U.S. (ASD) TECHNICAL GUIDE

TECH GUIDE

2.0E 2900Fb

PWT LVL

HEADER & BEAM

PWT FOCUSED ON EWP

PWT™ LVL

Welcome to PWT!

At PWT, we believe in quality over quantity. So our company's sole focus has been engineered wood products since 1998—no attempts to be something we're not. No distractions. Just a steadfast dedication to industry-leading innovation and the highest-quality EWP products. This targeted strategy means we're the only dedicated EWP manufacturer to offer whole-home solutions (indoors and out), which means you can rely on us to bring you the best.

Our customer's confidence in our products and service is our business's bedrock. So you know you can count on PWT's superior EWP across our entire line. Our 25-year warranty on exterior products, our application expertise, and elevated customer support back this trust.

Literature Notes

1. PWT™ LVL shall be designed for dry-use conditions only. Dry-use applies to products installed in dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.
2. This guide is valid only for PWT LVL members supporting loads applied parallel to the face of the veneers ("edge" orientation).
3. Ensure that the design loads, duration of load increases and deflection limits that you use to select products from this guide are appropriate for your application and comply with local code requirements. If you do not know the correct design criteria and all the loads imposed on the component from all parts of the structure, seek qualified help from the architect, engineer or designer of the structure. Additional reference data on wood construction is available in the form of building codes, code evaluation reports and other design references.
4. The Quick Reference and Allowable Load tables in this guide are only for uniform loads on simple (single) or equal, continuous (multiple) span members as noted in each table. For other conditions such as concentrated loads, unequal spans, etc., contact your PWT distributor.
5. Spans are measured from center-to-center of supports. A structurally adequate bearing surface under the full width (thickness) of the beam must be provided at each support.
6. Minimum bearing length is 1½" (at least one jack stud or cripple is required) unless otherwise noted for a specific table. Refer to the Reaction Capacity charts and the notes for each table. Verify local code requirements for minimum bearing.
7. Total load deflections are based on instantaneous loading. Long term deflection (creep) under sustained load has not been considered.
8. PWT LVL is not cambered.
9. PWT LVL sized with the tables and design values in this guide requires continuous lateral restraint of the compression edge. Continuous restraint is defined as a maximum unbraced length of 24". This restraint is normally provided by sheathing and/or other framing members, which shall be adequately anchored to the PWT LVL and the supporting structure. Framing conditions that do not provide continuous lateral restraint require special design. Contact your PWT distributor. Caution: Failure to provide adequate lateral restraint could result in an unstable member and reduce its load capacity.
10. Lateral restraint shall also be provided at all supports to prevent rotation or twisting.
11. Refer to the Connection Details page for information on designing nailed and bolted connections, minimum nail spacing and end distances and for properly connecting multiple plies of PWT LVL to form a built-up member.

2.0E 2900F_b PWT LVL

Standard Thickness of 1¾" and 3½" (also available in 1½")
Billet thicknesses of 5¼" and 7"
Standard Depths of 7¼", 9¼", 9½", 11¼", 11⅞", 14", 16", 18", 20", and 24"
Lengths up to 60 feet
Specific sizes may not be available in all locations, contact your local distributor for availability.
A water-resistant coating is applied to PWT LVL for extra weather protection during construction.

Code Evaluation Reports:
ICC *ESR 2909* & *ESR 2403*, APA® *PR-L233* & *PR-L280*, or visit pwtewp.com

2.0E 2900F$_b$ PWT LVL
Product Specifications & Design Values

ALLOWABLE STRESS DESIGN VALUES (PSI)

Grade	2.0E 2900F$_b$
Bending Stress[3], F$_b$	2900
Modulus of Elasticity[4], E (x 10^6)	2,000,000 psi[2][6]
Shear Stress, F$_v$	285
Compression Stress Parallel to Grain, F$_c$	3200
Compression Stress Perpendicular to Grain, F$_{c\perp}$	750

Notes:

1. PWT™ LVL shall be designed for dry-use conditions only. Dry-use applies to products installed in dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.
2. The allowable strengths and stiffness are for normal load duration (10 year). Bending, Shear and Compression parallel-to-grain shall be adjusted according to code. Modulus of Elasticity and Compression perpendicular-to-grain shall not be adjusted.
3. The allowable Bending Stress is tabulated for a standard 12" depth. For depths greater than 12," multiply F$_b$ by (12/depth)$^{0.200}$. For depths less than 12," multiply F$_b$ by (12/depth)$^{0.111}$. For depths less than 3½," multiply F$_b$ by 1.147.
4. Deflection calculations shall include both bending and shear deformations.

Deflection for a simple span, uniform load: $\Delta = \frac{270wL^4}{Ebd^3} + \frac{28.8wL^2}{Ebd}$

Where: Δ = deflection (in), w = uniform load (plf), L = design span (ft), E = modulus of elasticity (psi), b = width of beam (in), d = depth of beam (in)

Equations for other conditions can be found in engineering references.

SECTION PROPERTIES AND ALLOWABLE CAPACITIES

Depth	Weight (lb/ft)				Allowable Moment (lb-ft)				Allowable Shear (lb)				Moment of Inertia (in^4)			
	1¾"	3½"	5¼"	7"	1¾"	3½"	5¼"	7"	1¾"	3½"	5¼"	7"	1¾"	3½"	5¼"	7"
7¼"	3.6	7.3	10.9	14.5	3918	7836	11754	15672	2410	4821	7231	9642	56	111	167	222
9¼"	4.6	9.3	13.9	18.5	6207	12415	18623	24831	3075	6151	9226	12302	115	231	346	462
9½"	4.8	9.5	14.3	19.0	6528	13056	19585	26113	3158	6317	9476	12635	125	250	375	500
11¼"	5.6	11.3	16.9	22.5	8985	17970	26955	35940	3740	7481	11221	14962	208	415	623	831
11⅞"	5.9	11.9	17.8	23.8	9951	19902	29853	39804	3948	7896	11845	15793	244	488	733	977
14"	7.0	14.0	21.0	28.0	13395	26791	40187	53583	4655	9310	13965	18620	400	800	1201	1601
16"	8.0	16.0	24.0	32.0	17035	34071	51106	68142	5320	10640	15960	21280	597	1195	1792	2389
18"	9.0	18.0	27.0	36.1	21058	42117	63175	84234	5985	11970	17955	23940	851	1701	2552	3402

Notes:

1. The Allowable Moment and Shear capacities are for normal load duration and shall be adjusted according to code.
2. The tabulated Allowable Moment capacities assume continuous lateral support of the compression edge. For other conditions, multiply the Allowable Moment by the beam stability factor, CL, as defined in the NDS.
3. The 3½," 5¼" and 7" beam widths listed above can be either a single piece or a combination of thicknesses. For example, a 7" wide beam may be a single billet beam of 7," two plies of 3½," a single 1¾" attached to a 5¼" billet beam, a 3½" with a 1¾" ply attached to each face, or four plies of 1¾." Refer to the Connection Assemblies details on page 14 for additional information.
4. The tabulated weight is an estimate and shall only be used for design purposes. Contact PWT for actual shipping weights.

Fasteners:

Refer to pages 14-15 for information on connecting multiple plies and for the equivalent specific gravity for design of nailed and bolted connections.

REACTION CAPACITY (LBS)

	Bearing Length																						
Width	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	6½"	7"	7½"	8"	8½"	9"	9½"	10"	10½"	11"	11½"	12"
1¾"	1968	2625	3281	3937	4593	5250	5906	6562	7218	7875	8531	9187	9843	10500	11156	11812	12468	13125	13781	14437	15093	15750
3½"	3937	5250	6562	7875	9187	10500	11812	13125	14437	15750	17062	18375	19687	21000	22312	23625	24937	26250	27562	28875	30187	31500
5¼"	5906	7875	9843	11812	13781	15750	17718	19687	21656	23625	25593	27562	29531	31500	33468	35437	37406	39375	41343	43312	45281	47250
7"	7875	10500	13125	15750	18375	21000	23625	26250	28875	31500	34125	36750	39375	42000	44625	47250	49875	52500	55125	57750	60375	63000

Notes:

1. The Reaction Capacity values are based on the compression strength, perpendicular-to-grain, of the PWT LVL. This is suitable for beams bearing on steel or the end-grain of studs.
2. Verify that the support for the beam is structurally adequate to carry the reaction. The compressive strength, parallel-to-grain, of studs may require more studs than the bearing length above indicates.
3. For beams bearing on wood plates, the required bearing length will increase based on the bearing strength (compression perpendicular-to-grain) of the species and grade used for the plate material.
4. Verify local code requirements concerning minimum bearing.

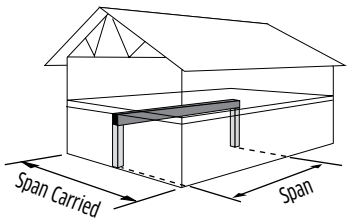
To review PWT LVL products, please visit pwtewp.com.

2.0E 2900Fb PWT LVL
Floor Beam Quick Reference Tables

Table Usage:

1. Select the correct table for the supported floor joist condition (simple or continuous – see notes below).
2. Choose the required center-to-center span for the beam in the Span column.
3. Select the span carried by the beam across the top of the table.
4. Read the beam size or choice of beam sizes from the table.

Example: A beam with a 10' span carries 15'-0" continuous span joists on each side.
Solution: Using the Continuous-Span Floor Joists table with 30'-0" span carried, select either **3½" x 11¼"** or **5¼" x 9¼".**



CONTINUOUS FLOOR JOISTS DESIGN FLOOR LOADS – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	**11¼"**	**11¼"**
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"
12'-0"	3½"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	**14"**	**14"**	**14"**	**14"**	-
	5¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
14'-0"	3½"	14"	14"	14"	**14"**	**14"**	**14"**	**14"**	-	-	-	-
	5¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"	14"
16'-0"	3½"	14"	16"	**16"**	**16"**	**16"**	-	-	-	-	-	-
	5¼"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	16"	16"
18'-0"	3½"	16"	**16"**	**18"**	**18"**	-	-	-	-	-	-	-
	5¼"	14"	14"	14"	16"	16"	16"	16"	16"	**16"**	**16"**	**16"**
20'-0"	3½"	**18"**	**18"**	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	**18"**	**18"**	**18"**	**18"**	**18"**	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	18"	18"	18"	**18"**	**18"**	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	-	-	-	-	-	-	-	-	-

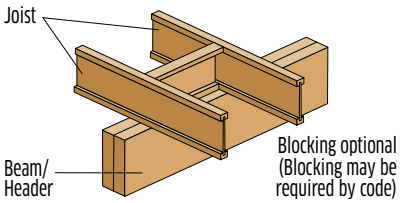
SIMPLE-SPAN FLOOR JOISTS DESIGN FLOOR LOADS – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	9½"	11¼"	11¼"	11¼"
	5¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
12'-0"	3½"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	**14"**
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"
14'-0"	3½"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	**14"**	**14"**	**14"**	**14"**
	5¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	11⅞"
16'-0"	3½"	14"	14"	14"	14"	14"	**16"**	**16"**	**16"**	**16"**	**16"**	-
	5¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"
18'-0"	3½"	16"	16"	16"	**16"**	**16"**	**16"**	**18"**	**18"**	-	-	-
	5¼"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"
20'-0"	3½"	16"	18"	**18"**	**18"**	**18"**	**18"**	-	-	-	-	-
	5¼"	14"	14"	16"	16"	16"	16"	16"	16"	16"	18"	18"
22'-0"	3½"	18"	**18"**	**18"**	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	18"	18"	18"	**18"**	**18"**	**18"**
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	18"	18"	18"	18"	-	-	-	-	-

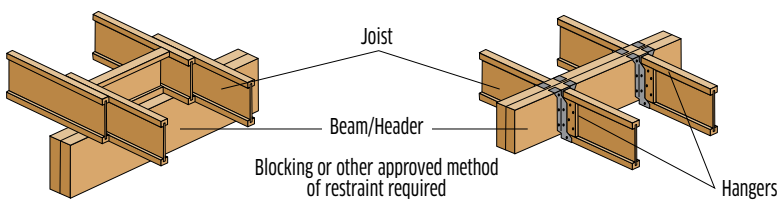
Notes:

1. Use the Continuous Floor Joists table where the floor joists are continuous (multiple span) over the beam. Use the Simple-Span Floor Joists table where the floor joists frame into the side of or end on top of the beam.
2. Span is center-to-center of supports and is valid for simple and equal, continuous beam spans.
3. End supports require 3" bearing. Interior supports require 6" bearing except 7½" is required where **bold**. The bearing length is based on the compression strength, perpendicular-to-grain, of the PWT LVL. See the Reaction Capacity table on page 4 for additional information.
4. Deflections are limited to L/360 live load and L/240 total load.
5. Beam width can be either a single piece of PWT LVL or built up from multiple plies that are nailed, bolted or connected with other approved fasteners. Refer to pages 14-15 for connection details.
6. Do not use where marked "-".

CONTINUOUS FLOOR JOISTS



SIMPLE-SPAN FLOOR JOISTS

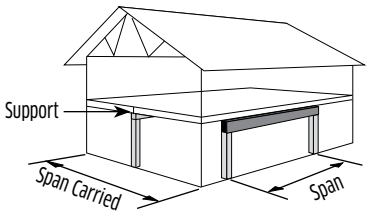


2.0E 2900Fb PWT LVL
Combined Beam Quick Reference Tables

Table Usage:

1. Select the correct table for the roof loads needed.
2. Choose the required center-to-center span for the beam in the Span column.
3. Select the span carried by the beam across the top of the table.
4. Read the beam size or choice of beam sizes from the table.

Example: A beam with a 9'-6" span supports a 32'-0" span carried for a 20 psf roof live load.
Solution: Using the correct table for the roof load with 32'-0" span carried, select either **3½" x 11¼"** or **5¼" x 9¼"**.



Design Loads

ROOF – 20 PSF SNOW OR LIVE (115% OR 125%), 15 PSF DEAD
FLOOR – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"
9'-6"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"
12'-0"	3½"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	11⅞"	14"	14"	14"	**14"**	**14"**
	5¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
14'-0"	3½"	14"	14"	14"	14"	14"	14"	**14"**	**16"**	**16"**	**16"**	**16"**
	5¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"
16'-0"	3½"	16"	16"	16"	**16"**	**16"**	**16"**	**16"**	**18"**	**18"**	**18"**	**18"**
	5¼"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"
16'-6"	3½"	16"	16"	16"	-	-	-	-	-	-	-	-
	5¼"	14"	14"	14"	14"	14"	16"	16"	16"	16"	16"	16"
18'-0"	3½"	16"	18"	**18"**	**18"**	**18"**	**18"**	**18"**	-	-	-	-
	5¼"	14"	16"	16"	16"	16"	16"	16"	16"	18"	**18"**	**18"**
18'-6"	3½"	18"	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	16"	16"	16"	18"	18"	-	-
20'-0"	3½"	**18"**	**18"**	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	18"	18"	18"	18"	**18"**	**18"**	-	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	18"	18"	-	-	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	-	-	-	-	-	-	-	-	-	-	-

ROOF – 25 PSF SNOW (115%), 15 PSF DEAD
FLOOR – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"
9'-6"	3½"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"
12'-0"	3½"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	**14"**	**14"**	**14"**	**14"**
	5¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"
14'-0"	3½"	14"	14"	14"	14"	**14"**	**16"**	**16"**	**16"**	**16"**	**16"**	**16"**
	5¼"	11¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"
16'-0"	3½"	16"	16"	**16"**	**16"**	**16"**	**18"**	**18"**	**18"**	**18"**	**18"**	-
	5¼"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"	**16"**
16'-6"	3½"	16"	16"	-	-	-	-	-	-	-	-	-
	5¼"	14"	14"	14"	14"	16"	16"	16"	16"	16"	-	-
18'-0"	3½"	18"	**18"**	**18"**	**18"**	**18"**	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	16"	16"	16"	18"	**18"**	**18"**	**18"**
18'-6"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	16"	18"	18"	-	-	-	-
20'-0"	3½"	**18"**	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	18"	18"	18"	18"	**18"**	**18"**	**18"**	-	-	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	-	-	-	-	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	-	-	-	-	-	-	-	-	-	-	-

Notes:

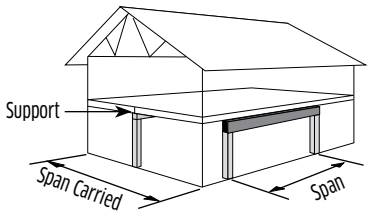
1. Span is center-to-center of supports and is valid for simple beam spans only.
2. End supports require 3" bearing except 4½" is required where **bold**. The end supports for the standard garage door spans of 9'-6", 16'-6" and 18'-6" have been limited to 3" (two trimmers) on each end. The bearing length is based on the compression strength, perpendicular-to-grain, of the PWT LVL. See the Reaction Capacity table on page 4 for additional information.
3. Deflections are limited to L/360 live or snow load and L/240 total load.
4. Loads include 100 plf for an exterior wall and assume a 2' maximum overhang on the roof and an interior support at mid-span of the floor joists.
5. Beam width can be either a single piece of PWT LVL or built up from multiple plies that are nailed, bolted or connected with other approved fasteners. Refer to pages 14-15 for connection details.
6. Do not use where marked "-".

2.0E 2900Fb PWT LVL
Combined Beam Quick Reference Tables

Table Usage:

1. Select the correct table for the roof loads needed.
2. Choose the required center-to-center span for the beam in the Span column.
3. Select the span carried by the beam across the top of the table.
4. Read the beam size or choice of beam sizes from the table.

Example: A beam with a 9'-6" span supports a 32'-0" span carried for a 40 psf roof snow load.
Solution: Using the correct table for the roof load with 32'-0" span carried, select either **3½" x 11¼"** or **5¼" x 9¼"**.



Design Loads

ROOF – 30 PSF SNOW (115%), 15 PSF DEAD
FLOOR – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"
9'-6"	3½"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"
10'-0"	3½"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	**11⅞"**
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	9½"	11¼"	11¼"
12'-0"	3½"	11¼"	11⅞"	11⅞"	14"	14"	14"	**14"**	**14"**	**14"**	**14"**	**14"**
	5¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"
14'-0"	3½"	14"	14"	14"	**14"**	**16"**	**16"**	**16"**	**16"**	**16"**	**16"**	**16"**
	5¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"
16'-0"	3½"	16"	**16"**	**16"**	**16"**	**18"**	**18"**	**18"**	**18"**	**18"**	-	-
	5¼"	14"	14"	14"	14"	16"	16"	16"	16"	**16"**	**16"**	**16"**
16'-6"	3½"	16"	-	-	-	-	-	-	-	-	-	-
	5¼"	14"	14"	14"	16"	16"	16"	16"	16"	-	-	-
18'-0"	3½"	**18"**	**18"**	**18"**	**18"**	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	16"	18"	**18"**	**18"**	**18"**	**18"**	**18"**
18'-6"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	18"	-	-	-	-	-
20'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	18"	18"	18"	**18"**	**18"**	-	-	-	-	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	-	-	-	-	-	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	-	-	-	-	-	-	-	-	-	-	-

ROOF – 40 PSF SNOW (115%), 15 PSF DEAD
FLOOR – 40 PSF LIVE, 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
9'-6"	3½"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	-	-	-
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	9½"	11¼"	11¼"
10'-0"	3½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	**11⅞"**	**11⅞"**	**11⅞"**	**14"**
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"
12'-0"	3½"	11⅞"	11⅞"	14"	14"	**14"**	**14"**	**14"**	**14"**	**14"**	**16"**	**16"**
	5¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	14"	14"	14"
14'-0"	3½"	14"	**14"**	**16"**	**16"**	**16"**	**16"**	**16"**	**16"**	**18"**	-	-
	5¼"	11⅞"	14"	14"	14"	14"	14"	14"	14"	**14"**	**16"**	**16"**
16'-0"	3½"	**16"**	**16"**	**18"**	**18"**	**18"**	**18"**	-	-	-	-	-
	5¼"	14"	14"	16"	16"	16"	16"	**16"**	**16"**	**16"**	**18"**	**18"**
16'-6"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	14"	16"	16"	16"	16"	-	-	-	-	-	-
18'-0"	3½"	**18"**	**18"**	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	18"	**18"**	**18"**	**18"**	**18"**	**18"**	**18"**	-
18'-6"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	18"	-	-	-	-	-	-	-	-
20'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	**18"**	**18"**	-	-	-	-	-	-	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	-	-	-	-	-	-	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	-	-	-	-	-	-	-	-	-	-	-

Notes:

1. Span is center-to-center of supports and is valid for simple beam spans only.
2. End supports require 3" bearing except 4½" is required where **bold**. The end supports for the standard garage door spans of 9'-6", 16'-6" and 18'-6" have been limited to 3" (two trimmers) on each end. The bearing length is based on the compression strength, perpendicular-to-grain, of the PWT LVL. See the Reaction Capacity table on page 4 for additional information.
3. Deflections are limited to L/360 live or snow load and L/240 total load.
4. Loads include 100 plf for an exterior wall and assume a 2' maximum overhang on the roof and an interior support at mid-span of the floor joists.
5. Beam width can be either a single piece of PWT LVL or built up from multiple plies that are nailed, bolted or connected with other approved fasteners. Refer to pages 14-15 for connection details.
6. Do not use where marked "-".

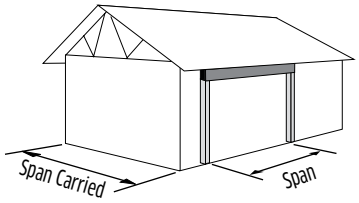
2.0E 2900F_b PWT LVL

Roof Beam Quick Reference Tables

Table Usage:

1. 1. Select the correct table for the roof loads needed.
2. Choose the required center-to-center span for the beam in the Span column.
3. Select the span carried by the beam across the top of the table.
4. Read the beam size or choice of beam sizes from the table.

Example: A beam with a 16'-6" span supports a 38'-0" span carried for a 25 psf roof snow load.
Solution: Using the correct table for the roof load with 38'-0" span carried, select either **3½" x 16"** or **5¼" x 14"**.



Design Loads

ROOF – 20 PSF SNOW OR LIVE (115% OR 125%), 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
9'-6"	3½"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
10'-0"	3½"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"
12'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
14'-0"	3½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"
	5¼"	9¼"	9¼"	9¼"	9½"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
16'-0"	3½"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	14"
	5¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"
16'-6"	3½"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	16"	16"
	5¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"
18'-0"	3½"	14"	14"	14"	14"	16"	16"	16"	16"	16"	16"	16"
	5¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"
18'-6"	3½"	14"	14"	14"	16"	16"	16"	16"	16"	16"	16"	18"
	5¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	14"
20'-0"	3½"	16"	16"	16"	16"	16"	16"	18"	18"	18"	18"	**18"**
	5¼"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"	16"
22'-0"	3½"	16"	16"	18"	18"	18"	18"	18"	-	-	-	-
	5¼"	14"	14"	16"	16"	16"	16"	16"	16"	18"	18"	18"
24'-0"	3½"	18"	18"	18"	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	18"	18"	18"	18"	18"	-

ROOF – 25 PSF SNOW (115%), 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
9'-6"	3½"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"
12'-0"	3½"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	9½"
14'-0"	3½"	11¼"	11¼"	11½"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"
	5¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
16'-0"	3½"	11⅞"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"
	5¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"
16'-6"	3½"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"
	5¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"
18'-0"	3½"	14"	14"	16"	16"	16"	16"	16"	16"	16"	18"	**18"**
	5¼"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	14"	16"
18'-6"	3½"	14"	16"	16"	16"	16"	16"	16"	16"	18"	-	-
	5¼"	14"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"
20'-0"	3½"	16"	16"	16"	16"	18"	18"	18"	18"	**18"**	**18"**	-
	5¼"	14"	14"	14"	14"	16"	16"	16"	16"	16"	16"	16"
22'-0"	3½"	18"	18"	18"	18"	18"	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	16"	16"	18"	18"	18"	18"	18"
24'-0"	3½"	18"	-	-	-	-	-	-	-	-	-	-
	5¼"	16"	16"	18"	18"	18"	18"	18"	-	-	-	-

Notes:

1. Span is center-to-center of supports and is valid for simple beam spans only.
2. End supports require 3" bearing except 4½" is required where **bold**. The end supports for the standard garage door spans of 9'-6", 16'-6" and 18'-6" have been limited to 3" (two trimmers) on each end. The bearing length is based on the compression strength, perpendicular-to-grain, of the PWT LVL. See the Reaction Capacity table on page 4 for additional information.
3. Deflections are limited to L/360 live or snow load and L/240 total load.
4. Loads assume a 2' maximum overhang on the roof.
5. Beam width can be either a single piece of PWT LVL or built up from multiple plies that are nailed, bolted or connected with other approved fasteners. Refer to pages 14-15 for connection details.
6. Do not use where marked "-".

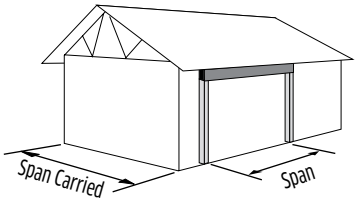
2.0E 2900F$_b$ PWT LVL

Roof Beam Quick Reference Tables

Table Usage:

1. Select the correct table for the roof loads needed.
2. Choose the required center-to-center span for the beam in the Span column.
3. Select the span carried by the beam across the top of the table.
4. Read the beam size or choice of beam sizes from the table.

Example: A beam with a 16'-6" span supports a 38'-0" span carried for a 40 psf roof snow load.
Solution: Using the correct table for the roof load with 38'-0" span carried, select a 5¼" x 16."
Note: A 3½" beam does not work.



Design Loads

ROOF – 30 PSF SNOW (115%), 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
9'-6"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	9½"
	5¼"	7¼"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
12'-0"	3½"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"
14'-0"	3½"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"
	5¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"
16'-0"	3½"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"	**16"**
	5¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"
16'-6"	3½"	14"	14"	14"	14"	14"	16"	16"	16"	16"	-	-
	5¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"
18'-0"	3½"	14"	16"	16"	16"	16"	16"	16"	18"	**18"**	**18"**	**18"**
	5¼"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"
18'-6"	3½"	16"	16"	16"	16"	16"	18"	**18"**	-	-	-	-
	5¼"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"	16"
20'-0"	3½"	16"	16"	18"	18"	18"	18"	18"	-	-	-	-
	5¼"	14"	14"	16"	16"	16"	16"	16"	16"	16"	18"	18"
22'-0"	3½"	18"	18"	18"	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	18"	18"	18"	18"	18"	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	18"	18"	18"	-	-	-	-	-	-

ROOF – 40 PSF SNOW (115%), 15 PSF DEAD

Span	Beam Width	Span Carried By Beam										
		20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'
6'-0"	3½"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
8'-0"	3½"	7¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
	5¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"	7¼"
9'-6"	3½"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"
	5¼"	7¼"	7¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
10'-0"	3½"	9¼"	9¼"	9¼"	9¼"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
	5¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"	9¼"
12'-0"	3½"	11¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	14"	14"	14"	14"
	5¼"	9¼"	9¼"	9½"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"
14'-0"	3½"	11⅞"	14"	14"	14"	14"	14"	14"	14"	16"	**16"**	**16"**
	5¼"	11¼"	11¼"	11¼"	11¼"	11⅞"	11⅞"	11⅞"	14"	14"	14"	14"
16'-0"	3½"	14"	14"	16"	16"	16"	16"	**16"**	**16"**	**18"**	**18"**	**18"**
	5¼"	11⅞"	14"	14"	14"	14"	14"	14"	14"	14"	16"	16"
16'-6"	3½"	14"	16"	16"	16"	16"	16"	-	-	-	-	-
	5¼"	14"	14"	14"	14"	14"	14"	14"	16"	16"	16"	16"
18'-0"	3½"	16"	16"	18"	18"	**18"**	**18"**	**18"**	**18"**	-	-	-
	5¼"	14"	14"	14"	16"	16"	16"	16"	16"	16"	18"	18"
18'-6"	3½"	16"	18"	18"	18"	-	-	-	-	-	-	-
	5¼"	14"	14"	16"	16"	16"	16"	16"	16"	18"	18"	18"
20'-0"	3½"	18"	18"	**18"**	-	-	-	-	-	-	-	-
	5¼"	16"	16"	16"	16"	18"	18"	18"	18"	18"	**18"**	-
22'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	18"	18"	18"	18"	-	-	-	-	-	-
24'-0"	3½"	-	-	-	-	-	-	-	-	-	-	-
	5¼"	18"	-	-	-	-	-	-	-	-	-	-

Notes:

1. Span is center-to-center of supports and is valid for simple beam spans only.
2. End supports require 3" bearing except 4½" is required where **bold**. The end supports for the standard garage door spans of 9'-6", 16'-6" and 18'-6" have been limited to 3" (two trimmers) on each end. The bearing length is based on the compression strength, perpendicular-to-grain, of the PWT LVL. See the Reaction Capacity table on page 4 for additional information.
3. Deflections are limited to L/360 live or snow load and L/240 total load.
4. Loads assume a 2' maximum overhang on the roof.
5. Beam width can be either a single piece of PWT LVL or built up from multiple plies that are nailed, bolted or connected with other approved fasteners. Refer to pages 14-15 for connection details.
6. Do not use where marked "-".

2.0E 2900Fb PWT LVL

Uniform Floor Load (PLF) Tables

Table Usage:

1. Select the required Span.
2. Divide the design loads by the desired number of plies to verify each ply of the beam.
3. Select a beam that exceeds the Total Load and the appropriate Live Load.
4. Check the bearing requirements.

Example:

For a 16'-6" span, select a 2- and 3-ply beam that satisfies an L/360 Live Load deflection limit for the following design loads: Live Load = 440 plf, Total Load = 605 plf.

Solution For A 2-Ply Beam:

Design Total Load per ply = 605 / 2 = 303 plf
Design Live Load per ply = 440 / 2 = 220 plf
Use 2 plies 1¾" x 14"
(Total Load = 360 plf, Live Load L/360 = 245 plf)

Solution For A 3-Ply Beam:

Design Total Load per ply = 605 / 3 = 202 plf
Design Live Load per ply = 440 / 3 = 147 plf
Use 3 plies 1¾" x 11⅞"
(Total Load = 223 plf, Live Load L/360 = 152 plf)

Span	1¾" x 7¼"			1¾" x 9¼"			1¾" x 9½"			1¾" x 11¼"			1¾" x 11⅞"			1¾" x 14"			1¾" x 16"			1¾" x 18"			Span
	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	
	L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		
5'			767			979			1006			1191			1257			1482			1694			1906	**5'**
6'	494		639			815			837			991			1046			1234			1410			1586	**6'**
7'	323	430	547	630		698	677		717			849			896			1056			1207			1358	**7'**
8'	221	295	439	438	584	610	471		626			742			783			923			1055			1187	**8'**
9'	158	211	313	316	421	542	340	454	556	542		659	627		695			820			937			1054	**9'**
9'-6"	135	180	267	271	362	513	292	390	527	468		624	542		659			776			887			998	**9'-6"**
10'	116	155	230	235	313	465	253	337	500	406	542	592	471		625	735		737			843			948	**10'**
11'	88	118	173	179	238	353	193	257	381	311	415	538	362	483	568	569		670			765			861	**11'**
12'	68	91	133	139	186	274	150	200	296	244	325	482	284	379	520	449	599	613	645		701			788	**12'**
13'	54	72	105	110	147	216	119	159	234	194	259	383	226	302	447	360	480	565	520		646	714		727	**13'**
14'	43	58	83	89	119	173	96	128	188	157	209	309	183	244	361	292	390	524	424	566	599	585		674	**14'**
15'	35	47	67	73	97	141	78	105	153	128	171	252	150	200	295	241	321	469	350	467	559	485		629	**15'**
16'	-	-	-	60	80	116	65	87	125	107	142	208	125	166	244	200	267	394	292	390	523	406	542	589	**16'**
16'-6"	-	-	-	55	73	105	59	79	114	97	130	190	114	152	223	183	245	360	268	358	492	373	497	571	**16'-6"**
17'	-	-	-	50	67	96	54	72	104	89	119	173	104	139	204	168	225	330	246	329	463	343	458	554	**17'**
18'	-	-	-	42	57	80	46	61	87	75	101	146	88	118	171	143	190	279	209	279	411	292	390	510	**18'**
18'-6"	-	-	-	39	52	74	42	56	80	70	93	134	82	109	158	132	176	257	194	258	380	271	361	483	**18'-6"**
19'	-	-	-	36	48	68	39	52	74	64	86	124	75	101	145	122	163	238	179	239	351	251	335	457	**19'**
20'	-	-	-	31	41	58	33	45	63	55	74	105	65	87	124	105	140	204	155	207	302	217	289	412	**20'**
21'	-	-	-	-	-	-	-	-	-	48	64	91	56	75	107	91	122	176	134	179	261	189	252	369	**21'**
22'	-	-	-	-	-	-	-	-	-	42	56	78	49	65	92	80	106	153	118	157	227	165	220	322	**22'**
23'	-	-	-	-	-	-	-	-	-	-	-	-	43	57	80	70	93	133	103	138	199	145	194	282	**23'**
24'	-	-	-	-	-	-	-	-	-	-	-	-	38	51	70	62	82	117	91	122	175	128	171	248	**24'**
25'	-	-	-	-	-	-	-	-	-	-	-	-	33	45	61	55	73	103	81	108	154	114	152	220	**25'**
26'	-	-	-	-	-	-	-	-	-	-	-	-	30	40	54	49	65	91	72	96	137	102	136	195	**26'**
27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	58	80	65	86	121	91	122	174	**27'**
28'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	52	71	58	77	108	82	109	155	**28'**
29'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	47	64	52	70	97	74	99	139	**29'**
30'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	42	57	47	63	87	67	89	125	**30'**

Design Assumptions:

1. Span is the center-to-center distance of the supports and is valid for simple or equal, continuous span applications.
2. The values in the tables are for uniform loads only.
3. Total Load is for normal (100%) duration and has been adjusted to account for the self-weight of the member.
4. Live Load deflection has been limited to L/360 or L/480 as noted in the table.
5. Total deflection has been limited to L/240. Long term deflection (creep) has not been considered.
6. These tables assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
7. Proper bearing must be provided. Bearing length must be checked for support reactions with the table on page 4.

Additional Notes:

1. The allowable loads represent the capacity of the member in pounds per lineal foot (plf) of length.
2. The designer shall check both the Total Load and the appropriate Live Load column.
3. Where the Live Load is blank, the Total Load governs the design.
4. Depths of 16" and greater shall be used with a minimum of two plies unless designed specifically as a single ply with proper lateral bracing, such as a marriage beam for each half of a manufactured home before the units are joined.
5. The allowable loads in the table are for a single ply of PWT LVL. Multiply the values by the number of plies of equal thickness to size a built-up member or divide the required loads by the number of equal thickness plies to directly verify the capacity of each individual ply. Example: double the allowable loads in the table for a 2-ply member or divide the required uniform loads by 2 to verify each ply of a 2-ply member.
6. The member width shall be properly built up by connecting plies of the same grade of PWT LVL. Refer to the multiple-ply connections on pages 14-15.
7. Do not use a product where designated "-" without further analysis by a design professional.

ACTUAL DEFLECTION BASED ON SPAN AND LIMIT

Span (ft)	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
L/480	¼"	5/16"	3/8"	3/8"	7/16"	½"	9/16"	5/8"	5/8"	11/16"	¾"
L/360	5/16"	3/8"	7/16"	9/16"	5/8"	11/16"	¾"	13/16"	⅞"	15/16"	1"
L/240	½"	5/8"	11/16"	13/16"	⅞"	1"	1⅛"	1 3/16"	1 5/16"	1⅜"	1½"

To review PWT LVL products, please visit pwtewp.com.

2.0E 2900Fb PWT LVL

Uniform Roof Load (PLF) Tables

Table Usage:

1. Select the required Span. For beams with a pitch greater than 1:12, multiply the horizontal span by the slope adjustment factor from the table below.
2. Divide the design loads by the desired number of plies to verify each ply of the beam.
3. Select a beam that exceeds the appropriate Total Load (Snow 115% or Non-Snow 125%) and the appropriate Snow/Live Load (L/360 or L/240).
4. Check the bearing requirements.

Example:

For a 16' horizontal span with a pitch of 4:12, select a 2- and 3-ply beam that satisfies an L/360 Snow Load deflection limit for the following design loads: Snow Load = 720 plf, Total Load = 1128 plf.

Calculate Beam Span: 16' x 1.054 = 16.9' **–> Use Span = 17'**

Solution For A 2-Ply Beam:
Design Total Load per ply = 1128 / 2 = 564 plf
Design Snow Load per ply = 720 / 2 = 360 plf
Use 2 plies 1¾" x 18"
(Total Load = 638 plf, Snow Load L/360 = 458 plf

Solution For A 3-Ply Beam:
Design Total Load per ply = 1128 / 3 = 376 plf
Design Snow Load per ply = 720 / 3 = 240 plf
Use 3 plies 1¾" x 16"
(Total Load = 543 plf, Snow Load L/360 = 329 plf)

Span	1¾" x 7¼"				1¾" x 9¼"				1¾" x 9½"				1¾" x 11¼"				1¾" x 11⅞"				1¾" x 14"				1¾" x 16"				1¾" x 18"				Span
	Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		Snow/Live Load		Total Load		
	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	L/360	L/240	Snow 115%	Non-Snow 125%	
5'			883	960			1127	1225			1157	1258			1370	1490			1447	1573			1706	1854			1949	2119			2193	2281	5'
6'	659		735	799			938	1020			963	1048			1141	1241			1204	1310			1420	1544			1623	1765			1826	1929	6'
7'	430	646	630	685	840		803	874			825	897			977	1063			1031	1122			1216	1322			1390	1511			1564	1670	7'
8'	295	443	550	587	584		702	764	628		721	784			854	929			902	981			1063	1156			1215	1321			1367	1487	8'
9'	211	316	418	418	421	632	624	678	454	681	641	697	723		759	825	837		801	871			944	1027			1079	1174			1214	1320	9'
9'-6"	180	271	358	358	362	543	591	642	390	585	607	660	624		718	781	723		758	825			894	972			1022	1111			1150	1250	9'-6"
10'	155	233	308	308	313	470	561	610	337	506	576	626	542		682	742	628		720	783			849	923			970	1055			1092	1187	10'
11'	118	177	232	232	238	358	467	473	257	386	491	510	415	623	620	674	483		654	711	759		771	839			881	959			992	1079	11'
12'	91	137	179	179	186	279	367	367	200	301	397	397	325	488	567	617	379	568	599	652	599		706	768	860		807	878			908	988	12'
13'	72	108	141	141	147	221	290	290	159	239	314	314	259	388	483	513	302	453	535	582	480		651	709	693		744	810			838	911	13'
14'	58	87	113	113	119	178	233	233	128	193	252	252	209	314	413	413	244	367	461	483	390	585	604	657	566		691	751	780		777	845	14'
15'	47	71	91	91	97	146	190	190	105	157	205	205	171	257	338	338	200	301	395	395	321	482	540	588	467		644	701	647		725	788	15'
16'	39	59	75	75	80	120	156	156	87	130	169	169	142	214	279	279	166	250	327	327	267	401	474	516	390	585	603	656	542		679	739	16'
16'-6"	35	53	68	68	73	110	142	142	79	119	154	154	130	195	255	255	152	228	299	299	245	367	445	483	358	537	567	617	497		658	716	16'-6"
17'	32	49	62	62	67	101	130	130	72	109	141	141	119	179	233	233	139	209	274	274	225	337	419	443	329	493	534	581	458	687	638	695	17'
18'	-	-	-	-	57	85	109	109	61	92	118	118	101	151	196	196	118	177	231	231	190	286	373	374	279	419	475	517	390	585	588	640	18'
18'-6"	-	-	-	-	52	78	100	100	56	85	109	109	93	140	181	181	109	164	212	212	176	264	345	345	258	388	449	489	361	542	557	606	18'-6"
19'	-	-	-	-	48	72	92	92	52	78	100	100	86	129	167	167	101	151	196	196	163	245	319	319	239	359	426	463	335	502	527	540	19'
20'	-	-	-	-	41	62	78	78	45	67	85	85	74	111	143	143	87	130	168	168	140	211	274	274	207	310	383	406	289	434	475	517	20'
21'	-	-	-	-	36	54	67	67	39	58	73	73	64	96	123	123	75	113	145	145	122	183	237	237	179	269	347	351	252	378	430	468	21'
22'	-	-	-	-	31	47	58	58	34	51	63	63	56	84	106	106	65	98	125	125	106	160	206	206	157	236	306	306	220	331	357	426	22'
23'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	86	109	109	93	140	180	180	138	207	268	268	194	291	327	379	23'
24'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	76	96	96	82	124	158	158	122	183	236	236	171	257	334	334	24'
25'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	67	84	84	73	110	139	139	108	162	209	209	152	229	296	296	25'
26'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	60	74	74	65	98	123	123	96	145	185	185	136	204	263	263	26'
27'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	54	66	66	58	87	110	110	86	130	165	165	122	183	235	235	27'
28'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	48	58	58	52	78	98	98	77	116	147	147	109	164	210	210	28'
29'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	71	87	87	70	105	132	132	99	148	189	189	29'
30'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	64	78	78	63	95	119	119	89	134	170	170	30'

Design Assumptions:

1. Span is the center-to-center distance of the supports, along the sloped length of the member and is valid for simple or equal, continuous span applications.
2. The values in the tables are for uniform loads only.
3. Total Load is for Snow (115%) or Non-Snow (125%) duration, as noted in the table, and has been adjusted to account for the self-weight of the member.
4. Snow/Live Load deflection has been limited to L/360 or L/240 as noted in the table. To design for a Snow or Roof Live Load deflection of L/480, use the Uniform Floor Load tables on page 10.
5. Total deflection has been limited to L/180. Long term deflection (creep) has not been considered.
6. These tables assume full lateral support of the compression edge. Full support is considered to be a maximum unbraced length of 24".
7. Proper bearing must be provided. Bearing length must be checked for support reactions with the table on page 4.

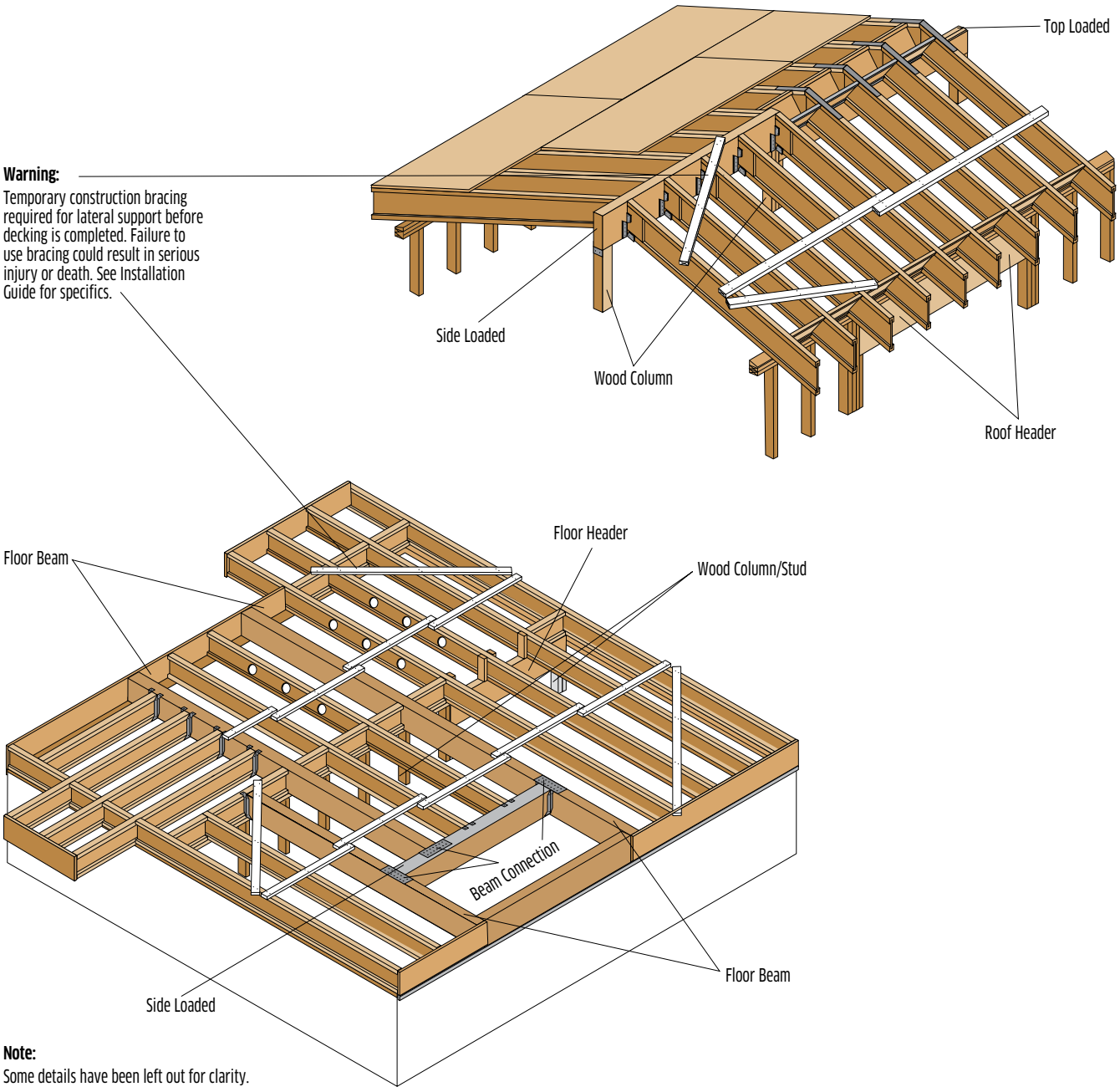
Additional Notes:

1. The allowable loads represent the capacity of the member in pounds per lineal foot (plf) of length.
2. The designer shall check both the appropriate Total Load and the appropriate Live Load column.
3. For roofs with a slope of 2:12 or greater, the horizontal span shall be multiplied by the appropriate slope adjustment factor from the table below.
4. Where the Live Load is blank, the Total Load governs the design.
5. Depths of 16" and greater shall be used with a minimum of two plies unless designed specifically as a single ply with proper lateral bracing, such as a marriage beam for each half of a manufactured home before the units are joined.
6. The allowable loads in the table are for a single ply of PWT LVL. Multiply the values by the number of plies of equal thickness to size a built-up member or divide the required loads by the number of equal thickness plies to directly verify the capacity of each individual ply. Example: double the allowable loads in the table for a 2-ply member or divide the required uniform loads by 2 to verify each ply of a 2-ply member.
7. The member width shall be properly built up by connecting plies of the same grade of PWT LVL. Refer to the multiple-ply connections on pages 14-15.
8. Do not use a product where designated "-" without further analysis by a design professional.

SLOPE ADJUSTMENT FACTOR

Slope	2:12	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
Factor	1.014	1.031	1.055	1.084	1.119	1.158	1.202	1.250	1.302	1.357	1.415

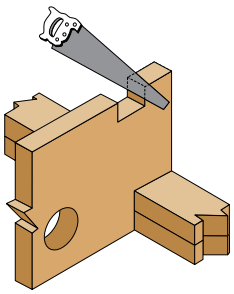
Temporary Bracing & Warnings



Note:
Some details have been left out for clarity.

WARNING

Don't **use visually damaged products without first checking with your local PWT distributor or sales office. (See back cover for details.)**

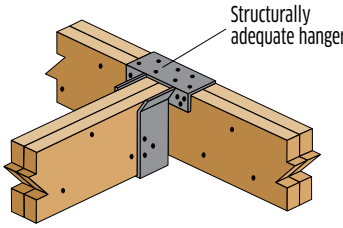


Don't **bore holes or notch unless reviewed by a design professional. Exception: small holes may be drilled in accordance with the beam hole details on page 13.**

To review PWT LVL products, please visit pwtewp.com.

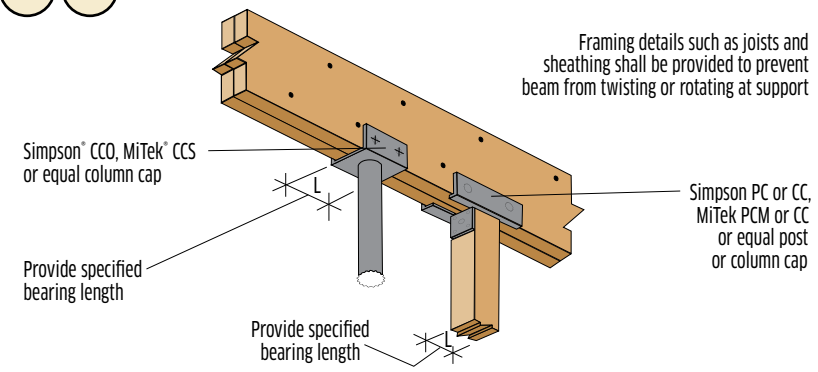
Installation Details

P3 BEAM CONNECTION

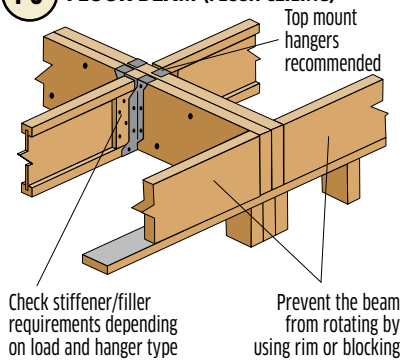


Hanger shall apply load equally to each ply or special design required

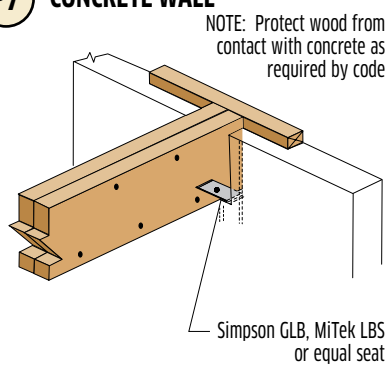
P4 P5 STEEL COLUMN & WOOD COLUMN



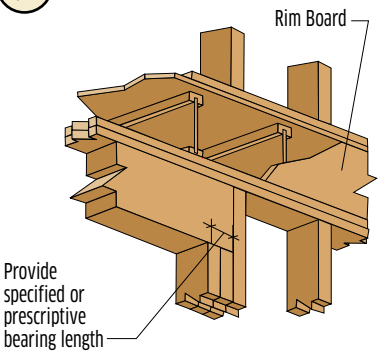
P6 FLOOR BEAM (FLUSH CEILING)



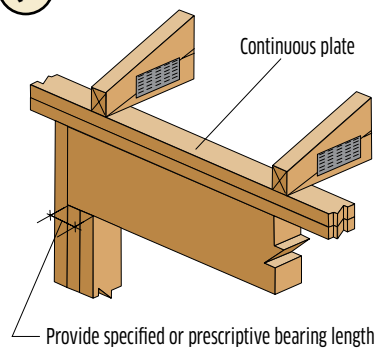
P7 CONCRETE WALL



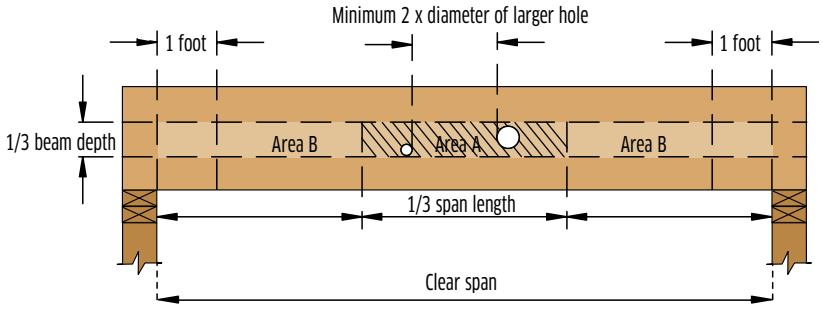
Q1 WINDOW/DOOR HEADER



Q2 WINDOW/DOOR HEADER



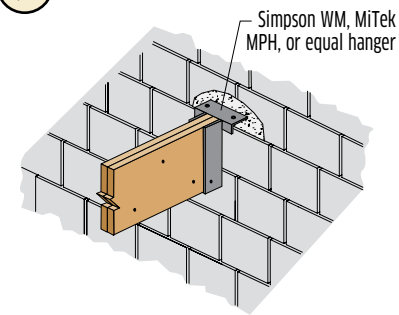
Q3 BEAM HOLE DETAILS



Notes:

1. These guidelines apply to uniformly loaded beams selected from the Quick Reference Tables or the Uniform Load Tables or designed with Exacte by PWT member design software only. For all other applications, such as beams with concentrated loads, please contact your PWT distributor for assistance.
2. Round holes can be drilled anywhere in "Area A" provided that: no more than four holes are cut, with the minimum spacing described in the diagram. The maximum hole size is 1½" for depths up to 9¼", and 2" for depths greater than 9¼".
3. Rectangular holes are NOT allowed.
4. DO NOT drill holes in cantilevers without prior approval from the project designer.
5. Other hole sizes and configurations MAY be possible with further engineering analysis. For more information, contact your PWT distributor.
6. Up to three ¾" holes may be drilled in "Area B" to accommodate wiring and/or water lines. These holes shall be at least 12" apart. The holes shall be located in the middle third of the depth, or a minimum of 3" from the bottom and top of the beam. For beams shallower than 9¼", locate holes at mid-depth.
7. Protect plumbing holes from moisture.

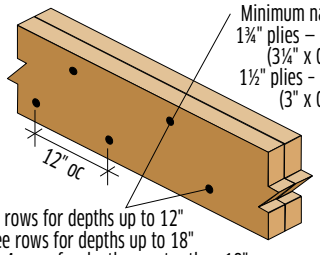
Q4 MASONRY HANGER



NOTE: Protect wood from contact with concrete as required by code

Connection Details

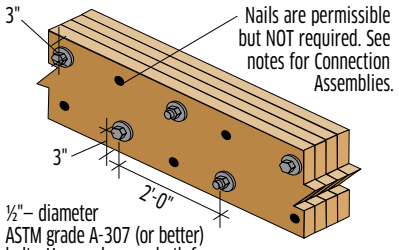
P1 TOP-LOADED BEAM – NAILED CONNECTION
(SEE CONNECTION ASSEMBLIES FOR MORE DETAILS)



Two rows for depths up to 12"
Three rows for depths up to 18"
Min. 4 rows for depths greater than 18"

Framing is applied to top of the beam so that each ply carries an equal load

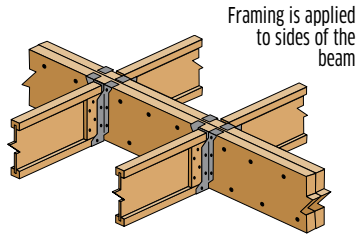
P2 TOP-LOADED BEAM – BOLTED CONNECTION
(SEE CONNECTION ASSEMBLIES FOR MORE DETAILS)



½"– diameter
ASTM grade A-307 (or better) bolts. Use washers on both faces.

Framing is applied to top of the beam so that each ply carries an equal load

Q3 SIDE-LOADED BEAM
(SEE CONNECTION ASSEMBLIES FOR MORE DETAILS)

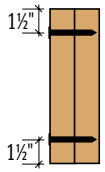


SIDE LOADS ARE NOT RECOMMENDED FOR BEAMS OVER 5½" WIDE UNLESS EQUALLY APPLIED TO BOTH FACES

See Connection Assemblies for more information

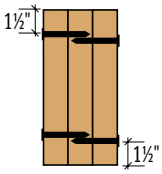
Connection Assemblies

DETAIL A
Maximum 3½" Wide 2-Ply Beams



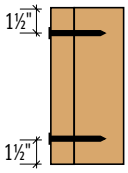
1¾" max. ply thickness

DETAIL B
Maximum 5¼" Wide 3-Ply Beams



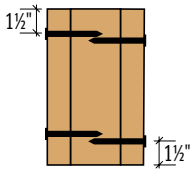
1¾" max. ply thickness

DETAIL C/E
Maximum 7" Wide 2-Ply Beams



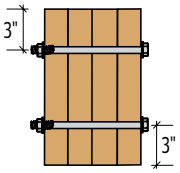
1¾" maximum side member
3½" main member for C
5¼" main member for E

DETAIL D
Maximum 7" Wide 3-Ply Beams

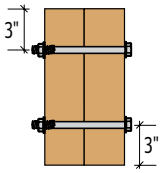


1¾" maximum side members
3½" main member

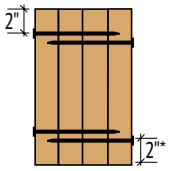
DETAIL F
Maximum 7" Wide 3- Or 4-Ply Beams



DETAIL G
Maximum 7" Wide 2-Ply Beams



DETAIL H
Maximum 7" Wide 2-, 3- Or 4-Ply Beams



Simpson SDS ¼" x 6"
Simpson SDW 6¾"or equal
Simpson SDW may be driven from one side.

* Minimum of 2" or the screw mfg.'s edge distance.

UNIFORM SIDE-LOAD CAPACITY (PLF)

Connection Detail	2 Rows of Nails at 12" oc	3 Rows of Nails at 12" oc	2 Rows of ½" Bolts at 24" oc	2 Rows of ½" Bolts at 12" oc
A	388	582	506	1012
B	291	436	380	760
C	291	436	522	1044
D	258	388	464	928
E	258	388	464	928
F	na	na	337	674
G	na	na	858	1716
H	Refer to the screw manufacturer's catalog for installation requirements & capacities.			

NAIL SCHEDULE

Nail Length (in)	Nail Diameter (in)	Lateral Load Capacity (lbs)	Nail Size Factor	Nail Type
3½"	0.162	141	1.37	16d common
	0.135	103	1.00	16d box
3¼"	0.148	118	1.15	16d sinker/12d common
	0.128	93	0.90	12d box
	0.120	81	0.79	Power-driven nail[13]
3"	0.148	99	0.96	10d common
	0.128	91	0.88	10d box
	0.120	81	0.79	Power-driven nail[13]

Notes:

1. The Uniform Side-Load Capacity values are the maximum load that can be applied to either side of the beam, based on the selected connection detail, and represent loads applied uniformly such as joists supported by hangers spaced 24" oc or less. Connections for discrete point loads may be determined with this table by calculating the equivalent fastener schedule within a 2' length centered about the point load. Details **B** and **D** shall have the back ply connected with a number of nails equal to half that used to connect the front ply – see the Side-Load Connection Example and detail on page 15. All nail and bolt spacing requirements shall be verified. The full length of the beam shall be connected with the standard connection or with the appropriate uniform side-load connection from this table. The beam shall be designed to support all applied loads.
2. Values are for normal load duration and shall be adjusted according to code.
3. The values for Uniform Side-Load Capacity for nails and Lateral Load Capacity (from Nail Schedule) are based on Douglas Fir lumber equivalence (SG = 0.50) for a 16d box (3¼" x 0.131"Ø) nails for 1¾" PWT LVL. For other nail sizes, multiply the Uniform Side-Load Capacity by the Nail Size Factor from the Nail Schedule. For 1½" PWT LVL, multiply by the Nail Size Factor for the appropriate 3" nail. Higher capacities may be calculated using the equivalent specific gravities tabulated in the Fastener Design table on page 15.
4. The values for the Uniform Side-Load Capacity for bolts are based on Douglas Fir lumber equivalence (SG = 0.50) for ASTM grade A-307, ½"Ø bolts, for loads applied perpendicular-to-grain. For 1½" PWT LVL, multiply these values by 0.86 or calculate for the needed detail. Higher bolt capacities may be calculated using the equivalent specific gravities tabulated in the Fastener Design table on page 15.
5. For nails at 8" oc, multiply the capacity by 1.5. For nails at 6" oc, multiply the capacity by 2. For four rows of nails, double the two-row capacity.
6. Use 2 rows of nails for depths to 12." Use 3 rows of nails for depths greater than 12," up to 18."
7. Unless specifically designed, use 3½" nails for 1¾" and 2" thick plies and use 3" nails for 1½" thick plies. If the nails do not fully penetrate the second ply (main member), then the nails shall be driven from both faces.
8. For detail **A**, or when attaching the first two plies for detail **B** (and optionally for details **F** and **H** – see note 11), the nails may be driven all from one face or alternating from both faces. If the nails do not fully penetrate the second ply, then the nails shall be driven from both faces.
9. When driving nails from each face, alternate every other nail in each row.
10. For details **C** and **E**, when side-loaded, the larger side-load shall be applied to the thicker ply (main member).
11. For details **F** and **H**, it is permissible to nail the plies together before bolting or driving Simpson SDS or SDW (or equal) screws. Nail two plies together (see note 8) then nail one additional ply to each side.
12. Beams wider than 5½" shall be top-loaded or side-loaded from both sides to prevent rotation. For side loads applied to one side of a beam only, the project designer shall verify torsional capacity or detail the beam to prevent rotation due to any side loads. Consult a design professional for other options.
13. Power-driven nails shall conform to ICC-ES report ESR-1539 (International Staple, Nail and Tool Association) for power-driven staples and nails.
14. Other nail, screw or bolt configurations are possible. Refer to the Fastener Design table on page 15 or contact your PWT distributor.

Connection Details

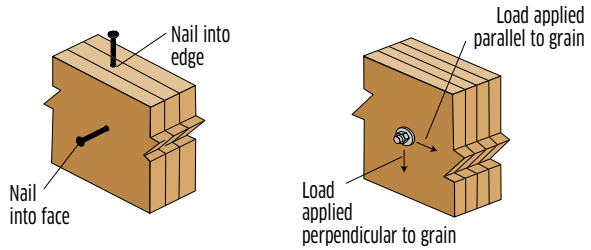
FASTENER DESIGN

Equivalent Specific Gravity					
Nails Only		Nails and Wood Screws		Bolts and Lag Screws	
Withdrawal		Dowel Bearing		Dowel Bearing (into the face only)	
Edge	Face	Edge	Face	Load Applied Parallel to Grain	Load Applied Perpendicular to Grain
0.46	0.50	0.50	0.50	0.46	0.50

Notes:

1. The equivalent specific gravity for each connection type listed above is for normal load duration and shall be adjusted according to code.
2. Fastener spacing, end and edge distance shall be as specified by code except for nail spacing as specified below.
3. See details to right for fastener and applied load orientation.

FASTENER & LOAD ORIENTATION



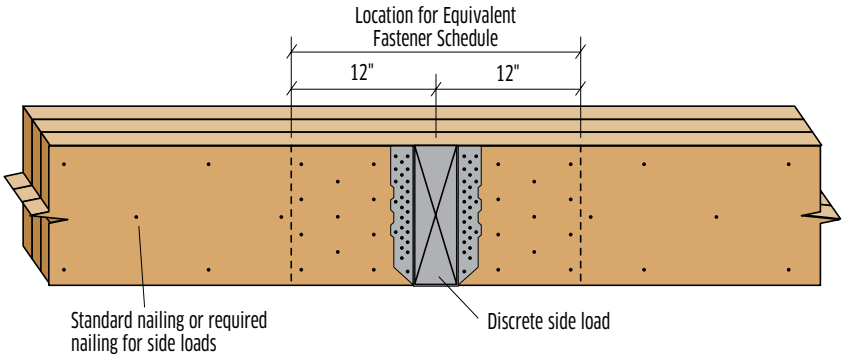
NAIL SPACING REQUIREMENTS

PWT LVL Ply Thickness	Fastener Orientation	Common Nail Size	Minimum End Distance	Minimum Nail Spacing per Row	
				Single Row	Multiple Rows
≥ 1½"	Edge[7]	8d & smaller	2½"	3"	4"
		10d & 12d	2½"	4"	5"
		16d[5]	3½"	5"	6"
	Face[8]	8d & smaller	1½"	3"	3"
		10d & 12d	1½"	3"	3"
		16d[5]	1½"	5"	5"

Notes:

1. Edge distance shall be sufficient to prevent splitting.
2. Multiple rows of nails shall be offset at least ½" and staggered, and equally spaced about the centerline of the edge or face (whichever applies).
3. Edge orientation refers to nails driven into the narrow edge: parallel to the face of the strands for PWT LVL. Face orientation refers to nails driven into the wide face: perpendicular to the face of the strands for PWT LVL.
4. Nails listed are common wire nails.
5. 16d sinkers (3¼" x 0.148") may be spaced the same as a 10d and 12d common nail.
6. Nail penetration for edge nailing must not exceed 2" for 16d common nails (3½" by 0.162" diameter) and 2½" for all nails with a smaller shank diameter.
7. Minimum nail spacing for the face orientation is applicable to nails that are installed in rows that are parallel to the direction of the face grain (length) of the PWT LVL. For nails driven into the face in rows that are perpendicular to the direction of the grain (thickness/depth) of the PWT LVL, the minimum nail spacing must be sufficient to prevent splitting of the wood.

SIDE-LOAD CONNECTION EXAMPLE



Example: Assuming a properly designed 3-ply 14" beam, determine the equivalent connection to support a 3300 lb point load applied to the side of the beam.

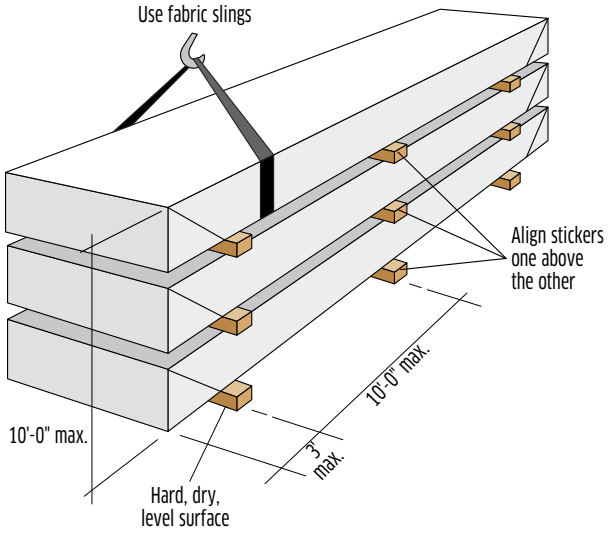
Solution:

1. Determine the equivalent PLF load over the 2' length by dividing the applied load by 2: 3300 lb / 2' = 1650 plf
2. Divide the equivalent PLF load by the capacity for the appropriate detail. For a 14" depth, 3 rows of nails are required. For Detail **B** with 3 rows of nails at 12" oc: 1650 plf / 464 plf = 3.6
3. The required total number of nails is: 3.6 * 3 rows of nails @ 12" oc = 10.8 nails per foot
4. Connect the front (loaded) ply with the nailing determined in step 3: drive 11 16d box nails within 12" to each side of the point load (a total of 22 nails). Verify nail spacing.
5. Connect the back ply with half the number of nails determined in step 4: drive 6 16d box nails, from the back, within 12" to each side of the point load (a total of 12 nails). Verify nail spacing.
6. Connect full length of member with the standard nailing or as required for side loads.
7. Project designer shall detail to prevent rotation of the beam due to the applied side load.

Code Evaluation Reports: ICC *ESR 2909* & *ESR 2403*, APA® *PR-L233* & *PR-L280*, or visit pwtewp.com.

HANDLING AND STORAGE GUIDELINES

- WARNING: Failure to follow proper procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.
- Keep PWT™ products dry. These products are intended to resist the effects of moisture on structural performance from normal construction delays but are not intended for permanent exposure to the weather.
- Unload products carefully, by lifting. Support the bundles to reduce excessive bowing. Individual products should be handled in a manner which prevents physical damage during measuring, cutting, erection, etc. I-Joists shall be handled vertically and not flatwise.
- Keep products stored in wrapped and strapped bundles, stacked no more than 10' high. Support and separate bundles with 2 x 4 (or larger) stickers spaced no more than 10' apart. Keep stickers in line vertically.
- Product must not be stored in contact with the ground, or have prolonged exposure to the weather.
- Use forklifts and cranes carefully to avoid damaging product.
- Do not use a visually damaged product. Call your local PWT distributor for assistance when damaged products are encountered.
- For satisfactory performance, PWT products must be used under dry, covered and well-ventilated interior conditions in which the equivalent moisture content in lumber is less than 16%.
- For built-up members, all PWT products shall be dry before nailing or bolting to avoid trapping moisture.
- PWT I-Joists and PWT LVL shall not be used for unintended purposes such as ramps and planks.



PWT™ LVL

PWT™

FOCUSED ON EWP

1850 Park Lane Burlington, WA 98233

TF 888.707.2285 **OFFICE** 360.707.2200

pwtewp.com

For product catalog and complete warranty details or for more information on the full line of PWT products or the nearest distributor, visit pwtewp.com.

PWT products are manufactured at different locations in the United States and Canada.

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PWT2300 23-0505