

ANTHONY Power Column[®]
Anthony Forest Products Company

PR-L264
Revised February 9, 2011

Products: **ANTHONY Power Column**[®]
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1. Basis of the product report:
 - 2009 and 2006 International Building Code (IBC): Sections 104.11 Alternative Materials and 2303.1.3 Structural glued laminated timber
 - 2009 and 2006 International Residential Code (IRC): Sections 104.11 Alternative Materials, and R502.1.5, R602.1.2, and R802.1.4 Structural glued laminated timber
 - ASTM D 3737-07 and D 3737-03 recognized by the 2009 IBC and IRC, and 2006 IBC and IRC, respectively
 - ANSI/AITC A190.1-07 and A190.1-02 recognized by the 2009 IBC and IRC, and 2006 IBC and IRC, respectively
2. Product description:

Power Column[®] is a Southern Pine structural glued laminated timber manufactured in accordance with ANSI/AITC A190.1 using Combination 50 layup combinations recognized in the 2005 National Design Specification (NDS) Supplement, APA Design/Construction Guide: *Glulam Design Properties and Layup*, Form Y117 (www.apawood.org/publications), and AITC 117. Power Column[®] is used primarily as columns, but can also be used as beams, headers, rafters, or purlins, and is manufactured in nominal widths and depths of 4 through 12 inches, and lengths up to 48 feet.
3. Design properties:

Table 1 lists the design properties for Power Column[®]. The allowable loads for Power Column[®] shall be in accordance with the recommendations provided by the manufacturer (www.anthonyforest.com/powercolumn.pdf), and with EWS Data File: *Design of Structural Glued Laminated Timber Columns*, Form Y240 (www.apawood.org/publications), as applicable.
4. Product installation:

Power Column[®] shall be installed in accordance with the recommendations provided by the manufacturer and EWS Technical Note: *Glulam Connection Details*, Form T300 (www.apawood.org/publications). Permissible field notching and drilling shall be in accordance with the recommendations provided by the manufacturer.
5. Fire-rated assemblies:

Fire-rated assemblies shall be constructed in accordance with the recommendations provided by the manufacturer and with APA Product Guide: *Fire-Rated Systems*, Form W305 (www.apawood.org/publications). For one- or two-hour rated glulam columns, Power Column[®] shall be constructed in accordance with ANSI/AITC A190.1 and designed in accordance with the recommendations provided by the manufacturer and with EWS Technical Note: *Calculating Fire Resistance of Glulam Beams and Columns*, Form Y245 (www.apawood.org/publications).

6. Limitations:

- a) Power Column® shall be designed in accordance with the code using the design properties specified in this report.
- b) Power Column® shall have a depth of 2 or more laminations.
- c) Power Column® is produced at Anthony, El Dorado, AR and Washington, GA facilities under a quality assurance program audited by APA.
- d) This report is subject to re-examination in one year.

7. Identification:

Power Column® described in this report are identified by a label bearing the manufacturer's name (Anthony Forest Products Company) and/or trademark, the APA assigned plant number (1079 for El Dorado, AR or 1080 for Washington, GA), the product standard (ANSI/AITC A190.1), the APA logo, the report number PR-L264, and a means of identifying the date of manufacture.

Table 1. Design Values for Power Column® Manufactured by Anthony Forest Products Company for Normal Duration of Load ⁽¹⁾

Combination Symbol	Species ⁽²⁾	Grade	Modulus of Elasticity ⁽³⁾ <i>E</i> 10 ⁶ psi	Compression Perpendicular to Grain <i>F_{C⊥}</i> psi	Axially Loaded			Bending about Y-Y Axis				Bending about X-X Axis	
					Tension Parallel to Grain	Compression Parallel to Grain		Loaded Parallel to Wide Faces of Laminations				Loaded Perpendicular to Wide Faces of Laminations	
						2 or More Lams	4 or More Lams	2 or 3 Lams	Bending			Shear Parallel to Grain	Bending
					<i>F_t</i> Psi	<i>F_c</i> psi	<i>F_c</i> psi	<i>F_{by}</i> psi	<i>F_{by}</i> psi	<i>F_{by}</i> psi	See Notes 4 and 5	<i>F_{by}</i> psi	<i>F_{bx}</i> psi
1	2	3	4	5	6	7	8	9	10	11	12	13	14
EWS 50	SP	NTD14	1.9	740	1,550	2,300	1,700	2,300	2,100	1,750	260	2,100	300
Wet-use factors			0.833	0.53	0.8	0.73		0.8			0.875	0.8	0.875

- The tabulated design values are for normal duration of loading. For other durations of loading, see applicable building code. The tabulated design values are for dry conditions of use. For wet conditions of use, multiply the tabulated values by the factors shown at the bottom of the table.
- SP = Southern pine.
- For column stability and beam stability calculations, E_{min} shall be determined by multiplying the tabulated modulus of elasticity by 0.528.
- The tabulated F_{vy} values are for members of 4 or more lams. The tabulated F_{vy} values shall be multiplied by a factor of 0.95 for 3 lams and 0.84 for 2 lams.
- For members with 5, 7, or 9 lams manufactured from multiple-piece lams with unbonded edge joints, the tabulated F_{vy} values shall be multiplied by a factor of 0.4. For all other members manufactured from multiple-piece lams with unbonded edge joints, the tabulated F_{vy} values shall be multiplied by a factor of 0.5. This adjustment shall be cumulative with the adjustment given in Footnote No. 3.
- The tabulated F_{bx} values are for members without special tension lams up to 15 inches in depth. If the member depth is greater than 15 inches without special tension lams, the tabulated F_{bx} values shall be multiplied by a factor of 0.88. If special tension lams are used, the tabulated F_{bx} values are permitted to be increased by a factor of 1.18 regardless of the member depth.
- For non-prismatic members, notched members, members subject to impact or cyclic loading, or shear design of bending members at connections (NDS 3.4.3.3), the tabulated F_{vx} values shall be multiplied by 0.72.

APA – The Engineered Wood Association is an accredited certification body under ISO 65 by Standards Council of Canada (SCC) and an accredited inspection agency by the International Code Council (ICC) International Accreditation Service (IAS) under ISO/IEC 17020. APA is also an accredited testing organization recognized by IAS and SCC under ISO/IEC 17025. APA is a recognized testing laboratory by Miami-Dade County, and a Product Testing Laboratory, Product Quality Assurance Entity, and Product Validation Entity by the Florida Department of Community Affairs (DCA).

APA – THE ENGINEERED WOOD ASSOCIATION

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