PWT TREATED™

TREATED RIGHT™

USER GUIDE

Technical Data for PWT Treated LVL Headers, Beams, Columns, Joists and Dimension

The difference is about what you **don't** see.

PWT Treated LVL

Product Highlights

- PWT Treated LVL is the only manufacturer-treated LVL, and it includes a 25-year limited, transferable warranty.*
- PWT Treated LVL is protected against damage caused by fungal rot, decay and wood-destroying insects, including Formosan termites (interior or exterior usage).
- We use a proprietary treatment system and process, utilizing TRU-CORE® technology.

The Product

- PWT Treated LVL can be used in severe above-ground UC3B applications requiring UC4A treatment retentions per AWPA, including severe, critical and hard-to-replace above-ground uses, such as:
  - Deck substructures, exterior columns, sill plates, and fascia
- Treatment is added during the LVL manufacturing process, which fully penetrates throughout each veneer layer, offering complete protection from the inside out
- No treatment gradient – and double (2X) the preservative retention required in various standards around the world
- Additionally, envelope treated for best surface properties
- Interior use
- Stainable
- Non-corrosive
- No added VOCs

* Excludes industrial applications, such as scaffold plank and concrete forming.

Grade (no strength reduction after treatment)

2.0E, 2800 F_b

Beam Sizes

1¾" x	–	–	9½"	11⅞"	14"	16"	18"
3½" x	5½"	7¼"	9½"	11⅞"	14"	16"	18"
5¼" x	5½"	7¼"	9½"	11⅞"	14"	16"	18"

Column Sizes

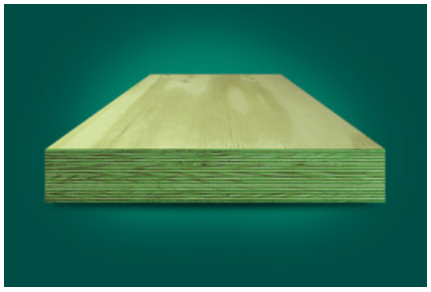
3½" x	3½"	5½"	7¼"
5¼" x	–	5½"	7¼"

Joists (Dimension Sizes)

1½" x	3½"	5½"	7¼"	9¼"	11¼"

Product Identification

- Product will have a muted olive tint
- Stamp: "PWT TREATED"
- Special PWT Treated LVL paper wrap



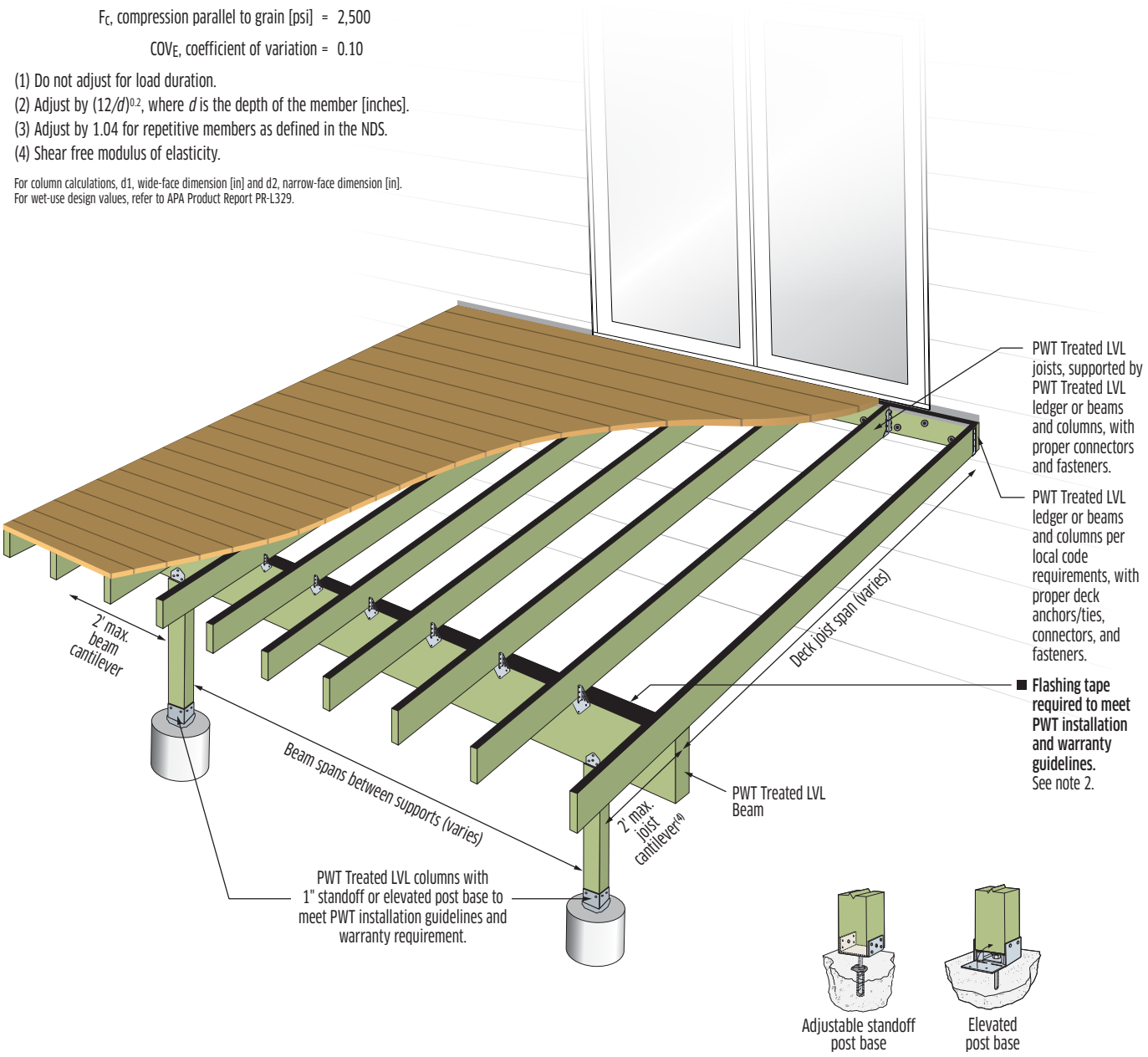
2.0E PWT Treated LVL

Reference Design Values

	Dry Use
E, Modulus of Elasticity [psi] =	2,000,000[1][4]
F_{b_beam}, Bending Stress [psi] =	2,800[2][3]
F_{b_plank}, Bending Stress [psi] =	2,800[2][3]
F_v, Shear Stress [psi] =	285
$F_{c\perp}$, compression perpendicular to grain [psi] =	850[1]
F_c, compression parallel to grain [psi] =	2,500
COV_E, coefficient of variation =	0.10

(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) Shear free modulus of elasticity.

For column calculations, d1, wide-face dimension [in] and d2, narrow-face dimension [in].
For wet-use design values, refer to APA Product Report PR-L329.



Notes:

1. For diagonal bracing, see *AWC Deck Construction Guide*, page 10, figure 10 located at www.pacificwoodtech.com/treated.
2. For flashing tape recommendations, visit www.pacificwoodtech.com/treated.
3. For fastener and hanger information, visit www.strongtie.com/deckcenter.
4. Design conditions outside of the scope of this guide may be designed using CSD Software.

2.0E PWT Treated LVL

Beams 100%

DRY USE – ALLOWABLE UNIFORM LOADS* - POUNDS PER LINEAL FOOT

	Span (ft)	Key	1¾" Beam			3½" Beam					5¼" Beam				
			9½"	11⅞"	14"	9½"	11⅞"	14"	16"	18"	9½"	11⅞"	14"	16"	18"
DRY USE	8	LL	687	-	-	1374	-	-	-	-	2061	-	-	-	-
		TL	746	979	1208	1492	1958	2416	2888	3404	2238	2937	3624	4332	5106
		BRG	2 / 5	2.6 / 6.6	3.3 / 8.2	2 / 5	2.6 / 6.6	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5	2 / 5	2.6 / 6.6	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5
	10	LL	352	687	-	704	1374	-	-	-	1056	2061	-	-	-
		TL	511	745	909	1022	1490	1818	2150	2504	1533	2235	2727	3225	3756
		BRG	1.7 / 4.3	2.5 / 6.3	3.1 / 7.7	1.7 / 4.3	2.5 / 6.3	3.1 / 7.7	3.6 / 9.1	4.2 / 10.6	1.7 / 4.3	2.5 / 6.3	3.1 / 7.7	3.6 / 9.1	4.2 / 10.6
	12	LL	204	398	652	408	796	1304	-	-	612	1194	1956	-	-
		TL	301	529	712	602	1058	1424	1710	1978	903	1587	2136	2565	2967
		BRG	1.5 / 3.1	2.2 / 5.4	2.9 / 7.2	1.5 / 3.1	2.2 / 5.4	2.9 / 7.2	3.5 / 8.7	4 / 10.1	1.5 / 3.1	2.2 / 5.4	2.9 / 7.2	3.5 / 8.7	4 / 10.1
	14	LL	128	251	410	256	502	820	1226	-	384	753	1230	1839	-
		TL	188	370	522	376	740	1044	1328	1634	564	1110	1566	1992	2451
		BRG	1.5 / 3	1.8 / 4.4	2.5 / 6.2	1.5 / 3	1.8 / 4.4	2.5 / 6.2	3.2 / 7.9	3.9 / 9.7	1.5 / 3	1.8 / 4.4	2.5 / 6.2	3.2 / 7.9	3.9 / 9.7
	16	LL	86	168	275	172	336	550	820	1168	258	504	825	1230	1752
		TL	125	246	398	250	492	796	1014	1254	375	738	1194	1521	1881
		BRG	1.5 / 3	1.5 / 3.4	2.2 / 5.4	1.5 / 3	1.5 / 3.4	2.2 / 5.4	2.8 / 6.9	3.4 / 8.5	1.5 / 3	1.5 / 3.4	2.2 / 5.4	2.8 / 6.9	3.4 / 8.5
	18	LL	60	118	193	120	236	386	576	820	180	354	579	864	1230
		TL	86	171	283	172	342	566	798	988	258	513	849	1197	1482
		BRG	1.5 / 3	1.5 / 3	1.8 / 4.4	1.5 / 3	1.5 / 3	1.8 / 4.4	2.5 / 6.1	3 / 7.6	1.5 / 3	1.5 / 3	1.8 / 4.4	2.5 / 6.1	3 / 7.6
	20	LL		86	141		172	282	420	598		258	423	630	897
		TL		123	205		246	410	616	796		369	615	924	1194
		BRG		1.5 / 3	1.5 / 3.6		1.5 / 3	1.5 / 3.6	2.1 / 5.3	2.7 / 6.8		1.5 / 3	1.5 / 3.6	2.1 / 5.3	2.7 / 6.8
	24	LL			81			162	244	346			243	366	519
		TL			116			232	350	504			348	525	756
		BRG			1.5 / 3			1.5 / 3	1.5 / 3.7	2.1 / 5.2			1.5 / 3	1.5 / 3.7	2.1 / 5.2
	28	LL			51			102	154	218			153	231	327
		TL			71			142	216	310			213	324	465
		BRG			1.5 / 3			1.5 / 3	1.5 / 3	1.5 / 3.8			1.5 / 3	1.5 / 3	1.5 / 3.8
	32	LL							102	146				153	219
		TL							140	202				210	303
		BRG							1.5 / 3	1.5 / 3				1.5 / 3	1.5 / 3

*Can be applied to the beam in addition to its own weight. Simple or multiple beam spans.

Key to Table:

LL = Maximum live load - limits deflection to L/360

TL = Maximum total load - limits deflections to L/240 (or a maximum of 0.3125" for beams 7¼" deep or less)

BRG = Required end / intermediate bearing length (inches), based on bearing stress of 850 psi.

Calculations per 2015 NDS.

2.0E PWT Treated LVL

Beams 115%

DRY USE – ALLOWABLE UNIFORM LOADS* - POUNDS PER LINEAL FOOT

	Span (ft)	Key	1¾" Beam			3½" Beam					5¼" Beam				
			9½"	11⅞"	14"	9½"	11⅞"	14"	16"	18"	9½"	11⅞"	14"	16"	18"
DRY USE	8	LL	-	-	-	-	-	-	-	-	-	-	-	-	-
		TL	859	1127	1390	1718	2254	2780	3322	3916	2577	3381	4170	4983	5874
		BRG	2.3 / 5.8	3 / 7.6	3.8 / 9.4	2.3 / 5.8	3 / 7.6	3.8 / 9.4	4.5 / 11.2	5.3 / 13.2	2.3 / 5.8	3 / 7.6	3.8 / 9.4	4.5 / 11.2	5.3 / 13.2
	10	LL	528	-	-	1056	-	-	-	-	1584	-	-	-	-
		TL	588	858	1047	1176	1716	2094	2474	2882	1764	2574	3141	3711	4323
		BRG	2 / 5	2.9 / 7.3	3.5 / 8.9	2 / 5	2.9 / 7.3	3.5 / 8.9	4.2 / 10.5	4.9 / 12.2	2 / 5	2.9 / 7.3	3.5 / 8.9	4.2 / 10.5	4.9 / 12.2
	12	LL	306	597	-	612	1194	-	-	-	918	1791	-	-	-
		TL	403	609	820	806	1218	1640	1970	2278	1209	1827	2460	2955	3417
		BRG	1.6 / 4.1	2.5 / 6.2	3.3 / 8.3	1.6 / 4.1	2.5 / 6.2	3.3 / 8.3	4 / 10	4.6 / 11.6	1.6 / 4.1	2.5 / 6.2	3.3 / 8.3	4 / 10	4.6 / 11.6
	14	LL	192	376	-	384	752	-	-	-	576	1128	-	-	-
		TL	252	446	601	504	892	1202	1530	1882	756	1338	1803	2295	2823
		BRG	1.5 / 3	2.1 / 5.3	2.9 / 7.1	1.5 / 3	2.1 / 5.3	2.9 / 7.1	3.6 / 9.1	4.5 / 11.2	1.5 / 3	2.1 / 5.3	2.9 / 7.1	3.6 / 9.1	4.5 / 11.2
	16	LL	129	252	412	258	504	824	-	-	387	756	1236	-	-
		TL	168	330	458	336	660	916	1168	1446	504	990	1374	1752	2169
		BRG	1.5 / 3	1.8 / 4.5	2.5 / 6.2	1.5 / 3	1.8 / 4.5	2.5 / 6.2	3.2 / 7.9	3.9 / 9.8	1.5 / 3	1.8 / 4.5	2.5 / 6.2	3.2 / 7.9	3.9 / 9.8
	18	LL	91	177	290	182	354	580	864	-	273	531	870	1296	-
		TL	116	230	361	232	460	722	920	1138	348	690	1083	1380	1707
		BRG	1.5 / 3	1.5 / 3.6	2.2 / 5.6	1.5 / 3	1.5 / 3.6	2.2 / 5.6	2.8 / 7.1	3.5 / 8.7	1.5 / 3	1.5 / 3.6	2.2 / 5.6	2.8 / 7.1	3.5 / 8.7
	20	LL		129	211		258	422	630	898		387	633	945	1347
		TL		166	275		332	550	742	918		498	825	1113	1377
		BRG		1.5 / 3	1.9 / 4.7		1.5 / 3	1.9 / 4.7	2.5 / 6.4	3.1 / 7.9		1.5 / 3	1.9 / 4.7	2.5 / 6.4	3.1 / 7.9
	24	LL			122			244	364	520			366	546	780
		TL			157			314	472	634			471	708	951
		BRG			1.5 / 3.3			1.5 / 3.3	2 / 4.9	2.6 / 6.6			1.5 / 3.3	2 / 4.9	2.6 / 6.6
	28	LL			77			154	230	328			231	345	492
		TL			96			192	292	420			288	438	630
		BRG			1.5 / 3			1.5 / 3	1.5 / 3.6	2.1 / 5.1			1.5 / 3	1.5 / 3.6	2.1 / 5.1
	32	LL							154	220				231	330
		TL							190	276				285	414
		BRG							1.5 / 3	1.6 / 3.9				1.5 / 3	1.6 / 3.9

*Can be applied to the beam in addition to its own weight. Simple or multiple beam spans.

Key to Table:

LL = Maximum live load - limits deflection to L/360

TL = Maximum total load - limits deflections to L/240 (or a maximum of 0.3125" for beams 7¼" deep or less)

BRG = Required end / intermediate bearing length (inches), based on bearing stress of 850 psi.

Calculations per 2015 NDS.

2.0E PWT Treated LVL

Beams 125%

DRY USE – ALLOWABLE UNIFORM LOADS* - POUNDS PER LINEAL FOOT

	Span (ft)	Key	1¾" Beam			3½" Beam					5¼" Beam				
			9½"	11⅞"	14"	9½"	11⅞"	14"	16"	18"	9½"	11⅞"	14"	16"	18"
DRY USE	8	LL	-	-	-	-	-	-	-	-	-	-	-	-	-
		TL	934	1225	1512	1868	2450	3024	3612	4258	2802	3675	4536	5418	6387
		BRG	2.5 / 6.3	3.3 / 8.3	4.1 / 10.2	2.5 / 6.3	3.3 / 8.3	4.1 / 10.2	4.9 / 12.2	5.7 / 14.4	2.5 / 6.3	3.3 / 8.3	4.1 / 10.2	4.9 / 12.2	5.7 / 14.4
	10	LL	528	-	-	1056	-	-	-	-	1584	-	-	-	-
		TL	639	933	1138	1278	1866	2276	2690	3134	1917	2799	3414	4035	4701
		BRG	2.2 / 5.4	3.2 / 7.9	3.8 / 9.6	2.2 / 5.4	3.2 / 7.9	3.8 / 9.6	4.5 / 11.4	5.3 / 13.2	2.2 / 5.4	3.2 / 7.9	3.8 / 9.6	4.5 / 11.4	5.3 / 13.2
	12	LL	306	597	-	612	1194	-	-	-	918	1791	-	-	-
		TL	403	662	892	806	1324	1784	2142	2478	1209	1986	2676	3213	3717
		BRG	1.6 / 4.1	2.7 / 6.7	3.6 / 9.1	1.6 / 4.1	2.7 / 6.7	3.6 / 9.1	4.3 / 10.9	5 / 12.6	1.6 / 4.1	2.7 / 6.7	3.6 / 9.1	4.3 / 10.9	5 / 12.6
	14	LL	192	376	616	384	752	1232	-	-	576	1128	1848	-	-
		TL	252	485	654	504	970	1308	1664	2048	756	1455	1962	2496	3072
		BRG	1.5 / 3	2.3 / 5.8	3.1 / 7.8	1.5 / 3	2.3 / 5.8	3.1 / 7.8	3.9 / 9.9	4.9 / 12.1	1.5 / 3	2.3 / 5.8	3.1 / 7.8	3.9 / 9.9	4.9 / 12.1
	16	LL	129	252	412	258	504	824	1232	-	387	756	1236	1848	-
		TL	168	330	499	336	660	998	1270	1572	504	990	1497	1905	2358
		BRG	1.5 / 3	1.8 / 4.5	2.7 / 6.8	1.5 / 3	1.8 / 4.5	2.7 / 6.8	3.5 / 8.6	4.3 / 10.7	1.5 / 3	1.8 / 4.5	2.7 / 6.8	3.5 / 8.6	4.3 / 10.7
	18	LL	91	177	290	182	354	580	864	1232	273	531	870	1296	1848
		TL	116	230	380	232	460	760	1000	1238	348	690	1140	1500	1857
		BRG	1.5 / 3	1.5 / 3.6	2.3 / 5.8	1.5 / 3	1.5 / 3.6	2.3 / 5.8	3.1 / 7.7	3.8 / 9.5	1.5 / 3	1.5 / 3.6	2.3 / 5.8	3.1 / 7.7	3.8 / 9.5
	20	LL		129	211		258	422	630	898		387	633	945	1347
		TL		166	275		332	550	808	1000		498	825	1212	1500
		BRG		1.5 / 3	1.9 / 4.7		1.5 / 3	1.9 / 4.7	2.8 / 6.9	3.4 / 8.5		1.5 / 3	1.9 / 4.7	2.8 / 6.9	3.4 / 8.5
	24	LL			122			244	364	520			366	546	780
		TL			157			314	472	676			471	708	1014
		BRG			1.5 / 3.3			1.5 / 3.3	2 / 4.9	2.8 / 7			1.5 / 3.3	2 / 4.9	2.8 / 7
	28	LL			77			154	230	328			231	345	492
		TL			96			192	292	420			288	438	630
		BRG			1.5 / 3			1.5 / 3	1.5 / 3.6	2.1 / 5.1			1.5 / 3	1.5 / 3.6	2.1 / 5.1
	32	LL							154	220				231	330
		TL							190	276				285	414
		BRG							1.5 / 3	1.6 / 3.9				1.5 / 3	1.6 / 3.9

*Can be applied to the beam in addition to its own weight. Simple or multiple beam spans.

Key to Table:

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Calculations per 2015 NDS.

2.0E PWT Treated LVL vs Pressure Treated Dimension Lumber

Beam Span Table

DRY USE – MAXIMUM ALLOWABLE DECK BEAM SPANS SUPPORTING SINGLE SPAN JOISTS WITHOUT OVERHANGS – 100% LOAD DURATION

Species	Nominal Size [in]	Actual Size [in]	Deck Joist Span [ft] Less Than or Equal to:						
			6	8	10	12	14	16	18
2.0E PWT Treated LVL		3.5 x 5.5	8'- 3"	7'- 6"	6'- 11"	6'- 6"	6'- 2"	5'- 11"	5'- 8"
		3.5 x 7.25	10'- 11"	9'- 11"	9'- 2"	8'- 8"	8'- 2"	7'- 10"	7'- 6"
		3.5 x 9.5	14'- 3"	13'- 0"	12'- 0"	11'- 4"	10'- 9"	10'- 3"	9'- 11"
		3.5 x 11.875	17'- 10"	16'- 3"	15'- 1"	14'- 2"	13'- 5"	12'- 10"	12'- 4"
		3.5 x 14	21'- 1"	19'- 1"	17'- 9"	16'- 8"	15'- 10"	15'- 2"	14'- 7"
		3.5 x 16	24'- 1"	21'- 10"	20'- 4"	19'- 1"	18'- 2"	17'- 4"	16'- 8"
		5.25 x 5.5	9'- 5"	8'- 7"	8'- 0"	7'- 6"	7'- 1"	6'- 10"	6'- 6"
		5.25 x 7.25	12'- 6"	11'- 4"	10'- 6"	9'- 11"	9'- 5"	9'- 0"	8'- 8"
		5.25 x 9.5	16'- 4"	14'- 10"	13'- 9"	13'- 0"	12'- 4"	11'- 9"	11'- 4"
		5.25 x 11.875	20'- 5"	18'- 7"	17'- 3"	16'- 3"	15'- 5"	14'- 9"	14'- 2"
		5.25 x 14	24'- 1"	21'- 11"	20'- 4"	19'- 1"	18'- 2"	17'- 4"	16'- 8"
		5.25 x 16	27'- 7"	25'- 0"	23'- 3"	21'- 10"	20'- 9"	19'- 10"	19'- 1"
Pressure Treated No. 2 Southern pine	2 - 2 x 6	3 x 5.5	6'- 0"	5'- 3"	4'- 8"	4'- 3"	3'- 11"	3'- 8"	3'- 6"
	2 - 2 x 8	3 x 7.25	8'- 0"	6'- 11"	6'- 2"	5'- 8"	5'- 2"	4'- 10"	4'- 7"
	2 - 2 x 10	3 x 9.25	10'- 2"	8'- 10"	7'- 11"	7'- 2"	6'- 8"	6'- 3"	5'- 10"
	2 - 2 x 12	3 x 11.25	12'- 5"	10'- 9"	9'- 7"	8'- 9"	8'- 1"	7'- 7"	7'- 2"
	3 - 2 x 6	4.5 x 5.5	7'- 5"	6'- 5"	5'- 9"	5'- 3"	4'- 10"	4'- 6"	4'- 3"
	3 - 2 x 8	4.5 x 7.25	9'- 9"	8'- 6"	7'- 7"	6'- 11"	6'- 5"	6'- 0"	5'- 8"
	3 - 2 x 10	4.5 x 9.25	12'- 6"	10'- 10"	9'- 8"	8'- 10"	8'- 2"	7'- 8"	7'- 2"
	3 - 2 x 12	4.5 x 11.25	15'- 2"	13'- 2"	11'- 9"	10'- 9"	9'- 11"	9'- 3"	8'- 9"
Pressure Treated No. 2 Douglas fir-larch (incised)	2 - 2 x 6	3 x 5.5	5'- 7"	4'- 10"	4'- 4"	3'- 11"	3'- 8"	3'- 5"	3'- 2"
	2 - 2 x 8	3 x 7.25	7'- 1"	6'- 1"	5'- 6"	5'- 0"	4'- 7"	4'- 4"	4'- 1"
	2 - 2 x 10	3 x 9.25	8'- 8"	7'- 6"	6'- 8"	6'- 1"	5'- 8"	5'- 3"	5'- 0"
	2 - 2 x 12	3 x 11.25	10'- 0"	8'- 8"	7'- 9"	7'- 1"	6'- 7"	6'- 1"	5'- 9"
	4 x 6	3.5 x 5.5	6'- 0"	5'- 2"	4'- 8"	4'- 3"	3'- 11"	3'- 8"	3'- 5"
	4 x 8	3.5 x 7.25	7'- 11"	6'- 10"	6'- 2"	5'- 7"	5'- 2"	4'- 10"	4'- 7"
	4 x 10	3.5 x 9.25	9'- 9"	8'- 5"	7'- 6"	6'- 11"	6'- 4"	5'- 11"	5'- 7"
	4 x 12	3.5 x 11.25	11'- 4"	9'- 10"	8'- 9"	8'- 0"	7'- 5"	6'- 11"	6'- 6"
	3 - 2 x 6	4.5 x 5.5	6'- 10"	5'- 11"	5'- 3"	4'- 10"	4'- 5"	4'- 2"	3'- 11"
	3 - 2 x 8	4.5 x 7.25	8'- 8"	7'- 6"	6'- 8"	6'- 1"	5'- 8"	5'- 3"	5'- 0"
	3 - 2 x 10	4.5 x 9.25	10'- 7"	9'- 2"	8'- 2"	7'- 6"	6'- 11"	6'- 6"	6'- 1"
	3 - 2 x 12	4.5 x 11.25	12'- 3"	10'- 8"	9'- 6"	8'- 8"	8'- 0"	7'- 6"	7'- 1"
Pressure Treated No. 2 Hem-fir (incised)	2 - 2 x 6	3 x 5.5	5'- 5"	4'- 8"	4'- 2"	3'- 10"	3'- 6"	3'- 3"	2'- 11"
	2 - 2 x 8	3 x 7.25	6'- 10"	5'- 11"	5'- 4"	4'- 10"	4'- 6"	4'- 2"	3'- 10"
	2 - 2 x 10	3 x 9.25	8'- 5"	7'- 3"	6'- 6"	5'- 11"	5'- 6"	5'- 1"	4'- 10"
	2 - 2 x 12	3 x 11.25	9'- 9"	8'- 5"	7'- 6"	6'- 10"	6'- 4"	5'- 11"	5'- 7"
	4 x 6	3.5 x 5.5	5'- 10"	5'- 1"	4'- 6"	4'- 1"	3'- 10"	3'- 7"	3'- 4"
	4 x 8	3.5 x 7.25	7'- 9"	6'- 8"	6'- 0"	5'- 5"	5'- 0"	4'- 9"	4'- 5"
	4 x 10	3.5 x 9.25	9'- 6"	8'- 2"	7'- 4"	6'- 8"	6'- 2"	5'- 9"	5'- 5"
	4 x 12	3.5 x 11.25	11'- 0"	9'- 7"	8'- 6"	7'- 9"	7'- 3"	6'- 9"	6'- 4"
	3 - 2 x 6	4.5 x 5.5	6'- 8"	5'- 9"	5'- 2"	4'- 8"	4'- 4"	4'- 1"	3'- 10"
	3 - 2 x 8	4.5 x 7.25	8'- 5"	7'- 3"	6'- 6"	5'- 11"	5'- 6"	5'- 2"	4'- 10"
	3 - 2 x 10	4.5 x 9.25	10'- 3"	8'- 11"	8'- 0"	7'- 3"	6'- 9"	6'- 3"	5'- 11"
	3 - 2 x 12	4.5 x 11.25	11'- 11"	10'- 4"	9'- 3"	8'- 5"	7'- 10"	7'- 4"	6'- 10"

Span calculations assume at 40 psf live load, 10 psf dead load, L/360 deflection limit for simple spans.

2.0E PWT Treated LVL

Joist Span Table

DRY USE – MAXIMUM ALLOWABLE DECK JOIST SPANS WITHOUT OVERHANGS - 100% LOAD DURATION

Species	Nominal Size [in]	Actual Size [in]	Dry Use Joist Spacing (o.c.)		
			12"	16"	24"
2.0E PWT Treated LVL	2 x 6	1½ x 5½	11'- 4"	10'- 3"	9'- 0"
	2 x 8	1½ x 7¼	14'- 11"	13'- 7"	11'- 10"
	2 x 10	1½ x 9¼	19'- 1"	17'- 4"	15'- 1"
	2 x 12	1½ x 11¼	23'- 2"	21'- 1"	18'- 5"
Pressure Treated No. 2 Southern pine	2 x 6	1½ x 5½	10'- 3"	9'- 3"	7'- 11"
	2 x 8	1½ x 7¼	13'- 6"	12'- 3"	10'- 6"
	2 x 10	1½ x 9¼	17'- 2"	15'- 8"	13'- 5"
	2 x 12	1½ x 11¼	20'- 11"	19'- 0"	16'- 4"
Pressure Treated No. 2 Douglas fir-larch (incised)	2 x 6	1½ x 5½	10'- 5"	9'- 0"	7'- 4"
	2 x 8	1½ x 7¼	13'- 2"	11'- 5"	9'- 3"
	2 x 10	1½ x 9¼	16'- 1"	13'- 11"	11'- 4"
	2 x 12	1½ x 11¼	18'- 8"	16'- 2"	13'- 2"
Pressure Treated No. 2 Hem-fir (incised)	2 x 6	1½ x 5½	9'- 10"	8'- 9"	7'- 1"
	2 x 8	1½ x 7¼	12'- 9"	11'- 1"	9'- 0"
	2 x 10	1½ x 9¼	15'- 7"	13'- 6"	11'- 0"
	2 x 12	1½ x 11¼	18'- 1"	15'- 8"	12'- 10"

Span calculations assume at 40 psf live load, 10 psf dead load, L/360 deflection limit for simple spans. Adjust for repetitive members as defined in the NDS.

2.0E PWT Treated LVL

Columns

DRY USE – ALLOWABLE AXIAL LOAD [LB] – 100% LOAD DURATION

Column Length (ft)	Column Size				
	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"
6	19,810	31,130	41,035	-	-
7	15,600	24,515	32,315	-	-
8	12,345	19,400	25,570	-	-
9	9,940	15,620	20,590	-	-
10	8,145	12,800	16,870	39,845	-
11	6,780	10,655	14,045	36,980	-
12	5,725	8,995	11,860	29,095	38,355
13	4,900	7,700	10,150	25,135	33,135
14	4,235	6,655	8,775	21,880	28,840
16	Not Allowed			16,960	22,355
18				13,500	17,795
20				10,990	14,485

DRY USE – ALLOWABLE AXIAL LOAD [LB] – 115% LOAD DURATION

Column Length (ft)	Column Size				
	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"
6	20,555	32,300	42,580	-	-
7	15,910	25,000	32,955	-	-
8	12,490	19,625	25,870	-	-
9	10,020	15,745	20,755	-	-
10	8,190	12,870	16,965	-	-
11	6,810	10,700	14,105	34,525	-
12	5,745	9,030	11,900	29,440	38,805
13	4,915	7,725	10,180	25,360	33,430
14	4,245	6,670	8,795	22,035	29,045
16	Not Allowed			17,040	22,460
18				13,545	17,855
20				11,020	14,525

DRY USE – ALLOWABLE AXIAL LOAD [LB] – 125% LOAD DURATION

Column Length (ft)	Column Size				
	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"
6	20,910	32,860	43,315	-	-
7	16,060	25,235	33,265	-	-
8	12,570	19,755	26,040	-	-
9	10,060	15,810	20,840	-	-
10	8,215	12,910	17,015	-	-
11	6,825	10,725	14,140	34,800	-
12	5,755	9,045	11,920	29,625	39,050
13	4,920	7,730	10,190	25,475	33,580
14	4,250	6,680	8,805	22,115	29,150
16	Not Allowed			17,080	22,515
18				13,570	17,890
20				11,035	14,545

Table values are based on:

- Solid, one-piece column
- Axial loads only
- Load eccentricity of either 1/6 column width or thickness
- Bracing in both directions at column ends

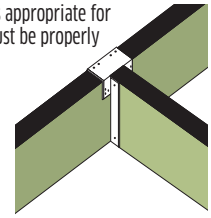
For all other conditions, such as side loads and multiple-ply columns, consult a registered, professional engineer.
Column capacity might be limited by the capacity of wood plates, the slab, column caps/bases, etc.
Calculations per 2015 NDS.

Bearing Details

For multiple-ply PWT Treated beam assembly conditions and fastening recommendations, see next page.

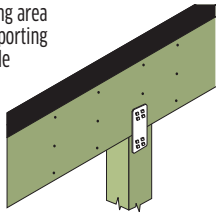
B1 BEAM-TO-BEAM CONNECTION

Make sure hanger capacity is appropriate for each application. Hangers must be properly installed to accommodate full capacity.



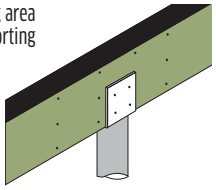
B2 BEARING ON WOOD COLUMN

Verify the required bearing area and the ability of the supporting column member to provide adequate strength.



B3 BEARING ON STEEL COLUMN

Verify the required bearing area and the ability of the supporting column member to provide adequate strength.



Bearing Length Requirements

PACIFIC WOODTECH LVL BEARING LENGTH REQUIREMENTS (1, 2, 3, 4, 5, 6, 7)

Support Material		Hem-Fir(6)		Southern Pine(6)		DF-L(6)		2.0E PWLVL(6)	
$F_{c\perp}$ (psi)		405 psi		565 psi		625 psi		850 psi	
LVL Beam Width		1¾"	3½"	1¾"	3½"	1¾"	3½"	1¾"	3½"
Reaction [lb]	1000	1½"	1½"	1½"	1½"	1½"	1½"	1½"	1½"
	2000	3"	1½"	2¼"	1½"	2"	1½"	1½"	1½"
	3000	4¼"	2¼"	3¼"	1¾"	2¾"	1½"	2¼"	1½"
	4000	5¾"	3"	4¼"	2¼"	3¾"	2"	2¾"	1½"
	5000	7¼"	3¾"	5¼"	2¾"	4¾"	2½"	3½"	1¾"
	6000	8½"	4¼"	6¼"	3¼"	5½"	2¾"	4¼"	2¼"
	7000	10"	5"	7¼"	3¾"	6½"	3¼"	4¾"	2½"
	8000		5¾"	8¼"	4¼"	7½"	3¾"	5½"	2¾"
	9000		6½"	9¼"	4¾"	8¼"	4¼"	6¼"	3¼"
	10000		7¼"	10¼"	5¼"	9¼"	4¾"	6¾"	3½"
	11000		8"	11¼"	5¾"	10¼"	5¼"	7½"	3¾"

Notes:

Continued in next column

1. The minimum required bearing length is 1½".
2. Duration of load factors may not be applied to bearing length requirements.
3. All PWLVL beams require support across their full width.
4. All PWLVL beams require lateral support at bearing points.

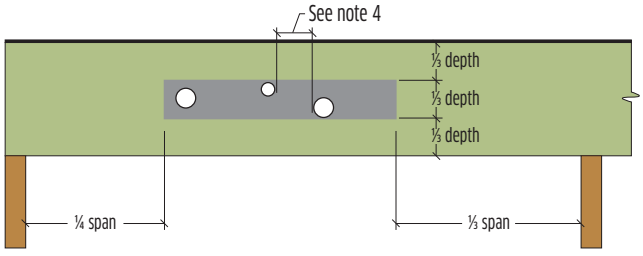
PACIFIC WOODTECH LVL BEARING LENGTH REQUIREMENTS (1, 2, 3, 4, 5, 6, 7)

Support Material		Hem-Fir(6)		Southern Pine(6)		DF-L(6)		2.0E PWLVL(6)	
$F_{c\perp}$ (psi)		405 psi		565 psi		625 psi		850 psi	
LVL Beam Width		1¾"	3½"	1¾"	3½"	1¾"	3½"	1¾"	3½"
Reaction [lb]	12000		8½"		6¼"	11"	5½"	8¼"	4¼"
	13000		9¼"		6¾"		6"	8¾"	4½"
	14000		10"		7¼"		6½"	9½"	4¾"
	15000		10¾"		7¾"		7"	10¼"	5¼"
	16000				8¼"		7½"	11"	5½"
	17000				8¾"		8"	11½"	5¾"
	18000				9¼"		8¼"	12¼"	6¼"
	19000				9¾"		8¾"	13"	6½"
	20000				10¼"		9¼"		6¾"
	21000				10¾"		9¾"		7¼"
	22000				11¼"		10¼"		7½"

5. The support member must be sized to carry the load from the PWLVL beam.
6. Use these values when the PWLVL beam is supported by a wall plate, sill plate, timber or built-up girder.
7. Use these values when the PWLVL beam is supported by the end of a column or connection hardware.

Hole Details

HOLES IN PWLVL BEAMS



Notes:

1. This detail applies only to uniformly loaded, simple and multiple span beams. Cantilevered beams and beams that carry concentrated loads are outside the scope of this detail.
2. Square and rectangular holes are not permitted.
3. Round holes may be drilled or cut with a hole saw anywhere within the shaded area of the beam.
4. The horizontal distance between adjacent holes must be at least two times the size of the larger hole. This restriction also applies to the location of access holes relative to bolt holes in multi-ply beams.
5. Do not drill more than three access holes in any four-foot-long section of the beam.
6. The maximum round hole diameter permitted is:

PWLVL Beam Depth	5½"	7¼"	9½" to 24"
Maximum Hole Diameter	1⅛"	1½"	2"

7. These limitations apply to holes drilled for plumbing or wiring access only. The sizes and locations of holes drilled for fasteners are governed by the provisions of the *National Design Specification® for Wood Construction.*
8. Beams deflect under load. Size holes to provide clearance where required.

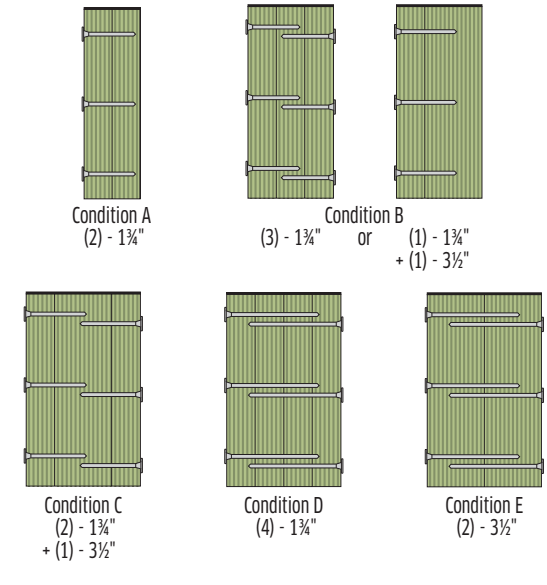
PWT Treated LVL Multiple-Ply

Beam Assembly

All fasteners and carrying hardware must be exterior type and code accepted. See www.strongtie.com/deckcenter for more information.

COMBINATIONS OF 1¾" AND 3½" PLIES

NAILS



1¾" AND 3½" PLIES–MAXIMUM UNIFORM SIDE LOAD (PLF)

Condition	3¼" x 0.131" Nails		16d Common Nails	
	2 Rows at 12" o.c.	3 Rows at 12" o.c.	2 Rows at 12" o.c.	3 Rows at 12" o.c.
Condition A (2-1¾")	390	585	565	845
Condition B (3-1¾" OR 1-1¾" + 1-3½")	290	435	425	635
Condition C (2-1¾" + 1-3½")	260	390	375	565
Condition D (4-1¾")	Use bolts for this condition (see note 1).			
Condition E (2-3½")	Use bolts for this condition (see note 1).			

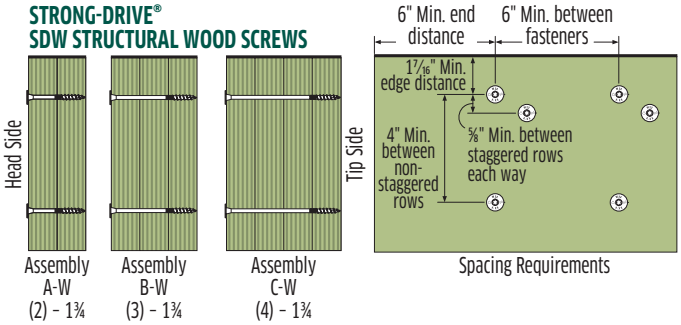
Notes:

1. Minimum fastener schedule for smaller side loads and top-loaded beams:
   Conditions A, B & C, beams 12" deep or less: 2 rows 3¼" x 0.131" at 12" o.c.
   Conditions A, B & C, beams deeper than 12": 3 rows 3¼" x 0.131" at 12" o.c.
   Conditions D & E, all beam depths: 2 rows ½" bolts at 24" o.c.
2. The table values for nails may be doubled for 6" o.c. and tripled for 4" o.c. nail spacings.
3. The nail schedules shown apply to both sides of a three-ply beam.
4. The table values apply to bolts meeting the requirements of *ANSI/ASME Standard B18.2.1*. A standard cut washer, or metal plate or strap of equal or greater dimensions, shall be provided between the wood and the bolt head, and between the wood and the nut. The distance from the edge of the beam to the bolt holes must be at least 2" for ½" bolts. Bolt holes shall be the same diameter as the bolt.
5. 7" wide beams must be loaded from both sides and/or top-loaded.
6. Beams wider than 7" must be designed by the engineer of record.
7. Load duration factors may be applied to the table values.
8. For proprietary fastener alternatives, consult the manufacturer's literature.

To review Pacific Woodtech's Installation Guide, please visit www.pacificwoodtech.com.

COMBINATIONS OF 1¾" PLIES

STRONG-DRIVE® SDW STRUCTURAL WOOD SCREWS



SIDELOADED 1¾ MULTI-PLY SCL ASSEMBLIES – ALLOWABLE UNIFORM LOAD APPLIED TO EITHER OUTSIDE MEMBER

Multiple Members		Nominal Screw Length (in)	Loaded Side	Structural Composite Lumber					
				SDW @ 12" o.c.		SDW @ 16" o.c.		SDW @ 24" o.c.	
Assembly	Components			2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A-W	2-ply SCL	3⅜	Either	1600	2400	1200	1800	800	1200
B-W	3-ply SCL	5	Head	1200	1800	900	1350	600	900
			Tip	900	1350	675	1015	450	675
C-W	4-ply SCL	6¾	Head	1065	1600	800	1200	535	800
			Tip	800	1200	600	900	400	600

1. Each ply is assumed to carry same proportion of load.
2. Loads may be applied to the head side and point side concurrently, provided neither published allowable load is exceeded. (Example: a 3-ply assembly with a head side load of 1300 plf and point side load of 1000 plf may be fastened together with 3 rows of SDW @ 16" o.c.)
3. When hangers are installed on point side, hanger face fasteners must be a minimum of 3" long.
4. Tables are based on Main Member Penetration as noted in Single-Fastener Load Tables of the *Simpson Strong-Tie Fastening Systems* 2017-2018 Catalog C-F-2017 (page 358).
5. Please consult www.strongtie.com for the latest fastener details and data.

Installation

- SDW screws install best with a low-speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- Screw heads that are countersunk flush to the wood surface are acceptable if the screw has not spun out.
- Individual screw locations may be adjusted up to 3" to avoid conflicts with other hardware or to avoid lumber defects.

SCREW DIMENSIONS

Model No.	Nominal Screw Length (L) (in)	Thread Length (TL) (in)	Head Stamp Length
SDW22338*	3⅜	1 9/16	3.37
SDW22500*	5	1 9/16	5.00
SDW22634*	6¾	1 9/16	6.75

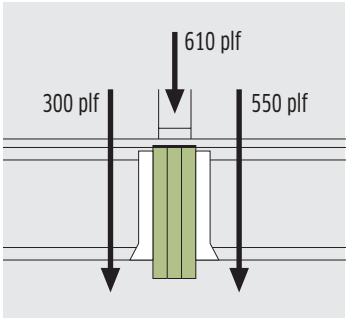
- Pre-drilling is typically not required.

*Exterior use screws/coatings recommended

How to Use the Maximum Uniform Side Load Table

EXAMPLE: THREE 1¾" PLIES LOADED FROM BOTH SIDES AND ABOVE (COND. B)

1. Use allowable load tables or sizing software to size the beam to carry a total load of (300 + 610 + 550) = 1460 plf.
2. Refer to the Condition B row in the table. Scan across the row from left to right for a table value greater than 550 plf, which is the greatest side load carried by the beam. The fourth value in the row indicates that 3 rows of 16d common nails at 12" o.c. will accommodate a side load of 635 plf, which is greater than the 550 plf required. Use 3 rows of 16d common nails at 12" o.c., from both sides, to assemble the beam.



PWT Treated LVL Requirements for

Installation & Maintenance

1. **Observation and installation:**

   During construction, inspect all components for damage or improper installation required by code. Except for sill plates and columns, the LVL must be used for permanent construction applications only, above ground, at least 8 inches above the ground and/or ground cover and/or ground vegetation and/or splash zone, completely separated from concrete and other porous materials, by using a barrier material impermeable to water, in accordance with PWT's Installation Guide. Sill plates must be separated by a sill plate gasket in proper installations, to avoid direct contact with concrete and the ground. Columns must be installed with a 1" standoff or uplift post base, to avoid direct contact with concrete and the ground.

2. **Preventing trapped moisture:**

   Fully enclosed exterior structures or assemblies must allow for moisture to escape through proper ventilation. DO NOT wrap exterior PWT Treated™ LVL with materials that may trap moisture, such as wood, metal, or plastic trim, without proper ventilation and drainage.

3. **Flashing in exterior applications, including, but not limited to, deck substructures:**

   Flashing or approved flashing tape is required on any upward horizontal surfaces of the PWT Treated™ LVL. Flashing tape must have passed design standard AAMA 711-13, Level 3, Class A, perform in high and low temperature extremes, and have minimum UV protection of 90 days of exposure. Deck drainage systems that cover upward horizontal surfaces of PWT Treated™ LVL joists and beams, preventing wetting from occurring, are acceptable substitutions for flashing on the joists and beams. Proper flashing is required over ledger boards to meet code. Failure to use proper flashing, approved flashing tape, and/or proper deck drainage systems will void the warranty. Failure to apply flashing in accordance with the manufacturers' written installation instructions and as required by code will void the warranty.

4. **Maintenance in exterior applications, including, but not limited to, deck substructures:**

   PWT Treated™ LVL must not be installed or come in contact with the ground in use in a structure. Regular efforts must be made to remove debris buildup around wood members and metal connectors and fasteners. Mold fungi and mildew cause discoloration of the wood surface, commonly appearing as a colored, fuzzy or powdery surface growth that can quickly spread over surfaces with high moisture levels. Mold and mildew will not impact the strength or stiffness of a wood member, but the presence of mold indicates a high-moisture condition. Excessive moisture content for long periods can cause damage to any exterior-use wood product.

5. **Proper connectors and fasteners:**

   Appropriate connectors and fasteners must be used for the conditions-of-use to avoid failure due to corrosion or overloading. In all exterior applications or any other conditions where excess moisture is present, high-quality, exterior-grade, stainless steel or hot-dipped galvanized or durable grade fasteners are required.

6. **Refer to the current published PWT Treated LVL guides for handling, structural design specifications, installation and maintenance requirements, available on the PWT website.**

7. **PWT Treated™ LVL that is used in a way that does not satisfy all the above requirements is not covered by this limited warranty.**

PWT Treated LVL

Frequently Asked Questions

1. **What is PWT Treated LVL, and how does the treatment get into the wood?**

   Pacific Woodtech has teamed up with Kop-Coat to create the only commercially available fully treated LVL. Called "TRU-CORE® technology," this process was developed to move treatment chemicals through wood; the migration process is accelerated when energy, such as heat from an LVL press, is added.

2. **What types of applications do you see for PWT Treated LVL?**

   Any above-ground interior or exterior use, such as deck beams, deck joists, deck columns (when on piers of 8" or greater in height, with a 1" offset). It is also a great product for treated sill plates, when used with a foam gasket for separation from the concrete, which is required by code. PWT Treated LVL should not be used in "ground contact."

3. **I thought that Douglas-fir LVL does not accept treatment well; is that true?**

   Douglas-fir is a "refractory species," which means it has different anatomical properties, such as pore size and structure, making traditional treating processes difficult. However, when you look at the physiology of dry Douglas-fir, you will see that, with some modern technology, it can be treated quite easily.

   Kop-Coat's TRU-CORE® technology offers full penetration of Douglas-fir, using modern preservatives. See ESR-3834 for additional details.

   Many western species are considered refractory species.

4. **Does PWT Treated LVL have an odor?**

   There are no solvents or VOCs in the treatment, so the genuine smell of wood is retained.

5. **Can PWT Treated LVL be used indoors?**

   Yes; the active chemicals used in the treatment process are below EPA levels for indoor use.

6. **Is there any risk when handling PWT Treated LVL? What precautions should be taken?**

   The risks associated with touching/handling PWT Treated LVL are no worse than those of untreated LVL.

   Always wear proper PPE per the SDS or Tech Sheet.

   Wear work gloves or wash hands after touching and before eating or using the restroom.

   Do not handle until all safety precautions have been read and understood.

   Wear protective gloves/protective clothing/eye protection/face protection.

   Wash face, hands and any exposed skin thoroughly after handling.

   Avoid breathing dust/fumes/gas/mist/vapors/spray.

   In case of inadequate ventilation, wear respiratory protection.

   Contaminated work clothing should not be allowed out of the workplace.

   Use only outdoors or in a well-ventilated area.

7. **Do I have to re-treat cut ends, notches and holes?**

   No; since PWT Treated LVL is treated throughout the piece (no gradient), re-treatment is not necessary. However, it is recommended to recoat cuts with a sealer or paint to minimize swelling, as moisture will wick into end-grain fibers more quickly than it will into edges and faces.

8. **Can I stain or paint PWT Treated LVL?**

   Yes; PWT Treated LVL can be stained or painted.

9. **Do I need flashing?**

   Proper flashing is required over ledger boards to meet code. Refer to building code requirements for ledger boards.

   Flashing (metal or plastic) or approved flashing tape is required on any upward horizontal surfaces of the PWT Treated™ LVL to satisfy the warranty.

   Flashing tape must have passed design standard AAMA 711-13, Level 3, Class A, perform in high and low temperature extremes, and have minimum UV protection of 90 days of exposure. Deck drainage systems that cover upward horizontal surfaces of PWT Treated™ LVL joists and beams, preventing wetting from occurring, are acceptable substitutions for flashing on the joists and beams.

10. **Can I put cladding over PWT Treated LVL beams and joists?**

    Cladding is allowed if it will not trap moisture, as this will reduce the performance and life expectancy of even treated wood products.

11. **How should I dispose of PWT Treated LVL?**

    PWT Treated LVL can be disposed of in the same manner as untreated LVL.

PWT Treated LVL
Limited 25-Year Transferrable Warranty

Limited Warranty. Subject to the terms and conditions of this limited warranty, Pacific Woodtech Corporation ("PWT") warrants to the original purchaser or a permitted transferee (the "Purchaser") that, during the warranty period, and when used under normal use and service conditions in connection with (1) above ground, interior or exterior LVL applications for permanent use in structures (residential, multifamily, or commercial) in the United States of America or Canada, and/or (2) for the adequacy of design values as published by PWT, PWT Treated™ LVL framing components shall be free from material defects in workmanship and materials and will not become structurally unfit for the intended applications due to damage caused by termites or as a result of fungal rot, decay, or damage from wood destroying insects. The term of this limited warranty shall be twenty-five (25) years from the date of original purchase for permanent use in or attached to a house or other building structure.

With respect to a residential application, this warranty may be transferred within the warranty period beginning from the date of original purchase by the original Purchaser, to a subsequent buyer of the property upon which the PWT Treated™ LVL was originally installed. Except as set forth in the preceding sentence, this limited warranty is provided to the original purchaser only and is non-transferrable and may not be relied on and will not inure to the benefit of, any other person, firm or entity.

Remedy. If any breach of this limited warranty occurs within the warranty period, Purchaser shall notify PWT in writing and, upon confirmation by an authorized PWT representative of the breach, PWT's sole responsibility shall be, at its option, to either replace the PWT Treated™ LVL which is materially defective or which has become structurally unfit as a result of fungal rot, decay, or damage from wood destroying insects, or refund the portion of the purchase price paid by Purchaser for such PWT Treated™ LVL (not including the cost of its initial installation).

PWT shall have the right to inspect, test and/or evaluate the warranty claim and Purchaser shall reasonably cooperate with PWT in connection with such inspection, testing and/or evaluation. Purchaser further agrees to comply with any all processes and/or procedures adopted by PWT with respect to evaluating, processing and/or responding to warranty claims. As a condition to evaluating, processing and/or responding to warranty claims, PWT may further require that the Purchaser provide the first purchaser's proof of purchase and/or pictures or samples of the PWT Treated™ LVL at issue.

To make a claim under this limited warranty, Purchaser, or a permitted transferee (as authorized above), within the warranty period referred to above and within thirty (30) days of discovery of a breach, shall send to PWT picture(s), a description of the claimed breach, and proof of purchase, to the following address:

Pacific Woodtech Corporation
Customer Relations
1850 Park Lane
Burlington, WA 98233-4630
E-mail: warranty@pacificwoodtech.com

Exclusions.

Purchaser acknowledges and agrees that PWT does not warrant against and is not responsible for any condition attributable to: (1) non-compliance with any requirements published in the PWT Treated™ LVL guides (see PWT website for current requirements) for handling, structural design specifications, installation and maintenance, including the requirements listed in the following items 2 through 14 (2) defects caused by improper installation or damage caused by improper fastener installation, including, but not limited to, ground contact; (3) use of PWT Treated™ LVL beyond normal use or service conditions, or in an application not recommended by PWT's guidelines and local building codes; (4) damage caused by overloading of PWT Treated™ LVL members or structural connectors and fasteners; (5) damage caused by failure to use appropriate connectors and fasteners or as a result of the failure of connectors or fasteners due to corrosion; (6) damage caused by factors other than environmental or atmospheric processes; (7) failure to strictly abide by PWT Treated™ LVL standard installation and maintenance practices, including as described below; (8) movement, distortion, collapse, settling of the ground, or other defects in the structure; (9) any act of God (such as flooding, hurricane, earthquake, lightning, etc.); (10) improper handling, storage, abuse or neglect of PWT Treated™ LVL products by Purchaser, the permitted transferee or third parties; (11) any alterations to the PWT Treated™ LVL after the original installation; (12) improper storage, installation, maintenance; (13) weathering of wood, including by not limited to raised grain, minor localized edge checking, loose strands on the surface, warping, shrinkage, swelling, other physical or aesthetic property of wood; or (14) ordinary wear and tear.

NO GROUND WATER OR WATER APPLICATIONS PERMITTED. PWT Treated™ LVL may not be installed in contact with the ground and a clearance from debris buildup must be maintained. PWT Treated™ LVL may not be installed under the surface or within the splash zone of any body of water due to effects caused by constant saturation. Any such installations shall void this limited warranty.

TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, THIS LIMITED WARRANTY SHALL NOT COVER AND PWT SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF ANY PWT PRODUCTS OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

This limited warranty only applies to PWT Treated™ LVL that is protected, installed, used and maintained in accordance with the PWT Treated™ LVL Installation and Maintenance Requirements set forth below.

No person or entity is authorized by PWT to make and PWT shall not be bound by any statement or representation as to the quality or performance of PWT Treated™ LVL other than as contained in this limited warranty. This limited warranty may not be altered or amended except in a written instrument signed by PWT and Purchaser.

PWT Treated™ LVL INSTALLATION AND MAINTENANCE REQUIREMENTS:

1. Observation and installation: During construction, inspect all components for damage and improper installation required by code and required in the PWT Treated™ LVL Installation Guide. Except for sill plates and columns, the LVL must be used for permanent construction applications only, above ground, at least 8 inches above the ground and/or ground cover and/or ground vegetation and/or splash zone, completely separated from concrete and other porous materials by using a barrier material impermeable to water in accordance with PWT's Installation Guide. Sill plates must be separated by a sill plate gasket in proper installations to avoid direct contact with concrete and the ground. Columns must be installed with a 1" standoff or uplift post base to avoid direct contact with concrete and the ground.
2. Preventing trapped moisture: Fully enclosed exterior structures or assemblies must allow for moisture to escape through proper ventilation. DO NOT wrap exterior PWT Treated™ LVL with materials that may trap moisture, such as wood, metal, or plastic trim without proper ventilation and drainage. Refer to PWT's Installation Guide for cladding details
3. Flashing in exterior applications, including, but not limited to, deck substructures: Flashing or approved flashing tape is required on any upward horizontal surfaces of the PWT Treated™ LVL. Flashing tape must have passed design standard AAMA 711-13, Level 3, Class A, and have minimum UV protection of 90 days exposure – or be on PWT's list of approved tapes. Deck drainage systems that cover upward horizontal surfaces of PWT Treated™ LVL joists and beams, preventing wetting from occurring, are acceptable substitutions for flashing on the joists and beams. Proper flashing is required over ledger boards to meet code. Failure to use proper flashing, approved flashing tape, and/or proper deck drainage systems will void the limited warranty. Failure to apply flashing in accordance to the manufacturers' written installation instructions and as required by code will void the limited warranty.
4. Maintenance in exterior applications, including, but not limited to, deck substructures: PWT Treated™ LVL must not be installed or become in contact with the ground in use in a structure. Regular efforts must be made to remove debris buildup around wood members and metal connectors and fasteners. Mold fungi and mildew cause discoloration of the wood surface, commonly appearing as a colored, fuzzy or powdery surface growth that can quickly spread over surfaces with high moisture levels. Mold and mildew will not impact the strength or stiffness of a wood member, but the presence of mold indicates a high moisture condition where, without preservative treatment and proper maintenance, decay or deterioration would likely develop.
5. Proper connectors and fasteners: Appropriate connectors and fasteners must be used for the conditions-of-use to avoid failure due to corrosion or overloading. In all exterior applications or any other conditions where excess moisture is present, high quality, exterior grade, stainless steel or hot dipped galvanized or durable grade fasteners are required.
6. Refer to the current published PWT Treated LVL guides for handling, structural design specifications, installation and maintenance requirements available on the PWT website.
7. PWT Treated™ LVL that is used in a way that does not satisfy all the above requirements is not covered by this limited warranty.

Disclaimers; Limitations of Liability.

EXCEPT FOR THE REMEDIES SPECIFICALLY PROVIDED IN THIS LIMITED WARRANTY, UNDER NO CIRCUMSTANCES SHALL PWT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES BECAUSE OF THE FAILURE OF PWT TREATED™ LVL, OR FOR ANY CLAIMED DEFECT IN CONNECTION THEREWITH, INCLUDING BUT NOT LIMITED TO ANY DAMAGES BECAUSE OF DAMAGE OR HARM TO OR LOSS OF OTHER PROPERTY, LOSS OF TIME, LOSS OF USE, LOST PROFITS, LOST REVENUE, LOST GOODWILL, BUSINESS INTERRUPTION, LABOR COSTS, MATERIAL COSTS, INVESTIGATION COSTS, TESTING COSTS, COSTS OF INSTALLATION OR REINSTALLATION, ATTORNEYS' FEES, EXPERT FEES, PERSONAL INJURY (INCLUDING BUT NOT LIMITED TO DEATH), DAMAGE TO REAL OR PERSONAL PROPERTY, TEMPORARY LIVING EXPENSES, AND ANY AND ALL OTHER SIMILAR COSTS AND EXPENSES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT OR OTHERWISE. EXCEPT FOR THE SPECIFIC WARRANTY COVERAGE SET FORTH IN THIS LIMITED WARRANTY, PWT DOES NOT MAKE, AND HEREBY EXPRESSLY DISCLAIMS, ANY AND ALL REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, WITH REGARD TO PWT TREATED™ LVL, AND/OR THE PERFORMANCE, APPLICATION OR USE THEREOF, AND ALL SUCH OTHER REPRESENTATIONS AND WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to Purchaser. This warranty gives Purchaser specific legal rights, and Purchaser may also have other rights that vary from State to State or Province to Province.

Software Tools
for PWT Treated LVL

The Most Powerful Software Tools in the Market
iStruct® software suite, featuring isPlan® and isDesign®

Pacific Woodtech Corporation provides customers with the best information services in the industry—and supplies its customer base with software tools for performing daily engineering and drawing functions required in today's market.

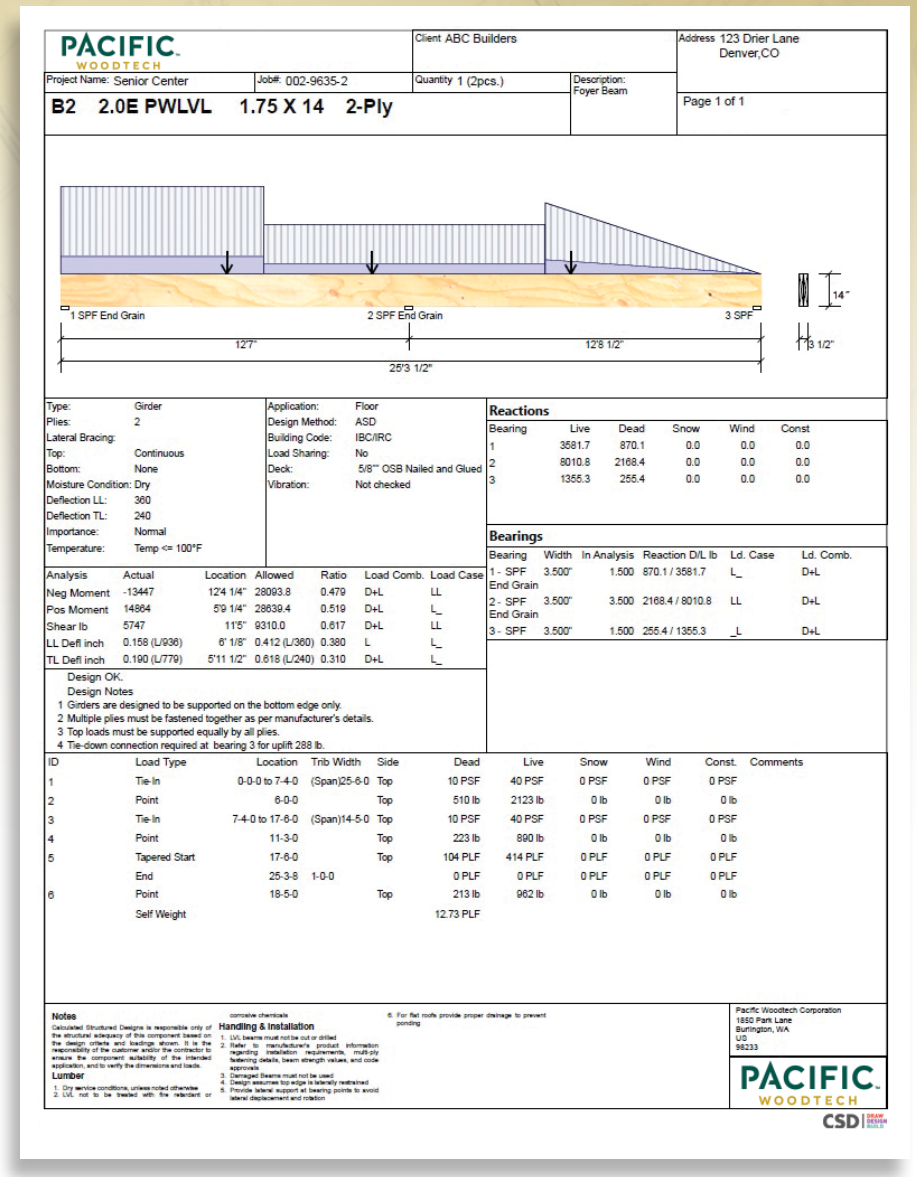
isPlan® features:

- Draw and design floor and roof framing plans with engineered wood products
- Includes structural analysis and reporting, take-offs, quotes, and cutting optimization with inventory integration
- Automatically develops loads and produces bold, color graphic layouts in 2D and 3D
- Specially engineered for companies with dedicated design staffs
- Supports the full Pacific Woodtech product line
- Includes isDesign – the single-member beam design

isDesign® features:

- A user-friendly, single-member sizing program with impeccable graphics, which creates easy-to-read beam calcs
- Analyze loads and calculate sizes and spacing for Pacific Woodtech engineered wood products
- Requires little or no training for the architect, engineer, or designer

The iStruct® software suite is truly a solution like no other and is designed for quick learning and application. The accelerated training time means users are up and running quickly and cost-effectively!



PACIFIC WOODTECH

Client ABC Builders | Address 123 Drier Lane Denver,CO

Project Name: Senior Center | Job#: 002-9635-2 | Quantity 1 (2pcs.) | Description: Foyer Beam | Page 1 of 1

B2 2.0E PWLVL 1.75 X 14 2-Ply

1 SPF End Grain | 2 SPF End Grain | 3 SPF

12'7" | 12'8 1/2" | 25'3 1/2"

14" | 3 1/2"

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Lateral Bracing:		Building Code:	IBC/IRC
Top:	Continuous	Load Sharing:	No
Bottom:	None	Deck:	5/8"" OSB Nailed and Glued
Moisture Condition:	Dry	Vibration:	Not checked
Deflection LL:	360		
Deflection TL:	240		
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions

Bearing	Live	Dead	Snow	Wind	Const
1	3581.7	870.1	0.0	0.0	0.0
2	8010.8	2168.4	0.0	0.0	0.0
3	1355.3	255.4	0.0	0.0	0.0

Bearings

Bearing	Width	In Analysis	Reaction D/L lb	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	1.500	870.1 / 3581.7	L_	D+L
2 - SPF End Grain	3.500"	3.500	2168.4 / 8010.8	LL	D+L
3 - SPF	3.500"	1.500	255.4 / 1355.3	_L	D+L

Analysis	Actual	Location	Allowed	Ratio	Load Comb.	Load Case
Neg Moment	-13447	12'4 1/4"	28093.8	0.479	D+L	LL
Pos Moment	14864	5'9 1/4"	28639.4	0.519	D+L	L_
Shear lb	5747	11'5"	9310.0	0.617	D+L	LL
LL Defl inch	0.158 (L/936)	6' 1/8"	0.412 (L/360)	0.380	L	L_
TL Defl inch	0.190 (L/779)	5'11 1/2"	0.618 (L/240)	0.310	D+L	L_

Design OK.

Design Notes

1 Girders are designed to be supported on the bottom edge only.
2 Multiple plies must be fastened together as per manufacturer's details.
3 Top loads must be supported equally by all plies.
4 Tie-down connection required at bearing 3 for uplift 288 lb.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Const.	Comments
1	Tie-In	0-0-0 to 7-4-0	(Span)25-6-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Point	6-0-0		Top	510 lb	2123 lb	0 lb	0 lb	0 lb	
3	Tie-In	7-4-0 to 17-6-0	(Span)14-5-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
4	Point	11-3-0		Top	223 lb	890 lb	0 lb	0 lb	0 lb	
5	Tapered Start	17-6-0		Top	104 PLF	414 PLF	0 PLF	0 PLF	0 PLF	
	End	25-3-8	1-0-0		0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
6	Point	18-5-0		Top	213 lb	962 lb	0 lb	0 lb	0 lb	
	Self Weight				12.73 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise.
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

Pacific Woodtech Corporation
1850 Park Lane
Burlington, WA
UG
98233

PACIFIC WOODTECH

CSD

What you get from Pacific Woodtech is what your customers expect from you—the best tools and the best service possible!

Please see www.pacificwoodtech.com for details about PWT Treated's 25-year warranty.

PACIFIC™
WOODTECH
HISTORY BUILT. FUTURE BOUND.

1850 Park Lane | Burlington, WA 98233
TF 888.707.2285 | O 360.707.2200 | F 360.395.7003

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