

A PORTAL FRAME FOR ENGINEERED APPLICATIONS

The portal frame wall bracing system used for narrow wall bracing in residential wood frame construction was developed and tested by the APA – The Engineered Wood Association. Based on their testing, the APA also published allowable design values of this system for engineered applications.

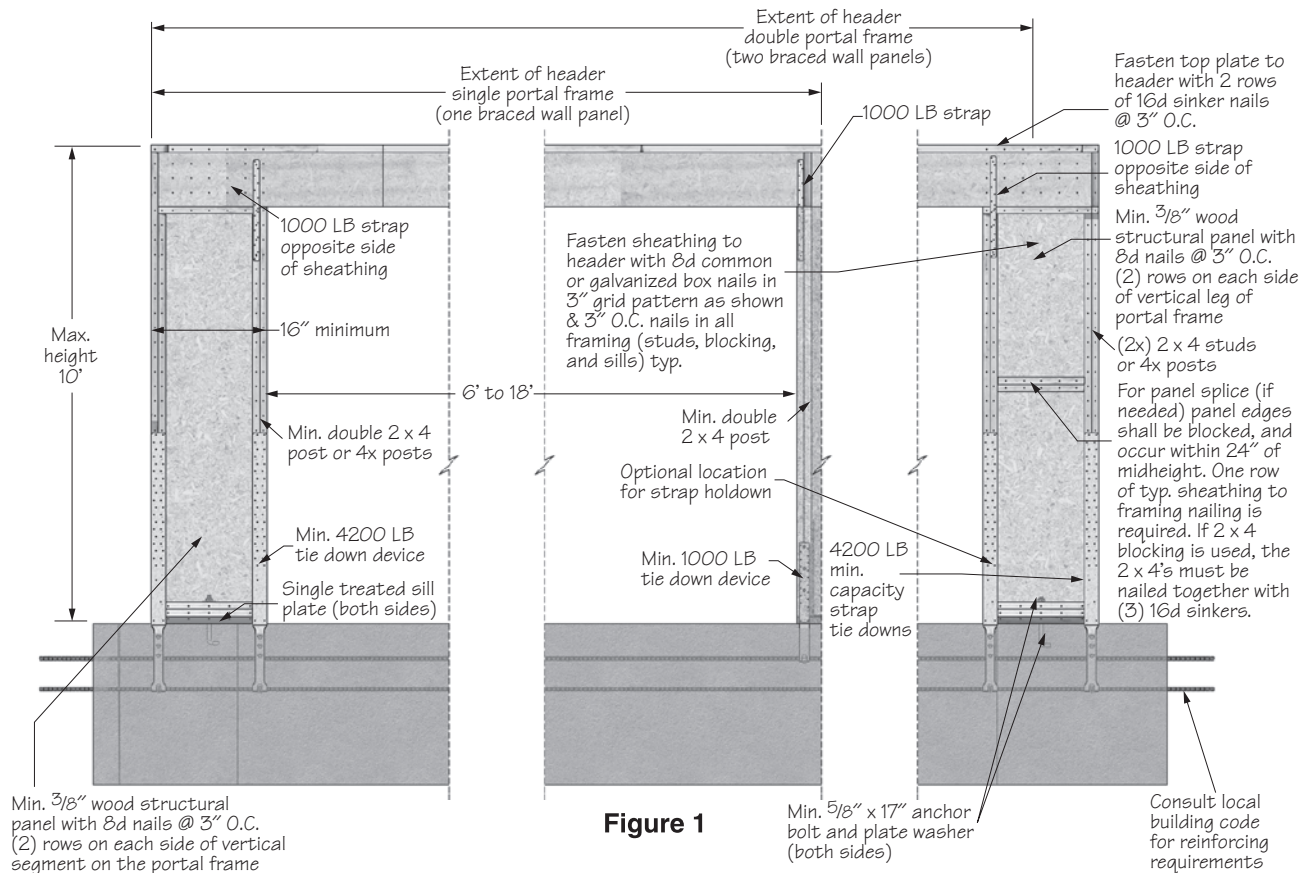


Figure 1

Minimum Width (inches)	Maximum Height (feet)	Ultimate Load (pounds)	ASD Allowable Design Values		Load Factor
			Shear (pounds)	Deflection (inch)	
16	8	2780	1000	0.32	2.8
	10	2180	600	0.40	3.6
24	8	4720	1700	0.32	2.8
	10	3630	1000	0.34	3.6

- a. Design values are based on use of Douglas Fir or Southern Pine framing. For other species of framing use the specific gravity adjustment factor = $[1 - (0.5 - SG)]$, where SG = specific gravity of the actual framing. This adjustment shall not be greater than 1.
 b. For construction as shown in Figure 1.
 c. Values are for a single portal frame. For multiple portal frames allowable design values can be multiplied by number of frames (e.g., two = 2x, three = 3x, etc.)
 d. Interpolation of design values for heights between 8-feet and 10-feet is permitted.

Reference:

APA, 2008. A Portal Frame with Hold Downs for Wall Bracing or Engineered Applications. APA Form No. TT-100C. APA – The Engineered Wood Association. Tacoma, WA.



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