

# RigidLam<sup>®</sup> LVL Bearing Length Requirements

Douglas-fir and Southern Yellow Pine

Support Material	S-P-F (South) Hem-Fir (North) <sup>(6)</sup>				Hem-Fir S-P-F <sup>(6)</sup>				Southern Pine Douglas Fir - Larch <sup>(6)</sup>			
	335 (PSI)				405 (PSI)				565 (PSI)			
	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"
<b>Reaction (lbs.)</b>												
1,000	1-3/4"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
2,000	3-1/2"	1-3/4"	1-1/2"	1-1/2"	3"	1-1/2"	1-1/2"	1-1/2"	2-1/4"	1-1/2"	1-1/2"	1-1/2"
3,000	5-1/4"	2-3/4"	1-3/4"	1-1/2"	4-1/4"	2-1/4"	1-1/2"	1-1/2"	3-1/4"	1-3/4"	1-1/2"	1-1/2"
4,000	7"	3-1/2"	2-1/2"	1-3/4"	5-3/4"	3"	2"	1-1/2"	4-1/4"	2-1/4"	1-1/2"	1-1/2"
5,000	8-3/4"	4-1/2"	3"	2-1/4"	7-1/4"	3-3/4"	2-1/2"	2"	5-1/4"	2-3/4"	1-3/4"	1-1/2"
6,000		5-1/4"	3-1/2"	2-3/4"	8-1/2"	4-1/4"	3"	2-1/4"	6-1/4"	3-1/4"	2-1/4"	1-3/4"
7,000		6"	4"	3"		5"	3-1/2"	2-1/2"	7-1/4"	3-3/4"	2-1/2"	2"
8,000		7"	4-3/4"	3-1/2"		5-3/4"	4"	3"	8-1/4"	4-1/4"	2-3/4"	2-1/4"
9,000		7-3/4"	5-1/4"	4"		6-1/2"	4-1/4"	3-1/4"	9-1/4"	4-3/4"	3-1/4"	2-1/2"
10,000		8-3/4"	5-3/4"	4-1/2"		7-1/4"	4-3/4"	3-3/4"		5-1/4"	3-1/2"	2-3/4"
11,000		9-1/2"	6-1/2"	4-3/4"		8"	5-1/4"	4"		5-3/4"	3-3/4"	3"
12,000			7"	5-1/4"		8-1/2"	5-3/4"	4-1/4"		6-1/4"	4-1/4"	3-1/4"
13,000			7-1/2"	5-3/4"		9-1/4"	6-1/4"	4-3/4"		6-3/4"	4-1/2"	3-1/2"
14,000			8"	6"			6-3/4"	5"		7-1/4"	4-3/4"	3-3/4"
15,000			8-3/4"	6-1/2"			7-1/4"	5-1/2"		7-3/4"	5-1/4"	4"
16,000			9-1/4"	7"			7-3/4"	5-3/4"		8-1/4"	5-1/2"	4-1/4"
17,000			9-3/4"	7-1/4"			8"	6"		8-3/4"	5-3/4"	4-1/2"
18,000				7-3/4"			8-1/2"	6-1/2"		9-1/4"	6-1/4"	4-3/4"
19,000				8-1/4"			9"	6-3/4"		9-3/4"	6-1/2"	5"
20,000				8-3/4"			9-1/2"	7-1/4"			6-3/4"	5-1/4"
21,000				9"				7-1/2"			7-1/4"	5-1/2"
22,000				9-1/2"				8"			7-1/2"	5-3/4"
23,000								8-1/4"			8"	6"

Support Material	1.6E RigidLam LVL <sup>(6)</sup>				2.1E RigidLam LVL <sup>(6)</sup>				2.3E RigidLam LVL <sup>(6)</sup>			
	575 (PSI)				750 (PSI)				750 (PSI)			
	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"
<b>Reaction (lbs.)</b>												
1,000	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
2,000	2"	1-1/2"	1-1/2"	1-1/2"	1-3/4"	1-1/2"	1-1/2"	1-1/2"	1-3/4"	1-1/2"	1-1/2"	1-1/2"
3,000	3"	1-1/2"	1-1/2"	1-1/2"	2-1/2"	1-1/2"	1-1/2"	1-1/2"	2-1/2"	1-1/2"	1-1/2"	1-1/2"
4,000	4"	2"	1-1/2"	1-1/2"	3-1/4"	1-3/4"	1-1/2"	1-1/2"	3-1/4"	1-3/4"	1-1/2"	1-1/2"
5,000	5"	2-1/2"	1-3/4"	1-1/2"	4"	2"	1-1/2"	1-1/2"	4"	2"	1-1/2"	1-1/2"
6,000	6"	3"	2"	1-1/2"	4-3/4"	2-1/2"	1-3/4"	1-1/2"	4-3/4"	2-1/2"	1-3/4"	1-1/2"
7,000	7"	3-1/2"	2-1/2"	1-3/4"	5-1/2"	2-3/4"	2"	1-1/2"	5-1/2"	2-3/4"	2"	1-1/2"
8,000	8"	4"	2-3/4"	2"	6-1/4"	3-1/4"	2-1/4"	1-3/4"	6-1/4"	3-1/4"	2-1/4"	1-3/4"
9,000		4-1/2"	3"	2-1/4"	7"	3-1/2"	2-1/2"	1-3/4"	7"	3-1/2"	2-1/2"	1-3/4"
10,000		5"	3-1/2"	2-1/2"	7-3/4"	4"	2-3/4"	2"	7-3/4"	4"	2-3/4"	2"
11,000		5-1/2"	3-3/4"	2-3/4"	8-1/2"	4-1/4"	3"	2-1/4"	8-1/2"	4-1/4"	3"	2-1/4"
12,000		6"	4"	3"	9-1/4"	4-3/4"	3-1/4"	2-1/2"	9-1/4"	4-3/4"	3-1/4"	2-1/2"
13,000		6-1/2"	4-1/2"	3-1/4"		5"	3-1/2"	2-1/2"		5"	3-1/2"	2-1/2"
14,000		7"	4-3/4"	3-1/2"		5-1/2"	3-3/4"	2-3/4"		5-1/2"	3-3/4"	2-3/4"
15,000		7-1/2"	5"	3-3/4"		5-3/4"	4"	3"		5-3/4"	4"	3"
16,000		8"	5-1/2"	4"		6-1/4"	4-1/4"	3-1/4"		6-1/4"	4-1/4"	3-1/4"
17,000		8-1/2"	5-3/4"	4-1/4"		6-1/2"	4-1/2"	3-1/4"		6-1/2"	4-1/2"	3-1/4"
18,000			6"	4-1/2"		7"	4-3/4"	3-1/2"		7"	4-3/4"	3-1/2"
19,000			6-1/2"	4-3/4"		7-1/4"	5"	3-3/4"		7-1/4"	5"	3-3/4"
20,000			6-3/4"	5"		7-3/4"	5-1/4"	4"		7-3/4"	5-1/4"	4"
21,000			7"	5-1/4"		8"	5-1/2"	4"		8"	5-1/2"	4"
22,000			7-1/2"	5-1/2"		8-1/2"	5-3/4"	4-1/4"		8-1/2"	5-3/4"	4-1/4"
23,000			7-3/4"	5-3/4"		9"	6"	4-1/2"		9"	6"	4-1/2"

**Notes:**

- The minimum required RigidLam LVL bearing length is 1-1/2".
- Duration of load factors may not be applied to bearing length requirements.
- All beams require support across their full width.
- All beams require lateral support at bearing points.
- Use these values when the beam is supported by a wall plate, sill plate, timber or built-up girder.
- Use these values when the beam is supported by the end of a column or connection hardware.
- The support member must be sized to carry the load from the beam.
- For 1-1/2", 3", 4-1/2" or 6" thick LVL, multiply the appropriate bearing length from the table for 1-3/4", 3-1/2", 5-1/4" or 7" respectively by 1.17. (see example below)

**Example:**

Given: Design reaction = 10,000 lbs.  
Support material = Douglas Fir - Larch

**Solve:**

Case 1 - 3 ply, 1-3/4" beam ⇒ Beam width = 5-1/4"  
⇒ Required bearing length = 3-1/2"

Case 2 - 3 ply, 1-1/2" beam ⇒ Beam width = 4-1/2"  
⇒ Required bearing length = 3-1/2" x 1.17 = 4.1"