

1.5E PWLVL

1 3/4" x 1.5E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			EI (x 10 ⁶ lbs-in ²)	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	939	1080	1174	857	986	1071	9	1.6
5 1/2"	1476	1697	1845	1934	2224	2417	36	2.5
7 1/4"	1945	2237	2432	3179	3656	3974	83	3.3
9 1/4"	2482	2854	3103	4929	5669	6162	173	4.2
9 1/2"	2549	2932	3186	5172	5947	6465	188	4.3
11 1/4"	3019	3472	3773	7011	8063	8764	311	5.1
11 7/8"	3186	3664	3983	7728	8887	9660	366	5.4
14"	3757	4320	4696	10393	11952	12992	600	6.4
16"	4293	4937	5367	13217	15200	16522	896	7.3
18"	4830	5555	6038	16339	18789	20423	1276	8.2
20"	5367	6172	6708	19751	22713	24688	1750	9.1
22"	5903	6789	7379	23447	26964	29309	2329	10.0
23 7/8"	6406	7367	8008	27166	31241	33957	2977	10.9

1.5E PWLVL Reference Design Values⁽¹⁾

Modulus of Elasticity $E = 1,500,000 \text{ psi}^{(2)}$

Bending (beam) $F_b = 2,250 \text{ psi}^{(3)(4)}$

Horizontal Shear (beam) $F_v = 230 \text{ psi}$

Compression Perpendicular to Grain (beam) $F_{c\perp} = 750 \text{ psi}^{(2)}$

- (1) Values apply to dry service conditions
- (2) Do not adjust for load duration
- (3) May be adjusted by $(12/d)^{1/5}$, where d is the depth of the member (inches)
- (4) May be adjusted by 1.04 for repetitive members as defined in ANSI/AF&PA NDS

3 1/2" x 1.5E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			EI (x 10 ⁶ lbs-in ²)	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	1878	2160	2348	1714	1971	2143	19	3.2
5 1/2"	2952	3394	3690	3867	4447	4834	73	5.0
7 1/4"	3891	4474	4864	6359	7312	7948	167	6.6
9 1/4"	4964	5709	6205	9858	11337	12323	346	8.4
9 1/2"	5098	5863	6373	10343	11895	12929	375	8.6
11 1/4"	6038	6943	7547	14023	16126	17528	623	10.2
11 7/8"	6373	7329	7966	15456	17774	19320	733	10.8
14"	7513	8640	9392	20787	23905	25983	1201	12.7
16"	8587	9875	10733	26434	30400	33043	1792	14.5
18"	9660	11109	12075	32677	37579	40846	2552	16.4
20"	10733	12343	13417	39501	45426	49376	3500	18.2
22"	11807	13578	14758	46894	53928	58617	4659	20.0
23 7/8"	12813	14735	16016	54332	62481	67914	5954	21.7

EQUIVALENT SPECIFIC GRAVITY FOR FASTENER DESIGN

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

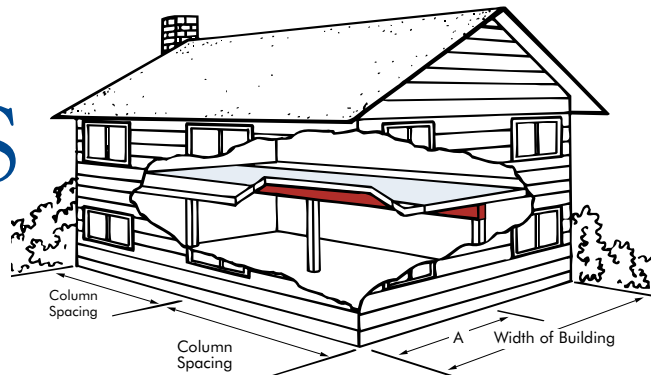
AVAILABLE SIZES (INCHES)

1 3/4" 1.5E PWLVL												
3 1/2"	5 1/2"	7 1/4"	9 1/4"	9 1/2"	11 1/4"	11 7/8"	14"	16"	18"	20"	22"	23 7/8"

3 1/2" 1.5E PWLVL												
3 1/2"	5 1/2"	7 1/4"	9 1/4"	9 1/2"	11 1/4"	11 7/8"	14"	16"	18"	20"	22"	23 7/8"

1.5E 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 1.5E PWLVL

Width of Building	Column Spacing									
	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
24'	2-1 1/8"	2-1 1/8"	2-1 1/4"	2-1 1/4"	2-1 3/8"	2-1 3/8"	2-1 3/4"	2-1 3/4"	3-1 1/8"	3-1 1/8"
	3-9 1/2"	3-1 1/8"	3-1 1/8"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"
28'	2-1 1/8"	2-1 1/4"	2-1 1/4"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"
	3-1 1/8"	3-1 1/8"	3-1 1/8"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"
32'	2-1 1/8"	2-1 1/4"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"
	3-1 1/8"	3-1 1/8"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"
36'	2-1 1/4"	2-1 1/4"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"
	3-1 1/8"	3-1 1/8"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"
40'	2-1 1/4"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"	2-1 3/8"
	3-1 1/8"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"	3-1 1/4"

+ see note 3

Notes:

1. 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.
2. All PWLVL beams require support across their full width.
3. 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.
4. PWLVL beam sizes are based on residential floor loading of 40 psf live load and 10 psf dead load. The roof framing must be trusses supported at the exterior walls only.
5. Deflection is limited to L/360 at live load and L/240 at total load.
6. PWLVL beam sizes are based on continuous floor joist spans and simple or continuous beam spans. If the floor joists are not continuous, it is permissible to consider a "Width of Building" dimension that is equal to 0.8 times the actual width of the building.