be used, e.g., an 89 mm (3½ in.) (16d) box nail may be spaced the same as a 76 mm (3 in.) (10d) and 83 mm (3¼ in.) (12d) common nail. Larger nail sizes and shank types not specifically described above are beyond the scope of this evaluation.

- 5 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 2](#).

- 6 Multiple rows must be equally spaced about the centerline of the edge or face (whichever applies).

- 7 Nail penetration for edge nailing shall not exceed 51 mm (2 in.) for 89 mm (3½ in.) (16d) common nails and 64 mm (2½ in.) for nails with a shank diameter smaller than that of 16d common nail.

- 8 Not recommended.

- 9 Tabulated closest on centre spacing for face orientation is applicable to nails that are installed in rows parallel to the grain (length) of the LVL. For nails installed in rows perpendicular to the direction of grain of the LVL, the closet on centre spacing for face orientation shall be sufficient to prevent splitting of the LVL.

- 10 The multiple row end spacing is 64 mm (2½ in.).

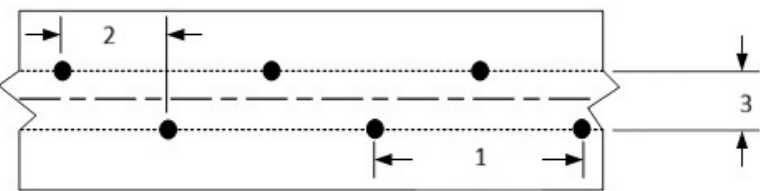


Figure 2. Spacing of multiple rows of nails

- 1. Nail spacing
- 2. Offset the nails in the next row by half the nail spacing
- 3. Minimum spacing of 1.27 cm (½ in.) between rows, symmetric about centreline

Additional information

The design values obtained from testing to ASTM D5456-18, "Standard Specification for Evaluation of Structural Composite Lumber Products," as specified in CSA O86:19, "Engineering Design in Wood," are summarized below.

Table 4. Test information for the product

Property	Test information
Bending	Bending tests were conducted edgewise and flatwise to establish characteristic values for bending. Data from qualification tests were 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.

Modulus of elasticity	Apparent modulus of elasticity was determined for edgewise and flatwise bending. Tests were also conducted to determine the shear modulus for the Tolko T-TEC LVL, and the values of Etrue/Eapparent were established for edgewise and flatwise orientations.
Shear	Longitudinal shear tests were conducted for joist and plank orientations to establish characteristic values. Data from qualification tests were 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 grain	Compression parallel to grain tests were conducted to establish the characteristic value. Data from qualification tests were 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 grain	Compression perpendicular to grain tests were conducted edgewise and flatwise to establish the characteristic values. The specified strength was established by multiplying the characteristic value with 1.09 for edgewise compression perpendicular to grain and by multiplying the characteristic value with 1.81 for flatwise compression perpendicular to grain in accordance with CSA O86.
Tension parallel to grain	Tension parallel to grain tests were conducted to establish the characteristic value. Data from qualification tests were 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.
Nail withdrawal	Nail withdrawal tests were conducted for 3.33 mm (0.131 in.) diameter, 64 mm (2.5 in.) long (8d) common wire nails, and equivalent relative density was determined in accordance with Annex A2 of ASTM D5456.
Nail bearing	Nail bearing tests were conducted for 3.76 mm (0.148 in.) diameter, 76 mm (3 in.) long (10d) common wire nails, and equivalent relative density was determined in accordance with Annex A2 of ASTM D5456.
Bolt bearing	Bolt bearing tests were conducted for 12.7 mm (½ in.) and 19.0 mm (¾ in.) bolts, and equivalent relative densities were determined in accordance with Annex A2 of ASTM D5456.
Durability	Adhesive durability tests and product durability tests were conducted in accordance with Annex A4 of ASTM D5456.
Volume factors	Tests were conducted using multiple depths for edgewise bending and multiple lengths for axial tension, and volume factors for edgewise bending and axial tension were established in accordance with Annex A1 of ASTM D5456.
Creep and recovery	Creep and recovery tests were conducted following ASTM D6815, "Standard Specification for Evaluation of Duration of Load and Creep Effects of Wood and Wood-Based Products," as specified in ASTM D5456. The criteria were met and the product demonstrated equivalence to the duration of load and creep effects of lumber.
Nail spacing requirements	Nail spacing tests were conducted to establish the nail spacing requirements for the product.
Adhesive	The adhesives used in the manufacturing of the product comply with CSA O112.9 and CSA O112.10. The adhesive heat durability tests were conducted following ASTM D7247, "Standard Test Method for Evaluating the Shear Strength of Adhesive Bonds in Laminated Wood Products at Elevated Temperatures," and met the criteria for the adhesive heat durability specified in ASTM D5456.

The evaluated product, including its wood species, veneer grades and lay-up specifications are as specified in the "Tolko Laminated Veneer Lumber (LVL) Manufacturing Standard – v12, 2026-08-25."

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))

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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
