

TimberStrand® LSL Conversion Tables

How to use these tables:

1. Ensure correct specification of beam or header to be converted to TimberStrand® LSL.
2. Select appropriate beam or header to be replaced in the left-most column. Scan horizontally until you meet or exceed the span of your application (center-to-center bearing).
3. Scan up the column to determine the TimberStrand® LSL member that satisfies your condition.
4. Verify the selected TimberStrand® LSL beam or header using the actual application loads and deflection criteria.
5. Reference **General Notes** on page 1.

Product Description	Beam Depth	1¾" (width) 1.55E TimberStrand® LSL			
		9½"	11⅞"	14"	16"
1¾" (width) 2.0E Microllam® LVL	9½"	6'-8"	All Spans	All Spans	All Spans
	11⅞"		8'-1"	All Spans	All Spans
	14"			9'-4"	All Spans
	16" ^[1]				10'-6"

[1] Beams that are 1¾" x 16" require multiple plies. Some exceptions allowed when using Weyerhaeuser software.

Product Description	Beam Depth	3½" (width) 1.55E TimberStrand® LSL			
		9½"	11⅞"	14"	16"
3½" (width) 2.0E and 2.2E Parallam® PSL	9½"	6'-6"	All Spans	All Spans	All Spans
	11⅞"		7'-11"	All Spans	All Spans
	14"			9'-2"	All Spans
	16"				10'-3"
3⅝" (width) 24F-V4 or V8 Glulam	9"	31'-1"	All Spans	All Spans	All Spans
	10½"	7'-2"	All Spans	All Spans	All Spans
	12"		12'-9"	All Spans	All Spans
	13½"		8'-4"	31'-6"	All Spans
	15"			10'-8"	All Spans
	16½"			9'-0"	12'-9"
3½" (width) 24F-V4 or V8 Glulam	9½"	7'-3"	All Spans	All Spans	All Spans
	11⅞"		8'-11"	All Spans	All Spans
	14"			10'-3"	All Spans
	16"				11'-7"
	18"				9'-5"

General Notes:

- Tables are based on:
 - Vertical uniform loads.
 - More restrictive of simple or continuous span.
 - Spans shown are center-to-center bearing.
 - Deflection criteria of L/240 total load and L/360 live load for floor applications.
 - Deflection criteria of L/180 total load for roof applications (115% and 125%).
- All TimberStrand® LSL members of depth ≤ 7¼" are restricted to a maximum deflection of 5/16".
- Bearing requirements not considered.
- Lateral support required at bearing and 24" o.c. maximum.
- Dry service conditions only.
- These tables are not to be used for design. For comparison purposes only.

Product Description	Nominal Size	3½" (width) 1.3E TimberStrand® LSL				3½" (width) 1.55E TimberStrand® LSL		
		4⅜"	5½"	7¼"	8⅝"	9½"	11⅞"	14" - 16"
Douglas Fir-Larch No. 1	4x6		6'-6"	9'-10"	All Spans	All Spans	All Spans	All Spans
	4x8			7'-4"	All Spans	All Spans	All Spans	All Spans
	4x10			4'-1"	12'-10"	20'-6"	All Spans	All Spans
	4x12				4'-5"	15'-2"	28'-10"	All Spans
	4x14					11'-9"	23'-7"	All Spans
Douglas Fir-Larch No. 2	4x6	4'-8"	6'-10"	10'-5"	All Spans	All Spans	All Spans	All Spans
	4x8			7'-9"	All Spans	All Spans	All Spans	All Spans
	4x10			6'-3"	14'-4"	22'-7"	All Spans	All Spans
	4x12				10'-4"	17'-0"	All Spans	All Spans
	4x14					13'-3"	26'-2"	All Spans
	(2-ply) 2x6	5'-3"	7'-5"	11'-2"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x8		5'-9"	8'-10"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x10			7'-1"	18'-2"	All Spans	All Spans	All Spans
(2-ply) 2x12				13'-7"	21'-7"	All Spans	All Spans	
Hem-Fir No. 2	(2-ply) 2x6	5'-5"	7'-8"	11'-6"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x8		5'-11"	9'-1"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x10			7'-4"	19'-0"	All Spans	All Spans	All Spans
	(2-ply) 2x12			6'-3"	14'-4"	22'-5"	All Spans	All Spans
Spruce-Pine-Fir No. 1 or No. 2	(2-ply) 2x6	5'-4"	7'-6"	11'-4"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x8		5'-10"	8'-11"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x10			7'-3"	18'-6"	All Spans	All Spans	All Spans
	(2-ply) 2x12			5'-4"	13'-11"	21'-10"	All Spans	All Spans
Southern Pine No. 1 or No. 2	(2-ply) 2x6	4'-9"	6'-11"	10'-5"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x8			8'-2"	All Spans	All Spans	All Spans	All Spans
	(2-ply) 2x10			6'-11"	17'-3"	All Spans	All Spans	All Spans
	(2-ply) 2x12				12'-1"	19'-7"	All Spans	All Spans

• See General Notes on page 1.

ALLOWABLE DESIGN STRESSES (100% LOAD DURATION)

Design Property	TimberStrand® LSL		2.0E Microllam® LVL	2.0E Parallam® PSL	2.2E Parallam® PSL	24F-V4 or V8 Glulam	Douglas Fir-Larch No. 1	Douglas Fir-Larch No. 2	Hem-Fir No. 2	Spruce-Pine-Fir No. 1 or No. 2	Southern Pine No. 1	Southern Pine No. 2
	1.3E	1.55E										
E (psi)	1.3x10 ⁶	1.55x10 ⁶	2.0x10 ⁶	2.0x10 ⁶	2.2x10 ⁶	1.8x10 ⁶	1.7x10 ⁶	1.6x10 ⁶	1.3x10 ⁶	1.4x10 ⁶	1.6x10 ⁶	1.4x10 ⁶
F _b (psi)	1,700 ^[1]	2,325 ^[1]	2,600 ^[1]	2,900 ^[1]	2,900 ^[1]	2,400 ^[2]	1,000 ^[3]	900 ^[3]	850 ^[4]	875 ^[4]	1,000 ^[4]	750 ^[4]
F _v (psi)	425	310	285	290	290	265	180	180	150	135	175	175

[1] For 12" depth. For other depths, multiply F_b by the appropriate factor as follows: TimberStrand® LSL (12/d)^{0.092}, Microllam® LVL (12/d)^{0.136}, Parallam® PSL (12/d)^{0.111}.

[2] For a uniformly-loaded, 21'-0" long, 5½" x 12" beam; for others, refer to 2018 NDS® Supplement Table 5A for volume adjustment factor (C_v).

[3] For 4x14 size; for other sizes, refer to 2018 NDS®.

[4] For 2x12 size; for other sizes, refer to 2018 NDS®.

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