

# BEAMS, HEADERS, AND COLUMNS

Featuring Trus Joist® TimberStrand® LSL,  
Microllam® LVL, and Parallam® PSL

- Uniform and Predictable
- Minimal Bowing, Twisting, and Shrinking
- Strong and Straight
- Limited Product Warranty





The products in this guide are readily available through our nationwide network of distributors and dealers. For more information on other applications or other Trus Joist® products, contact your Weyerhaeuser representative.

## TABLE OF CONTENTS

|                                  |       |
|----------------------------------|-------|
| Design Properties                | 4–5   |
| General Assumptions              | 5     |
| <b>Floor Load Tables</b>         |       |
| TimberStrand® LSL                | 6–7   |
| Microllam® LVL                   | 8–9   |
| Parallam® PSL                    | 10–11 |
| <b>Snow Roof Load Tables</b>     |       |
| TimberStrand® LSL                | 12–13 |
| Microllam® LVL                   | 14–15 |
| Parallam® PSL                    | 16–17 |
| <b>Non-Snow Roof Load Tables</b> |       |
| TimberStrand® LSL                | 18–19 |
| Microllam® LVL                   | 20–21 |
| Parallam® PSL                    | 22–23 |
| Beam Details                     | 24    |
| Window and Door Header Details   | 24–25 |
| Nailing on Narrow Face           | 25    |
| Allowable Holes                  | 26    |
| Bearing Length Requirements      | 26    |
| Tapered End Cuts                 | 27    |
| Multiple-Member Connections      | 28–30 |
| Columns                          | 30–31 |
| Product Warranty                 | 32    |



## Why Choose Trus Joist® Beams, Columns, and Headers?

- Reliable performance
- Consistent quality and dependable uniformity
- Flexible solutions for your beam and header needs
- Backed by a limited product warranty

Using advanced technology, Weyerhaeuser manufactures engineered lumber that is consistently straight and strong, and resists bowing, twisting, and shrinking. That means less waste, easier installation, and higher design values for starters; plus fewer callbacks, shorter cycle times, more design flexibility, and lower overall installed cost in the end. Trus Joist® TimberStrand® LSL, Microllam® LVL, and Parallam® PSL are structural solutions you can count on—guaranteed.

## This guide features Trus Joist® engineered lumber in the following widths and depths:

### TimberStrand® LSL

#### 1.55E TimberStrand® LSL sizes:

Widths: 1¾" and 3½"

Depths: 9½", 11⅞", 14", and 16"

#### 1.3E TimberStrand® LSL header sizes:

Width: 3½"

Depths: 4⅜", 5½", and 7¼"

#### 1.3E TimberStrand® LSL column and post sizes:

3½" x 3½"    3½" x 4⅜"    3½" x 5½"    3½" x 7¼"

### Microllam® LVL

#### 2.0E Microllam® LVL header and beam sizes:

Width: 1¾"

Depths: 5½", 7¼", 9¼", 9½", 11¼", 11⅞", 14", 16", 18", and 20"

### Parallam® PSL

#### 2.0E Parallam® PSL header and beam sizes:

Widths: 3½", 5¼", and 7"

Depths: 9¼", 9½", 11¼", 11⅞", 14", 16", and 18"

#### 1.8E Parallam® PSL column and post sizes:

3½" x 3½"    3½" x 5¼"    3½" x 7"    5¼" x 5¼"    5¼" x 7"    7" x 7"

*For deeper depth Parallam® PSL beams, see the Trus Joist® 2.2E Parallam® PSL Deep Beam guide, TJ-7001, or contact your Weyerhaeuser representative.*

*Some sizes may not be available in your region.*



**WARNING:** This product can expose you to chemicals including wood dust which are known to the State of California to cause cancer, and methanol, which are known to the State of California to cause birth defects or other reproductive harm. Drilling, sawing, sanding or machining wood products can expose you to wood dust. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov) and [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).

Safety data sheets for all Weyerhaeuser wood products can be found on our website at: [weyerhaeuser.com/sustainability/environment/product-stewardship/safety-data-sheets](http://weyerhaeuser.com/sustainability/environment/product-stewardship/safety-data-sheets).

# STRUCTURAL SOLUTIONS

## Trus Joist® TimberStrand® Laminated Strand Lumber (LSL)

- One-piece members reduce labor time
- Every piece is straight and strong
- Unique properties allow you to drill larger holes through 1.55E TimberStrand® LSL. See **Allowable Holes** on page 26.

### TimberStrand® LSL Grade Verification

TimberStrand® LSL is available in more than one grade. The product is stamped with its grade information, as shown in the examples below. With 1.55E TimberStrand® LSL, larger holes can be drilled through the beam.



Trus Joist TimberStrand® LSL 1.3E ICCES ESR-1387 CCMC 12627-R SFI Certified Sourcing SFI-00008 PFS 0572 Made in Canada 09-15-11 02 03:20

Trus Joist TimberStrand® LSL Round Hole Zone See Guidelines 1.55E ICCES ESR-1387 CCMC 12627-R SFI Certified Sourcing SFI-00008 PFS 0572 Made in Canada 09-15-11 02 03:20

Actual stamps shown.

**Code Evaluations: See ICC-ES ESR-1387**

## Trus Joist® Microllam® Laminated Veneer Lumber (LVL)

- Can easily be built up on site to reduce heavy lifting
- Offers reliable and economical solutions for beam and header applications
- Manufacturing process minimizes many of the natural inconsistencies found in wood
- Available in some regions with a Watershed™ overlay for on-site weather protection

**Code Evaluations: See ICC-ES ESR-1387**



## Trus Joist® Parallam® Parallel Strand Lumber (PSL)

- Allows long spans for open floor plans without intermediate posts or columns
- Has warm, unique grain that is perfect for applications with exposed beams
- Provides ideal solutions for cantilever and multi-span applications
- Solid sections save time on site assembly
- Available in some regions with preservative treatment for exterior applications

**Code Evaluations: See ICC-ES ESR-1387**



# DESIGN PROPERTIES

## Allowable Design Properties<sup>(1)</sup> (100% Load Duration)

| Grade             | Width | Design Property          | Depth |       |                             |       |        |        |        |        |        |        |        |        |
|-------------------|-------|--------------------------|-------|-------|-----------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
|                   |       |                          | 4⅜"   | 5½"   | 5½"<br>Plank<br>Orientation | 7¼"   | 9¼"    | 9½"    | 11¼"   | 11⅞"   | 14"    | 16"    | 18"    | 20"    |
| TimberStrand® LSL |       |                          |       |       |                             |       |        |        |        |        |        |        |        |        |
| 1.3E              | 3½"   | Moment (ft-lbs)          | 1,735 | 2,685 | 1,780                       | 4,550 |        |        |        |        |        |        |        |        |
|                   |       | Shear (lbs)              | 4,340 | 5,455 | 1,925                       | 7,190 |        |        |        |        |        |        |        |        |
|                   |       | Moment of Inertia (in.⁴) | 24    | 49    | 20                          | 111   |        |        |        |        |        |        |        |        |
|                   |       | Weight (plf)             | 4.5   | 5.6   | 5.6                         | 7.4   |        |        |        |        |        |        |        |        |
| 1.55E             | 1¾"   | Moment (ft-lbs)          |       |       |                             |       |        | 5,210  |        | 7,975  | 10,920 | 14,090 |        |        |
|                   |       | Shear (lbs)              |       |       |                             |       |        | 3,435  |        | 4,295  | 5,065  | 5,785  |        |        |
|                   |       | Moment of Inertia (in.⁴) |       |       |                             |       |        | 125    |        | 244    | 400    | 597    |        |        |
|                   |       | Weight (plf)             |       |       |                             |       |        | 5.2    |        | 6.5    | 7.7    | 8.8    |        |        |
|                   | 3½"   | Moment (ft-lbs)          |       |       |                             |       |        | 10,420 |        | 15,955 | 21,840 | 28,180 |        |        |
|                   |       | Shear (lbs)              |       |       |                             |       |        | 6,870  |        | 8,590  | 10,125 | 11,575 |        |        |
|                   |       | Moment of Inertia (in.⁴) |       |       |                             |       |        | 250    |        | 488    | 800    | 1,195  |        |        |
|                   |       | Weight (plf)             |       |       |                             |       |        | 10.4   |        | 13     | 15.3   | 17.5   |        |        |
| Microllam® LVL    |       |                          |       |       |                             |       |        |        |        |        |        |        |        |        |
| 2.0E              | 1¾"   | Moment (ft-lbs)          |       | 2,125 |                             | 3,555 | 5,600  | 5,885  | 8,070  | 8,925  | 12,130 | 15,555 | 19,375 | 23,580 |
|                   |       | Shear (lbs)              |       | 1,830 |                             | 2,410 | 3,075  | 3,160  | 3,740  | 3,950  | 4,655  | 5,320  | 5,985  | 6,650  |
|                   |       | Moment of Inertia (in.⁴) |       | 24    |                             | 56    | 115    | 125    | 208    | 244    | 400    | 597    | 851    | 1,167  |
|                   |       | Weight (plf)             |       | 2.8   |                             | 3.7   | 4.7    | 4.8    | 5.7    | 6.1    | 7.1    | 8.2    | 9.2    | 10.2   |
| Parallam® PSL     |       |                          |       |       |                             |       |        |        |        |        |        |        |        |        |
| 2.0E              | 3½"   | Moment (ft-lbs)          |       |       |                             |       | 12,415 | 13,055 | 17,970 | 19,900 | 27,160 | 34,955 | 43,665 |        |
|                   |       | Shear (lbs)              |       |       |                             |       | 6,260  | 6,430  | 7,615  | 8,035  | 9,475  | 10,825 | 12,180 |        |
|                   |       | Moment of Inertia (in.⁴) |       |       |                             |       | 231    | 250    | 415    | 488    | 800    | 1,195  | 1,701  |        |
|                   |       | Weight (plf)             |       |       |                             |       | 10.1   | 10.4   | 12.3   | 13.0   | 15.3   | 17.5   | 19.7   |        |
|                   | 5¼"   | Moment (ft-lbs)          |       |       |                             |       | 18,625 | 19,585 | 26,955 | 29,855 | 40,745 | 52,430 | 65,495 |        |
|                   |       | Shear (lbs)              |       |       |                             |       | 9,390  | 9,645  | 11,420 | 12,055 | 14,210 | 16,240 | 18,270 |        |
|                   |       | Moment of Inertia (in.⁴) |       |       |                             |       | 346    | 375    | 623    | 733    | 1,201  | 1,792  | 2,552  |        |
|                   |       | Weight (plf)             |       |       |                             |       | 15.2   | 15.6   | 18.5   | 19.5   | 23.0   | 26.3   | 29.5   |        |
|                   | 7"    | Moment (ft-lbs)          |       |       |                             |       | 24,830 | 26,115 | 35,940 | 39,805 | 54,325 | 69,910 | 87,330 |        |
|                   |       | Shear (lbs)              |       |       |                             |       | 12,520 | 12,855 | 15,225 | 16,070 | 18,945 | 21,655 | 24,360 |        |
|                   |       | Moment of Inertia (in.⁴) |       |       |                             |       | 462    | 500    | 831    | 977    | 1,601  | 2,389  | 3,402  |        |
|                   |       | Weight (plf)             |       |       |                             |       | 20.2   | 20.8   | 24.6   | 26.0   | 30.6   | 35.0   | 39.4   |        |

(1) For product in beam orientation, unless otherwise noted.

Some sizes may not be available in your region.

## PRODUCT STORAGE



Protect product from sun and water

**CAUTION:**  
Wrap is slippery when wet or icy

Align stickers (2x3 or larger)  
directly over support blocks

Use support blocks (6x6 or larger)  
at 10' on-center to keep bundles  
out of mud and water

# DESIGN PROPERTIES

## Design Stresses<sup>(1)</sup> (100% Load Duration)

| Grade             | Orientation | G<br>Shear<br>Modulus<br>of Elasticity<br>(psi) | E<br>Modulus<br>of Elasticity <sup>(2)</sup><br>(psi) | E <sub>min</sub><br>Adjusted<br>Modulus<br>of Elasticity <sup>(3)</sup><br>(psi) | F <sub>b</sub><br>Flexural<br>Stress <sup>(4)</sup><br>(psi) | F <sub>t</sub><br>Tension<br>Stress <sup>(5)</sup><br>(psi) | F <sub>c⊥</sub><br>Compression<br>Perpendicular<br>to Grain <sup>(6)</sup><br>(psi) | F <sub>c  </sub><br>Compression<br>Parallel<br>to Grain<br>(psi) | F <sub>v</sub><br>Horizontal<br>Shear Parallel<br>to Grain<br>(psi) | SG<br>Equivalent<br>Specific<br>Gravity <sup>(7)</sup> |
|-------------------|-------------|-------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------|
| TimberStrand® LSL |             |                                                 |                                                       |                                                                                  |                                                              |                                                             |                                                                                     |                                                                  |                                                                     |                                                        |
| 1.3E              | Beam/Column | 81,250                                          | 1.3 x 10 <sup>6</sup>                                 | 660,750                                                                          | 1,700                                                        | 1,300                                                       | 710                                                                                 | 1,835                                                            | 425                                                                 | 0.50 <sup>(8)</sup>                                    |
|                   | Plank       | 81,250                                          | 1.3 x 10 <sup>6</sup>                                 | 660,750                                                                          | 1,900 <sup>(9)</sup>                                         | 1,300                                                       | 670                                                                                 | 1,835                                                            | 150                                                                 | 0.50 <sup>(8)</sup>                                    |
| 1.55E             | Beam        | 96,875                                          | 1.55 x 10 <sup>6</sup>                                | 787,815                                                                          | 2,325                                                        | 1,290 <sup>(10)</sup>                                       | 900                                                                                 | 2,170                                                            | 310 <sup>(10)</sup>                                                 | 0.50 <sup>(8)</sup>                                    |
| Microllam® LVL    |             |                                                 |                                                       |                                                                                  |                                                              |                                                             |                                                                                     |                                                                  |                                                                     |                                                        |
| 2.0E              | Beam        | 125,000                                         | 2.0 x 10 <sup>6</sup>                                 | 1,016,535                                                                        | 2,600                                                        | 1,895                                                       | 750                                                                                 | 2,510                                                            | 285                                                                 | 0.50                                                   |
| Parallam® PSL     |             |                                                 |                                                       |                                                                                  |                                                              |                                                             |                                                                                     |                                                                  |                                                                     |                                                        |
| 1.8E              | Column      | 112,500                                         | 1.8 x 10 <sup>6</sup>                                 | 914,880                                                                          | 2,400 <sup>(11)</sup>                                        | 1,995                                                       | 545 <sup>(11)</sup>                                                                 | 2,500                                                            | 190 <sup>(11)</sup>                                                 | 0.50                                                   |
| 2.0E              | Beam        | 125,000                                         | 2.0 x 10 <sup>6</sup>                                 | 1,016,535                                                                        | 2,900                                                        | 2,300                                                       | 625 <sup>(12)</sup>                                                                 | 2,900 <sup>(13)</sup>                                            | 290                                                                 | 0.50                                                   |

(1) Unless otherwise noted, adjustment to the design stresses for duration of load are permitted in accordance with the applicable code.

(2) To properly calculate deflections for the full range of typical SCL span and loading applications, bending and shear deflection must be considered. Use the following equation for simple span, uniformly loaded beams:

$$\Delta = \frac{270 wL^4}{Ebd^3} + \frac{28.8 wL^2}{Ebd}$$

Where:  $\Delta$  = deflection (in.)       $w$  = uniform load (plf)  
 $L$  = span (feet)                       $b$  = beam thickness (in.)  
 $d$  = beam depth (in.)                 $E$  = modulus of elasticity (psi)

For other span and loading conditions, use engineering mechanics to account for both bending and shear deflection or use ForteWEB® software.

(3) Reference modulus of elasticity for beam and column stability calculations, per NDS®.

(4) For 12" depth. For other depths, multiply  $F_b$  by the appropriate factor as follows:

$$\text{—TimberStrand® LSL } \left[ \frac{12}{d} \right]^{0.092} \quad \text{—Microllam® LVL } \left[ \frac{12}{d} \right]^{0.136} \quad \text{—Parallam® PSL } \left[ \frac{12}{d} \right]^{0.111}$$

(5) Reference tension design values are based on a standard length of 4 feet. For lengths longer than 4 feet, multiply  $F_t$  by the following adjustment (where  $L$  is length in feet):

$$\text{—TimberStrand® LSL } (4/L)^{0.083} \quad \text{—Parallam® PSL } (4/L)^{0.056} \quad \text{—Microllam® LVL } (4/L)^{0.085}$$

(6)  $F_{c\perp}$  may not be increased for duration of load.

(7) For lateral connection design only.

(8) Specific gravity of 0.58 may be used for bolts installed perpendicular to face and loaded perpendicular to grain.

(9) Values are for thickness up to 3½".

(10) Value accounts for large hole capabilities. See **Allowable Holes** on page 26.

(11) Value shown is for plank orientation.

(12) Use 750 psi for Parallam® PSL identified with plant number 0579.

(13) For column applications, use  $F_{c||}$  of 500 psi. Alternatively, refer to ESR-1387, Table 1, footnote 13.

## General Assumptions for Trus Joist® Beams

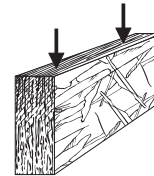
- Lateral support is required at bearing and along the span at 24" on-center, maximum.
- Bearing lengths are based on each product's bearing stress for applicable grade and orientation.
- All members 7¼" and less in depth are restricted to a maximum deflection of ⅝" (for window header installation).
- Beams that are 1¾" x 16" and deeper require multiple plies. Some exceptions allowed when using Weyerhaeuser software.
- No camber.
- Beams and columns must remain straight to within 5L/4608 (in.) of true alignment.  $L$  is the unrestrained length of the member in feet.

For applications not covered in this brochure, contact your Weyerhaeuser representative.

See pages 28-30 for multiple-member beam connections.

*TimberStrand® LSL, Microllam® LVL, and untreated Parallam® PSL are intended for dry-use applications*

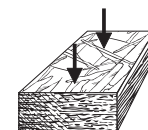
### Beam Orientation



### Column Orientation



### Plank Orientation



# FLOOR LOAD TABLES

## How to Use This Table

1. Calculate total and live load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total and live loads.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 7.

## TimberStrand® LSL: Floor—100% (PLF)

| Span   | Condition                   | 1.3E Grade |         |         |                       |
|--------|-----------------------------|------------|---------|---------|-----------------------|
|        |                             | 3½" Width  |         |         | 5½" Plank Orientation |
|        |                             | 4⅜"        | 5½"     | 7¼"     | 3½"                   |
| 3'     | Total Load                  | 1,538      | 2,381   | 4,036   | 1,210                 |
|        | Live Load L/360             | 1,420      | *       | *       | *                     |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.6 | 2.4/6.1 | 1.5/3.5               |
| 4'     | Total Load                  | 863        | 1,337   | 2,267   | 814                   |
|        | Live Load L/360             | 651        | 1,215   | *       | 546                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.8/4.6 | 1.5/3.5               |
| 5'     | Total Load                  | 517        | 853     | 1,448   | 425                   |
|        | Live Load L/360             | 347        | 662     | 1,398   | 287                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.7 | 1.5/3.5               |
| 6'     | Total Load                  | 304        | 590     | 1,003   | 248                   |
|        | Live Load L/360             | 206        | 397     | 857     | 169                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 7'     | Total Load                  | 171        | 336     | 735     | 138                   |
|        | Live Load L/360             | 131        | 255     | 560     | 107                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 8'     | Total Load                  | 99         | 198     | 443     | 79                    |
|        | Live Load L/360             | 89         | 173     | 384     | 72                    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 9'-6"  | Total Load                  | 98         | 224     |         |                       |
|        | Live Load L/360             |            | *       | *       |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 10'    | Total Load                  |            | 79      | 182     |                       |
|        | Live Load L/360             |            | *       | *       |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 12'    | Total Load                  |            |         | 85      |                       |
|        | Live Load L/360             |            |         | *       |                       |
|        | Min. End/Int. Bearing (in.) |            |         | 1.5/3.5 |                       |
| 14'    | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 16'-6" | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 18'-6" | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 20'    | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 24'    | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 28'    | Total Load                  |            |         |         |                       |
|        | Live Load L/360             |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |

\* Indicates **Total Load** value controls.

# FLOOR LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/240 total load and L/360 live load.
- For live load deflection limits of L/240 or L/480, multiply **Live Load L/360** values by 1.5 or 0.75, respectively. The resulting live load must not exceed the total load shown.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use this Table** on page 6 and **General Assumptions** on page 5.

## TimberStrand® LSL: Floor—100% (PLF) *continued*

| Span   | Condition                   | 1.55E Grade |          |          |         |          |          |          |                         |          |          |          |  |
|--------|-----------------------------|-------------|----------|----------|---------|----------|----------|----------|-------------------------|----------|----------|----------|--|
|        |                             | 1¾" Width   |          |          | 3½"     |          |          |          | 5¼" Width (2- or 3-ply) |          |          |          |  |
|        |                             | 9½"         | 11⅞"     | 14"      | 9½"     | 11⅞"     | 14"      | 16"      | 9½"                     | 11⅞"     | 14"      | 16"      |  |
| 3'     | Total Load                  | 3,166       | 4,717    | 4,717    | 6,332   | 9,432    | 9,432    | 9,432    | 9,499                   | 14,148   | 14,148   | 14,148   |  |
|        | Live Load L/360             | *           | *        | *        | *       | *        | *        | *        | *                       | *        | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 3/7.6       | 4.5/11.3 | 4.5/11.3 | 3/7.6   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 3/7.6                   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |  |
| 4'     | Total Load                  | 2,006       | 2,836    | 3,536    | 4,012   | 5,673    | 7,070    | 7,070    | 6,018                   | 8,510    | 10,605   | 10,605   |  |
|        | Live Load L/360             | *           | *        | *        | *       | *        | *        | *        | *                       | *        | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 2.6/6.4     | 3.6/9    | 4.5/11.3 | 2.6/6.4 | 3.6/9    | 4.5/11.3 | 4.5/11.3 | 2.6/6.4                 | 3.6/9    | 4.5/11.3 | 4.5/11.3 |  |
| 5'     | Total Load                  | 1,467       | 2,004    | 2,577    | 2,934   | 4,009    | 5,155    | 5,652    | 4,401                   | 6,014    | 7,733    | 8,478    |  |
|        | Live Load L/360             | *           | *        | *        | *       | *        | *        | *        | *                       | *        | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 2.3/5.8     | 3.2/8    | 4.1/10.3 | 2.3/5.8 | 3.2/8    | 4.1/10.3 | 4.5/11.3 | 2.3/5.8                 | 3.2/8    | 4.1/10.3 | 4.5/11.3 |  |
| 6'     | Total Load                  | 1,152       | 1,549    | 1,952    | 2,305   | 3,098    | 3,904    | 4,707    | 3,458                   | 4,648    | 5,857    | 7,061    |  |
|        | Live Load L/360             | 1,048       | *        | *        | 2,097   | *        | *        | *        | 3,146                   | *        | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 2.2/5.5     | 3/7.4    | 3.7/9.3  | 2.2/5.5 | 3/7.4    | 3.7/9.3  | 4.5/11.3 | 2.2/5.5                 | 3/7.4    | 3.7/9.3  | 4.5/11.3 |  |
| 7'     | Total Load                  | 845         | 1,262    | 1,570    | 1,691   | 2,524    | 3,141    | 3,787    | 2,536                   | 3,786    | 4,711    | 5,681    |  |
|        | Live Load L/360             | 699         | 1,250    | *        | 1,399   | 2,501    | *        | *        | 2,098                   | 3,752    | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 1.9/4.7     | 2.8/7    | 3.5/8.8  | 1.9/4.7 | 2.8/7    | 3.5/8.8  | 4.2/10.6 | 1.9/4.7                 | 2.8/7    | 3.5/8.8  | 4.2/10.6 |  |
| 8'     | Total Load                  | 646         | 990      | 1,313    | 1,292   | 1,981    | 2,626    | 3,138    | 1,938                   | 2,971    | 3,939    | 4,708    |  |
|        | Live Load L/360             | 487         | 886      | *        | 974     | 1,773    | *        | *        | 1,462                   | 2,660    | *        | *        |  |
|        | Min. End/Int. Bearing (in.) | 1.7/4.1     | 2.5/6.3  | 3.4/8.4  | 1.7/4.1 | 2.5/6.3  | 3.4/8.4  | 4/10     | 1.7/4.1                 | 2.5/6.3  | 3.4/8.4  | 4/10     |  |
| 9'-6"  | Total Load                  | 448         | 700      | 960      | 897     | 1,401    | 1,920    | 2,480    | 1,346                   | 2,101    | 2,880    | 3,720    |  |
|        | Live Load L/360             | 302         | 560      | 870      | 605     | 1,121    | 1,740    | 2,456    | 907                     | 1,681    | 2,610    | 3,684    |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 2.1/5.3  | 2.9/7.3  | 1.5/3.5 | 2.1/5.3  | 2.9/7.3  | 3.8/9.4  | 1.5/3.5                 | 2.1/5.3  | 2.9/7.3  | 3.8/9.4  |  |
| 10'    | Total Load                  | 387         | 631      | 865      | 775     | 1,263    | 1,731    | 2,236    | 1,162                   | 1,894    | 2,597    | 3,355    |  |
|        | Live Load L/360             | 261         | 487      | 760      | 523     | 974      | 1,520    | 2,154    | 785                     | 1,462    | 2,280    | 3,232    |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 2/5.1    | 2.8/6.9  | 1.5/3.5 | 2/5.1    | 2.8/6.9  | 3.6/8.9  | 1.5/3.5                 | 2/5.1    | 2.8/6.9  | 3.6/8.9  |  |
| 12'    | Total Load                  | 228         | 434      | 599      | 456     | 868      | 1,198    | 1,547    | 685                     | 1,302    | 1,797    | 2,321    |  |
|        | Live Load L/360             | 155         | 293      | 464      | 311     | 587      | 928      | 1,334    | 467                     | 881      | 1,393    | 2,001    |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.7/4.2  | 2.3/5.8  | 1.5/3.5 | 1.7/4.2  | 2.3/5.8  | 3/7.5    | 1.5/3.5                 | 1.7/4.2  | 2.3/5.8  | 3/7.5    |  |
| 14'    | Total Load                  | 144         | 278      | 438      | 288     | 556      | 876      | 1,132    | 433                     | 834      | 1,314    | 1,698    |  |
|        | Live Load L/360             | 99          | 189      | 302      | 199     | 379      | 605      | 877      | 299                     | 569      | 907      | 1,316    |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 2/5      | 1.5/3.5 | 1.5/3.5  | 2/5      | 2.6/6.4  | 1.5/3.5                 | 1.5/3.5  | 2/5      | 2.6/6.4  |  |
| 16'-6" | Total Load                  | 87          | 170      | 277      | 174     | 341      | 554      | 810      | 262                     | 512      | 831      | 1,215    |  |
|        | Live Load L/360             | 61          | 118      | 189      | 123     | 236      | 379      | 555      | 185                     | 354      | 569      | 832      |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.5/3.7  | 1.5/3.5 | 1.5/3.5  | 1.5/3.7  | 2.2/5.4  | 1.5/3.5                 | 1.5/3.5  | 1.5/3.7  | 2.2/5.4  |  |
| 18'-6" | Total Load                  | 60          | 120      | 197      | 121     | 241      | 395      | 584      | 182                     | 362      | 592      | 876      |  |
|        | Live Load L/360             | 44          | 84       | 136      | 88      | 169      | 273      | 401      | 132                     | 254      | 410      | 601      |  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.4  | 1.5/3.5                 | 1.5/3.5  | 1.5/3.5  | 1.8/4.4  |  |
| 20'    | Total Load                  |             | 94       | 156      | 94      | 189      | 312      | 463      | 142                     | 284      | 468      | 695      |  |
|        | Live Load L/360             |             | 67       | 109      | 70      | 135      | 218      | 320      | 105                     | 202      | 327      | 481      |  |
|        | Min. End/Int. Bearing (in.) |             | 1.5/3.5  | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 1.5/3.5                 | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  |  |
| 24'    | Total Load                  |             | 52       | 88       |         | 105      | 177      | 266      | 76                      | 158      | 265      | 400      |  |
|        | Live Load L/360             |             | 39       | 64       |         | 79       | 128      | 189      | 61                      | 118      | 192      | 284      |  |
|        | Min. End/Int. Bearing (in.) |             | 1.5/3.5  | 1.5/3.5  |         | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.5/3.5                 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  |  |
| 28'    | Total Load                  |             |          | 53       |         | 62       | 107      | 163      |                         | 93       | 160      | 245      |  |
|        | Live Load L/360             |             |          | 40       |         | 50       | 81       | 120      |                         | 75       | 122      | 181      |  |
|        | Min. End/Int. Bearing (in.) |             |          | 1.5/3.5  |         | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  |                         | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  |  |

\* Indicates **Total Load** value controls.

# FLOOR LOAD TABLES

## How to Use This Table

1. Calculate total and live load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total and live loads.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 9.

## 2.OE Microllam® LVL: Floor—100% (PLF)

| Span   | Condition                   | 1¾" Width |         |         |         |         |         |          | 3½" Width (2-ply) |         |         |         |         |         |
|--------|-----------------------------|-----------|---------|---------|---------|---------|---------|----------|-------------------|---------|---------|---------|---------|---------|
|        |                             | 5½"       | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"    | 14"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"    |
| 6'     | Total Load                  | 455       | 762     | 1,027   | 1,062   | 1,324   | 1,424   | 1,794    | 910               | 1,525   | 2,055   | 2,125   | 2,648   | 2,848   |
|        | Live Load L/360             | 305       | 659     | *       | *       | *       | *       | *        | 610               | 1,319   | *       | *       | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.8/4.4 | 2.4/5.9 | 2.4/6.1 | 3/7.6   | 3.3/8.2 | 4.1/10.3 | 1.5/3.5           | 1.8/4.4 | 2.4/5.9 | 2.4/6.1 | 3/7.6   | 3.3/8.2 |
| 8'     | Total Load                  | 153       | 342     | 695     | 731     | 915     | 978     | 1,207    | 307               | 685     | 1,391   | 1,462   | 1,830   | 1,956   |
|        | Live Load L/360             | 133       | 295     | 584     | 628     | *       | *       | *        | 267               | 591     | 1,169   | 1,257   | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 2.8/7   | 3/7.5   | 3.7/9.3  | 1.5/3.5           | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 2.8/7   | 3/7.5   |
| 9'-6"  | Total Load                  | 77        | 174     | 491     | 517     | 709     | 784     | 968      | 154               | 349     | 983     | 1,034   | 1,418   | 1,569   |
|        | Live Load L/360             | *         | *       | 362     | 390     | 624     | 723     | *        | *                 | *       | 724     | 780     | 1,248   | 1,446   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.8/4.5 | 1.9/4.7 | 2.6/6.5 | 2.9/7.2 | 3.5/8.8  | 1.5/3.5           | 1.5/3.5 | 1.8/4.5 | 1.9/4.7 | 2.6/6.5 | 2.9/7.2 |
| 10'    | Total Load                  | 62        | 142     | 443     | 466     | 639     | 707     | 908      | 124               | 284     | 886     | 932     | 1,279   | 1,415   |
|        | Live Load L/360             | *         | *       | 313     | 337     | 542     | 628     | *        | *                 | *       | 626     | 675     | 1,084   | 1,257   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.7/4.3 | 1.8/4.5 | 2.5/6.1 | 2.7/6.8 | 3.5/8.7  | 1.5/3.5           | 1.5/3.5 | 1.7/4.3 | 1.8/4.5 | 2.5/6.1 | 2.7/6.8 |
| 12'    | Total Load                  |           | 67      | 274     | 296     | 442     | 489     | 666      | 57                | 135     | 548     | 593     | 885     | 979     |
|        | Live Load L/360             |           | *       | 186     | 200     | 325     | 379     | 599      | *                 | *       | 372     | 401     | 651     | 758     |
|        | Min. End/Int. Bearing (in.) |           | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2/5.1   | 2.3/5.7 | 3.1/7.7  | 1.5/3.5           | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2/5.1   | 2.3/5.7 |
| 14'    | Total Load                  |           |         | 173     | 188     | 308     | 358     | 487      |                   | 70      | 347     | 376     | 617     | 716     |
|        | Live Load L/360             |           |         | 119     | 128     | 209     | 244     | 390      |                   | *       | 238     | 257     | 419     | 489     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.7/4.2 | 1.9/4.9 | 2.6/6.6  |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.7/4.2 | 1.9/4.9 |
| 16'-6" | Total Load                  |           |         | 105     | 114     | 189     | 222     | 349      |                   |         | 211     | 229     | 379     | 445     |
|        | Live Load L/360             |           |         | 73      | 79      | 130     | 152     | 245      |                   |         | 147     | 159     | 260     | 305     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.6 | 2.2/5.6  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.6 |
| 18'-6" | Total Load                  |           |         | 74      | 80      | 134     | 158     | 257      |                   |         | 148     | 161     | 268     | 316     |
|        | Live Load L/360             |           |         | 52      | 56      | 93      | 109     | 176      |                   |         | 105     | 113     | 186     | 218     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.9/4.7  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 20'    | Total Load                  |           |         | 57      | 62      | 105     | 124     | 204      |                   |         | 115     | 125     | 211     | 249     |
|        | Live Load L/360             |           |         | 41      | 45      | 74      | 87      | 140      |                   |         | 83      | 90      | 148     | 174     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.6/4    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 22'    | Total Load                  |           |         |         |         | 78      | 92      | 152      |                   |         | 85      | 92      | 157     | 185     |
|        | Live Load L/360             |           |         |         |         | 56      | 65      | 106      |                   |         | 63      | 68      | 112     | 131     |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 24'    | Total Load                  |           |         |         |         | 59      | 70      | 117      |                   |         | 63      | 69      | 118     | 140     |
|        | Live Load L/360             |           |         |         |         | 43      | 51      | 82       |                   |         | 48      | 52      | 86      | 102     |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 26'    | Total Load                  |           |         |         |         |         | 54      | 91       |                   |         |         | 52      | 91      | 108     |
|        | Live Load L/360             |           |         |         |         |         | 40      | 65       |                   |         |         | 41      | 68      | 80      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         | 1.5/3.5 | 1.5/3.5  |                   |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 28'    | Total Load                  |           |         |         |         |         |         | 71       |                   |         |         |         | 71      | 84      |
|        | Live Load L/360             |           |         |         |         |         |         | 52       |                   |         |         |         | 55      | 64      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         |         | 1.5/3.5  |                   |         |         |         | 1.5/3.5 | 1.5/3.5 |
| 30'    | Total Load                  |           |         |         |         |         |         | 57       |                   |         |         |         | 55      | 66      |
|        | Live Load L/360             |           |         |         |         |         |         | 42       |                   |         |         |         | 44      | 52      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         |         | 1.5/3.5  |                   |         |         |         | 1.5/3.5 | 1.5/3.5 |

\* Indicates **Total Load** value controls.

# FLOOR LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/240 total load and L/360 live load.
- For live load deflection limits of L/240 or L/480, multiply **Live Load L/360** values by 1.5 or 0.75, respectively. The resulting live load must not exceed the total load shown.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see *How to Use This Table* on page 8 and *General Assumptions* on page 5.

## 2.OE Microllam® LVL: Floor—100% (PLF) *continued*

| Span   | Condition                   | 3½" Width (2-ply) |          |          |          | 5¼" Width (3-ply) |         |         |         |         |         |          |          |          |          |
|--------|-----------------------------|-------------------|----------|----------|----------|-------------------|---------|---------|---------|---------|---------|----------|----------|----------|----------|
|        |                             | 14"               | 16"      | 18"      | 20"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"    | 14"      | 16"      | 18"      | 20"      |
| 6'     | Total Load                  | 3,589             | 3,919    | 3,919    | 3,919    | 1,366             | 2,287   | 3,082   | 3,188   | 3,972   | 4,272   | 5,384    | 5,878    | 5,878    | 5,878    |
|        | Live Load L/360             | *                 | *        | *        | *        | 916               | 1,978   | *       | *       | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.1/10.3          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.8/4.4 | 2.4/5.9 | 2.4/6.1 | 3/7.6   | 3.3/8.2 | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 8'     | Total Load                  | 2,414             | 2,885    | 2,934    | 2,934    | 461               | 1,028   | 2,086   | 2,193   | 2,745   | 2,935   | 3,621    | 4,328    | 4,402    | 4,402    |
|        | Live Load L/360             | *                 | *        | *        | *        | 401               | 887     | 1,753   | 1,886   | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.7/9.3           | 4.4/11.1 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 2.8/7   | 3/7.5   | 3.7/9.3  | 4.4/11.1 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 1,937             | 2,294    | 2,468    | 2,468    | 231               | 524     | 1,475   | 1,551   | 2,128   | 2,354   | 2,905    | 3,441    | 3,702    | 3,702    |
|        | Live Load L/360             | *                 | *        | *        | *        | *                 | *       | 1,086   | 1,171   | 1,872   | 2,170   | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.5/8.8           | 4.2/10.5 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 1.8/4.5 | 1.9/4.7 | 2.6/6.5 | 2.9/7.2 | 3.5/8.8  | 4.2/10.5 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 1,817             | 2,147    | 2,344    | 2,344    | 187               | 427     | 1,330   | 1,398   | 1,919   | 2,123   | 2,725    | 3,221    | 3,516    | 3,516    |
|        | Live Load L/360             | *                 | *        | *        | *        | *                 | *       | 940     | 1,013   | 1,626   | 1,886   | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.5/8.7           | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 1.7/4.3 | 1.8/4.5 | 2.5/6.1 | 2.7/6.8 | 3.5/8.7  | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,333             | 1,709    | 1,950    | 1,950    | 86                | 203     | 823     | 889     | 1,327   | 1,469   | 2,000    | 2,563    | 2,925    | 2,925    |
|        | Live Load L/360             | 1,198             | *        | *        | *        | *                 | *       | 558     | 602     | 976     | 1,137   | 1,797    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.1/7.7           | 3.9/9.9  | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2/5.1   | 2.3/5.7 | 3.1/7.7  | 3.9/9.9  | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 975               | 1,253    | 1,563    | 1,669    |                   | 106     | 521     | 564     | 926     | 1,074   | 1,463    | 1,880    | 2,345    | 2,503    |
|        | Live Load L/360             | 780               | 1,132    | 1,561    | *        |                   | *       | 357     | 386     | 629     | 734     | 1,171    | 1,698    | 2,342    | *        |
|        | Min. End/Int. Bearing (in.) | 2.6/6.6           | 3.4/8.5  | 4.2/10.5 | 4.5/11.3 |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.7/4.2 | 1.9/4.9 | 2.6/6.6  | 3.4/8.5  | 4.2/10.5 | 4.5/11.3 |
| 16'-6" | Total Load                  | 698               | 897      | 1,120    | 1,365    |                   |         | 317     | 343     | 569     | 668     | 1,047    | 1,346    | 1,680    | 2,048    |
|        | Live Load L/360             | 490               | 716      | 995      | 1,330    |                   |         | 220     | 238     | 391     | 457     | 735      | 1,074    | 1,493    | 1,995    |
|        | Min. End/Int. Bearing (in.) | 2.2/5.6           | 2.9/7.2  | 3.6/8.9  | 4.4/10.9 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.6 | 2.2/5.6  | 2.9/7.2  | 3.6/8.9  | 4.4/10.9 |
| 18'-6" | Total Load                  | 515               | 710      | 887      | 1,081    |                   |         | 222     | 241     | 403     | 474     | 772      | 1,066    | 1,331    | 1,622    |
|        | Live Load L/360             | 352               | 517      | 722      | 970      |                   |         | 157     | 170     | 280     | 328     | 529      | 776      | 1,084    | 1,456    |
|        | Min. End/Int. Bearing (in.) | 1.9/4.7           | 2.6/6.4  | 3.2/8    | 3.9/9.7  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.9/4.7  | 2.6/6.4  | 3.2/8    | 3.9/9.7  |
| 20'    | Total Load                  | 408               | 604      | 756      | 922      |                   |         | 173     | 188     | 317     | 374     | 612      | 907      | 1,135    | 1,384    |
|        | Live Load L/360             | 281               | 414      | 579      | 780      |                   |         | 125     | 135     | 223     | 261     | 422      | 621      | 869      | 1,171    |
|        | Min. End/Int. Bearing (in.) | 1.6/4             | 2.4/5.9  | 3/7.4    | 3.6/9    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.4/5.9  | 3/7.4    | 3.6/9    |
| 22'    | Total Load                  | 305               | 455      | 622      | 759      |                   |         | 127     | 138     | 235     | 278     | 458      | 683      | 933      | 1,138    |
|        | Live Load L/360             | 213               | 314      | 441      | 596      |                   |         | 94      | 102     | 168     | 197     | 320      | 472      | 662      | 895      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 2/4.9    | 2.7/6.7  | 3.3/8.2  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2/4.9    | 2.7/6.7  | 3.3/8.2  |
| 24'    | Total Load                  | 234               | 350      | 497      | 634      |                   |         | 95      | 104     | 178     | 211     | 351      | 525      | 746      | 951      |
|        | Live Load L/360             | 165               | 244      | 343      | 465      |                   |         | 73      | 79      | 130     | 153     | 248      | 366      | 515      | 698      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.7/4.2  | 2.4/5.9  | 3/7.5    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.7/4.2  | 2.4/5.9  | 3/7.5    |
| 26'    | Total Load                  | 182               | 274      | 390      | 534      |                   |         | 72      | 78      | 137     | 163     | 273      | 411      | 586      | 801      |
|        | Live Load L/360             | 130               | 193      | 272      | 370      |                   |         | 57      | 62      | 102     | 120     | 196      | 290      | 409      | 555      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.5/3.6  | 2/5.1    | 2.7/6.9  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.6  | 2/5.1    | 2.7/6.9  |
| 28'    | Total Load                  | 143               | 217      | 311      | 427      |                   |         | 55      | 60      | 106     | 127     | 215      | 326      | 467      | 641      |
|        | Live Load L/360             | 105               | 155      | 219      | 298      |                   |         | 46      | 50      | 82      | 97      | 157      | 233      | 329      | 448      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.5/3.5  | 1.8/4.4  | 2.4/6    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.4  | 2.4/6    |
| 30'    | Total Load                  | 114               | 174      | 251      | 346      |                   |         |         |         | 83      | 100     | 171      | 261      | 376      | 519      |
|        | Live Load L/360             | 85                | 127      | 179      | 244      |                   |         |         |         | 67      | 79      | 128      | 190      | 269      | 366      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.5/3.5  | 1.5/3.9  | 2.1/5.2  |                   |         |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.9  | 2.1/5.2  |

\* Indicates **Total Load** value controls.

# FLOOR LOAD TABLES

## How to Use This Table

1. Calculate total and live load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total and live loads.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 11.

## 2.0E Parallam® PSL: Floor—100% (PLF)

| Span   | Condition                   | 3½" Width |         |         |         |          |          |          | 5¼" Width |         |         |         |          |          |          |
|--------|-----------------------------|-----------|---------|---------|---------|----------|----------|----------|-----------|---------|---------|---------|----------|----------|----------|
|        |                             | 9¼"       | 9½"     | 11¼"    | 11½"    | 14"      | 16"      | 18"      | 9¼"       | 9½"     | 11¼"    | 11½"    | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 1,469     | 1,517   | 1,861   | 1,990   | 2,441    | 2,441    | 2,441    | 2,204     | 2,275   | 2,792   | 2,985   | 3,661    | 3,661    | 3,661    |
|        | Live Load L/360             | 1,169     | 1,257   | *       | *       | *        | *        | *        | 1,753     | 1,886   | *       | *       | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.7/6.8   | 2.8/7   | 3.4/8.6 | 3.7/9.2 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2.7/6.8   | 2.8/7   | 3.4/8.6 | 3.7/9.2 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 1,076     | 1,147   | 1,510   | 1,611   | 1,970    | 2,052    | 2,052    | 1,614     | 1,720   | 2,265   | 2,416   | 2,955    | 3,079    | 3,079    |
|        | Live Load L/360             | 724       | 780     | 1,248   | 1,446   | *        | *        | *        | 1,086     | 1,171   | 1,872   | 2,170   | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.4/5.9   | 2.5/6.3 | 3.3/8.3 | 3.5/8.8 | 4.3/10.8 | 4.5/11.3 | 4.5/11.3 | 2.4/5.9   | 2.5/6.3 | 3.3/8.3 | 3.5/8.8 | 4.3/10.8 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 930       | 1,003   | 1,420   | 1,514   | 1,848    | 1,949    | 1,949    | 1,395     | 1,505   | 2,130   | 2,271   | 2,772    | 2,923    | 2,923    |
|        | Live Load L/360             | 626       | 675     | 1,084   | 1,257   | *        | *        | *        | 940       | 1,013   | 1,626   | 1,886   | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.1/5.4   | 2.3/5.8 | 3.3/8.2 | 3.5/8.7 | 4.3/10.6 | 4.5/11.3 | 4.5/11.3 | 2.1/5.4   | 2.3/5.8 | 3.3/8.2 | 3.5/8.7 | 4.3/10.6 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 548       | 592     | 964     | 1,092   | 1,480    | 1,620    | 1,620    | 822       | 888     | 1,446   | 1,639   | 2,220    | 2,431    | 2,431    |
|        | Live Load L/360             | 372       | 401     | 651     | 758     | 1,198    | *        | *        | 558       | 602     | 976     | 1,137   | 1,797    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8   | 1.7/4.1 | 2.7/6.7 | 3/7.6   | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.8   | 1.7/4.1 | 2.7/6.7 | 3/7.6   | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 347       | 375     | 616     | 721     | 1,093    | 1,386    | 1,386    | 520       | 563     | 925     | 1,082   | 1,639    | 2,079    | 2,079    |
|        | Live Load L/360             | 238       | 257     | 419     | 489     | 780      | 1,132    | *        | 357       | 386     | 629     | 734     | 1,171    | 1,698    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2/5     | 2.4/5.9 | 3.5/8.9  | 4.5/11.3 | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 2/5     | 2.4/5.9 | 3.5/8.9  | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 210       | 228     | 379     | 444     | 720      | 1,009    | 1,173    | 316       | 342     | 568     | 667     | 1,080    | 1,514    | 1,760    |
|        | Live Load L/360             | 147       | 159     | 260     | 305     | 490      | 716      | 995      | 220       | 238     | 391     | 457     | 735      | 1,074    | 1,493    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.7 | 1.7/4.3 | 2.8/6.9  | 3.9/9.7  | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 1.5/3.7 | 1.7/4.3 | 2.8/6.9  | 3.9/9.7  | 4.5/11.3 |
| 18'-6" | Total Load                  | 147       | 160     | 268     | 315     | 514      | 759      | 1,000    | 221       | 240     | 402     | 473     | 771      | 1,138    | 1,501    |
|        | Live Load L/360             | 105       | 113     | 186     | 218     | 352      | 517      | 722      | 157       | 170     | 280     | 328     | 529      | 776      | 1,084    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.2/5.6  | 3.3/8.2  | 4.3/10.8 | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.2/5.6  | 3.3/8.2  | 4.3/10.8 |
| 20'    | Total Load                  | 115       | 125     | 210     | 248     | 407      | 603      | 850      | 172       | 187     | 316     | 372     | 610      | 905      | 1,275    |
|        | Live Load L/360             | 83        | 90      | 148     | 174     | 281      | 414      | 579      | 125       | 135     | 223     | 261     | 422      | 621      | 869      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.9/4.8  | 2.8/7.1  | 4/9.9    | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.9/4.8  | 2.8/7.1  | 4/9.9    |
| 22'    | Total Load                  | 84        | 91      | 156     | 184     | 304      | 454      | 642      | 126       | 137     | 234     | 277     | 457      | 681      | 964      |
|        | Live Load L/360             | 63        | 68      | 112     | 131     | 213      | 314      | 441      | 94        | 102     | 168     | 197     | 320      | 472      | 662      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.4/5.9  | 3.3/8.3  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.4/5.9  | 3.3/8.3  |
| 24'    | Total Load                  | 62        | 68      | 118     | 140     | 232      | 349      | 496      | 94        | 103     | 177     | 210     | 349      | 523      | 744      |
|        | Live Load L/360             | 48        | 52      | 86      | 102     | 165      | 244      | 343      | 73        | 79      | 130     | 153     | 248      | 366      | 515      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2/5      | 2.8/7.1  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2/5      | 2.8/7.1  |
| 26'    | Total Load                  |           | 51      | 90      | 107     | 180      | 272      | 389      | 71        | 77      | 135     | 161     | 271      | 409      | 584      |
|        | Live Load L/360             |           | 41      | 68      | 80      | 130      | 193      | 272      | 57        | 62      | 102     | 120     | 196      | 290      | 409      |
|        | Min. End/Int. Bearing (in.) |           | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.7/4.3  | 2.4/6.1  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.7/4.3  | 2.4/6.1  |
| 28'    | Total Load                  |           |         | 70      | 84      | 142      | 216      | 310      | 54        | 59      | 105     | 126     | 213      | 324      | 465      |
|        | Live Load L/360             |           |         | 55      | 64      | 105      | 155      | 219      | 46        | 50      | 82      | 97      | 157      | 233      | 329      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.7  | 2.1/5.3  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.7  | 2.1/5.3  |
| 30'    | Total Load                  |           |         | 55      | 66      | 113      | 173      | 249      |           |         | 82      | 99      | 170      | 260      | 374      |
|        | Live Load L/360             |           |         | 44      | 52      | 85       | 127      | 179      |           |         | 67      | 79      | 128      | 190      | 269      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.6  |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.6  |
| 32'    | Total Load                  |           |         |         | 52      | 91       | 140      | 203      |           |         | 64      | 78      | 136      | 210      | 305      |
|        | Live Load L/360             |           |         |         | 43      | 70       | 105      | 148      |           |         | 55      | 65      | 106      | 157      | 223      |
|        | Min. End/Int. Bearing (in.) |           |         |         | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/4.1  |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/4.1  |

\* Indicates **Total Load** value controls.

# FLOOR LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/240 total load and L/360 live load.
- For live load deflection limits of L/240 or L/480, multiply **Live Load L/360** values by 1.5 or 0.75, respectively. The resulting live load must not exceed the total load shown.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 10 and **General Assumptions** on page 5.

## 2.0E Parallam® PSL: Floor—100% (PLF) *continued*

| Span   | Condition                   | 7" Width |         |         |         |          |          |          |
|--------|-----------------------------|----------|---------|---------|---------|----------|----------|----------|
|        |                             | 9¼"      | 9½"     | 11¼"    | 11½"    | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 2,939    | 3,034   | 3,723   | 3,981   | 4,882    | 4,882    | 4,882    |
|        | Live Load L/360             | 2,338    | 2,515   | *       | *       | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.7/6.8  | 2.8/7   | 3.4/8.6 | 3.7/9.2 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 2,153    | 2,294   | 3,020   | 3,222   | 3,940    | 4,105    | 4,105    |
|        | Live Load L/360             | 1,448    | 1,561   | 2,496   | 2,893   | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.4/5.9  | 2.5/6.3 | 3.3/8.3 | 3.5/8.8 | 4.3/10.8 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 1,860    | 2,006   | 2,841   | 3,029   | 3,696    | 3,898    | 3,898    |
|        | Live Load L/360             | 1,253    | 1,351   | 2,168   | 2,515   | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.1/5.4  | 2.3/5.8 | 3.3/8.2 | 3.5/8.7 | 4.3/10.6 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,096    | 1,184   | 1,928   | 2,185   | 2,960    | 3,241    | 3,241    |
|        | Live Load L/360             | 744      | 803     | 1,302   | 1,516   | 2,396    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8  | 1.7/4.1 | 2.7/6.7 | 3/7.6   | 4.1/10.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 694      | 751     | 1,233   | 1,443   | 2,186    | 2,773    | 2,773    |
|        | Live Load L/360             | 476      | 514     | 839     | 979     | 1,561    | 2,264    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 2/5     | 2.4/5.9 | 3.5/8.9  | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 421      | 457     | 758     | 889     | 1,440    | 2,019    | 2,346    |
|        | Live Load L/360             | 294      | 318     | 521     | 610     | 980      | 1,432    | 1,991    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.7 | 1.7/4.3 | 2.8/6.9  | 3.9/9.7  | 4.5/11.3 |
| 18'-6" | Total Load                  | 295      | 320     | 536     | 630     | 1,028    | 1,518    | 2,001    |
|        | Live Load L/360             | 210      | 227     | 373     | 437     | 705      | 1,035    | 1,445    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.2/5.6  | 3.3/8.2  | 4.3/10.8 |
| 20'    | Total Load                  | 230      | 250     | 421     | 497     | 814      | 1,207    | 1,700    |
|        | Live Load L/360             | 167      | 180     | 297     | 348     | 563      | 828      | 1,159    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.9/4.8  | 2.8/7.1  | 4/9.9    |
| 22'    | Total Load                  | 168      | 183     | 312     | 369     | 609      | 909      | 1,285    |
|        | Live Load L/360             | 126      | 136     | 224     | 263     | 426      | 629      | 883      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.4/5.9  | 3.3/8.3  |
| 24'    | Total Load                  | 125      | 137     | 236     | 280     | 465      | 698      | 992      |
|        | Live Load L/360             | 97       | 105     | 173     | 204     | 331      | 488      | 687      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2/5      | 2.8/7.1  |
| 26'    | Total Load                  | 94       | 103     | 181     | 215     | 361      | 545      | 779      |
|        | Live Load L/360             | 76       | 83      | 137     | 161     | 261      | 387      | 545      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.7/4.3  | 2.4/6.1  |
| 28'    | Total Load                  | 72       | 79      | 140     | 168     | 285      | 432      | 620      |
|        | Live Load L/360             | 61       | 66      | 110     | 129     | 210      | 311      | 439      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.7  | 2.1/5.3  |
| 30'    | Total Load                  | 54       | 60      | 110     | 132     | 226      | 346      | 499      |
|        | Live Load L/360             | 50       | 54      | 89      | 105     | 171      | 254      | 359      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.6  |
| 32'    | Total Load                  |          |         | 86      | 104     | 182      | 280      | 406      |
|        | Live Load L/360             |          |         | 74      | 87      | 141      | 210      | 297      |
|        | Min. End/Int. Bearing (in.) |          |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/4.1  |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 13.

## TimberStrand® LSL: Roof—Snow 115% (PLF)

| Span   | Condition                   | 1.3E Grade |         |         |                       |
|--------|-----------------------------|------------|---------|---------|-----------------------|
|        |                             | 3½" Width  |         |         | 5½" Plank Orientation |
|        |                             | 4⅜"        | 5½"     | 7¼"     | 3½"                   |
| 3'     | Total Load                  | 1,769      | 2,739   | 4,643   | 1,392                 |
|        | Deflection L/240 / L/360    | *1,420     | *2,547  | */*     | *1,224                |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.7/4.1 | 2.8/7   | 1.5/3.5               |
| 4'     | Total Load                  | 993        | 1,538   | 2,608   | 996                   |
|        | Deflection L/240 / L/360    | 977/651    | *1,215  | *2,476  | 820/546               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 2.1/5.3 | 1.5/3.5               |
| 5'     | Total Load                  | 634        | 982     | 1,666   | 533                   |
|        | Deflection L/240 / L/360    | 521/347    | *662    | *1,398  | 431/287               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.7/4.2 | 1.5/3.5               |
| 6'     | Total Load                  | 317        | 614     | 1,155   | 258                   |
|        | Deflection L/240 / L/360    | 309/206    | 595/397 | *857    | 253/169               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 7'     | Total Load                  | 171        | 336     | 742     | 138                   |
|        | Deflection L/240 / L/360    | *131       | *255    | *560    | *107                  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 8'     | Total Load                  | 99         | 198     | 443     | 79                    |
|        | Deflection L/240 / L/360    | *89        | *173    | *384    | *72                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 9'-6"  | Total Load                  |            | 98      | 224     |                       |
|        | Deflection L/240 / L/360    |            | */*     | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 10'    | Total Load                  |            | 79      | 182     |                       |
|        | Deflection L/240 / L/360    |            | */*     | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 12'    | Total Load                  |            |         | 85      |                       |
|        | Deflection L/240 / L/360    |            |         | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            |         | 1.5/3.5 |                       |
| 14'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 16'-6" | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 18'-6" | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 20'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 24'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 28'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For door and window applications, Weyerhaeuser recommends using **L/360** values for live load deflection and **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 12 and **General Assumptions** on page 5.

## TimberStrand® LSL: Roof—Snow 115% (PLF) *continued*

| Span   | Condition                   | 1.55E Grade |          |          |           |          |          |          |                         |           |           |           |
|--------|-----------------------------|-------------|----------|----------|-----------|----------|----------|----------|-------------------------|-----------|-----------|-----------|
|        |                             | 1¾" Width   |          |          | 3½" Width |          |          |          | 5¼" Width (2- or 3-ply) |           |           |           |
|        |                             | 9½"         | 11⅝"     | 14"      | 9½"       | 11⅝"     | 14"      | 16"      | 9½"                     | 11⅝"      | 14"       | 16"       |
| 3'     | Total Load                  | 3,642       | 4,717    | 4,717    | 7,284     | 9,432    | 9,432    | 9,432    | 10,926                  | 14,148    | 14,148    | 14,148    |
|        | Deflection L/240 / L/360    | */*         | */*      | */*      | */*       | */*      | */*      | */*      | */*                     | */*       | */*       | */*       |
|        | Min. End/Int. Bearing (in.) | 3.5/8.7     | 4.5/11.3 | 4.5/11.3 | 3.5/8.7   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 3.5/8.7                 | 4.5/11.3  | 4.5/11.3  | 4.5/11.3  |
| 4'     | Total Load                  | 2,307       | 3,263    | 3,536    | 4,615     | 6,526    | 7,070    | 7,070    | 6,923                   | 9,790     | 10,605    | 10,605    |
|        | Deflection L/240 / L/360    | */*         | */*      | */*      | */*       | */*      | */*      | */*      | */*                     | */*       | */*       | */*       |
|        | Min. End/Int. Bearing (in.) | 2.9/7.3     | 4.2/10.4 | 4.5/11.3 | 2.9/7.3   | 4.2/10.4 | 4.5/11.3 | 4.5/11.3 | 2.9/7.3                 | 4.2/10.4  | 4.5/11.3  | 4.5/11.3  |
| 5'     | Total Load                  | 1,688       | 2,306    | 2,827    | 3,376     | 4,612    | 5,652    | 5,652    | 5,064                   | 6,919     | 8,478     | 8,478     |
|        | Deflection L/240 / L/360    | *1,658      | */*      | */*      | *3,316    | */*      | */*      | */*      | *4,975                  | */*       | */*       | */*       |
|        | Min. End/Int. Bearing (in.) | 2.7/6.7     | 3.7/9.2  | 4.5/11.3 | 2.7/6.7   | 3.7/9.2  | 4.5/11.3 | 4.5/11.3 | 2.7/6.7                 | 3.7/9.2   | 4.5/11.3  | 4.5/11.3  |
| 6'     | Total Load                  | 1,326       | 1,782    | 2,246    | 2,652     | 3,565    | 4,492    | 4,707    | 3,979                   | 5,348     | 6,739     | 7,061     |
|        | Deflection L/240 / L/360    | *1,048      | */*      | */*      | *2,097    | */*      | */*      | */*      | *3,146                  | */*       | */*       | */*       |
|        | Min. End/Int. Bearing (in.) | 2.5/6.3     | 3.4/8.5  | 4.3/10.7 | 2.5/6.3   | 3.4/8.5  | 4.3/10.7 | 4.5/11.3 | 2.5/6.3                 | 3.4/8.5   | 4.3/10.7  | 4.5/11.3  |
| 7'     | Total Load                  | 973         | 1,452    | 1,807    | 1,946     | 2,904    | 3,614    | 4,032    | 2,919                   | 4,357     | 5,421     | 6,048     |
|        | Deflection L/240 / L/360    | *699        | *1,250   | */*      | *1,399    | *2,501   | */*      | */*      | *2,098                  | *3,752    | */*       | */*       |
|        | Min. End/Int. Bearing (in.) | 2.2/5.4     | 3.2/8.1  | 4/10.1   | 2.2/5.4   | 3.2/8.1  | 4/10.1   | 4.5/11.3 | 2.2/5.4                 | 3.2/8.1   | 4/10.1    | 4.5/11.3  |
| 8'     | Total Load                  | 743         | 1,140    | 1,511    | 1,487     | 2,280    | 3,022    | 3,526    | 2,231                   | 3,420     | 4,534     | 5,289     |
|        | Deflection L/240 / L/360    | 731/487     | *886     | *1,352   | 1,462/974 | *1,773   | *2,705   | */*      | 2,193/1,462             | *2,660    | *4,058    | */*       |
|        | Min. End/Int. Bearing (in.) | 1.9/4.8     | 2.9/7.3  | 3.9/9.6  | 1.9/4.8   | 2.9/7.3  | 3.9/9.6  | 4.5/11.3 | 1.9/4.8                 | 2.9/7.3   | 3.9/9.6   | 4.5/11.3  |
| 9'-6"  | Total Load                  | 525         | 806      | 1,105    | 1,051     | 1,613    | 2,211    | 2,854    | 1,577                   | 2,419     | 3,316     | 4,282     |
|        | Deflection L/240 / L/360    | 453/302     | *560     | *870     | 907/605   | *1,121   | *1,740   | *2,456   | 1,361/907               | *1,681    | *2,610    | *3,684    |
|        | Min. End/Int. Bearing (in.) | 1.6/4       | 2.5/6.1  | 3.4/8.4  | 1.6/4     | 2.5/6.1  | 3.4/8.4  | 4.3/10.8 | 1.6/4                   | 2.5/6.1   | 3.4/8.4   | 4.3/10.8  |
| 10'    | Total Load                  | 474         | 727      | 996      | 948       | 1,454    | 1,993    | 2,574    | 1,422                   | 2,182     | 2,990     | 3,862     |
|        | Deflection L/240 / L/360    | 392/261     | *487     | *760     | 785/523   | *974     | *1,520   | *2,154   | 1,178/785               | *1,462    | *2,280    | *3,232    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8     | 2.3/5.8  | 3.2/8    | 1.5/3.8   | 2.3/5.8  | 3.2/8    | 4.1/10.3 | 1.5/3.8                 | 2.3/5.8   | 3.2/8     | 4.1/10.3  |
| 12'    | Total Load                  | 306         | 503      | 690      | 612       | 1,006    | 1,380    | 1,782    | 918                     | 1,509     | 2,070     | 2,674     |
|        | Deflection L/240 / L/360    | 233/155     | 440/293  | *464     | 467/311   | 881/587  | *928     | *1,334   | 700/467                 | 1,322/881 | *1,393    | *2,001    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.9/4.9  | 2.7/6.6  | 1.5/3.5   | 1.9/4.9  | 2.7/6.6  | 3.4/8.6  | 1.5/3.5                 | 1.9/4.9   | 2.7/6.6   | 3.4/8.6   |
| 14'    | Total Load                  | 194         | 367      | 504      | 388       | 735      | 1,009    | 1,305    | 582                     | 1,103     | 1,514     | 1,957     |
|        | Deflection L/240 / L/360    | 149/99      | 284/189  | 453/302  | 299/199   | 569/379  | 907/605  | *877     | 448/299                 | 854/569   | 1,361/907 | *1,316    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.7/4.2  | 2.3/5.7  | 1.5/3.5   | 1.7/4.2  | 2.3/5.7  | 2.9/7.3  | 1.5/3.5                 | 1.7/4.2   | 2.3/5.7   | 2.9/7.3   |
| 16'-6" | Total Load                  | 118         | 230      | 361      | 236       | 460      | 722      | 934      | 354                     | 690       | 1,084     | 1,402     |
|        | Deflection L/240 / L/360    | 92/61       | 177/118  | 284/189  | 185/123   | 354/236  | 569/379  | 832/555  | 277/185                 | 532/354   | 854/569   | 1,248/832 |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.9/4.8  | 1.5/3.5   | 1.5/3.5  | 1.9/4.8  | 2.5/6.2  | 1.5/3.5                 | 1.5/3.5   | 1.9/4.8   | 2.5/6.2   |
| 18'-6" | Total Load                  | 83          | 163      | 265      | 166       | 326      | 531      | 739      | 249                     | 489       | 797       | 1,109     |
|        | Deflection L/240 / L/360    | 66/44       | 127/84   | 205/136  | 132/88    | 254/169  | 410/273  | 601/401  | 198/132                 | 381/254   | 615/410   | 902/601   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.6/4    | 1.5/3.5   | 1.5/3.5  | 1.6/4    | 2.2/5.6  | 1.5/3.5                 | 1.5/3.5   | 1.6/4     | 2.2/5.6   |
| 20'    | Total Load                  | 64          | 128      | 210      | 129       | 257      | 421      | 624      | 194                     | 385       | 631       | 936       |
|        | Deflection L/240 / L/360    | 52/35       | 101/67   | 163/109  | 105/70    | 202/135  | 327/218  | 481/320  | 157/105                 | 304/202   | 491/327   | 722/481   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.5/3.5  | 1.5/3.5   | 1.5/3.5  | 1.5/3.5  | 2/5.1    | 1.5/3.5                 | 1.5/3.5   | 1.5/3.5   | 2/5.1     |
| 24'    | Total Load                  |             | 72       | 120      | 71        | 145      | 241      | 361      | 106                     | 217       | 361       | 542       |
|        | Deflection L/240 / L/360    |             | 59/39    | 96/64    | 61/40     | 118/79   | 192/128  | 284/189  | 91/61                   | 177/118   | 288/192   | 426/284   |
|        | Min. End/Int. Bearing (in.) |             | 1.5/3.5  | 1.5/3.5  | 1.5/3.5   | 1.5/3.5  | 1.5/3.5  | 1.5/3.6  | 1.5/3.5                 | 1.5/3.5   | 1.5/3.5   | 1.5/3.6   |
| 28'    | Total Load                  |             |          | 73       |           | 87       | 147      | 224      | 61                      | 130       | 221       | 336       |
|        | Deflection L/240 / L/360    |             |          | 61/40    |           | 75/50    | 122/81   | 181/120  | 58/38                   | 112/75    | 183/122   | 271/181   |
|        | Min. End/Int. Bearing (in.) |             |          | 1.5/3.5  |           | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.5/3.5                 | 1.5/3.5   | 1.5/3.5   | 1.5/3.5   |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 15.

## 2.0E Microllam® LVL: Roof—Snow 115% (PLF)

| Span   | Condition                   | 1¼" Width |         |         |         |         |         |          | 3½" Width (2-ply) |         |         |         |         |         |
|--------|-----------------------------|-----------|---------|---------|---------|---------|---------|----------|-------------------|---------|---------|---------|---------|---------|
|        |                             | 5½"       | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11⅝"    | 14"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11⅝"    |
| 6'     | Total Load                  | 474       | 877     | 1,182   | 1,223   | 1,523   | 1,638   | 1,961    | 948               | 1,755   | 2,365   | 2,446   | 3,047   | 3,277   |
|        | Deflection L/240            | 458       | *       | *       | *       | *       | *       | *        | 916               | *       | *       | *       | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 2/5     | 2.7/6.8 | 2.8/7   | 3.5/8.7 | 3.8/9.4 | 4.5/11.3 | 1.5/3.5           | 2/5     | 2.7/6.8 | 2.8/7   | 3.5/8.7 | 3.8/9.4 |
| 8'     | Total Load                  | 153       | 342     | 800     | 841     | 1,053   | 1,126   | 1,389    | 307               | 685     | 1,601   | 1,682   | 2,106   | 2,252   |
|        | Deflection L/240            | *         | *       | *       | *       | *       | *       | *        | *                 | *       | *       | *       | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.5/6.1 | 2.6/6.4 | 3.2/8.1 | 3.5/8.6 | 4.3/10.6 | 1.5/3.5           | 1.5/3.5 | 2.5/6.1 | 2.6/6.4 | 3.2/8.1 | 3.5/8.6 |
| 9'-6"  | Total Load                  | 77        | 174     | 566     | 595     | 816     | 903     | 1,114    | 154               | 349     | 1,132   | 1,190   | 1,633   | 1,807   |
|        | Deflection L/240            | *         | *       | 543     | 585     | *       | *       | *        | *                 | *       | 1,086   | 1,171   | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.1/5.2 | 2.2/5.4 | 3/7.4   | 3.3/8.2 | 4.1/10.2 | 1.5/3.5           | 1.5/3.5 | 2.1/5.2 | 2.2/5.4 | 3/7.4   | 3.3/8.2 |
| 10'    | Total Load                  | 62        | 142     | 510     | 536     | 736     | 814     | 1,045    | 124               | 284     | 1,021   | 1,073   | 1,473   | 1,629   |
|        | Deflection L/240            | *         | *       | 470     | 506     | *       | *       | *        | *                 | *       | 940     | 1,013   | *       | *       |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2/4.9   | 2.1/5.2 | 2.8/7.1 | 3.1/7.8 | 4/10     | 1.5/3.5           | 1.5/3.5 | 2/4.9   | 2.1/5.2 | 2.8/7.1 | 3.1/7.8 |
| 12'    | Total Load                  |           | 67      | 353     | 371     | 509     | 564     | 767      | 57                | 135     | 706     | 742     | 1,019   | 1,128   |
|        | Deflection L/240            |           | *       | 279     | 301     | 488     | *       | *        | *                 | *       | 558     | 602     | 976     | *       |
|        | Min. End/Int. Bearing (in.) |           | 1.5/3.5 | 1.6/4.1 | 1.7/4.3 | 2.4/5.9 | 2.6/6.5 | 3.5/8.9  | 1.5/3.5           | 1.5/3.5 | 1.6/4.1 | 1.7/4.3 | 2.4/5.9 | 2.6/6.5 |
| 14'    | Total Load                  |           |         | 233     | 252     | 372     | 412     | 562      |                   | 70      | 466     | 505     | 745     | 825     |
|        | Deflection L/240            |           |         | 178     | 193     | 314     | 367     | *        |                   | *       | 357     | 386     | 629     | 734     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 2/5     | 2.2/5.6 | 3/7.6    |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2/5     | 2.2/5.6 |
| 16'-6" | Total Load                  |           |         | 142     | 154     | 255     | 295     | 402      |                   |         | 285     | 308     | 510     | 591     |
|        | Deflection L/240            |           |         | 110     | 119     | 195     | 228     | 367      |                   |         | 220     | 238     | 391     | 457     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.7 | 2.6/6.4  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.7 |
| 18'-6" | Total Load                  |           |         | 100     | 108     | 181     | 212     | 318      |                   |         | 200     | 217     | 362     | 425     |
|        | Deflection L/240            |           |         | 78      | 85      | 140     | 164     | 264      |                   |         | 157     | 170     | 280     | 328     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9 | 2.3/5.7  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9 |
| 20'    | Total Load                  |           |         | 78      | 85      | 143     | 168     | 271      |                   |         | 157     | 171     | 286     | 336     |
|        | Deflection L/240            |           |         | 62      | 67      | 111     | 130     | 211      |                   |         | 125     | 135     | 223     | 261     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.1/5.3  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 22'    | Total Load                  |           |         | 58      | 63      | 106     | 125     | 206      |                   |         | 116     | 126     | 213     | 251     |
|        | Deflection L/240            |           |         | 47      | 51      | 84      | 98      | 160      |                   |         | 94      | 102     | 168     | 197     |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.8/4.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 24'    | Total Load                  |           |         |         |         | 81      | 95      | 158      |                   |         | 87      | 95      | 162     | 191     |
|        | Deflection L/240            |           |         |         |         | 65      | 76      | 124      |                   |         | 73      | 79      | 130     | 153     |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.8  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 26'    | Total Load                  |           |         |         |         | 62      | 74      | 123      |                   |         | 67      | 73      | 125     | 148     |
|        | Deflection L/240            |           |         |         |         | 51      | 60      | 98       |                   |         | 57      | 62      | 102     | 120     |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 28'    | Total Load                  |           |         |         |         |         | 58      | 98       |                   |         | 52      | 56      | 98      | 117     |
|        | Deflection L/240            |           |         |         |         |         | 48      | 78       |                   |         | 46      | 50      | 82      | 97      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         | 1.5/3.5 | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 |
| 30'    | Total Load                  |           |         |         |         |         |         | 78       |                   |         |         |         | 78      | 93      |
|        | Deflection L/240            |           |         |         |         |         |         | 64       |                   |         |         |         | 67      | 79      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         |         | 1.5/3.5  |                   |         |         |         | 1.5/3.5 | 1.5/3.5 |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 14 and **General Assumptions** on page 5.

## 2.0E Microllam® LVL: Roof—Snow 115% (PLF) *continued*

| Span   | Condition                   | 3½" Width (2-ply) |          |          |          | 5¼" Width (3-ply) |         |         |         |         |         |          |          |          |          |
|--------|-----------------------------|-------------------|----------|----------|----------|-------------------|---------|---------|---------|---------|---------|----------|----------|----------|----------|
|        |                             | 14"               | 16"      | 18"      | 20"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11⅝"    | 14"      | 16"      | 18"      | 20"      |
| 6'     | Total Load                  | 3,919             | 3,919    | 3,919    | 3,919    | 1,423             | 2,632   | 3,547   | 3,669   | 4,571   | 4,916   | 5,878    | 5,878    | 5,878    | 5,878    |
|        | Deflection L/240            | *                 | *        | *        | *        | 1,374             | *       | *       | *       | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.5/11.3          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 2/5     | 2.7/6.8 | 2.8/7   | 3.5/8.7 | 3.8/9.4 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 8'     | Total Load                  | 2,778             | 2,934    | 2,934    | 2,934    | 461               | 1,028   | 2,401   | 2,524   | 3,159   | 3,378   | 4,168    | 4,402    | 4,402    | 4,402    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | *       | *       | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.3/10.6          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.5/6.1 | 2.6/6.4 | 3.2/8.1 | 3.5/8.6 | 4.3/10.6 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 2,229             | 2,468    | 2,468    | 2,468    | 231               | 524     | 1,698   | 1,785   | 2,450   | 2,710   | 3,344    | 3,702    | 3,702    | 3,702    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 1,630   | 1,757   | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.1/10.2          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.1/5.2 | 2.2/5.4 | 3/7.4   | 3.3/8.2 | 4.1/10.2 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 2,091             | 2,344    | 2,344    | 2,344    | 187               | 427     | 1,531   | 1,610   | 2,209   | 2,444   | 3,137    | 3,516    | 3,516    | 3,516    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 1,410   | 1,520   | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4/10              | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2/4.9   | 2.1/5.2 | 2.8/7.1 | 3.1/7.8 | 4/10     | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,535             | 1,950    | 1,950    | 1,950    | 86                | 203     | 1,059   | 1,113   | 1,529   | 1,692   | 2,303    | 2,925    | 2,925    | 2,925    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 837     | 904     | 1,464   | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.5/8.9           | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 1.6/4.1 | 1.7/4.3 | 2.4/5.9 | 2.6/6.5 | 3.5/8.9  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 1,124             | 1,444    | 1,669    | 1,669    |                   | 106     | 700     | 757     | 1,118   | 1,238   | 1,686    | 2,166    | 2,503    | 2,503    |
|        | Deflection L/240            | *                 | *        | *        | *        |                   | *       | 535     | 579     | 943     | 1,102   | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3/7.6             | 3.9/9.7  | 4.5/11.3 | 4.5/11.3 |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2/5     | 2.2/5.6 | 3/7.6    | 3.9/9.7  | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 805               | 1,035    | 1,291    | 1,413    |                   |         | 427     | 463     | 765     | 886     | 1,208    | 1,552    | 1,936    | 2,120    |
|        | Deflection L/240            | 735               | *        | *        | *        |                   |         | 331     | 358     | 587     | 686     | 1,103    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.6/6.4           | 3.3/8.3  | 4.1/10.3 | 4.5/11.3 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.7 | 2.6/6.4  | 3.3/8.3  | 4.1/10.3 | 4.5/11.3 |
| 18'-6" | Total Load                  | 637               | 820      | 1,023    | 1,247    |                   |         | 301     | 326     | 543     | 638     | 956      | 1,230    | 1,535    | 1,871    |
|        | Deflection L/240            | 529               | 776      | *        | *        |                   |         | 236     | 256     | 420     | 492     | 794      | 1,164    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.3/5.7           | 2.9/7.4  | 3.7/9.2  | 4.5/11.2 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9 | 2.3/5.7  | 2.9/7.4  | 3.7/9.2  | 4.5/11.2 |
| 20'    | Total Load                  | 543               | 699      | 872      | 1,064    |                   |         | 236     | 256     | 429     | 504     | 815      | 1,048    | 1,309    | 1,596    |
|        | Deflection L/240            | 422               | 621      | 869      | *        |                   |         | 188     | 203     | 334     | 392     | 633      | 931      | 1,304    | *        |
|        | Min. End/Int. Bearing (in.) | 2.1/5.3           | 2.7/6.8  | 3.4/8.5  | 4.1/10.3 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.1/5.3  | 2.7/6.8  | 3.4/8.5  | 4.1/10.3 |
| 22'    | Total Load                  | 412               | 575      | 718      | 876      |                   |         | 174     | 190     | 320     | 377     | 619      | 862      | 1,077    | 1,314    |
|        | Deflection L/240            | 320               | 472      | 662      | *        |                   |         | 141     | 153     | 252     | 296     | 480      | 708      | 994      | *        |
|        | Min. End/Int. Bearing (in.) | 1.8/4.5           | 2.5/6.2  | 3.1/7.7  | 3.8/9.4  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.8/4.5  | 2.5/6.2  | 3.1/7.7  | 3.8/9.4  |
| 24'    | Total Load                  | 316               | 472      | 600      | 732      |                   |         | 131     | 143     | 243     | 287     | 475      | 708      | 900      | 1,099    |
|        | Deflection L/240            | 248               | 366      | 515      | 698      |                   |         | 109     | 118     | 195     | 229     | 372      | 550      | 773      | 1,047    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8           | 2.2/5.6  | 2.8/7.1  | 3.4/8.6  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.8  | 2.2/5.6  | 2.8/7.1  | 3.4/8.6  |
| 26'    | Total Load                  | 247               | 370      | 509      | 621      |                   |         | 101     | 110     | 188     | 223     | 371      | 556      | 763      | 932      |
|        | Deflection L/240            | 196               | 290      | 409      | 555      |                   |         | 86      | 93      | 154     | 181     | 294      | 435      | 613      | 832      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.9/4.8  | 2.6/6.5  | 3.2/7.9  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.9/4.8  | 2.6/6.5  | 3.2/7.9  |
| 28'    | Total Load                  | 196               | 295      | 421      | 533      |                   |         | 78      | 85      | 148     | 175     | 294      | 442      | 632      | 799      |
|        | Deflection L/240            | 157               | 233      | 329      | 448      |                   |         | 69      | 75      | 123     | 145     | 236      | 350      | 494      | 672      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.7/4.2  | 2.3/5.9  | 3/7.4    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.7/4.2  | 2.3/5.9  | 3/7.4    |
| 30'    | Total Load                  | 157               | 238      | 341      | 461      |                   |         | 61      | 66      | 117     | 139     | 236      | 357      | 511      | 692      |
|        | Deflection L/240            | 128               | 190      | 269      | 366      |                   |         | 56      | 61      | 101     | 118     | 193      | 286      | 404      | 550      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.5/3.6  | 2.1/5.1  | 2.8/6.9  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.6  | 2.1/5.1  | 2.8/6.9  |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 17.

## 2.OE Parallam® PSL: Roof—Snow 115% (PLF)

| Span   | Condition                   | 3½" Width |         |         |          |          |          |          | 5¼" Width |         |         |          |          |          |          |
|--------|-----------------------------|-----------|---------|---------|----------|----------|----------|----------|-----------|---------|---------|----------|----------|----------|----------|
|        |                             | 9¼"       | 9½"     | 11¼"    | 11⅝"     | 14"      | 16"      | 18"      | 9¼"       | 9½"     | 11¼"    | 11⅝"     | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 1,691     | 1,746   | 2,142   | 2,291    | 2,441    | 2,441    | 2,441    | 2,537     | 2,619   | 3,213   | 3,436    | 3,661    | 3,661    | 3,661    |
|        | Deflection L/240            | *         | *       | *       | *        | *        | *        | *        | *         | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.1/7.8   | 3.2/8   | 3.9/9.9 | 4.2/10.5 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 3.1/7.8   | 3.2/8   | 3.9/9.9 | 4.2/10.5 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 1,255     | 1,320   | 1,738   | 1,854    | 2,052    | 2,052    | 2,052    | 1,883     | 1,980   | 2,607   | 2,781    | 3,079    | 3,079    | 3,079    |
|        | Deflection L/240            | 1,086     | 1,171   | *       | *        | *        | *        | *        | 1,630     | 1,757   | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.7/6.9   | 2.9/7.2 | 3.8/9.5 | 4.1/10.1 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2.7/6.9   | 2.9/7.2 | 3.8/9.5 | 4.1/10.1 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 1,132     | 1,190   | 1,635   | 1,743    | 1,949    | 1,949    | 1,949    | 1,698     | 1,786   | 2,453   | 2,615    | 2,923    | 2,923    | 2,923    |
|        | Deflection L/240            | 940       | 1,013   | 1,626   | *        | *        | *        | *        | 1,410     | 1,520   | 2,439   | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.6/6.5   | 2.7/6.9 | 3.8/9.4 | 4/10     | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2.6/6.5   | 2.7/6.9 | 3.8/9.4 | 4/10     | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 734       | 793     | 1,135   | 1,258    | 1,620    | 1,620    | 1,620    | 1,101     | 1,190   | 1,703   | 1,887    | 2,431    | 2,431    | 2,431    |
|        | Deflection L/240            | 558       | 602     | 976     | 1,137    | *        | *        | *        | 837       | 904     | 1,464   | 1,706    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2/5.1     | 2.2/5.5 | 3.1/7.9 | 3.5/8.7  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2/5.1     | 2.2/5.5 | 3.1/7.9 | 3.5/8.7  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 466       | 504     | 826     | 921      | 1,259    | 1,386    | 1,386    | 699       | 756     | 1,240   | 1,381    | 1,889    | 2,079    | 2,079    |
|        | Deflection L/240            | 357       | 386     | 629     | 734      | 1,171    | *        | *        | 535       | 579     | 943     | 1,102    | 1,757    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8   | 1.6/4.1 | 2.7/6.7 | 3/7.5    | 4.1/10.2 | 4.5/11.3 | 4.5/11.3 | 1.5/3.8   | 1.6/4.1 | 2.7/6.7 | 3/7.5    | 4.1/10.2 | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 284       | 308     | 509     | 597      | 902      | 1,163    | 1,173    | 426       | 462     | 764     | 896      | 1,353    | 1,745    | 1,760    |
|        | Deflection L/240            | 220       | 238     | 391     | 457      | 735      | 1,074    | *        | 331       | 358     | 587     | 686      | 1,103    | 1,611    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2/4.9   | 2.3/5.8  | 3.5/8.7  | 4.5/11.1 | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 2/4.9   | 2.3/5.8  | 3.5/8.7  | 4.5/11.1 | 4.5/11.3 |
| 18'-6" | Total Load                  | 200       | 217     | 361     | 424      | 690      | 922      | 1,044    | 300       | 325     | 542     | 637      | 1,035    | 1,383    | 1,566    |
|        | Deflection L/240            | 157       | 170     | 280     | 328      | 529      | 776      | *        | 236       | 256     | 420     | 492      | 794      | 1,164    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.6/4   | 1.9/4.6  | 3/7.5    | 4/9.9    | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 1.6/4   | 1.9/4.6  | 3/7.5    | 4/9.9    | 4.5/11.3 |
| 20'    | Total Load                  | 157       | 170     | 285     | 335      | 548      | 786      | 964      | 235       | 255     | 427     | 503      | 822      | 1,179    | 1,447    |
|        | Deflection L/240            | 125       | 135     | 223     | 261      | 422      | 621      | 869      | 188       | 203     | 334     | 392      | 633      | 931      | 1,304    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.6/6.4  | 3.7/9.2  | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.6/6.4  | 3.7/9.2  | 4.5/11.3 |
| 22'    | Total Load                  | 115       | 126     | 212     | 250      | 411      | 611      | 810      | 173       | 189     | 318     | 375      | 617      | 917      | 1,215    |
|        | Deflection L/240            | 94        | 102     | 168     | 197      | 320      | 472      | 662      | 141       | 153     | 252     | 296      | 480      | 708      | 994      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.2/10.4 | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.2/10.4 |
| 24'    | Total Load                  | 87        | 95      | 161     | 191      | 315      | 471      | 668      | 130       | 142     | 242     | 286      | 473      | 707      | 1,002    |
|        | Deflection L/240            | 73        | 79      | 130     | 153      | 248      | 366      | 515      | 109       | 118     | 195     | 229      | 372      | 550      | 773      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  |
| 26'    | Total Load                  | 66        | 72      | 124     | 148      | 246      | 369      | 525      | 100       | 109     | 187     | 222      | 369      | 554      | 788      |
|        | Deflection L/240            | 57        | 62      | 102     | 120      | 196      | 290      | 409      | 86        | 93      | 154     | 181      | 294      | 435      | 613      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  |
| 28'    | Total Load                  | 51        | 56      | 97      | 116      | 195      | 294      | 420      | 77        | 84      | 146     | 174      | 292      | 441      | 630      |
|        | Deflection L/240            | 46        | 50      | 82      | 97       | 157      | 233      | 329      | 69        | 75      | 123     | 145      | 236      | 350      | 494      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    |
| 30'    | Total Load                  |           |         | 77      | 92       | 156      | 236      | 339      | 60        | 65      | 116     | 138      | 234      | 355      | 509      |
|        | Deflection L/240            |           |         | 67      | 79       | 128      | 190      | 269      | 56        | 61      | 101     | 118      | 193      | 286      | 404      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  |
| 32'    | Total Load                  |           |         | 61      | 74       | 126      | 192      | 277      |           | 51      | 92      | 111      | 189      | 289      | 416      |
|        | Deflection L/240            |           |         | 55      | 65       | 106      | 157      | 223      |           | 50      | 83      | 97       | 159      | 236      | 334      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |           | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |

\* Indicates **Total Load** value controls.

# SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 16 and **General Assumptions** on page 5.

## 2.0E Parallam® PSL: Roof—Snow 115% (PLF) *continued*

| Span   | Condition                   | 7" Width |         |         |          |          |          |          |
|--------|-----------------------------|----------|---------|---------|----------|----------|----------|----------|
|        |                             | 9¼"      | 9½"     | 11¼"    | 11⅞"     | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 3,383    | 3,492   | 4,285   | 4,582    | 4,882    | 4,882    | 4,882    |
|        | Deflection L/240            | *        | *       | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.1/7.8  | 3.2/8   | 3.9/9.9 | 4.2/10.5 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 2,511    | 2,641   | 3,477   | 3,709    | 4,105    | 4,105    | 4,105    |
|        | Deflection L/240            | 2,173    | 2,342   | *       | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.7/6.9  | 2.9/7.2 | 3.8/9.5 | 4.1/10.1 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 2,264    | 2,381   | 3,271   | 3,487    | 3,898    | 3,898    | 3,898    |
|        | Deflection L/240            | 1,880    | 2,027   | 3,252   | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.6/6.5  | 2.7/6.9 | 3.8/9.4 | 4/10     | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,468    | 1,586   | 2,271   | 2,517    | 3,241    | 3,241    | 3,241    |
|        | Deflection L/240            | 1,116    | 1,205   | 1,953   | 2,274    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2/5.1    | 2.2/5.5 | 3.1/7.9 | 3.5/8.7  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 932      | 1,008   | 1,653   | 1,842    | 2,519    | 2,773    | 2,773    |
|        | Deflection L/240            | 714      | 772     | 1,258   | 1,469    | 2,342    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8  | 1.6/4.1 | 2.7/6.7 | 3/7.5    | 4.1/10.2 | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 569      | 616     | 1,019   | 1,195    | 1,805    | 2,327    | 2,346    |
|        | Deflection L/240            | 441      | 477     | 782     | 915      | 1,470    | 2,148    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 2/4.9   | 2.3/5.8  | 3.5/8.7  | 4.5/11.1 | 4.5/11.3 |
| 18'-6" | Total Load                  | 400      | 434     | 723     | 849      | 1,381    | 1,844    | 2,089    |
|        | Deflection L/240            | 315      | 341     | 560     | 656      | 1,058    | 1,553    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.6/4   | 1.9/4.6  | 3/7.5    | 4/9.9    | 4.5/11.3 |
| 20'    | Total Load                  | 314      | 340     | 570     | 671      | 1,096    | 1,572    | 1,929    |
|        | Deflection L/240            | 250      | 271     | 446     | 523      | 845      | 1,242    | 1,739    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.6/4    | 2.6/6.4  | 3.7/9.2  | 4.5/11.3 |
| 22'    | Total Load                  | 231      | 252     | 425     | 501      | 823      | 1,223    | 1,620    |
|        | Deflection L/240            | 189      | 204     | 337     | 395      | 640      | 944      | 1,325    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.2/10.4 |
| 24'    | Total Load                  | 174      | 190     | 323     | 382      | 631      | 942      | 1,336    |
|        | Deflection L/240            | 146      | 158     | 260     | 306      | 496      | 733      | 1,031    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  |
| 26'    | Total Load                  | 133      | 145     | 249     | 296      | 492      | 739      | 1,051    |
|        | Deflection L/240            | 115      | 124     | 205     | 241      | 392      | 580      | 818      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  |
| 28'    | Total Load                  | 102      | 112     | 195     | 232      | 390      | 588      | 840      |
|        | Deflection L/240            | 92       | 100     | 165     | 194      | 315      | 467      | 659      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    |
| 30'    | Total Load                  | 80       | 87      | 154     | 184      | 312      | 473      | 679      |
|        | Deflection L/240            | 75       | 81      | 134     | 158      | 257      | 381      | 539      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  |
| 32'    | Total Load                  | 62       | 68      | 123     | 148      | 253      | 385      | 555      |
|        | Deflection L/240            | 62       | 67      | 111     | 130      | 212      | 315      | 446      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 19.

## TimberStrand® LSL: Roof—Non-Snow 125% (PLF)

| Span   | Condition                   | 1.3E Grade |         |         |                       |
|--------|-----------------------------|------------|---------|---------|-----------------------|
|        |                             | 3½" Width  |         |         | 5½" Plank Orientation |
|        |                             | 4⅝"        | 5½"     | 7¼"     | 3½"                   |
| 3'     | Total Load                  | 1,924      | 2,978   | 5,047   | 1,514                 |
|        | Deflection L/240 / L/360    | *1,420     | *2,547  | *4,885  | *1,224                |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.8/4.5 | 3.1/7.6 | 1.5/3.5               |
| 4'     | Total Load                  | 1,080      | 1,673   | 2,836   | 1,084                 |
|        | Deflection L/240 / L/360    | 977/651    | *1,215  | *2,476  | 820/546               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 2.3/5.7 | 1.5/3.5               |
| 5'     | Total Load                  | 647        | 1,068   | 1,812   | 533                   |
|        | Deflection L/240 / L/360    | 521/347    | 993/662 | *1,398  | 431/287               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.8/4.6 | 1.5/3.5               |
| 6'     | Total Load                  | 317        | 614     | 1,256   | 258                   |
|        | Deflection L/240 / L/360    | 309/206    | 595/397 | *857    | 253/169               |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.8 | 1.5/3.5               |
| 7'     | Total Load                  | 171        | 336     | 742     | 138                   |
|        | Deflection L/240 / L/360    | *131       | *255    | *560    | *107                  |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 8'     | Total Load                  | 99         | 198     | 443     | 79                    |
|        | Deflection L/240 / L/360    | *89        | *173    | *384    | *72                   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5    | 1.5/3.5 | 1.5/3.5 | 1.5/3.5               |
| 9'-6"  | Total Load                  |            | 98      | 224     |                       |
|        | Deflection L/240 / L/360    |            | */*     | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 10'    | Total Load                  |            | 79      | 182     |                       |
|        | Deflection L/240 / L/360    |            | */*     | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            | 1.5/3.5 | 1.5/3.5 |                       |
| 12'    | Total Load                  |            |         | 85      |                       |
|        | Deflection L/240 / L/360    |            |         | */*     |                       |
|        | Min. End/Int. Bearing (in.) |            |         | 1.5/3.5 |                       |
| 14'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 16'-6" | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 18'-6" | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 20'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 24'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |
| 28'    | Total Load                  |            |         |         |                       |
|        | Deflection L/240 / L/360    |            |         |         |                       |
|        | Min. End/Int. Bearing (in.) |            |         |         |                       |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For door and window applications, Weyerhaeuser recommends using **L/360** values for live load deflection and **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 18 and **General Assumptions** on page 5.

## TimberStrand® LSL: Roof—Non-Snow 125% (PLF) *continued*

| Span   | Condition                   | 1.55E Grade |          |          |             |             |           |           |                         |             |             |             |
|--------|-----------------------------|-------------|----------|----------|-------------|-------------|-----------|-----------|-------------------------|-------------|-------------|-------------|
|        |                             | 1¾" Width   |          |          | 3½" Width   |             |           |           | 5¼" Width (2- or 3-ply) |             |             |             |
|        |                             | 9½"         | 11½"     | 14"      | 9½"         | 11½"        | 14"       | 16"       | 9½"                     | 11½"        | 14"         | 16"         |
| 3'     | Total Load                  | 3,959       | 4,717    | 4,717    | 7,918       | 9,432       | 9,432     | 9,432     | 11,877                  | 14,148      | 14,148      | 14,148      |
|        | Deflection L/240 / L/360    | */*         | */*      | */*      | */*         | */*         | */*       | */*       | */*                     | */*         | */*         | */*         |
|        | Min. End/Int. Bearing (in.) | 3.8/9.4     | 4.5/11.3 | 4.5/11.3 | 3.8/9.4     | 4.5/11.3    | 4.5/11.3  | 4.5/11.3  | 3.8/9.4                 | 4.5/11.3    | 4.5/11.3    | 4.5/11.3    |
| 4'     | Total Load                  | 2,508       | 3,536    | 3,536    | 5,017       | 7,070       | 7,070     | 7,070     | 7,526                   | 10,605      | 10,605      | 10,605      |
|        | Deflection L/240 / L/360    | */*         | */*      | */*      | */*         | */*         | */*       | */*       | */*                     | */*         | */*         | */*         |
|        | Min. End/Int. Bearing (in.) | 3.2/8       | 4.5/11.3 | 4.5/11.3 | 3.2/8       | 4.5/11.3    | 4.5/11.3  | 4.5/11.3  | 3.2/8                   | 4.5/11.3    | 4.5/11.3    | 4.5/11.3    |
| 5'     | Total Load                  | 1,835       | 2,507    | 2,827    | 3,670       | 5,015       | 5,652     | 5,652     | 5,506                   | 7,522       | 8,478       | 8,478       |
|        | Deflection L/240 / L/360    | *1,658      | */*      | */*      | *3,316      | */*         | */*       | */*       | *4,975                  | */*         | */*         | */*         |
|        | Min. End/Int. Bearing (in.) | 2.9/7.3     | 4/10     | 4.5/11.3 | 2.9/7.3     | 4/10        | 4.5/11.3  | 4.5/11.3  | 2.9/7.3                 | 4/10        | 4.5/11.3    | 4.5/11.3    |
| 6'     | Total Load                  | 1,442       | 1,938    | 2,354    | 2,884       | 3,876       | 4,707     | 4,707     | 4,326                   | 5,814       | 7,061       | 7,061       |
|        | Deflection L/240 / L/360    | *1,048      | *1,831   | */*      | *2,097      | *3,662      | */*       | */*       | *3,146                  | *5,493      | */*         | */*         |
|        | Min. End/Int. Bearing (in.) | 2.8/6.9     | 3.7/9.3  | 4.5/11.3 | 2.8/6.9     | 3.7/9.3     | 4.5/11.3  | 4.5/11.3  | 2.8/6.9                 | 3.7/9.3     | 4.5/11.3    | 4.5/11.3    |
| 7'     | Total Load                  | 1,058       | 1,579    | 1,965    | 2,116       | 3,158       | 3,930     | 4,032     | 3,174                   | 4,737       | 5,895       | 6,048       |
|        | Deflection L/240 / L/360    | 1,049/699   | *1,250   | *1,877   | 2,098/1,399 | *2,501      | *3,755    | */*       | 3,148/2,098             | *3,752      | *5,633      | */*         |
|        | Min. End/Int. Bearing (in.) | 2.4/5.9     | 3.5/8.8  | 4.4/11   | 2.4/5.9     | 3.5/8.8     | 4.4/11    | 4.5/11.3  | 2.4/5.9                 | 3.5/8.8     | 4.4/11      | 4.5/11.3    |
| 8'     | Total Load                  | 809         | 1,239    | 1,643    | 1,618       | 2,479       | 3,286     | 3,526     | 2,427                   | 3,719       | 4,930       | 5,289       |
|        | Deflection L/240 / L/360    | 731/487     | *886     | *1,352   | 1,462/974   | *1,773      | *2,705    | */*       | 2,193/1,462             | *2,660      | *4,058      | */*         |
|        | Min. End/Int. Bearing (in.) | 2.1/5.2     | 3.2/7.9  | 4.2/10.5 | 2.1/5.2     | 3.2/7.9     | 4.2/10.5  | 4.5/11.3  | 2.1/5.2                 | 3.2/7.9     | 4.2/10.5    | 4.5/11.3    |
| 9'-6"  | Total Load                  | 572         | 877      | 1,202    | 1,144       | 1,754       | 2,404     | 2,966     | 1,716                   | 2,631       | 3,606       | 4,450       |
|        | Deflection L/240 / L/360    | 453/302     | 840/560  | *870     | 907/605     | 1,681/1,121 | *1,740    | *2,456    | 1,361/907               | 2,522/1,681 | *2,610      | *3,684      |
|        | Min. End/Int. Bearing (in.) | 1.7/4.4     | 2.7/6.7  | 3.6/9.1  | 1.7/4.4     | 2.7/6.7     | 3.6/9.1   | 4.5/11.3  | 1.7/4.4                 | 2.7/6.7     | 3.6/9.1     | 4.5/11.3    |
| 10'    | Total Load                  | 515         | 791      | 1,084    | 1,031       | 1,582       | 2,168     | 2,800     | 1,547                   | 2,373       | 3,253       | 4,200       |
|        | Deflection L/240 / L/360    | 392/261     | 731/487  | *760     | 785/523     | 1,462/974   | *1,520    | *2,154    | 1,178/785               | 2,193/1,462 | *2,280      | *3,232      |
|        | Min. End/Int. Bearing (in.) | 1.7/4.1     | 2.5/6.3  | 3.5/8.7  | 1.7/4.1     | 2.5/6.3     | 3.5/8.7   | 4.5/11.2  | 1.7/4.1                 | 2.5/6.3     | 3.5/8.7     | 4.5/11.2    |
| 12'    | Total Load                  | 306         | 547      | 750      | 612         | 1,094       | 1,501     | 1,939     | 918                     | 1,642       | 2,252       | 2,908       |
|        | Deflection L/240 / L/360    | 233/155     | 440/293  | 696/464  | 467/311     | 881/587     | 1,393/928 | *1,334    | 700/467                 | 1,322/881   | 2,089/1,393 | *2,001      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 2.1/5.3  | 2.9/7.2  | 1.5/3.5     | 2.1/5.3     | 2.9/7.2   | 3.7/9.3   | 1.5/3.5                 | 2.1/5.3     | 2.9/7.2     | 3.7/9.3     |
| 14'    | Total Load                  | 194         | 373      | 549      | 388         | 746         | 1,098     | 1,420     | 582                     | 1,119       | 1,648       | 2,130       |
|        | Deflection L/240 / L/360    | 149/99      | 284/189  | 453/302  | 299/199     | 569/379     | 907/605   | 1,316/877 | 448/299                 | 854/569     | 1,361/907   | 1,974/1,316 |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.7/4.2  | 2.5/6.2  | 1.5/3.5     | 1.7/4.2     | 2.5/6.2   | 3.2/8     | 1.5/3.5                 | 1.7/4.2     | 2.5/6.2     | 3.2/8       |
| 16'-6" | Total Load                  | 118         | 230      | 372      | 236         | 460         | 744       | 1,017     | 354                     | 690         | 1,116       | 1,526       |
|        | Deflection L/240 / L/360    | 92/61       | 177/118  | 284/189  | 185/123     | 354/236     | 569/379   | 832/555   | 277/185                 | 532/354     | 854/569     | 1,248/832   |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 2/5      | 1.5/3.5     | 1.5/3.5     | 2/5       | 2.7/6.8   | 1.5/3.5                 | 1.5/3.5     | 2/5         | 2.7/6.8     |
| 18'-6" | Total Load                  | 83          | 163      | 265      | 166         | 326         | 531       | 785       | 249                     | 489         | 797         | 1,177       |
|        | Deflection L/240 / L/360    | 66/44       | 127/84   | 205/136  | 132/88      | 254/169     | 410/273   | 601/401   | 198/132                 | 381/254     | 615/410     | 902/601     |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.6/4    | 1.5/3.5     | 1.5/3.5     | 1.6/4     | 2.4/5.9   | 1.5/3.5                 | 1.5/3.5     | 1.6/4       | 2.4/5.9     |
| 20'    | Total Load                  | 64          | 128      | 210      | 129         | 257         | 421       | 624       | 194                     | 385         | 631         | 936         |
|        | Deflection L/240 / L/360    | 52/35       | 101/67   | 163/109  | 105/70      | 202/135     | 327/218   | 481/320   | 157/105                 | 304/202     | 491/327     | 722/481     |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5     | 1.5/3.5  | 1.5/3.5  | 1.5/3.5     | 1.5/3.5     | 1.5/3.5   | 2/5.1     | 1.5/3.5                 | 1.5/3.5     | 1.5/3.5     | 2/5.1       |
| 24'    | Total Load                  |             | 72       | 120      | 71          | 145         | 241       | 361       | 106                     | 217         | 361         | 542         |
|        | Deflection L/240 / L/360    |             | 59/39    | 96/64    | 61/40       | 118/79      | 192/128   | 284/189   | 91/61                   | 177/118     | 288/192     | 426/284     |
|        | Min. End/Int. Bearing (in.) |             | 1.5/3.5  | 1.5/3.5  | 1.5/3.5     | 1.5/3.5     | 1.5/3.5   | 1.5/3.6   | 1.5/3.5                 | 1.5/3.5     | 1.5/3.5     | 1.5/3.6     |
| 28'    | Total Load                  |             |          | 73       |             | 87          | 147       | 224       | 61                      | 130         | 221         | 336         |
|        | Deflection L/240 / L/360    |             |          | 61/40    |             | 75/50       | 122/81    | 181/120   | 58/38                   | 112/75      | 183/122     | 271/181     |
|        | Min. End/Int. Bearing (in.) |             |          | 1.5/3.5  |             | 1.5/3.5     | 1.5/3.5   | 1.5/3.5   | 1.5/3.5                 | 1.5/3.5     | 1.5/3.5     | 1.5/3.5     |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 21.

## 2.OE Microllam® LVL: Roof—Non-Snow 125% (PLF)

| Span   | Condition                   | 1¾" Width |         |         |         |         |          |          | 3½" Width (2 ply) |         |         |         |         |          |
|--------|-----------------------------|-----------|---------|---------|---------|---------|----------|----------|-------------------|---------|---------|---------|---------|----------|
|        |                             | 5½"       | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"     | 14"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"     |
| 6'     | Total Load                  | 474       | 954     | 1,285   | 1,329   | 1,656   | 1,781    | 1,961    | 948               | 1,908   | 2,571   | 2,659   | 3,313   | 3,563    |
|        | Deflection L/240            | 458       | *       | *       | *       | *       | *        | *        | 916               | *       | *       | *       | *       | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 2.2/5.5 | 2.9/7.4 | 3.1/7.6 | 3.8/9.5 | 4.1/10.2 | 4.5/11.3 | 1.5/3.5           | 2.2/5.5 | 2.9/7.4 | 3.1/7.6 | 3.8/9.5 | 4.1/10.2 |
| 8'     | Total Load                  | 153       | 342     | 870     | 915     | 1,145   | 1,224    | 1,469    | 307               | 685     | 1,741   | 1,830   | 2,290   | 2,449    |
|        | Deflection L/240            | *         | *       | *       | *       | *       | *        | *        | *                 | *       | *       | *       | *       | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.7/6.7 | 2.8/7   | 3.5/8.8 | 3.8/9.4  | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.7/6.7 | 2.8/7   | 3.5/8.8 | 3.8/9.4  |
| 9'-6"  | Total Load                  | 77        | 174     | 615     | 647     | 888     | 982      | 1,212    | 154               | 349     | 1,231   | 1,294   | 1,776   | 1,965    |
|        | Deflection L/240            | *         | *       | 543     | 585     | *       | *        | *        | *                 | *       | 1,086   | 1,171   | *       | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.2/5.6 | 2.4/5.9 | 3.2/8.1 | 3.6/8.9  | 4.4/11   | 1.5/3.5           | 1.5/3.5 | 2.2/5.6 | 2.4/5.9 | 3.2/8.1 | 3.6/8.9  |
| 10'    | Total Load                  | 62        | 142     | 555     | 583     | 801     | 886      | 1,137    | 124               | 284     | 1,110   | 1,167   | 1,602   | 1,772    |
|        | Deflection L/240            | *         | *       | 470     | 506     | *       | *        | *        | *                 | *       | 940     | 1,013   | *       | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 3.1/7.7 | 3.4/8.5  | 4.4/10.9 | 1.5/3.5           | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 3.1/7.7 | 3.4/8.5  |
| 12'    | Total Load                  |           | 67      | 367     | 397     | 554     | 613      | 835      | 57                | 135     | 735     | 794     | 1,109   | 1,227    |
|        | Deflection L/240            |           | *       | 279     | 301     | 488     | 568      | *        | *                 | *       | 558     | 602     | 976     | 1,137    |
|        | Min. End/Int. Bearing (in.) |           | 1.5/3.5 | 1.7/4.3 | 1.8/4.6 | 2.6/6.4 | 2.8/7.1  | 3.9/9.6  | 1.5/3.5           | 1.5/3.5 | 1.7/4.3 | 1.8/4.6 | 2.6/6.4 | 2.8/7.1  |
| 14'    | Total Load                  |           |         | 233     | 252     | 405     | 449      | 611      |                   | 70      | 466     | 505     | 811     | 898      |
|        | Deflection L/240            |           |         | 178     | 193     | 314     | 367      | 585      |                   | *       | 357     | 386     | 629     | 734      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 2.2/5.5 | 2.4/6.1  | 3.3/8.3  |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.2/5.5 | 2.4/6.1  |
| 16'-6" | Total Load                  |           |         | 142     | 154     | 255     | 299      | 438      |                   |         | 285     | 308     | 510     | 598      |
|        | Deflection L/240            |           |         | 110     | 119     | 195     | 228      | 367      |                   |         | 220     | 238     | 391     | 457      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.8  | 2.8/7    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.8  |
| 18'-6" | Total Load                  |           |         | 100     | 108     | 181     | 212      | 345      |                   |         | 200     | 217     | 362     | 425      |
|        | Deflection L/240            |           |         | 78      | 85      | 140     | 164      | 264      |                   |         | 157     | 170     | 280     | 328      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9  | 2.5/6.2  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9  |
| 20'    | Total Load                  |           |         | 78      | 85      | 143     | 168      | 274      |                   |         | 157     | 171     | 286     | 336      |
|        | Deflection L/240            |           |         | 62      | 67      | 111     | 130      | 211      |                   |         | 125     | 135     | 223     | 261      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2.1/5.4  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |
| 22'    | Total Load                  |           |         | 58      | 63      | 106     | 125      | 206      |                   |         | 116     | 126     | 213     | 251      |
|        | Deflection L/240            |           |         | 47      | 51      | 84      | 98       | 160      |                   |         | 94      | 102     | 168     | 197      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.8/4.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |
| 24'    | Total Load                  |           |         |         |         | 81      | 95       | 158      |                   |         | 87      | 95      | 162     | 191      |
|        | Deflection L/240            |           |         |         |         | 65      | 76       | 124      |                   |         | 73      | 79      | 130     | 153      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5  | 1.5/3.8  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |
| 26'    | Total Load                  |           |         |         |         | 62      | 74       | 123      |                   |         | 67      | 73      | 125     | 148      |
|        | Deflection L/240            |           |         |         |         | 51      | 60       | 98       |                   |         | 57      | 62      | 102     | 120      |
|        | Min. End/Int. Bearing (in.) |           |         |         |         | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |
| 28'    | Total Load                  |           |         |         |         |         | 58       | 98       |                   |         | 52      | 56      | 98      | 117      |
|        | Deflection L/240            |           |         |         |         |         | 48       | 78       |                   |         | 46      | 50      | 82      | 97       |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         | 1.5/3.5  | 1.5/3.5  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  |
| 30'    | Total Load                  |           |         |         |         |         |          | 78       |                   |         |         |         | 78      | 93       |
|        | Deflection L/240            |           |         |         |         |         |          | 64       |                   |         |         |         | 67      | 79       |
|        | Min. End/Int. Bearing (in.) |           |         |         |         |         |          | 1.5/3.5  |                   |         |         |         | 1.5/3.5 | 1.5/3.5  |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 20 and **General Assumptions** on page 5.

## 2.OE Microllam® LVL: Roof—Non-Snow 125% (PLF) *continued*

| Span   | Condition                   | 3½" Width (2-ply) |          |          |          | 5¼" Width (3-ply) |         |         |         |         |          |          |          |          |          |
|--------|-----------------------------|-------------------|----------|----------|----------|-------------------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
|        |                             | 14"               | 16"      | 18"      | 20"      | 5½"               | 7¼"     | 9¼"     | 9½"     | 11¼"    | 11½"     | 14"      | 16"      | 18"      | 20"      |
| 6'     | Total Load                  | 3,919             | 3,919    | 3,919    | 3,919    | 1,423             | 2,862   | 3,857   | 3,989   | 4,970   | 5,345    | 5,878    | 5,878    | 5,878    | 5,878    |
|        | Deflection L/240            | *                 | *        | *        | *        | 1,374             | *       | *       | *       | *       | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.5/11.3          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 2.2/5.5 | 2.9/7.4 | 3.1/7.6 | 3.8/9.5 | 4.1/10.2 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 8'     | Total Load                  | 2,934             | 2,934    | 2,934    | 2,934    | 461               | 1,028   | 2,611   | 2,745   | 3,435   | 3,673    | 4,402    | 4,402    | 4,402    | 4,402    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | *       | *       | *       | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.5/11.3          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.7/6.7 | 2.8/7   | 3.5/8.8 | 3.8/9.4  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 2,425             | 2,468    | 2,468    | 2,468    | 231               | 524     | 1,847   | 1,942   | 2,664   | 2,948    | 3,637    | 3,702    | 3,702    | 3,702    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 1,630   | 1,757   | *       | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.4/11            | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.2/5.6 | 2.4/5.9 | 3.2/8.1 | 3.6/8.9  | 4.4/11   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 2,275             | 2,344    | 2,344    | 2,344    | 187               | 427     | 1,666   | 1,751   | 2,403   | 2,659    | 3,412    | 3,516    | 3,516    | 3,516    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 1,410   | 1,520   | *       | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 4.4/10.9          | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 2.1/5.3 | 2.2/5.6 | 3.1/7.7 | 3.4/8.5  | 4.4/10.9 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,670             | 1,950    | 1,950    | 1,950    | 86                | 203     | 1,102   | 1,191   | 1,663   | 1,841    | 2,505    | 2,925    | 2,925    | 2,925    |
|        | Deflection L/240            | *                 | *        | *        | *        | *                 | *       | 837     | 904     | 1,464   | 1,706    | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.9/9.6           | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 1.5/3.5           | 1.5/3.5 | 1.7/4.3 | 1.8/4.6 | 2.6/6.4 | 2.8/7.1  | 3.9/9.6  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 1,223             | 1,571    | 1,669    | 1,669    |                   | 106     | 700     | 757     | 1,217   | 1,347    | 1,835    | 2,356    | 2,503    | 2,503    |
|        | Deflection L/240            | 1,171             | *        | *        | *        |                   | *       | 535     | 579     | 943     | 1,102    | 1,757    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.3/8.3           | 4.2/10.6 | 4.5/11.3 | 4.5/11.3 |                   | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 2.2/5.5 | 2.4/6.1  | 3.3/8.3  | 4.2/10.6 | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 876               | 1,126    | 1,405    | 1,413    |                   |         | 427     | 463     | 765     | 897      | 1,315    | 1,689    | 2,107    | 2,120    |
|        | Deflection L/240            | 735               | 1,074    | *        | *        |                   |         | 331     | 358     | 587     | 686      | 1,103    | 1,611    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.8/7             | 3.6/9    | 4.5/11.2 | 4.5/11.3 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.6/4.1 | 1.9/4.8  | 2.8/7    | 3.6/9    | 4.5/11.2 | 4.5/11.3 |
| 18'-6" | Total Load                  | 691               | 892      | 1,113    | 1,258    |                   |         | 301     | 326     | 543     | 638      | 1,037    | 1,339    | 1,670    | 1,887    |
|        | Deflection L/240            | 529               | 776      | 1,084    | *        |                   |         | 236     | 256     | 420     | 492      | 794      | 1,164    | 1,626    | *        |
|        | Min. End/Int. Bearing (in.) | 2.5/6.2           | 3.2/8    | 4/10     | 4.5/11.3 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.9  | 2.5/6.2  | 3.2/8    | 4/10     | 4.5/11.3 |
| 20'    | Total Load                  | 549               | 761      | 950      | 1,158    |                   |         | 236     | 256     | 429     | 504      | 823      | 1,142    | 1,425    | 1,737    |
|        | Deflection L/240            | 422               | 621      | 869      | *        |                   |         | 188     | 203     | 334     | 392      | 633      | 931      | 1,304    | *        |
|        | Min. End/Int. Bearing (in.) | 2.1/5.4           | 3/7.4    | 3.7/9.2  | 4.5/11.2 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 2.1/5.4  | 3/7.4    | 3.7/9.2  | 4.5/11.2 |
| 22'    | Total Load                  | 412               | 613      | 782      | 954      |                   |         | 174     | 190     | 320     | 377      | 619      | 919      | 1,173    | 1,431    |
|        | Deflection L/240            | 320               | 472      | 662      | 895      |                   |         | 141     | 153     | 252     | 296      | 480      | 708      | 994      | 1,342    |
|        | Min. End/Int. Bearing (in.) | 1.8/4.5           | 2.6/6.6  | 3.4/8.4  | 4.1/10.2 |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.8/4.5  | 2.6/6.6  | 3.4/8.4  | 4.1/10.2 |
| 24'    | Total Load                  | 316               | 472      | 654      | 798      |                   |         | 131     | 143     | 243     | 287      | 475      | 708      | 981      | 1,197    |
|        | Deflection L/240            | 248               | 366      | 515      | 698      |                   |         | 109     | 118     | 195     | 229      | 372      | 550      | 773      | 1,047    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8           | 2.2/5.6  | 3.1/7.7  | 3.7/9.4  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.8  | 2.2/5.6  | 3.1/7.7  | 3.7/9.4  |
| 26'    | Total Load                  | 247               | 370      | 527      | 677      |                   |         | 101     | 110     | 188     | 223      | 371      | 556      | 790      | 1,015    |
|        | Deflection L/240            | 196               | 290      | 409      | 555      |                   |         | 86      | 93      | 154     | 181      | 294      | 435      | 613      | 832      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.9/4.8  | 2.7/6.8  | 3.5/8.6  |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.9/4.8  | 2.7/6.8  | 3.5/8.6  |
| 28'    | Total Load                  | 196               | 295      | 421      | 576      |                   |         | 78      | 85      | 148     | 175      | 294      | 442      | 632      | 865      |
|        | Deflection L/240            | 157               | 233      | 329      | 448      |                   |         | 69      | 75      | 123     | 145      | 236      | 350      | 494      | 672      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.7/4.2  | 2.3/5.9  | 3.2/8    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.7/4.2  | 2.3/5.9  | 3.2/8    |
| 30'    | Total Load                  | 157               | 238      | 341      | 468      |                   |         | 61      | 66      | 117     | 139      | 236      | 357      | 511      | 702      |
|        | Deflection L/240            | 128               | 190      | 269      | 366      |                   |         | 56      | 61      | 101     | 118      | 193      | 286      | 404      | 550      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5           | 1.5/3.6  | 2.1/5.1  | 2.8/7    |                   |         | 1.5/3.5 | 1.5/3.5 | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.6  | 2.1/5.1  | 2.8/7    |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## How to Use This Table

1. Calculate total load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total load.
4. Review bearing length requirements to ensure adequacy.

Also see **General Notes** on page 23.

## 2.0E Parallam® PSL: Roof—Non-Snow 125% (PLF)

| Span   | Condition                   | 3½" Width |         |          |          |          |          |          | 5¼" Width |         |          |          |          |          |          |
|--------|-----------------------------|-----------|---------|----------|----------|----------|----------|----------|-----------|---------|----------|----------|----------|----------|----------|
|        |                             | 9¼"       | 9½"     | 11¼"     | 11⅝"     | 14"      | 16"      | 18"      | 9¼"       | 9½"     | 11¼"     | 11⅝"     | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 1,839     | 1,899   | 2,330    | 2,441    | 2,441    | 2,441    | 2,441    | 2,759     | 2,848   | 3,495    | 3,661    | 3,661    | 3,661    | 3,661    |
|        | Deflection L/240            | 1,753     | 1,886   | *        | *        | *        | *        | *        | 2,630     | 2,830   | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.4/8.5   | 3.5/8.7 | 4.3/10.7 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 3.4/8.5   | 3.5/8.7 | 4.3/10.7 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 1,365     | 1,436   | 1,890    | 2,017    | 2,052    | 2,052    | 2,052    | 2,048     | 2,154   | 2,836    | 3,025    | 3,079    | 3,079    | 3,079    |
|        | Deflection L/240            | 1,086     | 1,171   | 1,872    | *        | *        | *        | *        | 1,630     | 1,757   | 2,808    | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3/7.5     | 3.1/7.9 | 4.1/10.3 | 4.4/11   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 3/7.5     | 3.1/7.9 | 4.1/10.3 | 4.4/11   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 1,231     | 1,295   | 1,778    | 1,896    | 1,949    | 1,949    | 1,949    | 1,847     | 1,942   | 2,668    | 2,844    | 2,923    | 2,923    | 2,923    |
|        | Deflection L/240            | 940       | 1,013   | 1,626    | 1,886    | *        | *        | *        | 1,410     | 1,520   | 2,439    | 2,830    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.8/7.1   | 3/7.5   | 4.1/10.2 | 4.4/10.9 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2.8/7.1   | 3/7.5   | 4.1/10.2 | 4.4/10.9 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 734       | 793     | 1,235    | 1,369    | 1,620    | 1,620    | 1,620    | 1,101     | 1,190   | 1,853    | 2,053    | 2,431    | 2,431    | 2,431    |
|        | Deflection L/240            | 558       | 602     | 976      | 1,137    | *        | *        | *        | 837       | 904     | 1,464    | 1,706    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2/5.1     | 2.2/5.5 | 3.4/8.6  | 3.8/9.5  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 2/5.1     | 2.2/5.5 | 3.4/8.6  | 3.8/9.5  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 466       | 504     | 826      | 966      | 1,370    | 1,386    | 1,386    | 699       | 756     | 1,240    | 1,449    | 2,055    | 2,079    | 2,079    |
|        | Deflection L/240            | 357       | 386     | 629      | 734      | 1,171    | *        | *        | 535       | 579     | 943      | 1,102    | 1,757    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8   | 1.6/4.1 | 2.7/6.7  | 3.1/7.8  | 4.4/11.1 | 4.5/11.3 | 4.5/11.3 | 1.5/3.8   | 1.6/4.1 | 2.7/6.7  | 3.1/7.8  | 4.4/11.1 | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 284       | 308     | 509      | 597      | 965      | 1,173    | 1,173    | 426       | 462     | 764      | 896      | 1,447    | 1,760    | 1,760    |
|        | Deflection L/240            | 220       | 238     | 391      | 457      | 735      | 1,074    | *        | 331       | 358     | 587      | 686      | 1,103    | 1,611    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 2/4.9    | 2.3/5.8  | 3.7/9.2  | 4.5/11.3 | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 2/4.9    | 2.3/5.8  | 3.7/9.2  | 4.5/11.3 | 4.5/11.3 |
| 18'-6" | Total Load                  | 200       | 217     | 361      | 424      | 690      | 1,003    | 1,044    | 300       | 325     | 542      | 637      | 1,035    | 1,505    | 1,566    |
|        | Deflection L/240            | 157       | 170     | 280      | 328      | 529      | 776      | *        | 236       | 256     | 420      | 492      | 794      | 1,164    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.6/4    | 1.9/4.6  | 3/7.5    | 4.3/10.8 | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 1.6/4    | 1.9/4.6  | 3/7.5    | 4.3/10.8 | 4.5/11.3 |
| 20'    | Total Load                  | 157       | 170     | 285      | 335      | 548      | 810      | 964      | 235       | 255     | 427      | 503      | 822      | 1,216    | 1,447    |
|        | Deflection L/240            | 125       | 135     | 223      | 261      | 422      | 621      | 869      | 188       | 203     | 334      | 392      | 633      | 931      | 1,304    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.6/4    | 2.6/6.4  | 3.8/9.5  | 4.5/11.3 | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.6/4    | 2.6/6.4  | 3.8/9.5  | 4.5/11.3 |
| 22'    | Total Load                  | 115       | 126     | 212      | 250      | 411      | 611      | 863      | 173       | 189     | 318      | 375      | 617      | 917      | 1,295    |
|        | Deflection L/240            | 94        | 102     | 168      | 197      | 320      | 472      | 662      | 141       | 153     | 252      | 296      | 480      | 708      | 994      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.4/11.1 | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.4/11.1 |
| 24'    | Total Load                  | 87        | 95      | 161      | 191      | 315      | 471      | 668      | 130       | 142     | 242      | 286      | 473      | 707      | 1,002    |
|        | Deflection L/240            | 73        | 79      | 130      | 153      | 248      | 366      | 515      | 109       | 118     | 195      | 229      | 372      | 550      | 773      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  |
| 26'    | Total Load                  | 66        | 72      | 124      | 148      | 246      | 369      | 525      | 100       | 109     | 187      | 222      | 369      | 554      | 788      |
|        | Deflection L/240            | 57        | 62      | 102      | 120      | 196      | 290      | 409      | 86        | 93      | 154      | 181      | 294      | 435      | 613      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  |
| 28'    | Total Load                  | 51        | 56      | 97       | 116      | 195      | 294      | 420      | 77        | 84      | 146      | 174      | 292      | 441      | 630      |
|        | Deflection L/240            | 46        | 50      | 82       | 97       | 157      | 233      | 329      | 69        | 75      | 123      | 145      | 236      | 350      | 494      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    |
| 30'    | Total Load                  |           |         | 77       | 92       | 156      | 236      | 339      | 60        | 65      | 116      | 138      | 234      | 355      | 509      |
|        | Deflection L/240            |           |         | 67       | 79       | 128      | 190      | 269      | 56        | 61      | 101      | 118      | 193      | 286      | 404      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  | 1.5/3.5   | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  |
| 32'    | Total Load                  |           |         | 61       | 74       | 126      | 192      | 277      |           | 51      | 92       | 111      | 189      | 289      | 416      |
|        | Deflection L/240            |           |         | 55       | 65       | 106      | 157      | 223      |           | 50      | 83       | 97       | 159      | 236      | 334      |
|        | Min. End/Int. Bearing (in.) |           |         | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |           | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |

\* Indicates **Total Load** value controls.

# NON-SNOW ROOF LOAD TABLES

## General Notes

- Table is based on:
  - Uniform loads (beam weight considered).
  - More restrictive of simple or continuous span.
  - Deflection criteria of L/180 total load.
- For stiffer deflection criteria, use **L/240** values for total load deflection.
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Also see **How to Use This Table** on page 22 and **General Assumptions** on page 5.

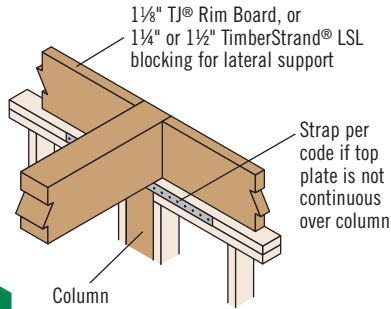
## 2.0E Parallam® PSL: Roof—Non-Snow 25% (PLF) *continued*

| Span   | Condition                   | 7" Width |         |          |          |          |          |          |
|--------|-----------------------------|----------|---------|----------|----------|----------|----------|----------|
|        |                             | 9¼"      | 9½"     | 11¼"     | 11⅞"     | 14"      | 16"      | 18"      |
| 8'     | Total Load                  | 3,679    | 3,798   | 4,660    | 4,882    | 4,882    | 4,882    | 4,882    |
|        | Deflection L/240            | 3,507    | 3,773   | *        | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3.4/8.5  | 3.5/8.7 | 4.3/10.7 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 9'-6"  | Total Load                  | 2,731    | 2,872   | 3,781    | 4,034    | 4,105    | 4,105    | 4,105    |
|        | Deflection L/240            | 2,173    | 2,342   | 3,745    | *        | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 3/7.5    | 3.1/7.9 | 4.1/10.3 | 4.4/11   | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 10'    | Total Load                  | 2,462    | 2,590   | 3,557    | 3,792    | 3,898    | 3,898    | 3,898    |
|        | Deflection L/240            | 1,880    | 2,027   | 3,252    | 3,773    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2.8/7.1  | 3/7.5   | 4.1/10.2 | 4.4/10.9 | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 12'    | Total Load                  | 1,468    | 1,586   | 2,471    | 2,738    | 3,241    | 3,241    | 3,241    |
|        | Deflection L/240            | 1,116    | 1,205   | 1,953    | 2,274    | *        | *        | *        |
|        | Min. End/Int. Bearing (in.) | 2/5.1    | 2.2/5.5 | 3.4/8.6  | 3.8/9.5  | 4.5/11.3 | 4.5/11.3 | 4.5/11.3 |
| 14'    | Total Load                  | 932      | 1,008   | 1,653    | 1,933    | 2,740    | 2,773    | 2,773    |
|        | Deflection L/240            | 714      | 772     | 1,258    | 1,469    | 2,342    | *        | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.8  | 1.6/4.1 | 2.7/6.7  | 3.1/7.8  | 4.4/11.1 | 4.5/11.3 | 4.5/11.3 |
| 16'-6" | Total Load                  | 569      | 616     | 1,019    | 1,195    | 1,930    | 2,346    | 2,346    |
|        | Deflection L/240            | 441      | 477     | 782      | 915      | 1,470    | 2,148    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 2/4.9    | 2.3/5.8  | 3.7/9.2  | 4.5/11.3 | 4.5/11.3 |
| 18'-6" | Total Load                  | 400      | 434     | 723      | 849      | 1,381    | 2,007    | 2,089    |
|        | Deflection L/240            | 315      | 341     | 560      | 656      | 1,058    | 1,553    | *        |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.6/4    | 1.9/4.6  | 3/7.5    | 4.3/10.8 | 4.5/11.3 |
| 20'    | Total Load                  | 314      | 340     | 570      | 671      | 1,096    | 1,621    | 1,929    |
|        | Deflection L/240            | 250      | 271     | 446      | 523      | 845      | 1,242    | 1,739    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.6/4    | 2.6/6.4  | 3.8/9.5  | 4.5/11.3 |
| 22'    | Total Load                  | 231      | 252     | 425      | 501      | 823      | 1,223    | 1,727    |
|        | Deflection L/240            | 189      | 204     | 337      | 395      | 640      | 944      | 1,325    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 2.1/5.4  | 3.2/7.9  | 4.4/11.1 |
| 24'    | Total Load                  | 174      | 190     | 323      | 382      | 631      | 942      | 1,336    |
|        | Deflection L/240            | 146      | 158     | 260      | 306      | 496      | 733      | 1,031    |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.8/4.5  | 2.7/6.7  | 3.8/9.4  |
| 26'    | Total Load                  | 133      | 145     | 249      | 296      | 492      | 739      | 1,051    |
|        | Deflection L/240            | 115      | 124     | 205      | 241      | 392      | 580      | 818      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.6/3.9  | 2.3/5.8  | 3.2/8.1  |
| 28'    | Total Load                  | 102      | 112     | 195      | 232      | 390      | 588      | 840      |
|        | Deflection L/240            | 92       | 100     | 165      | 194      | 315      | 467      | 659      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 2/5      | 2.8/7    |
| 30'    | Total Load                  | 80       | 87      | 154      | 184      | 312      | 473      | 679      |
|        | Deflection L/240            | 75       | 81      | 134      | 158      | 257      | 381      | 539      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.7/4.4  | 2.5/6.2  |
| 32'    | Total Load                  | 62       | 68      | 123      | 148      | 253      | 385      | 555      |
|        | Deflection L/240            | 62       | 67      | 111      | 130      | 212      | 315      | 446      |
|        | Min. End/Int. Bearing (in.) | 1.5/3.5  | 1.5/3.5 | 1.5/3.5  | 1.5/3.5  | 1.5/3.5  | 1.5/3.8  | 2.2/5.4  |

\* Indicates **Total Load** value controls.

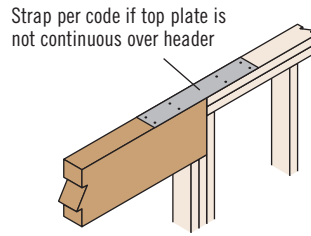
## BEAM DETAILS

### Bearing at Wall



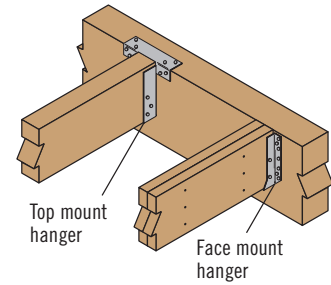
L1

### Bearing for Door or Window Header



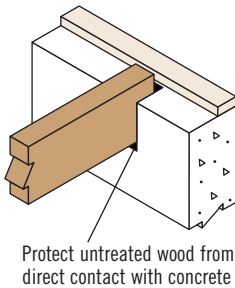
L2

### Beam to Beam Connection



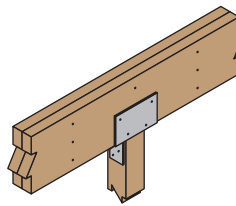
L3

### Bearing at Concrete Wall



L4

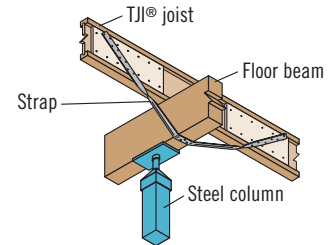
### Bearing at Column



L5

Verify beam bearing length on page 26 and column capacity on page 30

### Beam to Column Lateral Brace



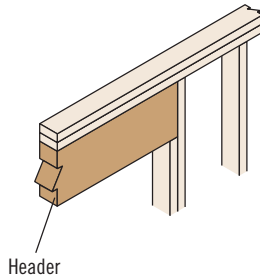
L14

Suggested lateral bracing detail for beams when required. Verify beam bearing length on page 26.

## WINDOW AND DOOR HEADER DETAILS

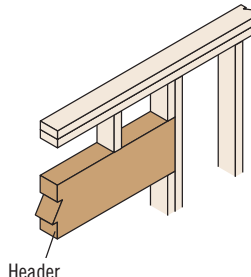
### 2x4 Wall Framing

#### Full Depth Header



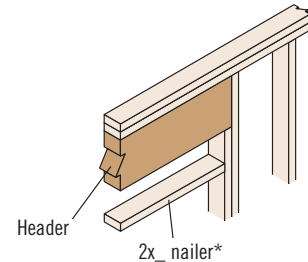
L7

#### Low Header



L8

#### High Header



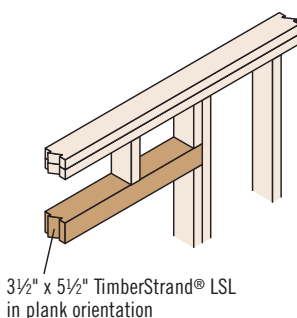
L9

\*Double nailer may be required depending upon the opening size and window type

### 2x6 Wall Framing

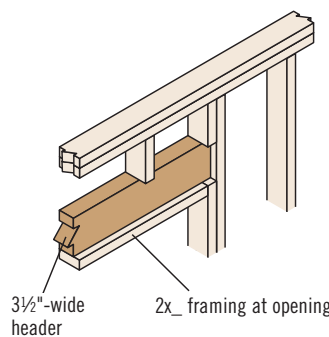
Headers not matching wall thickness may be installed flush to the inside or outside of the wall, depending upon sheathing and trim attachment requirements

#### Plank Orientation Header



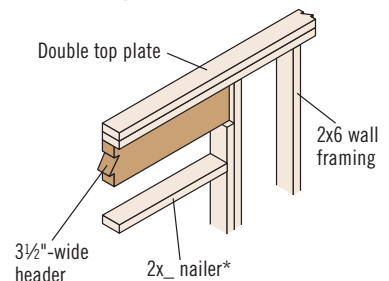
L10

#### Low Header



L11

#### High Header



L12

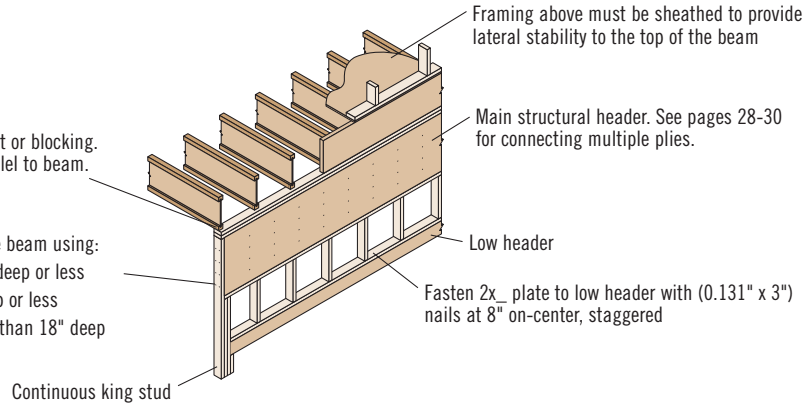
\*Double nailer may be required depending upon the opening size and window type

# WINDOW AND DOOR HEADER DETAILS

## Dropped Header with Full Lateral Bracing

One 8d (0.113" x 2½") nail each side of joist or blocking. Blocking is required if joist framing is parallel to beam. Joist spacing must be 24" on-center or less.

Nail continuous king studs to the end of the beam using:  
 – Four (0.131" x 3") nails for beams 11⅞" deep or less  
 – Six (0.131" x 3") nails for beams 18" deep or less  
 – Ten (0.131" x 3") nails for beams greater than 18" deep

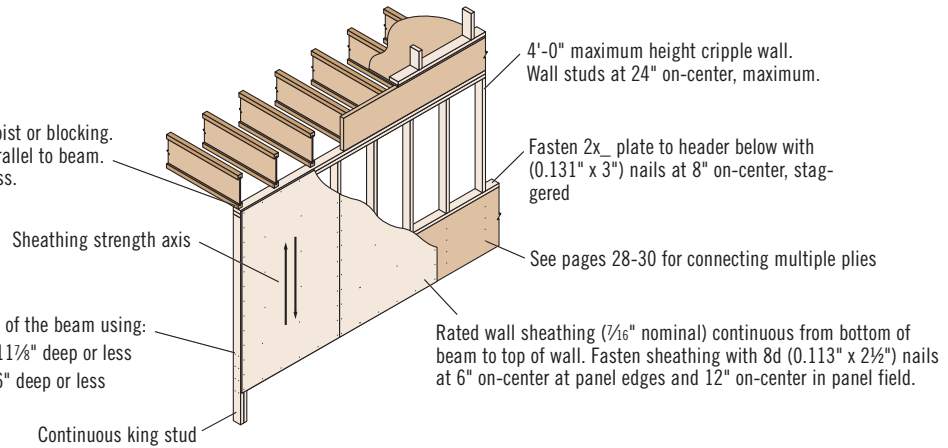


L15

## Dropped Header with Acceptable Lateral Bracing

One 8d (0.113" x 2½") nail each side of joist or blocking. Blocking is required if joist framing is parallel to beam. Joist spacing must be 24" on-center or less.

Nail continuous king studs to the end of the beam using:  
 – Four (0.131" x 3") nails for beams 11⅞" deep or less  
 – Six (0.131" x 3") nails for beams 16" deep or less



L16

When framed as shown above, the following dropped headers are considered fully braced under uniform-load, simple-span conditions:

### Single-ply:

- 1¾" wide headers, 11⅞" deep or less
- 3½" wide headers, 16" deep or less, with a maximum span of 18'-6"

### Multiple-ply:

- Headers up to four 1¾" plies, 11⅞" deep or less
- Headers up to four 1¾" x 14" plies, with a maximum span of 8'-6"

## NAILING ON NARROW FACE

### Nails Installed on the Narrow Face

| Nail Size                                                        | Closest On-Center Spacing Per Row |                   |               |
|------------------------------------------------------------------|-----------------------------------|-------------------|---------------|
|                                                                  | TimberStrand® LSL                 | Microllam® LVL    | Parallam® PSL |
| 8d (0.113" x 2½"),<br>8d (0.131" x 2½"), or<br>10d (0.128" x 3") | 3"                                | 4"                | 4"            |
| 10d (0.148" x 3") or<br>12d (0.148" x 3¼")                       | 3"                                | 5"                | 4"            |
| 16d (0.162" x 3½")                                               | 6" <sup>(1)</sup>                 | 8" <sup>(2)</sup> | 6"            |
| (0.131" x 3"-3½")                                                | 3"                                | 4"                | 4"            |

(1) Can be reduced to 3½" on-center if nail penetration into the narrow edge is no more than 1¼" (to minimize splitting).

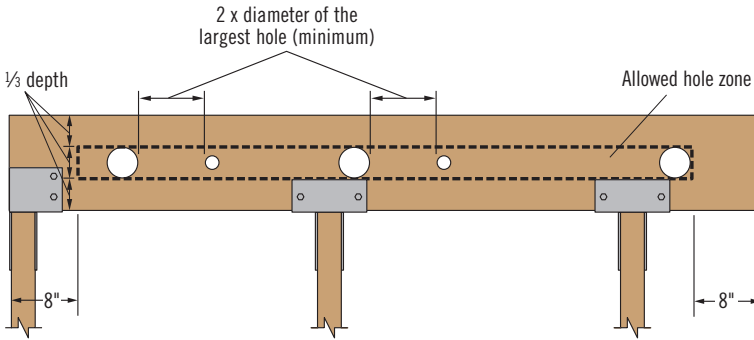
(2) Can be reduced to 5" on-center if nail penetration into the narrow edge is no more than 1¼" (to minimize splitting).

- To minimize splitting, member edge distance and spacing between rows shall be 2.5 x nail diameter or ¾", whichever is greater. Where multiple rows are used, fasteners in adjacent rows must be staggered and the rows must be equally spaced from the centerline of the narrow face axis.

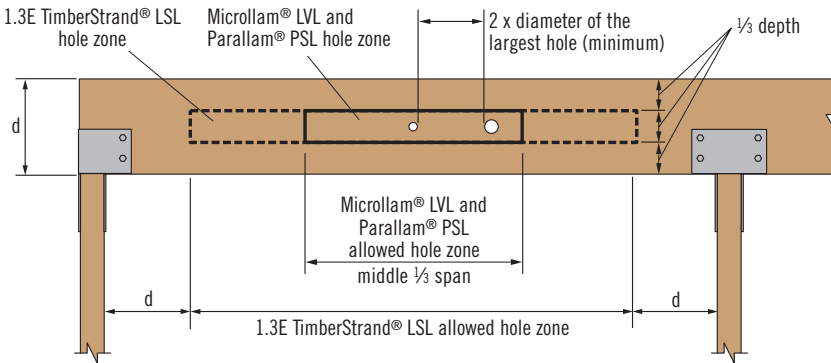
*Fastener spacing not applicable for shear wall applications. See ICC-ES ESR-1387 report for grade specific TimberStrand® LSL shear wall nailing requirements.*

# ALLOWABLE HOLES

## 1.55E TimberStrand® LSL Headers and Beams



## Other Trus Joist® Headers and Beams



**WARNING:** This product can expose you to chemicals including wood dust which are known to the State of California to cause cancer, and methanol, which are known to the State of California to cause birth defects or other reproductive harm. Drilling, sawing, sanding or machining wood products can expose you to wood dust. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov) and [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).

Safety data sheets for all Weyerhaeuser wood products can be found on our website at: [weyerhaeuser.com/sustainability/environment/product-stewardship/safety-data-sheets](http://weyerhaeuser.com/sustainability/environment/product-stewardship/safety-data-sheets).

## General Notes

- Allowed hole zone suitable for headers and beams with **uniform and/or concentrated loads** anywhere along the member.
- Round holes only.
- No holes in headers or beams in plank orientation.

## 1.55E TimberStrand® LSL

| Header or Beam Depth | Maximum Round Hole Size |
|----------------------|-------------------------|
| 9½"                  | 3"                      |
| 11⅞"                 | 3⅝"                     |
| 14"-16"              | 4⅝"                     |

- See illustration for allowed hole zone.

## General Notes

- Allowed hole zone suitable for headers and beams with **uniform loads only**.
- Round holes only.
- No holes in cantilevers.
- No holes in headers or beams in plank orientation.

## Other Trus Joist® Beams

| Header or Beam Depth | Maximum Round Hole Size |
|----------------------|-------------------------|
| 4⅝"                  | 1"                      |
| 5½"                  | 1¾"                     |
| 7¼"-20"              | 2"                      |

- See illustration for allowed hole zone.

*Larger holes in Trus Joist® structural composite lumber may be possible; refer to ForteWEB® or Javelin® software.*



**DO NOT** cut, notch, or drill holes in headers or beams except as indicated in the illustrations and tables

# BEARING LENGTH REQUIREMENTS

| Reaction (lbs) | 1.3E TimberStrand® LSL |                   | 1.55E TimberStrand® LSL |     |     | 2.0E Microllam® LVL <sup>(1)</sup> |     |     | 2.0E Parallam® PSL |     |     |
|----------------|------------------------|-------------------|-------------------------|-----|-----|------------------------------------|-----|-----|--------------------|-----|-----|
|                | Beam Orientation       | Plank Orientation | Beam Orientation        |     |     | Beam Orientation                   |     |     | Beam Orientation   |     |     |
|                | Width                  | Width             | Width                   |     |     | Width                              |     |     | Width              |     |     |
|                | 3½"                    | 5½"               | 1¾"                     | 3½" | 5¼" | 1¾"                                | 3½" | 5¼" | 3½"                | 5¼" | 7"  |
| 2,000          | 1½"                    | 1½"               | 1½"                     | 1½" | 1½" | 1¾"                                | 1½" | 1½" | 1½"                | 1½" | 1½" |
| 4,000          | 1¾"                    | 1½"               | 2¾"                     | 1½" | 1½" | 3¼"                                | 1¾" | 1½" | 2"                 | 1½" | 1½" |
| 6,000          | 2½"                    | 1¾"               | 4"                      | 2"  | 1½" | 4¾"                                | 2½" | 1¾" | 2¾"                | 2"  | 1½" |
| 8,000          | 3¼"                    | 2¼"               | 5¼"                     | 2¾" | 1¾" | 6¼"                                | 3¼" | 2¼" | 3¾"                | 2½" | 2"  |
| 10,000         | 4¼"                    | 2¾"               | 6½"                     | 3¼" | 2¼" | 7¾"                                | 4"  | 2¾" | 4¾"                | 3¼" | 2½" |
| 12,000         | 5"                     | 3½"               | 7¾"                     | 4"  | 2¾" |                                    | 4¾" | 3¼" | 5½"                | 3¾" | 2¾" |
| 14,000         | 5¾"                    | 4"                |                         | 4½" | 3"  |                                    | 5½" | 3¾" | 6½"                | 4½" | 3¼" |
| 16,000         | 6½"                    | 4½"               |                         | 5¼" | 3½" |                                    | 6¼" | 4¼" | 7½"                | 5"  | 3¾" |
| 18,000         | 7¼"                    | 5"                |                         | 5¾" | 4"  |                                    | 7"  | 4¾" |                    | 5½" | 4¼" |
| 20,000         |                        | 5½"               |                         | 6½" | 4¼" |                                    | 7¾" | 5¼" |                    | 6¼" | 4¾" |
| 22,000         |                        | 6"                |                         | 7"  | 4¾" |                                    |     | 5¾" |                    | 6¾" | 5¼" |
| 24,000         |                        | 7¼"               |                         | 7¾" | 5¼" |                                    |     | 6¼" |                    | 7½" | 5½" |
| 26,000         |                        | 7¾"               |                         |     | 5¾" |                                    |     | 6¾" |                    |     | 6"  |
| 28,000         |                        |                   |                         |     | 6"  |                                    |     | 7¼" |                    |     | 6½" |
| 30,000         |                        |                   |                         |     | 6½" |                                    |     | 7¾" |                    |     | 7"  |

(1) Values for Microllam® LVL can also be used for 2.0E Parallam® PSL identified with plant number 0579.

## General Notes

- Minimum bearing length:** 1½" at ends, 3½" at intermediate supports.
- Bearing across full beam width is required.
- Interpolation between reaction loads is permitted for determining bearing lengths.
- Bearing lengths based on the following bearing stresses:
  - 1.3E TimberStrand® LSL: 710 psi; 670 psi for plank orientation.
  - 1.55E TimberStrand® LSL: 900 psi.
  - 2.0E Microllam® LVL: 750 psi.
  - 2.0E Parallam® PSL: 625 psi.

# TAPERED END CUTS

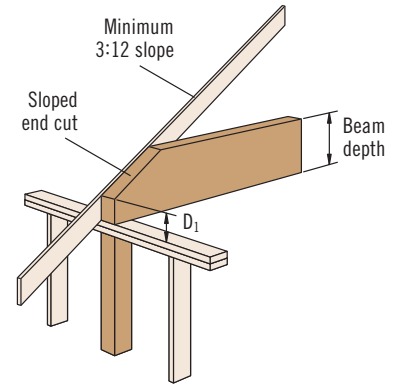
## Allowable Reactions for 3½" (1) TimberStrand® LSL Headers and Beams (lbs)

| Bearing                       | Beam Depth | Outside Heel Height D <sub>1</sub> |       |       |       |       |       |       |       |
|-------------------------------|------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|
|                               |            | 4½"                                | 5"    | 5½"   | 6"    | 6½"   | 7"    | 7½"   | 8"    |
| 3½" Wood Plate <sup>(2)</sup> | 7¼"        | 5,205                              | 5,205 | 5,205 | 5,205 |       |       |       |       |
|                               | 9¼"        | 4,860                              | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 11⅞"       | 4,860                              | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 14"        |                                    | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 16"        |                                    |       |       | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
| 5¼" Wood Plate <sup>(2)</sup> | 7¼"        | 7,190                              | 7,190 | 7,190 |       |       |       |       |       |
|                               | 9¼"        | 5,255                              | 5,710 | 6,160 | 6,610 | 6,870 | 6,870 | 6,870 | 6,870 |
|                               | 11⅞"       | 5,255                              | 5,710 | 6,160 | 6,610 | 7,065 | 7,515 | 7,810 | 7,810 |
|                               | 14"        | 5,255                              | 5,710 | 6,160 | 6,610 | 7,065 | 7,515 | 7,810 | 7,810 |
|                               | 16"        |                                    |       | 6,160 | 6,610 | 7,065 | 7,515 | 7,810 | 7,810 |
| 3½" Column <sup>(3)</sup>     | 7¼"        | 6,665                              | 7,190 | 7,190 | 7,190 |       |       |       |       |
|                               | 9¼"        | 4,860                              | 5,310 | 5,765 | 6,215 | 6,670 | 6,870 | 6,870 | 6,870 |
|                               | 11⅞"       | 4,860                              | 5,310 | 5,765 | 6,215 | 6,670 | 7,120 | 7,570 | 8,025 |
|                               | 14"        |                                    | 5,310 | 5,765 | 6,215 | 6,670 | 7,120 | 7,570 | 8,025 |
|                               | 16"        |                                    |       |       | 6,215 | 6,670 | 7,120 | 7,570 | 8,025 |

(1) For 1¾" and 5¼" beams, multiply by 0.5 and 1.5, respectively.

(2) Bearing lengths, based on F<sub>c⊥</sub> of 425 psi.

(3) Bearing lengths based on F<sub>c⊥</sub> of 710 psi for 1.3E TimberStrand® LSL and 900 psi for 1.55E TimberStrand® LSL.



*Tapered end cut detailed above is not allowed with TJI® joists*

## Allowable Reactions for 3½" (1) Microllam® LVL and Parallam® PSL Beams (lbs)

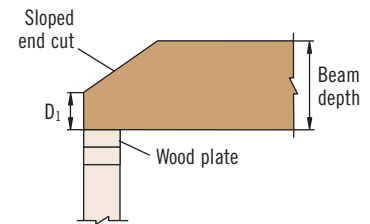
| Bearing                       | Beam Depth | Outside Heel Height D <sub>1</sub> |       |       |       |       |       |       |       |       |
|-------------------------------|------------|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               |            | 4½"                                | 5"    | 5½"   | 6"    | 6½"   | 7"    | 7½"   | 8"    | 10"   |
| 3½" Wood Plate <sup>(2)</sup> | 7¼"        | 4,470                              | 4,820 | 4,820 | 4,820 |       |       |       |       |       |
|                               | 9¼"        | 4,470                              | 4,885 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |       |
|                               | 9½"        | 4,470                              | 4,885 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |       |
|                               | 11¼"       | 4,470                              | 4,885 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 11⅞"       | 4,470                              | 4,885 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 14"        |                                    | 4,885 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 16"        |                                    |       |       | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
|                               | 18"        |                                    |       |       |       | 5,205 | 5,205 | 5,205 | 5,205 | 5,205 |
| 5¼" Wood Plate <sup>(2)</sup> | 7¼"        | 4,820                              | 4,820 | 4,820 |       |       |       |       |       |       |
|                               | 9¼"        | 4,830                              | 5,245 | 5,665 | 6,080 | 6,150 | 6,150 | 6,150 |       |       |
|                               | 9½"        | 4,830                              | 5,245 | 5,665 | 6,080 | 6,320 | 6,320 | 6,320 | 6,320 |       |
|                               | 11¼"       | 4,830                              | 5,245 | 5,665 | 6,080 | 6,495 | 6,910 | 7,325 | 7,480 |       |
|                               | 11⅞"       | 4,830                              | 5,245 | 5,665 | 6,080 | 6,495 | 6,910 | 7,325 | 7,740 | 7,810 |
|                               | 14"        | 4,830                              | 5,245 | 5,665 | 6,080 | 6,495 | 6,910 | 7,325 | 7,740 | 7,810 |
|                               | 16"        |                                    |       | 5,665 | 6,080 | 6,495 | 6,910 | 7,325 | 7,740 | 7,810 |
|                               | 18"        |                                    |       |       | 6,080 | 6,495 | 6,910 | 7,325 | 7,740 | 7,810 |
| 3½" Column <sup>(3)</sup>     | 7¼"        | 4,470                              | 4,820 | 4,820 | 4,820 |       |       |       |       |       |
|                               | 9¼"        | 4,470                              | 4,885 | 5,300 | 5,715 | 6,130 | 6,150 | 6,150 | 6,150 |       |
|                               | 9½"        | 4,470                              | 4,885 | 5,300 | 5,715 | 6,130 | 6,320 | 6,320 | 6,320 |       |
|                               | 11¼"       | 4,470                              | 4,885 | 5,300 | 5,715 | 6,130 | 6,545 | 6,960 | 7,375 | 7,480 |
|                               | 11⅞"       | 4,470                              | 4,885 | 5,300 | 5,715 | 6,130 | 6,545 | 6,960 | 7,375 | 7,655 |
|                               | 14"        |                                    | 4,885 | 5,300 | 5,715 | 6,130 | 6,545 | 6,960 | 7,375 | 7,655 |
|                               | 16"        |                                    |       |       | 5,715 | 6,130 | 6,545 | 6,960 | 7,375 | 7,655 |
|                               | 18"        |                                    |       |       |       | 6,130 | 6,545 | 6,960 | 7,375 | 7,655 |
|                               | 20"        |                                    |       |       |       |       |       | 6,960 | 7,375 | 7,655 |

(1) For 1¾", 5¼", and 7" beams, multiply by 0.5, 1.5, and 2.0, respectively.

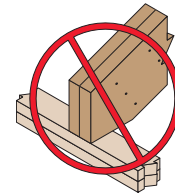
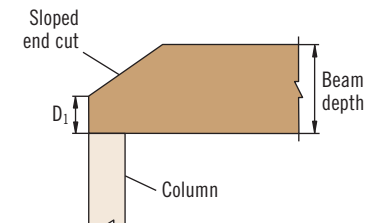
(2) Bearing lengths based on F<sub>c⊥</sub> of 425 psi.

(3) Bearing lengths based on F<sub>c⊥</sub> of 625 psi.

### Wood Plate Connection



### Column Connection



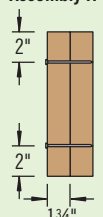
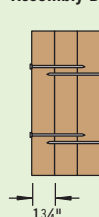
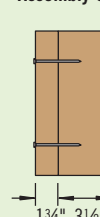
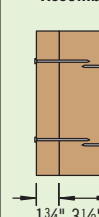
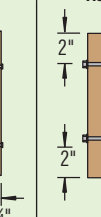
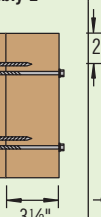
**DO NOT** overhang seat cuts on beams beyond inside face of support member

## General Notes

- No increase for duration of load is permitted.
- No holes or concentrated load within tapered cut.
- Table considers only downward loading. Contact your Weyerhaeuser representative for assistance with uplift loading or other conditions.

# MULTIPLE-MEMBER CONNECTIONS FOR SIDE-LOADED BEAMS

## L17 Uniform Load—Maximum Uniform Load Applied to Either Outside Member (PLF)

| Fastener Type                                          | Placement | Number of Rows   | Fastener On-Center Spacing | Fastener Pattern                                                                  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|--------------------------------------------------------|-----------|------------------|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                        |           |                  |                            | Assembly A                                                                        | Assembly B                                                                        | Assembly C                                                                        | Assembly D                                                                          | Assembly E                                                                          | Assembly F                                                                          |
|                                                        |           |                  |                            |  |  |  |  |  |  |
|                                                        |           |                  |                            | 3½" wide, 2-ply                                                                   | 5¼" wide, 3-ply                                                                   | 5¼" wide, 2-ply                                                                   | 7" wide, 3-ply                                                                      | 7" wide, 2-ply                                                                      | 7" wide, 4-ply                                                                      |
| 10d (0.128" x 3") or (0.131" x 3") Nail <sup>(1)</sup> | As shown  | 2 <sup>(6)</sup> | 12"                        | 370                                                                               | <b>280</b>                                                                        | 280                                                                               | <b>250</b>                                                                          |                                                                                     |                                                                                     |
|                                                        |           | 3                | 12"                        | 560                                                                               | <b>420</b>                                                                        | 420                                                                               | <b>370</b>                                                                          |                                                                                     |                                                                                     |
| ½" A307 Through Bolt <sup>(2)(3)</sup>                 | —         | 2                | 24"                        | 510                                                                               | 380                                                                               | 525                                                                               | 465                                                                                 | 860                                                                                 | 340                                                                                 |
|                                                        |           |                  | 19.2"                      | 635                                                                               | 475                                                                               | 655                                                                               | 580                                                                                 | 1075                                                                                | 425                                                                                 |
|                                                        |           |                  | 16"                        | 760                                                                               | 570                                                                               | 785                                                                               | 700                                                                                 | 1290                                                                                | 510                                                                                 |
| Screw Length ▶                                         |           |                  |                            | 3½"                                                                               | 3½"                                                                               | 3½"                                                                               | 3½"                                                                                 | 6"                                                                                  | 6"                                                                                  |
| Simpson Strong-Tie® SDS <sup>(3)</sup>                 | As shown  | 2                | 24"                        | 680                                                                               | <b>510</b>                                                                        | 510                                                                               | <b>455</b>                                                                          | <b>1,360</b>                                                                        | <b>555</b>                                                                          |
|                                                        |           |                  | 19.2"                      | 850                                                                               | <b>640</b>                                                                        | 640                                                                               | <b>565</b>                                                                          | <b>1,700</b>                                                                        | <b>695</b>                                                                          |
|                                                        |           |                  | 16"                        | 1,020                                                                             | <b>765</b>                                                                        | 765                                                                               | <b>680</b>                                                                          | <b>2,040</b>                                                                        | <b>835</b>                                                                          |
| MiTek® WS <sup>(3)</sup>                               | As shown  | 2                | 24"                        | 640                                                                               | <b>480</b>                                                                        | 480                                                                               | <b>425</b>                                                                          |                                                                                     | <b>475<sup>(7)</sup></b>                                                            |
|                                                        |           |                  | 19.2"                      | 800                                                                               | <b>600</b>                                                                        | 600                                                                               | <b>530</b>                                                                          |                                                                                     | <b>595<sup>(7)</sup></b>                                                            |
|                                                        |           |                  | 16"                        | 955                                                                               | <b>720</b>                                                                        | 720                                                                               | <b>640</b>                                                                          |                                                                                     | <b>715<sup>(7)</sup></b>                                                            |
| Screw Length ▶                                         |           |                  |                            | 3⅝"                                                                               | 5"                                                                                | 3⅝"                                                                               | 6¾"                                                                                 | 6¾"                                                                                 | 6¾"                                                                                 |
| Simpson Strong-Tie® SDW22 <sup>(3)(4)</sup>            | One face  | 2                | 24"                        | 800                                                                               | 450                                                                               | 600                                                                               | 400                                                                                 | 800                                                                                 | 400                                                                                 |
|                                                        |           |                  | 19.2"                      | 1,000                                                                             | 565                                                                               | 750                                                                               | 500                                                                                 | 1,000                                                                               | 500                                                                                 |
|                                                        |           |                  | 16"                        | 1,200                                                                             | 675                                                                               | 900                                                                               | 600                                                                                 | 1,200                                                                               | 600                                                                                 |
| MiTek® WSWH <sup>(3)(5)</sup>                          | One face  | 2                | 24"                        | 600                                                                               | 430                                                                               | 480                                                                               | 380                                                                                 | 830                                                                                 | 380                                                                                 |
|                                                        |           |                  | 19.2"                      | 750                                                                               | 535                                                                               | 600                                                                               | 475                                                                                 | 1,040                                                                               | 475                                                                                 |
|                                                        |           |                  | 16"                        | 905                                                                               | 645                                                                               | 720                                                                               | 575                                                                                 | 1,245                                                                               | 575                                                                                 |

(1) Nailed connection values may be doubled for 6" on-center or tripled for 4" on-center nail spacing.

(2) Washers required. Bolt holes to be 1/16" maximum. 9/16" minimum beam depth.

(3) 24" on-center bolted or screwed connection values may be doubled for 12" on-center spacing.

(4) When loading the head side of a SDW22 screw, assemblies B, D, and F can be increased by 30%.

(5) When loading the head side of a WSWH screw, assemblies B, D, and F can be increased by 25%.

(6) For beams up to 14" deep, maximum.

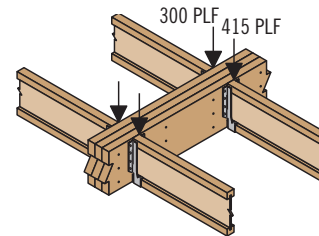
(7) Assembly F is not recommended for TimberStrand® LSL or Parallam® PSL.

• **Bold italic** loads indicate assemblies that require fastener placement on both faces. Stagger fasteners on the second face so they fall halfway between fasteners on the first face.

### General Notes for Side-Loaded Beam Tables

- Connections are based on NDS® or manufacturer's test or code reports.
- Use specific gravity of 0.5 for design of lateral connections.
- Values listed are for 100% stress level. Increase 15% for snow-loaded roof conditions or 25% for non-snow roof conditions, where code allows.
- Minimum end distance for bolts and screws is 6".
- Verify adequacy of beam in allowable load tables on pages 6–23.
- 7" wide beams should be side-loaded only when loads are applied to both faces of the members (to minimize rotation).
- Beams wider than 7" require special consideration by the design professional of record.

### Uniform Load Design Example

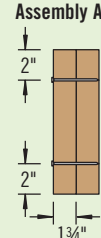
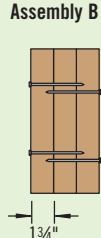
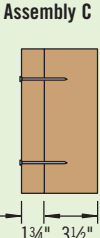
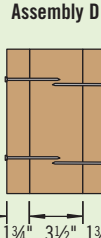
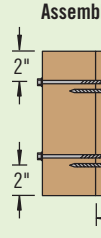
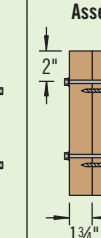


First, check allowable load tables on pages 6–23 to verify that three pieces can carry the total load of 715 plf with proper live load deflection criteria. Maximum load applied to either outside member is 415 plf. For an assembly of three 1 3/4" plies (Assembly B), two rows of (0.131" x 3") nails on both faces at 12" on-center are good for only 280 plf. Therefore, use three rows of (0.131" x 3") nails on both faces at 12" on-center (good for 420 plf).

**Alternative:** Two rows of 1/2" A307 bolts at 19.2" on-center or two rows of 5" SDW22 screws on one face at 24" on-center.

# MULTIPLE-MEMBER CONNECTIONS FOR SIDE-LOADED BEAMS

## L18 Point Load—Maximum Point Load Applied to Either Outside Member (lbs)

| Fastener Type                            | Placement | Number of Fasteners per Face | Fastener Pattern                                                                  |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|------------------------------------------|-----------|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                          |           |                              | Assembly A                                                                        | Assembly B                                                                        | Assembly C                                                                        | Assembly D                                                                          | Assembly E                                                                          | Assembly F                                                                          |
|                                          |           |                              |  |  |  |  |  |  |
|                                          |           |                              | 3 1/2" wide, 2-ply                                                                | 5 1/4" wide, 3-ply                                                                | 5 1/4" wide, 2-ply                                                                | 7" wide, 3-ply                                                                      | 7" wide, 2-ply                                                                      | 7" wide, 4-ply                                                                      |
| 10d (0.128" x 3") or (0.131" x 3") Nail  | As shown  | 6                            | 1,115                                                                             | <b>835</b>                                                                        | 835                                                                               | <b>745</b>                                                                          |                                                                                     |                                                                                     |
|                                          |           | 12                           | 2,230                                                                             | <b>1,675</b>                                                                      | 1,675                                                                             | <b>1,490</b>                                                                        |                                                                                     |                                                                                     |
|                                          |           | 18                           | 3,350                                                                             | <b>2,510</b>                                                                      | 2,510                                                                             | <b>2,230</b>                                                                        |                                                                                     |                                                                                     |
|                                          |           | 24                           | 4,465                                                                             | <b>3,350</b>                                                                      | 3,350                                                                             | <b>2,975</b>                                                                        |                                                                                     |                                                                                     |
|                                          |           | Screw Length ▶               | 3 1/2"                                                                            | 3 1/2"                                                                            | 3 1/2"                                                                            | 3 1/2"                                                                              | 6"                                                                                  | 6"                                                                                  |
| Simpson Strong-Tie® SDS                  | As shown  | 4                            | 2,720                                                                             | <b>2,040</b>                                                                      | 2,040                                                                             | <b>1,815</b>                                                                        | <b>5,440</b>                                                                        | <b>2,225</b>                                                                        |
|                                          |           | 6                            | 4,080                                                                             | <b>3,060</b>                                                                      | 3,060                                                                             | <b>2,720</b>                                                                        | <b>8,160</b>                                                                        | <b>3,335</b>                                                                        |
|                                          |           | 8                            | 5,440                                                                             | <b>4,080</b>                                                                      | 4,080                                                                             | <b>3,625</b>                                                                        | <b>10,880</b>                                                                       | <b>4,450</b>                                                                        |
| MiTek® WS                                | As shown  | 4                            | 2,550                                                                             | <b>1,915</b>                                                                      | 1,915                                                                             | <b>1,700</b>                                                                        |                                                                                     | <b>1,910<sup>(3)</sup></b>                                                          |
|                                          |           | 6                            | 3,830                                                                             | <b>2,870</b>                                                                      | 2,870                                                                             | <b>2,550</b>                                                                        |                                                                                     | <b>2,865<sup>(3)</sup></b>                                                          |
|                                          |           | 8                            | 5,105                                                                             | <b>3,830</b>                                                                      | 3,830                                                                             | <b>3,405</b>                                                                        |                                                                                     | <b>3,820<sup>(3)</sup></b>                                                          |
|                                          |           | Screw Length ▶               | 3 3/4"                                                                            | 5"                                                                                | 3 3/4"                                                                            | 6 3/4"                                                                              | 6 3/4"                                                                              | 6 3/4"                                                                              |
| Simpson Strong-Tie® SDW22 <sup>(1)</sup> | One face  | 4                            | 3,200                                                                             | 1,800                                                                             | 2,400                                                                             | 1,600                                                                               | 3,200                                                                               | 1,600                                                                               |
|                                          |           | 6                            | 4,800                                                                             | 2,700                                                                             | 3,600                                                                             | 2,400                                                                               | 4,800                                                                               | 2,400                                                                               |
|                                          |           | 8                            | 6,400                                                                             | 3,600                                                                             | 4,800                                                                             | 3,200                                                                               | 6,400                                                                               | 3,200                                                                               |
| MiTek® WSWH <sup>(2)</sup>               | One face  | 4                            | 2,410                                                                             | 1,720                                                                             | 1,915                                                                             | 1,525                                                                               | 3,320                                                                               | 1,525                                                                               |
|                                          |           | 6                            | 3,610                                                                             | 2,580                                                                             | 2,870                                                                             | 2,290                                                                               | 4,980                                                                               | 2,290                                                                               |
|                                          |           | 8                            | 4,815                                                                             | 3,435                                                                             | 3,830                                                                             | 3,055                                                                               | 6,640                                                                               | 3,055                                                                               |

(1) When loading the head side of a SDW22 screw, assemblies B, D, and F can be increased by 30%.

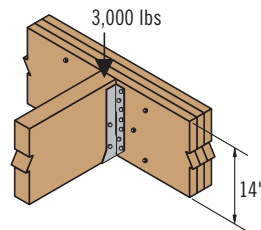
(2) When loading the head side of a WSWH screw, assemblies B, D, and F can be increased by 25%.

(3) Assembly F is not recommended for TimberStrand® LSL or Parallam® PSL.

• **Bold italic** loads indicate assemblies that require fastener placement on both faces. For screws required on both faces, refer to screw manufacturer's guidelines for minimum spacing requirements.

### Point Load Design Example

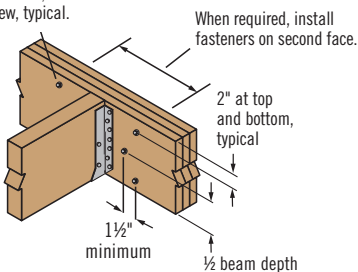
First, verify that a 3-ply, 1 1/4" x 14" beam can support a 3,000 lb point load and all other loads applied. The 3,000 lb point load is being transferred to the beam with a face mount hanger. For an assembly of three 1 1/4" plies (Assembly B), six 3 1/2" SDS screws on both faces are good for 3,060 lbs with a face mount hanger.



## Point Load Fastener Spacing

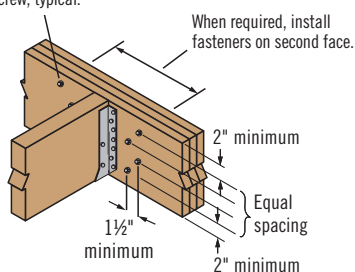
### 4- or 6-Screws per Face Connection

SDS, WS, SDW22, or WSWH screw, typical.



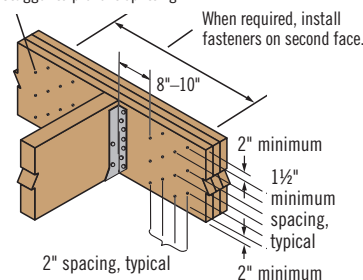
### 8-Screws per Face Connection

SDS, WS, SDW22, or WSWH screw, typical.



### Nail Connection

10d (0.128" x 3") or (0.131" x 3") nail, typical. Stagger to prevent splitting.



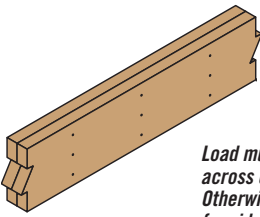
**L21** There must be an equal number of nails on each side of the point load

See table above for placement and number of fasteners per face.

# MULTIPLE-MEMBER CONNECTIONS FOR TOP-LOADED BEAMS

## Fastener Installation Requirements

When fasteners are required on both faces, stagger fasteners on the second face so they fall halfway between fasteners on the first face.



Load must be applied evenly across entire beam width. Otherwise, use connections for side-loaded beams

**L6** Multiple pieces can be nailed or bolted together to form a header or beam of the required size, up to a maximum width of 7"

| Piece Width | Number of Plies | Fastener                     |             |                    |                  |              |
|-------------|-----------------|------------------------------|-------------|--------------------|------------------|--------------|
|             |                 | Type <sup>(1)</sup>          | Min. Length | Placement          | # Rows           | O.C. Spacing |
| 1¾"         | 2               | 10d nails                    | 3"          | One face           | 3 <sup>(2)</sup> | 12"          |
|             |                 | 12d–16d nails                | 3¼"         |                    | 2 <sup>(2)</sup> |              |
|             |                 | Screws                       | 3¾" or 3½"  |                    | 2                |              |
|             | 3               | 10d nails                    | 3"          | Both faces         | 3 <sup>(2)</sup> | 12"          |
|             |                 | 12d–16d nails                | 3¼"         |                    | 2 <sup>(2)</sup> |              |
|             |                 | Screws                       | 3¾" or 3½"  | Both faces         | 2                | 24"          |
|             |                 |                              | 5"          | One face           |                  |              |
|             |                 | ½" bolts <sup>(4)</sup>      | 6"          | —                  | 2                | 24"          |
|             | 4               | 10d nails <sup>(3)</sup>     | 3"          | One face (per ply) | 3 <sup>(2)</sup> | 12"          |
|             |                 | 12d–16d nails <sup>(3)</sup> | 3¼"         |                    | 2 <sup>(2)</sup> |              |
|             |                 | Screws                       | 5" or 6"    | Both faces         | 2                | 24"          |
|             |                 |                              | 6¾"         | One face           |                  |              |
|             |                 | ½" bolts <sup>(4)</sup>      | 8"          | —                  | 2                | 24"          |
| 3½"         | 2               | Screws                       | 5" or 6"    | Both faces         | 2                | 24"          |
|             |                 |                              | 6¾"         | One face           |                  |              |
|             |                 | ½" bolts <sup>(4)</sup>      | 8"          | —                  | 2                | 24"          |

(1) 10d nails are 0.128"–0.131" diameter; 12d–16d nails are 0.148"–0.162" diameter; screws are SDS, WS, SDW22, or WSWH.

(2) An additional row of nails is required with depths of 14" or greater.

(3) When connecting 4-ply members, nail each ply to the other and offset nail rows by 2" from rows in the ply below.

(4) Washers required. Bolt holes to be ⅛" maximum. 9¼" minimum beam depth.

## COLUMNS

### Allowable Axial Loads (lbs) for 1.3E TimberStrand® LSL

| Column Bearing Type             | Effective Column Length | Column Size |        |        |           |        |        |           |        |        |           |        |        |
|---------------------------------|-------------------------|-------------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
|                                 |                         | 3½" x 3½"   |        |        | 3½" x 4¾" |        |        | 3½" x 5½" |        |        | 3½" x 7¼" |        |        |
|                                 |                         | 100%        | 115%   | 125%   | 100%      | 115%   | 125%   | 100%      | 115%   | 125%   | 100%      | 115%   | 125%   |
| On Column Base                  | 3'                      | 12,155      | 13,655 | 14,610 | 15,195    | 17,070 | 18,260 | 19,100    | 21,455 | 22,955 | 25,180    | 28,285 | 30,260 |
|                                 | 4'                      | 10,735      | 11,820 | 12,480 | 13,420    | 14,775 | 15,600 | 16,870    | 18,575 | 19,610 | 22,240    | 24,485 | 25,850 |
|                                 | 5'                      | 9,115       | 9,805  | 10,205 | 11,395    | 12,255 | 12,755 | 14,320    | 15,405 | 16,035 | 18,880    | 20,310 | 21,140 |
|                                 | 6'                      | 7,545       | 7,980  | 8,230  | 9,430     | 9,975  | 10,290 | 11,855    | 12,540 | 12,935 | 15,630    | 16,530 | 17,050 |
|                                 | 7'                      | 6,230       | 6,525  | 6,690  | 7,790     | 8,155  | 8,365  | 9,790     | 10,250 | 10,515 | 12,910    | 13,510 | 13,860 |
|                                 | 8'                      | 5,190       | 5,395  | 5,515  | 6,485     | 6,745  | 6,895  | 8,155     | 8,480  | 8,665  | 10,750    | 11,175 | 11,420 |
|                                 | 9'                      | 4,370       | 4,520  | 4,610  | 5,465     | 5,650  | 5,760  | 6,870     | 7,105  | 7,240  | 9,055     | 9,365  | 9,545  |
|                                 | 10'                     | 3,720       | 3,835  | 3,900  | 4,655     | 4,795  | 4,875  | 5,850     | 6,030  | 6,130  | 7,710     | 7,945  | 8,080  |
|                                 | 12'                     | 2,785       | 2,855  | 2,890  | 3,480     | 3,565  | 3,615  | 4,375     | 4,485  | 4,545  | 5,765     | 5,910  | 5,990  |
|                                 | 14'                     | 2,155       | 2,200  | 2,225  | 2,690     | 2,750  | 2,780  | 3,385     | 3,455  | 3,495  | 4,460     | 4,555  | 4,610  |
| On Wood Plate <sup>(1)(2)</sup> | 3'–7'                   | 5,765       | 5,765  | 5,765  | 7,065     | 7,065  | 7,065  | 8,740     | 8,740  | 8,740  | 10,785    | 10,785 | 10,785 |
|                                 | 8'                      | 5,190       | 5,395  | 5,515  | 6,485     | 6,745  | 6,895  | 8,155     | 8,480  | 8,665  | 10,750    | 10,785 | 10,785 |
|                                 | 9'                      | 4,370       | 4,520  | 4,610  | 5,465     | 5,650  | 5,760  | 6,870     | 7,105  | 7,240  | 9,055     | 9,365  | 9,545  |
|                                 | 10'                     | 3,720       | 3,835  | 3,900  | 4,655     | 4,795  | 4,875  | 5,850     | 6,030  | 6,130  | 7,710     | 7,945  | 8,080  |
|                                 | 12'                     | 2,785       | 2,855  | 2,890  | 3,480     | 3,565  | 3,615  | 4,375     | 4,485  | 4,545  | 5,765     | 5,910  | 5,990  |
|                                 | 14'                     | 2,155       | 2,200  | 2,225  | 2,690     | 2,750  | 2,780  | 3,385     | 3,455  | 3,495  | 4,460     | 4,555  | 4,610  |

(1) Wood plate bearing is based on compression perpendicular-to-grain stress of 425 psi adjusted per the NDS®, 3.10.4.

(2) See connection details below.

### General Notes

- Tables are based on:
  - Solid, one-piece column members used in dry-service conditions.
  - Bracing in both directions at column ends.
  - NDS®.
  - Simple columns with axial loads only. For side loads or other combined bending and axial loads, see the NDS®.
- Allowable loads have been adjusted to accommodate the worst case of the following eccentric conditions: ⅓ of column thickness (first dimension) or ⅓ of column width.
- Beams and columns must remain straight to within 5L/4608 (in.) of true alignment. L is the unrestrained length of the member in feet.

For column allowable design stresses see page 5.

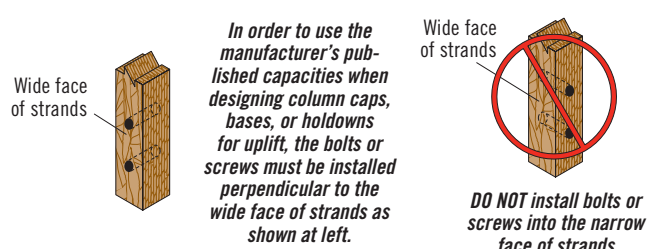
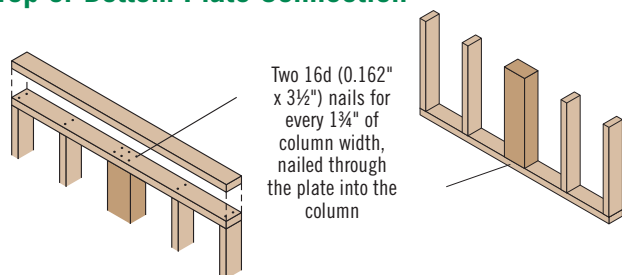
### Allowable Axial Loads (lbs) for 1.8E Parallam® PSL

| Column Bearing Type | Effective Column Length | Column Size                  |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|---------------------|-------------------------|------------------------------|--------|--------|-----------|--------|--------|----------|--------|--------|-----------|--------|--------|----------|--------|--------|
|                     |                         | 3½" x 3½"                    |        |        | 3½" x 5¼" |        |        | 3½" x 7" |        |        | 5¼" x 5¼" |        |        | 5¼" x 7" |        |        |
|                     |                         | 100%                         | 115%   | 125%   | 100%      | 115%   | 125%   | 100%     | 115%   | 125%   | 100%      | 115%   | 125%   | 100%     | 115%   | 125%   |
| On Column Base      | 6'                      | 10,595                       | 11,200 | 11,545 | 15,890    | 16,800 | 17,320 | 21,190   | 22,395 | 23,095 | 33,295    | 36,675 | 38,735 | 40,000   | 40,000 | 40,000 |
|                     | 7'                      | 8,735                        | 9,140  | 9,370  | 13,105    | 13,710 | 14,060 | 17,475   | 18,280 | 18,745 | 30,010    | 32,545 | 34,030 | 40,000   | 40,000 | 40,000 |
|                     | 8'                      | 7,265                        | 7,550  | 7,715  | 10,900    | 11,325 | 11,570 | 14,535   | 15,100 | 15,425 | 26,650    | 28,490 | 29,555 | 35,530   | 37,985 | 39,410 |
|                     | 9'                      | 6,115                        | 6,320  | 6,440  | 9,170     | 9,480  | 9,660  | 12,225   | 12,640 | 12,880 | 23,475    | 24,835 | 25,620 | 31,300   | 33,115 | 34,165 |
|                     | 10'                     | 5,200                        | 5,355  | 5,445  | 7,800     | 8,035  | 8,170  | 10,400   | 10,715 | 10,895 | 20,660    | 21,695 | 22,290 | 27,545   | 28,925 | 29,725 |
|                     | 12'                     | 3,885                        | 3,980  | 4,030  | 5,825     | 5,965  | 6,050  | 7,765    | 7,955  | 8,065  | 16,160    | 16,805 | 17,175 | 21,545   | 22,405 | 22,900 |
|                     | 14'                     | 3,000                        | 3,065  | 3,100  | 4,500     | 4,595  | 4,645  | 6,005    | 6,125  | 6,195  | 12,890    | 13,315 | 13,560 | 17,185   | 17,755 | 18,080 |
|                     | 16'                     | Slenderness ratio exceeds 50 |        |        |           |        |        |          |        |        | 10,480    | 10,775 | 10,950 | 13,970   | 14,370 | 14,595 |
|                     | 18'                     |                              |        |        |           |        |        |          |        |        | 8,670     | 8,885  | 9,010  | 11,560   | 11,850 | 12,015 |
|                     | 20'                     |                              |        |        |           |        |        |          |        |        | 7,285     | 7,445  | 7,535  | 9,710    | 9,925  | 10,050 |
|                     | 22'                     |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     | 24'                     |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |
|                     |                         |                              |        |        |           |        |        |          |        |        |           |        |        |          |        |        |

The column and connector values listed are for dry-service conditions ONLY. When wet-service conditions exist, contact your Weyerhaeuser representative for other product solutions.

# COLUMNS

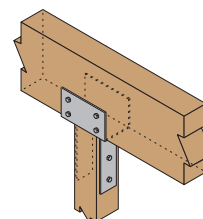
## Top or Bottom Plate Connection



## Column Caps for TimberStrand® LSL and Parallam® PSL

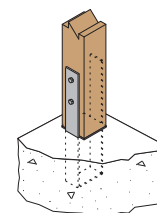
| Column Product         | Beam Width | Column Size | Location on Beam | Simpson Strong-Tie® |            | USP Structural Connectors® |            |
|------------------------|------------|-------------|------------------|---------------------|------------|----------------------------|------------|
|                        |            |             |                  | Connector           | Load (lbs) | Connector                  | Load (lbs) |
| 1.3E TimberStrand® LSL | 3½"        | 3½" x 3½"   | End              | ECC44               | 7,655      | KECC44                     | 12,030     |
|                        |            |             | Intermediate     | CC44                | 15,315     | KCC44                      | 15,315     |
|                        |            | 3½" x 5½"   | End              | ECC46               | 12,030     | KECC46                     | 18,595     |
|                        |            |             | Intermediate     | CC46                | 24,065     | KCC46                      | 24,065     |
|                        |            | 3½" x 7¼"   | End              | ECC48               | 16,405     | KECC48                     | 20,780     |
|                        |            |             | Intermediate     | CC48                | 24,065     | KCC48                      | 24,065     |
| 1.8E Parallam® PSL     | 3½"        | 3½" x 3½"   | End              | ECC44               | 7,655      | KECC44                     | 12,030     |
|                        |            |             | Intermediate     | CC44                | 15,315     | KCC44                      | 15,315     |
|                        |            | 3½" x 5¼"   | End              | ECC46               | 12,030     | KECC45                     | 16,405     |
|                        |            |             | Intermediate     | CC46                | 24,065     | KCC45                      | 24,065     |
|                        |            | 5¼" x 3½"   | End              | ECC64               | 12,030     | KECC64                     | 24,610     |
|                        |            |             | Intermediate     | CC64                | 28,585     | KCC64                      | 36,095     |
|                        | 5¼"        | 5¼" x 5¼"   | End              | ECC66               | 18,905     | KECC66                     | 24,610     |
|                        |            |             | Intermediate     | CC66                | 33,275     | KCC66                      | 36,095     |
|                        |            | 5¼" x 7"    | End              | ECC6-7½"            | 24,490     | KECC57                     | 31,170     |
|                        |            |             | Intermediate     | CC6-7½"             | 36,095     | KCC57                      | 36,095     |
|                        | 7"         | 7" x 3½"    | End              | ECC7½-4             | 18,375     | —                          | —          |
|                        |            |             | Intermediate     | CC7½-4              | 34,730     | —                          | —          |
|                        |            | 7" x 5¼"    | End              | ECC7½-6             | 28,875     | KECC75X                    | 45,940     |
|                        |            |             | Intermediate     | CC7½-6              | 38,500     | KCC75X                     | 56,875     |
|                        |            | 7" x 7"     | End              | ECC7½-7½"           | 36,750     | KECC77X                    | 45,940     |
|                        |            |             | Intermediate     | CC7½-7½"            | 56,875     | KCC77X                     | 56,875     |

## Beam on Column Cap



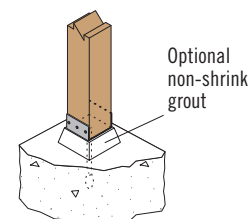
P1

## Column Base



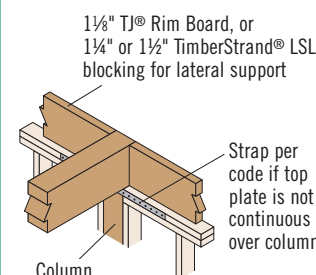
P2

## Elevated Column Base



P3

## Beam on Column



L1

## Column Bases for TimberStrand® LSL and Parallam® PSL

| Column Product               | Column Size | Simpson Strong-Tie® |                          | USP Structural Connectors® |                          |          |       |       |
|------------------------------|-------------|---------------------|--------------------------|----------------------------|--------------------------|----------|-------|-------|
|                              |             | Connector           | Load (lbs)               | Connector                  | Load (lbs)               |          |       |       |
| 1.3E<br>TimberStrand®<br>LSL | 3½" x 3½"   | ABA44Z              | 5,660                    | PA44                       | 4,155                    |          |       |       |
|                              |             | CB44                | Post or concrete control | PAU44                      | 6,775                    |          |       |       |
|                              |             |                     |                          | CBSQ44-TZ                  | Post or concrete control |          |       |       |
|                              | 3½" x 5½"   | ABA46Z              | 10,500                   | PA46                       | 4,155                    |          |       |       |
|                              |             | CB46                | Post or concrete control | KCB46                      | Post or concrete control |          |       |       |
|                              | 3½" x 7¼"   | CB48                | Post or concrete control | KCB48                      | Post or concrete control |          |       |       |
| 1.8E<br>Parallam®<br>PSL     | 3½" x 3½"   | CB44                | Post or concrete control | CBE44                      | Post or concrete control |          |       |       |
|                              |             |                     |                          | KCB44                      |                          |          |       |       |
|                              | 3½" x 5¼"   |                     |                          | CB46                       |                          | CBE46    |       |       |
|                              |             |                     |                          | 3½" x 7"                   |                          | CB7½-4   | KCB46 | KCB74 |
|                              | 5¼" x 5¼"   |                     |                          |                            |                          | CB66     | CBE66 | KCB66 |
|                              |             |                     |                          |                            |                          | 5¼" x 7" | CB6-7 | KCB76 |
|                              | CB7½-6      |                     |                          |                            |                          |          |       |       |
|                              | 7" x 7"     |                     |                          | CB7½-7                     |                          | KCB77    |       |       |

## General Notes

- Capacities shown cannot be adjusted for duration of load.
- Connector capacities assume a beam material with a minimum perpendicular-to-grain bearing of 625 psi.
- Connector capacities may be more than the column capacity; therefore, check both the connector and the column capacity and use the lower capacity.
- Other connectors may be available. Capacities may vary depending on orientation of member. Contact the hanger manufacturer for more information.

## WE CAN HELP YOU BUILD SMARTER

You want to build solid and durable structures—we want to help. Weyerhaeuser provides high-quality building products and unparalleled technical and field assistance to support you and your project from start to finish.

**Floors and Roofs:** Start with the best framing components in the industry: our Trus Joist® TJI® joists; TimberStrand® LSL rim board; and TimberStrand® LSL, Microllam® LVL, and Parallam® PSL headers and beams. Pull them all together with our self-gapping and self-draining Weyerhaeuser Edge Gold™ floor panels and durable Weyerhaeuser roof sheathing.

**Walls:** Get the best value out of your framing package—use TimberStrand® LSL studs for tall walls, kitchens, and bathrooms, and our traditional, solid-sawn lumber everywhere else. Cut down installation time by using TimberStrand® LSL headers for doors and windows, and Weyerhaeuser wall sheathing with its handy two-way nail lines.

**Software Solutions:** Whether you are a design professional or lumber dealer, Weyerhaeuser offers an array of software packages to help you specify individual framing members, create cut lists, manage inventories—even help you design a complete structural frame. Contact your Weyerhaeuser representative to find out how to get the software you need.

**Technical Support:** Need technical help? Weyerhaeuser has one of the largest networks of engineers and sales representatives in the business. Call us for help, and a skilled member from our team of experts will answer your questions and work with you to develop solutions that meet all your structural framing needs.



### LIMITED LIFETIME PRODUCT WARRANTY

Weyerhaeuser provides limited lifetime warranties for all Trus Joist® branded products. Product information, installation instructions, and the full text of each product's limited warranty (including limitations and exclusions) are available on the Weyerhaeuser website, from your Weyerhaeuser representative, or by calling toll free: 888-453-8358.

Additionally, Weyerhaeuser offers limited warranties on a broad variety of its other products. To see complete details of all Weyerhaeuser product warranties, visit [weyerhaeuser.com/woodproducts/warranty](http://weyerhaeuser.com/woodproducts/warranty).

1.888.453.8358
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#### May 2025 • Reorder TJ-9000

This document supersedes all previous versions. If this is more than one year old, contact your dealer or Weyerhaeuser rep.

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