

2.0E PWLVL

1 3/4" x 2.0E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			EI (x 10 ⁶ lb-in ²)	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	1164	1338	1455	1181	1358	1476	13	1.6
5 1/2"	1829	2103	2286	2664	3064	3330	49	2.5
7 1/4"	2411	2772	3013	4380	5037	5475	111	3.3
9 1/4"	3076	3537	3845	6791	7810	8489	231	4.2
9 1/2"	3159	3633	3948	7125	8194	8907	250	4.3
11 1/4"	3741	4302	4676	9660	11109	12075	415	5.1
11 1/2"	3948	4541	4936	10647	12245	13309	488	5.4
14"	4655	5353	5819	14320	16468	17900	800	6.4
16"	5320	6118	6650	18210	20942	22763	1195	7.3
18"	5985	6883	7481	22511	25888	28139	1701	8.2
20"	6650	7648	8313	27212	31294	34015	2333	9.1
22"	7315	8412	9144	32305	37150	40381	3106	10.0
24"	7938	9129	9923	37428	43043	46786	3969	10.9

2.0E PWLVL Reference Design Values⁽¹⁾

Modulus of Elasticity E = 2,000,000 psi⁽²⁾

Bending (beam) F_b = 3,100 psi⁽³⁾⁽⁴⁾

Horizontal Shear (beam) F_v = 285 psi

Compression Perpendicular to Grain (beam) F_{c⊥} = 850 psi⁽²⁾

- Values apply to dry service conditions
- Do not adjust for load duration
- Adjust by (12/d)^{1/2}, where d is the depth of the member [inches]
- Adjust by 1.04 for repetitive members as defined in the ANS/AWC NDS

3 1/2" x 2.0E PWLVL REFERENCE DESIGN VALUES

Depth	Maximum Vertical Shear (lb)			Maximum Bending Moment (ft-lb)			EI (x 10 ⁶ lb-in ²)	Weight (plf)
	100%	115%	125%	100%	115%	125%		
3 1/2"	2328	2677	2909	2362	2716	2952	25	3.2
5 1/2"	3658	4206	4572	5328	6128	6660	97	5.0
7 1/4"	4821	5544	6027	8761	10075	10951	222	6.6
9 1/4"	6151	7074	7689	13583	15620	16978	462	8.4
9 1/2"	6318	7265	7897	14251	16388	17813	500	8.6
11 1/4"	7481	8603	9352	19320	22218	24150	831	10.2
11 1/2"	7897	9081	9871	21295	24489	26619	977	10.8
14"	9310	10707	11638	28639	32935	35799	1601	12.7
16"	10640	12236	13300	36421	41884	45526	2389	14.5
18"	11970	13766	14963	45022	51775	56277	3402	16.4
20"	13300	15295	16625	54424	62587	68030	4667	18.2
22"	14630	16825	18288	64609	74301	80761	6211	20.0
24"	15877	18258	19846	74857	86085	93571	7939	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" 2.0E PWLVL

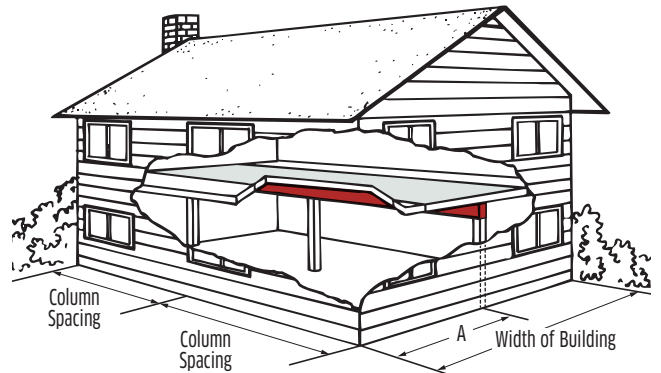
3 1/2"	5 1/2"	7 1/4"	9 1/4"	9 1/2"	11 1/4"	11 1/2"	14"	16"	18"	20"	22"	24"
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3 1/2" 2.0E PWLVL

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"
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2.0E 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 2.0E 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 1/8"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"
	3 - 9/2"	3 - 9/2"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"
28'	2 - 1 1/8"	2 - 1 1/8"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"
	3 - 9/2"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"
32'	2 - 1 1/8"	2 - 1 1/8"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	-	-
	3 - 9/2"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"
36'	2 - 1 1/8"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	-	-	-
	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"
40'	2 - 1 1/8"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	2 - 1 1/4"	-	-	-	-
	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"	3 - 1 1/8"

+ 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 - 9/2" indicates two 1 3/4" pieces by 9/2" deep.
- All PWLVL beams require support across their full width.
- The minimum required end and intermediate bearing lengths (based on 850 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.
- 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.
- Deflection is limited to L/360 at live load and L/240 at total load.
- 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 equal to 0.8 times the actual width of the building.