

## 1.6E PWLVL

# Reference Design Values

### 1 3/4" x 1.6E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			Moment of Inertia (in <sup>4</sup> )	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	939	1080	1174	857	986	1071	6.3	1.6
5 1/2"	1476	1697	1845	1934	2224	2417	24.3	2.5
7 1/4"	1945	2237	2432	3179	3656	3974	55.6	3.3
9 1/4"	2482	2854	3103	4929	5669	6162	115.4	4.2
9 1/2"	2549	2932	3186	5172	5947	6465	125.0	4.3
11 1/4"	3019	3472	3773	7011	8063	8764	207.6	5.1
11 1/2"	3186	3664	3983	7728	8887	9660	244.2	5.4
14"	3757	4320	4696	10393	11952	12992	400.2	6.4
16"	4293	4937	5367	13217	15200	16522	597.3	7.3
18"	4830	5555	6038	16339	18789	20423	850.5	8.2
20"	5367	6172	6708	19751	22713	24688	1166.7	9.1
22"	5903	6789	7379	23447	26964	29309	1552.8	10.0
24"	6440	7406	8050	27422	31536	34278	2016.0	10.9

### 1.6E PWLVL Reference Design Values<sup>(1)</sup>

True (Shear-Free) Modulus of Elasticity, E = 1,600,000 psi<sup>(2)(5)(6)</sup>

Bending (beam), F<sub>b</sub> = 2,250psi<sup>(3)(4)</sup>

Horizontal Shear (beam), F<sub>v</sub> = 230 psi

Compression Perpendicular to Grain (beam), F<sub>cL</sub> = 750 psi<sup>(2)</sup>

- Values apply to dry service conditions
- Do not adjust for load duration
- Adjust by (12/d)<sup>1/5</sup>, where d is the depth of the member [inches]
- Adjust by 1.04 for repetitive members as defined in the *ANSI/AWC NDS*
- True or shear-free modulus of elasticity does not account for shear deformation
- See APA Product Report [PR-L233](#).

### 3 1/2" x 1.6E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			Moment of Inertia (in <sup>4</sup> )	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	1878	2160	2348	1714	1971	2143	12.5	3.2
5 1/2"	2952	3394	3690	3867	4447	4834	48.5	5.0
7 1/4"	3891	4474	4864	6359	7312	7948	111.1	6.6
9 1/4"	4964	5709	6205	9858	11337	12323	230.8	8.4
9 1/2"	5098	5863	6373	10343	11895	12929	250.1	8.6
11 1/4"	6038	6943	7547	14023	16126	17528	415.3	10.2
11 1/2"	6373	7329	7966	15456	17774	19320	488.4	10.8
14"	7513	8640	9392	20787	23905	25983	800.3	12.7
16"	8587	9875	10733	26434	30400	33043	1194.7	14.5
18"	9660	11109	12075	32677	37579	40846	1701.0	16.4
20"	10733	12343	13417	39501	45426	49376	2333.3	18.2
22"	11807	13578	14758	46894	53928	58617	3105.7	20.0
24"	12880	14812	16100	54845	63071	68556	4032.0	21.8

### EQUIVALENT SPECIFIC GRAVITY FOR FASTENER DESIGN

Nails & Wood Screws	Face	Lateral	0.50
		Withdrawal	0.50
Bolts & Lag Screws	Edge	Lateral	0.50
		Withdrawal	0.47
Bolts & Lag Screws	Face	Lateral	0.50

### AVAILABLE SIZES (INCHES)

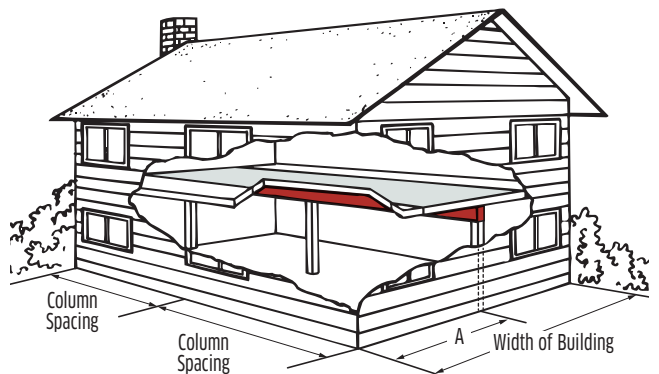
1 3/4" 1.6E PWLVL												
3 1/2"	5 1/2"	7 1/4"	9 1/4"	9 1/2"	11 1/4"	11 1/2"	14"	16"	18"	20"	22"	24"

3 1/2" 1.6E PWLVL												
3 1/2"	5 1/2"	7 1/4"	9 1/4"	9 1/2"	11 1/4"	11 1/2"	14"	16"	18"	20"	22"	24"

## 1.6E PWLVL

# Floor Beams

This table provides PWLVL beam sizes for center support of one level of floor framing over various column spacings. Where floor joists are continuous over the beam, this table applies only when the 'A' span is between 45% and 55% of the building width.



### 1 3/4" x 1.6E PWLVL

Width of Building	Column Spacing									
	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
24'	2-11 1/2"	2-11 1/2"	2-14"	2-14"	2-16"	2-16"	2-18"	2-18"		
	3-9 1/2"	3-11 1/2"	3-11 1/2"	3-14"	3-14"	3-14"	3-16"	3-16"	3-18"	3-18"
28'	2-11 1/2"	2-14"	2-14"	2-16"	2-16"	2-18"	2-18"	2-18"		
	3-11 1/2"	3-11 1/2"	3-11 1/2"	3-14"	3-14"	3-16"	3-16"	3-18"	3-18"	3-18"
32'	2-11 1/2"	2-14"	2-16"	2-16"	2-18"	2-18"	2-18"			
	3-11 1/2"	3-11 1/2"	3-14"	3-14"	3-16"	3-16"	3-16"	3-18"	3-18"	3-18"
36'	2-14"	2-14"	2-16"	2-18"	2-18"	2-18"				
	3-11 1/2"	3-11 1/2"	3-14"	3-14"	3-16"	3-16"	3-18"	3-18"		
40'	2-14"	2-16"	2-18"							
	3-11 1/2"	3-14"	3-14"	3-16"	3-16"	3-18"	3-18"			

+ see note 3

### Notes:

- PWLVL beam sizes are listed as the number of 1 3/4" thick pieces by the beam depth. e.g. 2 - 9 1/2" indicates two 1 3/4" pieces by 9 1/2" deep.
- All PWLVL beams require support across their full width.
- The minimum required end and intermediate bearing lengths (based on 575 psi) are 3" and 7 1/2" respectively unless the + symbol is shown. In that case, 4 1/2" and 10 1/2" end and intermediate bearing lengths are required.