

DECK JOIST SPANS

About PWT Treated LVL

PWT Treated LVL is protected against damage caused by fungal rot, decay and wood-destroying insects, including Formosan termites (interior or exterior usage). PWT Treated LVL may be used in exterior construction above-ground applications (UC3B) and for components that are difficult to maintain, repair, or replace and that are critical to the performance and safety of the entire system:

- Deck substructures, exterior columns, sill plates and fascia

1½" PWT Treated LVL Deck Joist





Joist Spans–Improved Performance

DRY USE - 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - L/480

Product	Nominal Size [in]	Actual Size [in]	With or Without 2' Cantilever			
			Joist Spacing (o.c.)			
			12"	16"	24"	
PWT Treated LVL	2 x 6	1½ х 5½	10'- 4"	9'- 4"	8'- 1"	
	2 x 8	1½ х 7¼	13'- 7"	12'- 4"	10'- 9"	
	2 x 10	1½ x 9¼	17'- 5"	15'- 9"	13'- 7"	
	2 x 12	1½ x 11¼	21'- 2"	19'- 2"	16'- 8"	

DRY USE - 60 PSF LIVE LOAD AND 10 PSF DEAD LOAD - L/480

Product	Nominal Size [in]	Actual Size [in]	With or Without 2' Cantilever Joist Spacing (o.c.)		
			PWT Treated LVL	2 x 6	1½ х 5½
2 x 8	1½ х 7¼	11'- 10"		10'- 9"	9'- 3"
2 x 10	1½ x 9¼	15'- 1"		13'- 7"	11'- 10"
2 x 12	1½ x 11¼	18'- 5"		16'- 8"	14'- 6"

Joist Spans–Code Minimums

Product	Nominal Size [in]	Actual Size [in]	With or Without 2' Cantilever			
			Joist Spacing (o.c.)			
			12"	16"	24"	
PWT Treated LVL	2 x 6	1½ х 5½	11'- 1"	10'- 1"	8'- 11"	
	2 x 8	1½ x 7¼	14'- 10"	13'- 6"	11'- 9"	
	2 x 10	1½ x 9¼	18'- 11"	17'- 2"	15'- 0"	
	2 x 12	1½ x 11¼	23'- 0"	20'- 11"	18'- 3"	
Pressure Treated No. 2 Southern pine	2 x 10	1½ x 9¼	15'- 2"	13'- 11"	11'- 7"	
	2 x 12	1½ x 11¼	18'- 1"	16'- 4"	13'- 6"	
Pressure Treated No. 2 Hem-fir (incised)	2 x 10	1½ x 9¼	14'- 7"	13'- 3"	11'- 3"	
	2 x 12	1½ x 11¼	17'- 6"	15'- 7"	12'- 11"	

DRY USE - 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - L/360

Notes:

1. End bearing length must be at least 1.5".

2. Minimum bearing at cantilever is 3.5".

PWT Treated LVL Reference Design Values

True (Shear-Free) Modulus of Elasticity, E = 2,000,000 psi⁽¹⁾⁽⁴⁾ Bending (beam), F_D = 2,800 psi⁽²⁾⁽³⁾ Horizontal Shear (beam), F_V = 285 psi

Compression Perpendicular to Grain (beam), $F_{CL} = 850 \text{ psi}^{(1)}$

(1) Do not adjust for load duration.

(2) Adjust by (12/d)^{0.2}, where d is the depth of the member [inches].

(3) Adjust by 1.04 for repetitive members as defined in the NDS.

(4) True (Shear-Free) modulus of elasticity does not account for shear deformation.
(5) See APA Product Report *PR-L329*.

DRY USE - 60 PSF LIVE LOAD AND 10 PSF DEAD LOAD - L/360

Product	Nominal Size [in]	Actual Size [in]	With or Without 2' Cantilever Joist Spacing (o.c.)		
			PWT Treated LVL	2 x 6	1½ х 5½
2 x 8	1½ x 7¼	12'- 11"		11'- 9"	10'- 3"
2 x 10	1½ x 9¼	16'- 6"		15'- 0"	13'- 1"
2 x 12	1½ x 11¼	20'- 2"		18'- 3"	16'- 0"
Pressure Treated No. 2 Southern pine	2 x 10	1½ x 9¼	13'- 4"	12'- 0"	10'- 0"
	2 x 12	1½ x 11¼	15'- 10"	14'- 0"	11'- 7"
Pressure Treated No. 2 Hem-fir (incised)	2 x 10	1½ x 9¼	12'- 10"	11'- 7"	9'- 8"
	2 x 12	1½ x 11¼	15'- 2"	13'- 3"	10'- 4"

3. Maximum cantilever 2' in addition to span shown.

4. Design conditions outside the scope of this guide may be designed using CSD software.

PWT Treated LVL Allowable Holes

- 1. Round holes only. Holes must be drilled with a drill bit or cut with a hole saw.
- 2. Maximum diameter:
 - 7¼" depth: 1½"
 - 9½" depth and up: 2"
- 3. Maximum 2 holes per span
- Minimum clearance from edge of hole to: edge of adjacent hole: 2 times the diameter of the larger hole edge of beam: ½ of the beam depth face of support: 6 inches