

## TimberStrand® LSL Conversion Tables

### How to Use These Tables

1. Ensure correct sizing of beam or header to be converted to TimberStrand® LSL.
2. Select the appropriate beam or header to be replaced in the left hand column. Scan horizontally until you meet or exceed the span (center to center of bearing) of your application.
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.

		1¾" Wide 1.55E TimberStrand® LSL			
		9½"	11⅞"	14"	16"
1¾" Wide 1.9E Microllam® LVL	9½"	6'-8"	All Spans	All Spans	All Spans
	11⅞"		8'-1"	All Spans	All Spans
	14"			9'-4"	All Spans
	16" <sup>(1)</sup>				10'-6"

		3½" Wide 1.55E TimberStrand® LSL			
		9½"	11⅞"	14"	16"
3½" Wide 2.0E 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" Wide 24F-V4 or V8 Glulam	9"	31'-1"	All Spans	All Spans	All Spans
	10½"	8'-2"	All Spans	All Spans	All Spans
	12"	6'-6"	12'-9"	All Spans	All Spans
	13½"		9'-7"	31'-6"	All Spans
	15"		7'-11"	12'-1"	All Spans
	16½"			10'-5"	14'-5"
	18"			8'-10"	12'-7"
	19½"				11'-0"
21"				9'-5"	

		3½" Wide 1.3E TimberStrand® LSL			
		7¼"	8 ⅝"	9¼"	11¼"
3⅝" Wide 24F-V4 or V8 Glulam	9"		5'-6"	6'-6"	All Spans
	10½"			4'-11"	8'-3"
	12"				6'-7"
3½" Wide 24F-V4 or V8 Glulam	9"		4'-8"	5'-7"	All Spans
	10½"			4'-0"	7'-2"
	12"				5'-7"

(1) 1¾" x 16" beams require multiple plies

### General Notes

- Table is based on:
  - Uniform Loads.
  - More restrictive of simple or continuous span.
  - Spans shown are center-to-center of bearing.
  - Deflection criteria of L/240 total load and L/360 live load for floor applications (100%).
  - Deflection criteria of L/180 total load for roof applications (115% and 125%).
  - All TimberStrand® LSL members 7¼" and less in depth are restricted to a maximum deflection of 5/16".
  - Bearing requirements not considered.
  - Lateral support required at bearing and 24" on-center maximum.
  - Dry service conditions only.

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	Beam Depth	3½" Wide 1.3E TimberStrand® LSL				3½" Wide 1.55E TimberStrand® LSL		
		4¾"	5½"	7¼"	8⅝"	9½"	11⅞"	14"-16"
#1 Douglas Fir-Larch	4x6	5'-3"	6'-8"	9'-10"	All Spans	All Spans	All Spans	All Spans
	4x8	4'-1"	5'-11"	7'-11"	All Spans	All Spans	All Spans	All Spans
	4x10		4'-11"	7'-1"	12'-10"	20'-6"	All Spans	All Spans
	4x12			6'-5"	10'-4"	15'-2"	28'-10"	All Spans
	4x14			5'-0"	8'-7"	12'-1"	23'-7"	All Spans
#2 Douglas Fir-Larch	4x6	5'-3"	6'-10"	10'-5"	All Spans	All Spans	All Spans	All Spans
	4 x 8	4'-1"	5'-11"	7'-11"	All Spans	All Spans	All Spans	All Spans
	4x10		4'-11"	7'-1"	14'-4"	22'-7"	All Spans	All Spans
	4x12			6'-5"	10'-4"	17'-0"	All Spans	All Spans
	4x14			5'-0"	8'-7"	13'-3"	26'-2"	All Spans
#2 Hem-Fir	(2) 2x6	6'-0"	7'-8"	11'-6"	All Spans	All Spans	All Spans	All Spans
	(2) 2x8	5'-4"	6'-10"	9'-1"	All Spans	All Spans	All Spans	All Spans
	(2) 2x10	4'-6"	6'-1"	8'-3"	19'-0"	All Spans	All Spans	All Spans
	(2) 2x12		5'-6"	7'-6"	14'-4"	22'-5"	All Spans	All Spans
#1 or #2 Spruce-Pine-Fir	(2) 2x6	6'-2"	7'-10"	11'-4"	All Spans	All Spans	All Spans	All Spans
	(2) 2x8	5'-6"	7'-0"	9'-4"	All Spans	All Spans	All Spans	All Spans
	(2) 2x10	4'-10"	6'-3"	8'-5"	18'-6"	All Spans	All Spans	All Spans
	(2) 2x12		5'-8"	7'-9"	13'-11"	21'-8"	All Spans	All Spans
#2 Southern Pine	(2) 2x6	5'-8"	7'-2"	10'-10"	All Spans	All Spans	All Spans	All Spans
	(2) 2x8	5'-0"	6'-5"	8'-6"	All Spans	All Spans	All Spans	All Spans
	(2) 2x10		5'-8"	7'-8"	17'-3"	All Spans	All Spans	All Spans
	(2) 2x12		4'-4"	7'-0"	12'-6"	20'-1"	All Spans	All Spans

See General Notes on Previous Page.

### Allowable Design Stresses (100% Load Duration)

	TimberStrand® LSL		1.9E Microllam® LVL	2.0E Parallam® PSL	#1 Douglas Fir-Larch	#2 Douglas Fir-Larch	#1/#2 Spruce- Pine-Fir	#2 Southern Pine	#2 Hem-Fir	24V-F4 or V8 Glulam
	1.3E	1.55E								
E (psi)	1.3x10 <sup>6</sup>	1.55x10 <sup>6</sup>	1.9x10 <sup>6</sup>	2.0x10 <sup>6</sup>	1.7x10 <sup>6</sup>	1.6x10 <sup>6</sup>	1.4x10 <sup>6</sup>	1.6x10 <sup>6</sup>	1.3x10 <sup>6</sup>	1.8x10 <sup>6</sup>
F <sub>b</sub> (psi)	1,700 <sup>(1)</sup>	2,325 <sup>(1)</sup>	2,600 <sup>(1)</sup>	2,900 <sup>(1)</sup>	1,000 <sup>(2)</sup>	900 <sup>(2)</sup>	875 <sup>(3)</sup>	975 <sup>(3)</sup>	850 <sup>(3)</sup>	2400 <sup>(4)</sup>
F <sub>v</sub> (psi)	400	310	285	290	95	95	70	90	75	240

(1) For 12" depth. For others multiply by  $[12/d]^x$ ; where  $x=0.092$  for TimberStrand® LSL,  $0.111$  for Parallam® PSL and  $0.136$  for Microllam® LVL.

(2) For 4x14 size. For others, refer to 2005 National Design Specification®.

(3) For 2x12 size. For others, refer to 2005 National Design Specification®.

(4) For a uniformly-loaded, 21' long, 5⅝" x 12" beam. For others, refer to 2005 National Design Specification® for C<sub>v</sub> adjustment.

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