



SOLIDSTART[®]
ENGINEERED WOOD PRODUCTS



U.S. Technical Guide



LP SolidStart LVL
**Concrete Forming Beam
Technical Guide**
2900F_b-2.0E

IMPORTANT! Please read before using LP LVL Concrete Forming Beams

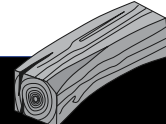
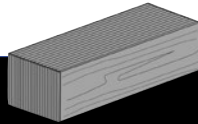
LP Corp.com

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Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area prior to specifying these products.

LVL Form Beam Load Table (plf)

COMPARE THE MATERIALS



LP® LVL	TRADITIONAL LUMBER
Engineered to be stronger, to carry heavier loads and to span greater distances	Shorter spans and lower load carrying capacity
Dimensionally stable, resists warping and twisting	Susceptible to warping and twisting
100% usable material—all defects such as slope of grain and knots are dispersed in the manufacturing process	Up to 20% downfall and waste due to wane, knots, twist, warp, heart center and slope of grain
Standard lengths up to 60' with no premium length upcharge	Long lengths difficult to find and costly to obtain
Eased or chamfered edge for safer handling	Rough edges can cause safety problems
Moisture content: less than 10% from mill	Moisture content: up to 19%; higher for green lumber
Factory applied coating for increased moisture resistance	Factory applied coating not available

Span	Conditions		2-1/2" Width									3-1/2" Width								
			3-1/2"	4"	5-1/2"	6"	7-1/4"	8"	9-1/4"	10"	11-1/4"	3-1/2"	4"	5-1/2"	6"	7-1/4"	8"	9-1/4"	10"	11-1/4"
6'	Simple	Live	126	186	462	589	991	1289	2030	2700	2817	176	260	646	825	1387	1805	2842	3780	3944
		Total	350	451	823	971	1389	1642	2112	2700	2817	426	631	1153	1359	1945	2299	2957	3780	3944
	Continuous	Live	218	322	777	916	1125	1313	1594	1782	2158	305	451	1088	1282	1575	1838	2232	2495	3021
		Total	330	425	777	916	1125	1313	1594	1782	2158	362	596	1088	1282	1575	1838	2232	2495	3021
	Min. End Bearing (in)		3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.50	5.75	6.00	3.50	3.50	3.50	3.50	3.50	4.50	5.75	6.00
	Min. Int. Bearing (in)		5.25	5.25	5.25	5.25	6.00	7.00	8.50	9.50	11.50	5.25	5.25	5.25	5.25	6.00	7.00	8.50	9.50	11.50
7'	Simple	Live	78	116	291	373	634	832	1252	1615	2313	109	162	407	522	888	1165	1753	2261	3238
		Total	252	325	594	701	1002	1208	1507	1809	2313	307	455	832	980	1403	1691	2110	2533	3238
	Continuous	Live	137	203	511	656	842	1044	1285	1405	1687	192	284	716	918	1179	1461	1799	1968	2362
		Total	240	309	565	667	842	1044	1285	1405	1687	292	433	791	933	1179	1461	1799	1968	2362
	Min. End Bearing (in)		3.50	3.50	3.50	3.50	3.50	3.50	3.75	4.50	5.75	3.50	3.50	3.50	3.50	3.50	3.50	3.75	4.50	5.75
	Min. Int. Bearing (in)		5.25	5.25	5.25	5.25	5.25	6.50	8.00	8.75	10.50	5.25	5.25	5.25	5.25	5.25	6.50	8.00	8.75	10.50
8'	Simple	Live	-	75	190	245	420	553	826	1042	1534	71	105	266	342	587	775	1157	1458	2148
		Total	-	245	448	529	756	912	1201	1317	1669	231	343	627	740	1059	1277	1681	1844	2337
	Continuous	Live	88	130	330	425	724	771	1017	1158	1369	123	182	462	594	1014	1080	1424	1621	1917
		Total	182	234	429	506	724	771	1017	1158	1369	221	328	601	708	1014	1080	1424	1621	1917
	Min. End Bearing (in)		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75	4.75	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.75	4.75
	Min. Int. Bearing (in)		5.25	5.25	5.25	5.25	5.25	5.50	7.25	8.25	9.75	5.25	5.25	5.25	5.25	5.25	5.50	7.25	8.25	9.75
9'	Simple	Live	-	-	118	152	262	347	521	647	924	-	65	165	212	367	485	730	905	1293
		Total	-	-	350	413	591	712	938	1087	1248	-	268	490	578	827	997	1313	1522	1747
	Continuous	Live	54	81	206	266	459	608	810	935	1153	76	113	289	372	643	851	1133	1308	1615
		Total	143	184	336	397	569	653	810	935	1153	173	257	471	556	796	915	1133	1308	1615
	Min. End Bearing (in)		3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.00	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	4.00
	Min. Int. Bearing (in)		5.25	5.25	5.25	5.25	5.25	5.25	6.50	7.50	9.25	5.25	5.25	5.25	5.25	5.25	5.25	6.50	7.50	9.25
10'	Simple	Live	-	-	77	99	172	228	344	428	594	-	-	107	139	240	319	482	600	831
		Total	-	-	280	331	474	571	753	873	981	-	-	393	463	664	800	1054	1222	1373
	Continuous	Live	-	53	135	175	303	402	608	756	953	-	74	190	245	424	563	851	1058	1334
		Total	-	148	271	320	458	552	643	756	953	-	207	379	447	641	773	900	1058	1334
	Min. End Bearing (in)		-	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	-	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
	Min. Int. Bearing (in)		-	5.25	5.25	5.25	5.25	5.25	5.75	6.75	8.50	-	5.25	5.25	5.25	5.25	5.25	5.25	5.75	6.75
12'	Simple	Live	-	-	-	-	82	110	167	209	291	-	-	-	66	115	154	234	292	408
		Total	-	-	-	-	324	390	515	597	746	-	-	-	316	453	547	720	835	1045
	Continuous	Live	-	-	65	84	147	196	298	373	521	-	-	91	118	206	274	417	522	729
		Total	-	-	186	219	315	379	488	534	651	-	-	260	307	440	531	683	748	912
	Min. End Bearing (in)		-	-	3.50	3.50	3.50	3.50	3.50	3.50	3.50	-	-	3.50	3.50	3.50	3.50	3.50	3.50	3.50
	Min. Int. Bearing (in)		-	-	5.25	5.25	5.25	5.25	5.25	5.75	7.00	-	-	5.25	5.25	5.25	5.25	5.25	5.75	7.00
14'	Simple	Live	-	-	-	-	59	90	113	159	-	-	-	-	62	83	126	158	222	
		Total	-	-	-	-	283	373	433	542	-	-	-	-	328	396	523	606	758	
	Continuous	Live	-	-	-	-	79	106	162	203	286	-	-	-	64	111	149	227	285	400
		Total	-	-	-	-	229	276	364	417	476	-	-	-	223	320	387	510	583	667
	Min. End Bearing (in)		-	-	-	-	3.50	3.50	3.50	3.50	3.50	-	-	-	3.50	3.50	3.50	3.50	3.50	3.50
	Min. Int. Bearing (in)		-	-	-	-	5.25	5.25	5.25	5.25	6.00	-	-	-	5.25	5.25	5.25	5.25	5.25	6.00
16'	Simple	Live	-	-	-	-	-	53	66	93	-	-	-	-	-	-	74	93	131	
		Total	-	-	-	-	-	283	328	410	-	-	-	-	-	-	395	459	575	
	Continuous	Live	-	-	-	-	-	62	96	120	169	-	-	-	-	65	87	134	168	237
		Total	-	-	-	-	-	209	276	321	363	-	-	-	-	243	293	387	449	508
	Min. End Bearing (in)		-	-	-	-	-	3.50	3.50	3.50	3.50	-	-	-	-	3.50	3.50	3.50	3.50	3.50
	Min. Int. Bearing (in)		-	-	-	-	-	5.25	5.25	5.25	5.25	-	-	-	-	5.25	5.25	5.25	5.25	5.25

NOTES:

This table is based on:

1. **Product Inspection- All LP LVL Form Beams must be inspected to ensure they are new or like-new prior to use.**
2. Beam Orientation- Load is applied parallel to the glue line in the LP LVL (material properties for 3-1/2" x 3-1/2" size member have been adjusted for either Beam or Plank orientation).
3. Uniform Loads- This table is based on Uniform Loads only.
4. The Simple Span is measured from out to out of the end bearings; The Continuous Span is measured from out of end bearing to center of intermediate bearing, and is based on the longest span. Continuous Spans- Ratio of short to long span must be greater than 2/5.
5. While the table includes some adjustment factors for wet use, all LP LVL Form Beams must be protected from ground contact and moisture exposure.
6. Load Duration- Construction Load Duration (125%) is included in the table.
7. Bearings- All bearing lengths are based on a F_c perpendicular-to-grain = 750psi.
8. Live Loads include a check for the more restrictive deflection $L/360$ or $L/4"$
9. Lateral Support- All beams must be laterally supported at the ends and no more than 24" on-center-spacing along the compression edge.
10. Do not use where marked "-".

Storage & Handling/Visual Inspection Guidelines

Proper storage and routine visual inspection of LP® LVL Concrete Forming Beams will help protect your beams from damage that may reduce their useful life. To help ensure optimal performance and the longevity of your beams, please **carefully read** the following handling and visual inspection instructions. **Concrete forming beams that have been improperly stored or damaged should be removed from service immediately. Use of damaged or improperly stored beams may lead to unsatisfactory performance including product failure, which could result in injury or death.**

RECOMMENDED STORAGE METHODS

- KEEP CONCRETE FORMING BEAMS DRY. The strength and performance of a concrete forming beam is reduced by increased moisture content.
- Store in a dry, well-ventilated area. Storing in wet or unventilated areas will accelerate wood decay and beam deterioration. Always allow wet beams to dry quickly by providing proper air circulation.
- Protect from extreme weather conditions, including excessive exposure to water and temperatures exceeding 150 degrees Fahrenheit. Store beams under roof or under a porous cover that will shed water while allowing moisture to escape. (Fig. 1)
- Keep stacked in bundles off the ground and supported by stickers spaced no more than 8' apart. Be sure to line up the stickers between bundles with the ground stickers. This will allow for easy forklift access and provide air circulation. Misalignment of the stickers can damage the beams by creating a bow. (Fig. 2)
- Do not store heavy objects on the beams.

PROTECT FROM EXTREME CONDITIONS.

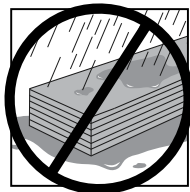


Fig. 1

DO NOT MISALIGN STICKERS.

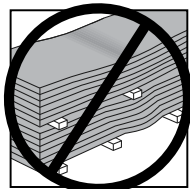


Fig. 2

DO NOT OVERLOAD BEAMS.

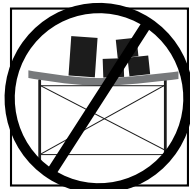


Fig. 3

BEAMS SHOULD NOT BE THROWN.



Fig. 4

DO NOT HIT THE BEAMS WITH THE FORK ENDS.

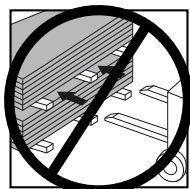


Fig. 5

RECOMMENDED HANDLING METHODS

- Do not overload the beams; refer to the span charts for loading capacity. Immediately remove beams from service that have been overloaded and visually inspect prior to reusing. (Fig. 3)
- Throwing beams may cause damage. A thrown beam should be inspected and evaluated before reuse. (Fig. 4)
- Do not push or hit bundles of concrete forming beams with the fork ends. Stickers should be of thick enough material to allow forklift handling without causing damage to the beams. (Fig. 5)

OTHER CONSIDERATIONS

- Do not expose concrete forming beams to oxidizing chemicals.
- Do not jump or bounce on the beams; avoid dropping heavy objects on the beams.
- LP LVL Concrete Forming Beams are intended to be used exclusively as concrete forming beams. Other use may cause damage that will make the beams unsafe for their intended use.

LP LVL Concrete Forming Beams should be thoroughly visually inspected by a qualified person* prior to each use. Visual inspection along with proper handling and storage are the best means of assuring safe performance of concrete forming beams.

The following illustrations detail the most common examples of damage that affect the structural strength of concrete forming beams. Any beam displaying these visual defects MUST be removed from service.

RECOGNIZING VISUAL DEFECTS

End Splits - A separation that extends through the beam from face to face. End splits are caused by repeated exposure to wet/dry conditions. If an end split exceeds 18", remove the beam from service. (Fig. 6)

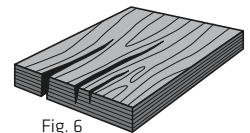


Fig. 6

Saw Cuts, Drilled Holes and Notches - Saw cuts across the face or through the edge of the beam, drilled holes or notches will reduce the beam's load carrying capacity. Beams with saw cuts, drilled holes or notches should be removed from service and inspected by a qualified person* (Fig. 7)

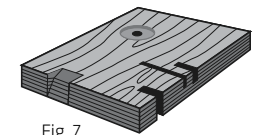


Fig. 7

Edge Splits - A separation of the narrow edge of the beam usually caused by forklift damage. A diagonal split may be caused by overloading. Probe the split to determine the depth; shallow weather checks are acceptable. If an open split is detected, remove the beam from service. (Fig. 8)

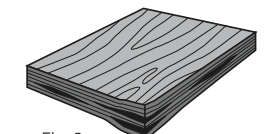


Fig. 8

Dents, Gouges and Depressions - Dents can indicate internal structural damage. Dropping the beam or impact from heavy objects on the beam will dent the beam. Remove the beam from service and visually inspect the beam before reuse. (Fig. 9)

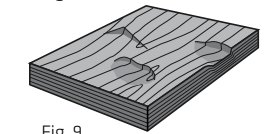


Fig. 9

Face Breaks - Irregular cracks across the face of the concrete forming beam. Usually a result of overloading, face cracks dramatically reduce the strength of the beam. Remove beams with face breaks from service. (Fig. 10)

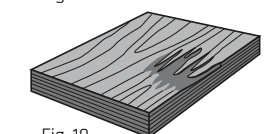


Fig. 10

There are other visible signs of damaged concrete forming beams. These include DISCOLORATION possibly caused by exposure to chemicals, high temperature or decay. ODOR may also indicate chemical deterioration. SOFT SPONGY WOOD can be caused by chemical exposure or decay. Beams with discoloration, odor or soft spongy wood should be removed from service to determine the cause of the problem and the effect it will have on the load capacity of the beam.

*QUALIFIED PERSON, as defined in OSHA Safety and Health Standards, means one who, by possession of a recognized degree, certificate or professional standing or by extensive knowledge, training and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work or the project.



1. WARRANTY COVERAGE

This limited warranty applies to the original purchaser ("Purchaser") of LP LVL Concrete Form Beam (the "Product"). Louisiana-Pacific Corporation ("LP") warrants that the Product will, at the time of shipment from LP's mills, meet or exceed LP manufacturing standards and exhibit no delamination. LP further warrants that the Product, when used, stored, maintained, inspected and replaced in accordance with LP's current published Product User Guide, will meet LP's performance specifications. Delamination is defined as a visible separation in the glue bond between the layers of veneers which results in the reduction of structural strength of the Product. Minor surface-checking and end-checking in the Product and minor swelling or cupping in the Product are not covered by this warranty.

IF THE PRODUCT DOES NOT COMPLY WITH THIS WARRANTY, LP'S LIABILITY IS LIMITED TO THE REPLACEMENT OR PAYMENT PROVISIONS SET FORTH IN PARAGRAPH 4 BELOW.

2. EXCLUSIONS FROM WARRANTY COVERAGE

THIS EXPRESS WARRANTY PROVIDES A REMEDY ONLY FOR NON-CONFORMITIES REPORTED IN ACCORDANCE WITH PARAGRAPH 6(a) BELOW. IN ADDITION, THIS WARRANTY DOES NOT PROVIDE A REMEDY FOR:

- a. NON-CONFORMITIES CAUSED BY:
 - (i) MISUSE OR IMPROPER STORAGE, MAINTENANCE, INSPECTION, OR REPLACEMENT;
 - (ii) ALTERATIONS TO THE PRODUCT;
 - (iii) ACTS OF GOD, SUCH AS LIGHTNING, WIND STORM, HURRICANE, TORNADO, HAIL, EARTHQUAKE, FLOOD OR SIMILAR SEVERE WEATHER OR SIMILAR NATURAL PHENOMENA; OR
- b. PRODUCTS THAT ARE NOT USED, STORED, MAINTAINED, INSPECTED, AND REPLACED ACCORDING TO LP'S CURRENT PUBLISHED PRODUCT USER GUIDE OR ANY SUBSEQUENT PRODUCT ADVISORY.

3. EXCLUSION OF IMPLIED WARRANTIES;

NO OTHER EXPRESS WARRANTIES

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE PRODUCT AND EXCLUDES ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTIES OTHERWISE ARISING FROM A COURSE OF DEALING OR A USAGE OF TRADE OR ADVERTISING, EXCEPT WHERE SUCH WARRANTIES ARISE UNDER APPLICABLE CONSUMER PRODUCT WARRANTY LAWS AND CANNOT LAWFULLY BE DISCLAIMED, IN WHICH EVENT SUCH WARRANTIES ARE LIMITED TO THE SHORTEST PERIOD PERMITTED OR REQUIRED UNDER APPLICABLE LAW.

Some states or provinces may not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. NO OTHER WARRANTY HAS BEEN MADE OR WILL BE MADE ON BEHALF OF LP WITH RESPECT TO THE PRODUCT.

4. REMEDIES

THIS SECTION DESCRIBES THE SOLE REMEDY AVAILABLE TO THE PURCHASER FROM LP FOR ANY NONCONFORMITY. In the event of any nonconformity covered by this, or any implied warranty, LP at its option will provide conforming Product or refund the original purchase price of the nonconforming Product.

5. EXCLUSION OF OTHER REMEDIES

IN NO EVENT WILL LP BE LIABLE FOR ANY INCIDENTAL, SPECIAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY NONCONFORMITY IN THE PRODUCTS SUPPLIED INCLUDING, BUT NOT LIMITED TO, DAMAGE TO PROPERTY OR LOST PROFITS.

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 you.

6. RESPONSIBILITY OF PURCHASER

- a. Any Purchaser seeking remedies under this warranty must notify LP in writing within 30 days after discovering a possible non-conformity of the Product. This written notice should include the date the Product was purchased, and if known, the mill identity number imprinted on the Product.
- b. It is the Purchaser's responsibility to establish the date of purchase. The Purchaser should do this by retaining any records which would tend to prove by whom the Product was purchased such as purchase invoices and receipts.
- c. Upon reasonable notice, the Purchaser must allow LP or its representatives or agents to enter the location in which the Product is stored to inspect such Product. This warranty gives you specific legal rights, and you may also have other rights which vary in each state or province.

FOR FURTHER INFORMATION, CONTACT:

Customer Service: 888-820-0325 or Customer.Support@LPCorp.com Visit our web site at LPCorp.com.



For more information on the full line of LP® SolidStart® Engineered Wood Products or the nearest distributor, visit our web site at LPCorp.com.

Phone: 1-888-820-0325

E-mail: customer.support@LPCorp.com.

LP SolidStart Engineered Wood Products are manufactured at different locations in the United States and Canada. Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area before specifying these products.



Cal. Prop 65 Warning:



WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.