APA PRODUCT REPORT®

Qualified Glulam and CLT Products With Low Formaldehyde Emissions

PR-E740

Revised September 29, 2025

Product: Glulam and CLT Products Qualified for Low Formaldehyde Emissions

1. Basis of the product report:
   - APA Custom Product Specification E-740
   - ISO 12460-4, Wood-Based Panels – Determination of Formaldehyde Release, Part 4: Desiccator Method, AS/NZS 4357.0:2022, Structural Laminated Veneer Lumber, Part 0: Specifications, and AS/NZS 4357.4:2005 (R2016), Structural Laminated Veneer Lumber, Part 4: Determination of Formaldehyde Emissions
   - JAS 1152 Standard for Structural Glued Laminated Timber
   - ANSI 117, Standard Specification for Structural Glued Laminated Timber of Softwood Species
   - ANSI A190.1, Product Standard for Structural Glued Laminated Timber
   - ANSI/APA PRG 320, Standard for Performance-Rated Cross-Laminated Timber
   - CAN/CSA O122, Structural glued-laminated timber
   - APA Test Reports (see Table 2) and other qualification data

2. Product description:
   Glulam products are manufactured with layup combinations documented in ANSI 117, or the in-plant manufacturing standard and approved by APA. Glulam products are available in a variety of sizes. CLT products are manufactured with grade characteristics specified in ANSI/APA PRG 320 and are available in a variety of sizes.

3. Formaldehyde emission level:
   The G-5 rating is a formaldehyde emission level as defined in Table 1. Glulam and CLT products have been qualified for low formaldehyde emissions following the principles of ISO 12460-4 and AS/NZS 4357.4, and the performance requirements of ANSI A190.1 or CAN/CSA O122, and ANSI/APA PRG 320, respectively. Glulam and CLT products meeting the formaldehyde emission level specified in Table 1 in accordance with the APA Custom Product Specification E-740 are listed in Table 2.

   Table 1. Upper formaldehyde emission level for G-5 rating following the principles of ISO 12460-4 and AS/NZS 4357.4[(a)]

Average	0.20 mg/per liter
Individual specimen	0.30 mg/per liter

   [(a)] Glulam products and CLT are outside the scope or exempt from CARB ATCM for formaldehyde from composite wood products, EPA's TSCA Title VI for formaldehyde from composite wood products, HUD regulation for formaldehyde, CAN/CSA-O160, and Canada SOR/2021-148 for formaldehyde from composite wood products. The tabulated formaldehyde emission level in the G-5 standard is more stringent than the Super E_0 of AS/NZS 4357.0 and F☆☆☆☆ of JAS 1152.

4. Limitations:
   a) Glulam and CLT products shall be designed and installed in accordance with the applicable provisions of the code and the recommendations provided by the manufacturer.
   b) Glulam and CLT products are limited to dry service conditions that result in the average equilibrium moisture content of sawn lumber of less than 16 percent.
   c) Glulam and CLT products are produced by the manufacturing facility shown in Table 2 under a quality assurance program audited by APA in accordance with the APA Custom Product Specification E-740.

d) This report is subject to re-examination in one year.

5. Identification:
Glulam and CLT products are identified by a label bearing the manufacturer's name and/or trademark, the APA assigned plant number, the product standard (ANSI A190.1 or CAN/CSA O122 for glulam, and ANSI/APA PRG 320 for CLT), the combination symbol for glulam or grade designation for CLT, the APA logo, the product report number PR-E740, and the formaldehyde emission rating G-5.

Table 2. Qualified Manufacturing Facility for Low Formaldehyde Emission

Manufacturer	Location	Mill Number	APA Test Report[(a)]
Boise Cascade Wood Products, LLC (Glulam)	Homedale, ID	1107	T2015P-31
Nordic Structures (Glulam)	Chibougamau, QC	1057	T2016P-7
Nordic Structures (CLT)	Chibougamau, QC	1112	T2016P-7

[(a)] Reports for the required periodic confirmation tests are not listed.
[(b)] This product report is applicable to uncoated Glulam and CLT.

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