

Issue Date: May 5, 2023

Letter Report No: 105432540MID-001

Edwin Zeller
Woodtone Specialties Inc.
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Canada

Subject: Load Tables for RealPost™ Laminated Columns (SPF)

Dear Edwin,

The purpose of this letter report is to provide you with the final load tables, attached to this summary letter, that have been calculated for your adhered built-up members used vertically as columns. Load tables have been created for US design in accordance with the 2018 AWC National Design Specification (NDS) for Wood.

Project Assumptions

The following assumptions have been made when calculating design values in accordance with the referenced design standard.

- All laminations are visually graded No. 2 Spruce-Pine-Fir, categorized as *Spruce-Pine-Fir* in AWC NDS Table 4A.
- All laminations are nominal 2x dimension lumber at the time of glue-up and are continuous with no end joints.
- Final trimming to size after glue-up is limited to one lamination/face such that an N-ply glue-up will result in a final member with N-1 full laminations and a single partial lamination.
- It is assumed that the built-up members are manufactured with adhesives and processes in accordance with Woodstone's, Intertek approved, quality control manual.
- Only full-thickness laminations are used in strength calculations.
- The full member dimensions are used in stiffness and buckling calculations.
- Columns are concentrically loaded with applied load distributed uniformly over the full column width.
- Columns are pin-ended and bear on sufficient support.
- Columns are provided with lateral support only at their ends.
- Column load tables present critical values based on allowable compressive strength and a maximum slenderness ratio of 50.



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Analyzed Member Sizes

The below table provides key properties for the analyzed members. Member lengths for calculations were 4 feet to 24 feet in 2 feet increments.

Key Built-up Member Properties							
Nominal Size	Width		Full Depth (Stiffness)		Full Plies	Reduced Depth (Strength)	
	(in)	(mm)	(in)	(mm)		(in)	(mm)
6 x 6	5.50	140	5.50	140	3	4.50	114
8 x 8	7.25	184	7.25	184	4	6.00	152

Evaluation Method

As the built-up members did not comply with the production requirements for glued-laminated timber in ANSI A190.1, analysis of the members could not be conducted in accordance with the glued-laminated timber provisions in Chapter 5 of the AWC NDS. Instead, design stresses (F_c') were calculated for the individual member laminations in accordance with the sawn lumber provisions of Chapter 4 of the AWC NDS. These design stresses were then used in the full member section analysis using built-up column design equations from Section 15.3 of the NDS.

The evaluations have load duration factors of 1.0, which is associated with long-duration loads expected to act on the members for a cumulative period of 10 years over the life of the member (e.g., occupancy live loads).

End Use Considerations

The tables represent maximum loads based on calculations in accordance with the applicable referenced standard and in some cases may be lower than minimum design loads reasonably expected in end use. Woodtone should consider establishing practical limits (minimums) for publication of tables for end use.

If you have any questions regarding this letter report, please do not hesitate to contact the undersigned.

Sincerely,

INTERTEK TESTING SERVICES NA, INC.

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US Column Table

MAXIMUM ALLOWABLE LOAD (ASD-LBS)

Column Length (ft)	RealPost™ Laminated Column (SPF)	
	6 × 6	8 × 8
4	29658	51095
6	26974	48994
8	22519	45465
10	17423	40232
12	13208	33894
14	10147	27747
16	7970	22592
18	6399	18526
20	5239	15370
22	4362	12911
24	--	10976

Notes:

- a) Tabulated ASD values are for pinned-end concentrically loaded columns.
- b) Service conditions are <19% MC and <100°F.
- c) Entries of "--" denote configurations that exceed a slenderness ratio, L/d, of 50.

