

Qualified Wood I-Joists With Low Formaldehyde Emissions

PR-E730

Revised March 7, 2022

Product: Wood I-Joists Qualified for Low Formaldehyde Emissions

1. Basis of the product report:
 - APA Custom Product Specification E-730
 - Test method follows the principles of ISO 12460-4, Wood-Based Panels -- Determination of Formaldehyde Release, Part 4: Desiccator Method, and AS/NZS 4357.4:2005, Structural Laminated Veneer Lumber, Part 4: Determination of Formaldehyde Emissions
 - ASTM D5055-16, ASTM D5055-13e1, ASTM D5055-13, and D5055-09 recognized in the 2021 International Building Code (IBC) and International Residential Code (IRC), 2018 IBC and IRC, 2015 IBC and IRC, and 2012 IBC and IRC, respectively
 - APA Test Reports (see Table 2) and other qualification data
2. Product description:

Wood I-joists are made with either solid sawn or LVL flanges and OSB webs of various species and classifications in accordance with the in-plant manufacturing standard approved by APA. Wood I-joists are available in a variety of depths and sizes.
3. Formaldehyde emission level:

The G-5 rating is a formaldehyde emission level as defined in Table 1. Wood I-Joists have been qualified for low formaldehyde emissions following the principles of ISO 12460-4 and AS/NZS 4357.4:2005, and the performance requirements of ASTM D5055. Wood I-joists meeting the formaldehyde emission level specified in Table 1 in accordance with the APA Custom Product Specification E-730 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 4357.4:2005^(a)

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

^(a) I-joists are outside the scope or exempt from CARB ATCM for formaldehyde from composite wood products, EPA's TSCA Title VI standard for formaldehyde from composite wood, HUD regulation for formaldehyde and CAN/CSA-O160 for formaldehyde from composite wood products. The tabulated formaldehyde emission level in the G-5 standard is more stringent than the E₀ of AS/NZS 4357.4:2005 and F☆☆☆☆ of JAS Standard for Laminated Veneer Lumber, MAFF Notification 701.

4. Limitations:
 - a) Wood I-joists shall be designed and installed in accordance with the applicable provisions of the code and the recommendations provided by the manufacturers and APA Design/Construction Guide: *Engineered Wood Construction Guide*, Form E30 (www.apawood.org/resource-library).
 - b) Wood I-joists are limited to dry service conditions that result in the average equilibrium moisture content of sawn lumber of less than 16%.
 - c) Wood I-joists are produced by the manufacturing facilities shown in Table 2 under a quality assurance program audited by APA in accordance with the APA Custom Product Specification E-730.
 - d) This report is subject to re-examination in one year.

5. Identification:

Wood I-joists are identified by a label bearing the manufacturer's name and/or trademark, the APA assigned plant number, the I-joist series and depth, the APA logo, the product report number PR-E730, and the formaldehyde emission rating G-5.

Table 2. Qualified Manufacturing Facilities for Low Formaldehyde Emission

Manufacturer	Location	Applicable Joist Series ^(a)	Mill Number	APA Test Report ^(b)
Boise Cascade Wood Products, LLC	1) Lena, LA 2) White City, OR	BCI 40, 400, 4000, BCI 40S, 400S, 4000S, BCI 45, 450, 4500, BCI 45S, 450S, 4500S, BCI 50, 500, 5000, BCI 50S, 500S, 5000S, BCI60, 600, 6000, BCI 60S, 600S, 6000S, BCI 65, 650, 6500, BCI 65S, 650, 6500, BCI 90, 900, 9000, BCI 90S, 900S, 9000S, BCI 90e	1) 1105 2) 1109	T2015P-28
Boise Cascade Wood Products, LLC	St. Jacques, NB	AJS-5, AJS-10, AJS-20, AJS-20v, AJS-24, AJS-110, AJS-140, AJS-150, AJS-150v, AJS-160, AJS-170, AJS-180, AJS-190, AJS-200, AJS-25, AJS-25v, AJS-30, Fire Membrane Joists (FMJ) – AJS Series	1108	T2015P-28 and T2017P-35
Eacom Timber Corporation	Sault Ste. Marie, ON	PJI 40, PJI 60, PJI 80, and PJI 90	1058	T2011Q-17
Louisiana-Pacific Corporation	Red Bluff, CA	LPI 18, LPI 18FB, LPI 20Plus, LPI 20FB, LPI 32Plus, LPI 42Plus, LPI 42FB, LPI 52Plus, LPI 36, LPI 56, LPI 450, LPI 530, LPI 53, LPI 70	1069	T2020P-10
Nordic Structures	Chibougamau, QC	NI 20, NI 40, NI 40x, NI 60, NI 70, NI 80, NI 80x, NI 90, and NI 90x	1052	T2013Q-11

Table 2. Qualified Manufacturing Facilities for Low Formaldehyde Emission (Continued)

Manufacturer	Location	Applicable Joist Series ^(a)	Mill Number	APA Test Report
Pacific Woodtech Corporation	Burlington, WA	PWI 20, PWI 30, PWI 40, PWI 45, PWI 47, PWI 50, PWI 60, PWI 70, PWI 77, PWI 77w, PWI 90, SJ 40, SJ 44, SJ 51, SJ 58, SJ 70, SJ 70WEB29, SJ 90, SJ 95, SJ 40 H2S, SJ 44 H2S, SJ 51 H2S, SJ 58 H2S, SJ 70 H2S, SJ 70WEB29 H2S, SJ 90 H2S, and SJ 95 H2S	1048	T2010Q-09
Resolute Engineered Wood Larouche Inc.	Larouche, QC	LPI 18, LPI 18FB, LPI 20Plus, LPI 20FB, LPI 32Plus, LPI 42Plus, LPI 42FB, LPI 52Plus, LPI 36, LPI 56, LPI 450, LPI 530, LPI 53, LPI 70	1068	T2020P-10
Resolute Engineered Wood St. Prime Limited Partnership	St. Prime, QC	LPI 18, LPI 18FB, LPI 20Plus, LPI 20FB, LPI 32Plus, LPI 42Plus, LPI 42FB, LPI 52Plus, LPI 36, LPI 56, LPI 450, LPI 530, LPI 53, LPI 70	1077	T2020P-10
Roseburg Forest Products Company	Riddle, OR	RFPI 20, RFPI 40, RFPI 400, RFPI 70, RFPI 90, RFPI 700, and RFPI 900	1053	T2012Q-43

^(a) I-joist series listed in this table are recognized in an APA Product Report or ICC-ES evaluation report, or are available from the manufacturer.

^(b) Reports for the required periodic confirmation tests are not listed.

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