



**Boise Cascade**  
*Engineered Wood Products*

# WESTERN SPECIFIER GUIDE

for products manufactured in White City, Oregon



WSG 01/11/2013



# The SIMPLE FRAMING SYSTEM® Makes Designing Homes Easier

Architects, engineers, and designers trust Boise Cascade's engineered wood products to provide a better system for framing floors and roofs.

It's the SIMPLE FRAMING SYSTEM®, featuring beams, joists and rim boards that work together as a system, so you spend less time cutting and fitting. In fact, the SIMPLE FRAMING SYSTEM® uses fewer pieces and longer lengths than conventional framing, so you'll complete jobs in less time.

## You'll Build Better Homes with the SIMPLE FRAMING SYSTEM®

Now it's easier than ever to design and build better floor systems. When you specify the SIMPLE FRAMING SYSTEM®, your clients will have fewer problems with squeaky floors and ceiling gypsum board cracks. The SIMPLE FRAMING SYSTEM® also means overall better floor and roof framing than dimension lumber allows.

## Better Framing Doesn't Have to Cost More

Boise Cascade Engineered Wood Products' SIMPLE FRAMING SYSTEM® often costs less than

conventional framing methods when the resulting reduced labor and materials waste are considered. There's less sorting and cost associated with disposing of waste because you order only what you need. Although our longer lengths help your clients get the job done faster, they cost no more.

## Environmentally Sound

As an added bonus, floor and roof systems built with BCI® Joists require about half the number of trees as those built with dimension lumber. This helps you design a home both you and future generations will be proud to own.

## What Makes the SIMPLE FRAMING SYSTEM® So Simple?

### ☑ Floor and Roof Framing with BCI® Joists

Light in weight, but heavy-duty, BCI® Joists have a better strength / weight ratio than dimension lumber. Knockouts can be removed for

cross-ventilation and wiring.

### ☑ Ceilings Framed with BCI® Joists

The consistent size of BCI® Joists helps keep gypsum board flat and free of unsightly nail pops and ugly shadows, while keeping finish work to a minimum.

### ☑ VERSA-LAM® Beams for Floor and Roof Framing

These highly-stable beams are free of the large-scale defects that plague dimension beams. The result is quieter, flatter floors (no camber) and no shrinkage-related call-backs.

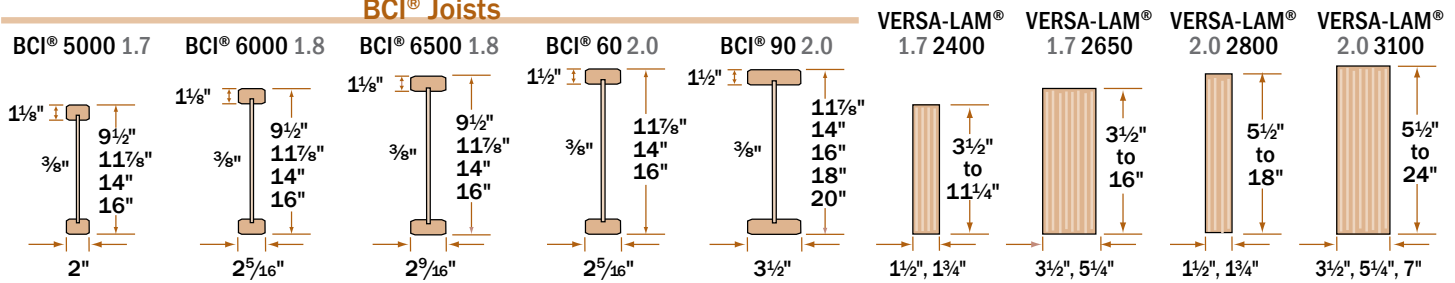
### ☑ Boise Cascade Rimboard

Boise Cascade Engineered Wood Products offer several engineered rimboard products regionally, including BC RIM BOARD® OSB, VERSA-RIM®, VERSA-STRAND™ 0.8 and VERSA-LAM® 1.4 1800 (check supplier or Boise Cascade EWP rep for availability). These products work with BCI® Joists to provide a solid connection at the critical floor/wall intersection.

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## BCI® Joists



Some products may not be available in all markets. Contact your Boise Cascade EWP representative for availability.

BCI® and VERSA-LAM® products shall be installed in dry-use applications only per their respective ICC ESR evaluation reports.



## BCI® Joist Architectural Specifications

**Scope:** This work includes the complete furnishing and installation of all BCI® Joists as shown on the drawings, herein specified and necessary to complete the work.

**Materials:** BCI® Joists shall be manufactured by Boise Cascade Engineered Wood Products with oriented strand board webs, VERSA-LAM® laminated veneer lumber flanges and waterproof, structural adhesives.

Joist webs shall be graded Structural I Exposure 1 by an agency listed by a model code evaluation service. Strands on the face layers of the web panels shall be oriented vertically in the joist. The web panels shall be glued together to form a continuous web member. The web panels shall be machined to fit into a groove in the center of the wide face of the flange members so as to form a pressed glue joint at that junction.

**Design:** The BCI® Joists shall be sized and detailed to fit the dimensions and loads indicated on the plans. All designs shall be in accordance with allowable values and section properties developed in accordance with ASTM D5055 and listed in the governing code evaluation service's report.

**Drawing:** Additional drawings showing layout and detail necessary for determining fit and placement in the building are (are not) to be provided by the supplier.

**Fabrication:** The BCI® Joists and section properties shall be manufactured in a plant evaluated for fabrication by the governing code evaluation service and under the supervision of a third-party inspection agency listed by the corresponding evaluation service.

**Storage and Installation:** The BCI® Joists, if stored prior to erection, shall be stored in a vertical and level position and protected from the weather. They shall be handled with care so they are not damaged.

The BCI® Joists are to be installed in accordance with the plans and the Boise Cascade Engineered Wood Products Installation Guide. Temporary construction loads which cause stresses beyond design limits are not permitted. Erection bracing shall be provided to keep the BCI® Joists straight and plumb as required and to assure adequate lateral support for the individual BCI® Joists and the entire system until the sheathing material has been applied.

**Codes:** The BCI® Joists shall be evaluated by a model code evaluation service.

## About Floor Performance

Homeowner's expectations and opinions vary greatly due to the subjective nature of rating a new floor. Communication with the ultimate end user to determine their expectation is critical. **Vibration** is usually the cause of most complaints. Installing lateral bridging may help; however, squeaks may occur if not installed properly. Spacing the joists closer together does little to affect the perception of the floor's performance. The most common methods used to increase the performance and reduce vibration of wood floor systems is to

**increase the joist depth, limit joist deflections, glue and screw a thicker, tongue-and-groove subfloor, install the joists vertically plumb with level-bearing supports, and install a direct-attached ceiling to the bottom flanges of the joists.**

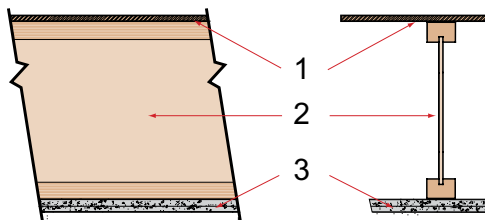
The floor span tables listed below offer three very different performance options, based on performance requirements of the homeowner.

| Joist Depth | BCI® Joist Series | ★★★THREE STAR★★★                                                                                                                                                                                                                                                                                                          |          |            |          |          | ★★★★FOUR STAR★★★★                                                                                                                                                                                                                                                                  |          |            |          |          | CAUTION                                                                                                                                                                                                                                                                                                                  | ★ MINIMUM STIFFNESS ALLOWED BY CODE ★ |            |          | CAUTION  |  |
|-------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------|----------|----------|--|
|             |                   | Live Load deflection limited to L/480: The common industry and design community standard for residential floor joists, <b>33% stiffer than L/360 code minimum</b> . However, floor performance may still be an issue in certain applications, especially with 9½" and 11⅞" deep joists without a direct-attached ceiling. |          |            |          |          | Live Load deflection limited to L/960+: In addition to providing a floor that is <b>100% stiffer than the three star floor</b> , field experience has been incorporated into the values to provide a floor with a premium performance level for the more discriminating homeowner. |          |            |          |          | Live Load deflection limited to L/360: Floors that <b>meet the minimum building code</b> L/360 criteria are structurally sound to carry the specified loads; however, there is a much higher risk of floor performance issues. This table should only be used for applications where floor performance is not a concern. |                                       |            |          |          |  |
|             |                   | 12" O.C.                                                                                                                                                                                                                                                                                                                  | 16" O.C. | 19.2" O.C. | 24" O.C. | 32" O.C. | 12" O.C.                                                                                                                                                                                                                                                                           | 16" O.C. | 19.2" O.C. | 24" O.C. | 32" O.C. | 12" O.C.                                                                                                                                                                                                                                                                                                                 | 16" O.C.                              | 19.2" O.C. | 24" O.C. | 32" O.C. |  |
| 9½"         | 5000 1.7          | 17'-1"                                                                                                                                                                                                                                                                                                                    | 15'-7"   | 14'-9"     | 13'-9"   | 12'-0"   | 11'-6"                                                                                                                                                                                                                                                                             | 11'-6"   | 10'-0"     | 10'-0"   | 9'-6"    | 18'-11"                                                                                                                                                                                                                                                                                                                  | 17'-0"                                | 15'-6"     | 13'-11"  | 12'-0"   |  |
|             | 6000 1.8          | 17'-11"                                                                                                                                                                                                                                                                                                                   | 16'-5"   | 15'-6"     | 14'-5"   | 13'-2"   | 11'-6"                                                                                                                                                                                                                                                                             | 11'-6"   | 10'-0"     | 10'-0"   | 9'-10"   | 19'-10"                                                                                                                                                                                                                                                                                                                  | 18'-2"                                | 17'-2"     | 15'-9"   | 13'-8"   |  |
|             | 6500 1.8          | 18'-5"                                                                                                                                                                                                                                                                                                                    | 16'-10"  | 15'-11"    | 14'-10"  | 13'-6"   | 11'-6"                                                                                                                                                                                                                                                                             | 11'-6"   | 10'-0"     | 10'-0"   | 10'-0"   | 20'-5"                                                                                                                                                                                                                                                                                                                   | 18'-8"                                | 17'-8"     | 16'-5"   | 14'-3"   |  |
| 11⅞"        | 5000 1.7          | 20'-2"                                                                                                                                                                                                                                                                                                                    | 18'-5"   | 17'-5"     | 15'-9"   | 13'-4"   | 15'-6"                                                                                                                                                                                                                                                                             | 14'-4"   | 13'-6"     | 12'-7"   | 11'-5"   | 22'-3"                                                                                                                                                                                                                                                                                                                   | 19'-4"                                | 17'-7"     | 15'-9"   | 13'-4"   |  |
|             | 6000 1.8          | 21'-3"                                                                                                                                                                                                                                                                                                                    | 19'-5"   | 18'-4"     | 17'-1"   | 14'-10"  | 15'-6"                                                                                                                                                                                                                                                                             | 15'-1"   | 14'-3"     | 13'-3"   | 12'-0"   | 23'-6"                                                                                                                                                                                                                                                                                                                   | 21'-6"                                | 20'-0"     | 17'-11"  | 14'-10"  |  |
|             | 6500 1.8          | 21'-11"                                                                                                                                                                                                                                                                                                                   | 20'-0"   | 18'-11"    | 17'-7"   | 14'-10"  | 16'-0"                                                                                                                                                                                                                                                                             | 15'-7"   | 14'-9"     | 13'-8"   | 12'-5"   | 24'-3"                                                                                                                                                                                                                                                                                                                   | 22'-2"                                | 20'-11"    | 18'-10"  | 14'-10"  |  |
|             | 60 2.0            | 23'-3"                                                                                                                                                                                                                                                                                                                    | 21'-3"   | 20'-1"     | 18'-8"   | 16'-4"   | 18'-0"                                                                                                                                                                                                                                                                             | 16'-7"   | 15'-7"     | 14'-6"   | 13'-2"   | 25'-9"                                                                                                                                                                                                                                                                                                                   | 23'-6"                                | 22'-3"     | 20'-9"   | 16'-4"   |  |
|             | 90 2.0            | 26'-3"                                                                                                                                                                                                                                                                                                                    | 23'-11"  | 22'-6"     | 20'-11"  | 19'-1"   | 19'-0"                                                                                                                                                                                                                                                                             | 18'-7"   | 17'-6"     | 16'-2"   | 14'-8"   | 29'-0"                                                                                                                                                                                                                                                                                                                   | 26'-6"                                | 25'-0"     | 23'-3"   | 19'-4"   |  |
| 14"         | 5000 1.7          | 22'-11"                                                                                                                                                                                                                                                                                                                   | 21'-0"   | 19'-2"     | 17'-2"   | 13'-11"  | 18'-0"                                                                                                                                                                                                                                                                             | 16'-5"   | 15'-6"     | 14'-5"   | 13'-1"   | 24'-4"                                                                                                                                                                                                                                                                                                                   | 21'-0"                                | 19'-2"     | 17'-2"   | 13'-11"  |  |
|             | 6000 1.8          | 24'-2"                                                                                                                                                                                                                                                                                                                    | 22'-2"   | 20'-11"    | 19'-6"   | 15'-5"   | 18'-11"                                                                                                                                                                                                                                                                            | 17'-3"   | 16'-3"     | 15'-2"   | 13'-9"   | 26'-9"                                                                                                                                                                                                                                                                                                                   | 23'-11"                               | 21'-10"    | 19'-6"   | 15'-5"   |  |
|             | 6500 1.8          | 24'-10"                                                                                                                                                                                                                                                                                                                   | 22'-9"   | 21'-5"     | 20'-0"   | 15'-5"   | 19'-5"                                                                                                                                                                                                                                                                             | 17'-9"   | 16'-8"     | 15'-6"   | 14'-1"   | 27'-6"                                                                                                                                                                                                                                                                                                                   | 25'-1"                                | 22'-11"    | 20'-6"   | 15'-5"   |  |
|             | 60 2.0            | 26'-5"                                                                                                                                                                                                                                                                                                                    | 24'-2"   | 22'-9"     | 21'-3"   | 16'-4"   | 20'-8"                                                                                                                                                                                                                                                                             | 18'-10"  | 17'-9"     | 16'-5"   | 14'-11"  | 29'-3"                                                                                                                                                                                                                                                                                                                   | 26'-8"                                | 25'-3"     | 21'-10"  | 16'-4"   |  |
|             | 90 2.0            | 29'-9"                                                                                                                                                                                                                                                                                                                    | 27'-1"   | 25'-6"     | 23'-8"   | 19'-6"   | 23'-3"                                                                                                                                                                                                                                                                             | 21'-1"   | 19'-9"     | 18'-4"   | 16'-7"   | 32'-10"                                                                                                                                                                                                                                                                                                                  | 30'-0"                                | 28'-3"     | 26'-0"   | 19'-6"   |  |
| 16"         | 6000 1.8          | 26'-9"                                                                                                                                                                                                                                                                                                                    | 24'-5"   | 23'-1"     | 20'-10"  | 15'-9"   | 20'-11"                                                                                                                                                                                                                                                                            | 19'-1"   | 18'-0"     | 16'-9"   | 15'-2"   | 29'-6"                                                                                                                                                                                                                                                                                                                   | 25'-6"                                | 23'-4"     | 20'-10"  | 15'-9"   |  |
|             | 6500 1.8          | 27'-5"                                                                                                                                                                                                                                                                                                                    | 25'-1"   | 23'-8"     | 21'-1"   | 15'-9"   | 21'-6"                                                                                                                                                                                                                                                                             | 19'-7"   | 18'-5"     | 17'-2"   | 15'-7"   | 30'-4"                                                                                                                                                                                                                                                                                                                   | 26'-11"                               | 24'-6"     | 21'-1"   | 15'-9"   |  |
|             | 60 2.0            | 29'-3"                                                                                                                                                                                                                                                                                                                    | 26'-8"   | 25'-2"     | 21'-10"  | 16'-4"   | 22'-10"                                                                                                                                                                                                                                                                            | 20'-10"  | 19'-7"     | 18'-2"   | 16'-4"   | 32'-4"                                                                                                                                                                                                                                                                                                                   | 29'-6"                                | 27'-4"     | 21'-10"  | 16'-4"   |  |
|             | 90 2.0            | 32'-11"                                                                                                                                                                                                                                                                                                                   | 29'-11"  | 28'-2"     | 26'-2"   | 19'-7"   | 25'-8"                                                                                                                                                                                                                                                                             | 23'-4"   | 21'-11"    | 20'-3"   | 18'-4"   | 36'-4"                                                                                                                                                                                                                                                                                                                   | 33'-2"                                | 31'-3"     | 26'-2"   | 19'-7"   |  |
| 18"         | 90 2.0            | 35'-11"                                                                                                                                                                                                                                                                                                                   | 32'-8"   | 30'-9"     | 28'-7"   | 23'-10"  | 28'-1"                                                                                                                                                                                                                                                                             | 25'-5"   | 23'-11"    | 22'-2"   | 20'-0"   | 39'-8"                                                                                                                                                                                                                                                                                                                   | 36'-2"                                | 34'-1"     | 31'-9"   | 23'-10"  |  |
| 20"         | 90 2.0            | 38'-10"                                                                                                                                                                                                                                                                                                                   | 35'-4"   | 33'-4"     | 30'-11"  | 24'-8"   | 30'-4"                                                                                                                                                                                                                                                                             | 27'-6"   | 25'-11"    | 24'-0"   | 21'-8"   | 42'-11"                                                                                                                                                                                                                                                                                                                  | 39'-1"                                | 36'-10"    | 32'-11"  | 24'-8"   |  |

- Table values based on residential floor loads of 40 psf live load and 10 psf dead load (12 psf dead load for BCI® 90 2.0 joists).
- Span values assume 23/32" min plywood/OSB rated sheathing is glued and nailed to joists for composite action (joists spaced at 32" o.c. require sheathing rated for such spacing - 7/8" plywood/OSB).
- Table values represent the most restrictive of simple or multiple span applications.
- Table values are the maximum allowable clear distance between supports.

- Table values assume minimum bearing lengths without web stiffeners for joist depths of 16" inches and less (18" & 20" joists require web stiffeners at all bearing locations).
- Floor tile will increase dead load and may require specific deflection limits, contact Boise Cascade EWP Engineering for further information.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® sizing software.

## One-Hour Fire Resistive Assembly



See Boise Cascade Fire Design & Installation Guide - US version for specific assembly information and other fire resistive options or contact your local Boise Cascade representative.

## ICC ESR 1336

## FIRE ASSEMBLY COMPONENTS

- Min. 23/32" thick tongue and groove sheathing (exterior glue), installed with long edge perpendicular to joist length, staggered one joist spacing with adjacent sheets, and glued to joists with construction adhesive.
- BCI® Joists at 24" o.c. or less.
- Two layers 5/8" Type X or two layers 1/2" Type C gypsum board, installed per Figures 2 or 3 of ICC ESR 1336.

## SOUND ASSEMBLY COMPONENTS

## When constructed with resilient channels

- Add carpet & pad to fire assembly:
- Add 3 1/2" glass fiber insulation to fire assembly:
- Add an additional layer of minimum 5/8" sheathing and 9 1/2" glass fiber insulation to fire assembly:

|        |        |    |
|--------|--------|----|
| STC=54 | IIC=68 | or |
| STC=55 | IIC=46 |    |
| STC=61 | IIC=50 |    |



## NOTE

The illustration below is showing several suggested applications for the Boise Cascade EWP products. It is not intended to show an actual house under construction.

## NO MIDSPAN BRIDGING IS REQUIRED FOR BCI® JOISTS

FOR INSTALLATION STABILITY, Temporary strut lines (1x4 min.) 8' on center max. Fasten at each joist with 2-8d nails minimum.

Dimension lumber is not suitable for use as a rim board in BCI® floor systems.

BCI® rim joist. See page 6.

Boise Cascade Rimboard. See pages 6 and 25.

For load bearing cantilever details, see page 9.

BCI® Joist block or 2x4 "squash" block on each side required when supporting a load-bearing wall above.

When installing Boise Cascade EWP products with treated wood, use only connectors/fasteners that are approved for use with the corresponding wood treatment.

VERSA-LAM® header or a BCI® Joist header.

1½" knockout holes at approximately 12" o.c. are pre-punched.

See page 7 for allowable hole sizes and location.

VERSA-LAM® LVL beam.

Endwall blocking as required per governing building code.

BCI® Joist Blocking is required when BCI® Joists are cantilevered.

BCI® Joists, VERSA-LAM® and ALLJOIST® must be stored, installed and used in accordance with the Boise Cascade EWP Installation Guide, building codes, and to the extent not inconsistent with the Boise Cascade EWP Installation Guide, usual and customary building practices and standards. VERSA-LAM®, ALLJOIST®, and BCI® Joists must be wrapped, covered, and stored off of the ground on stickers at all times prior to installation. VERSA-

LAM®, ALLJOIST® and BCI® Joists are intended only for applications that assure no exposure to weather or the elements and an environment that is free from moisture from any source, or any pest, organism or substance which degrades or damages wood or glue bonds. Failure to correctly store, use or install VERSA-LAM®, ALLJOIST®, and BCI® Joist in accordance with the Boise Cascade EWP Installation Guide will void the limited warranty.

## SAFETY WARNING

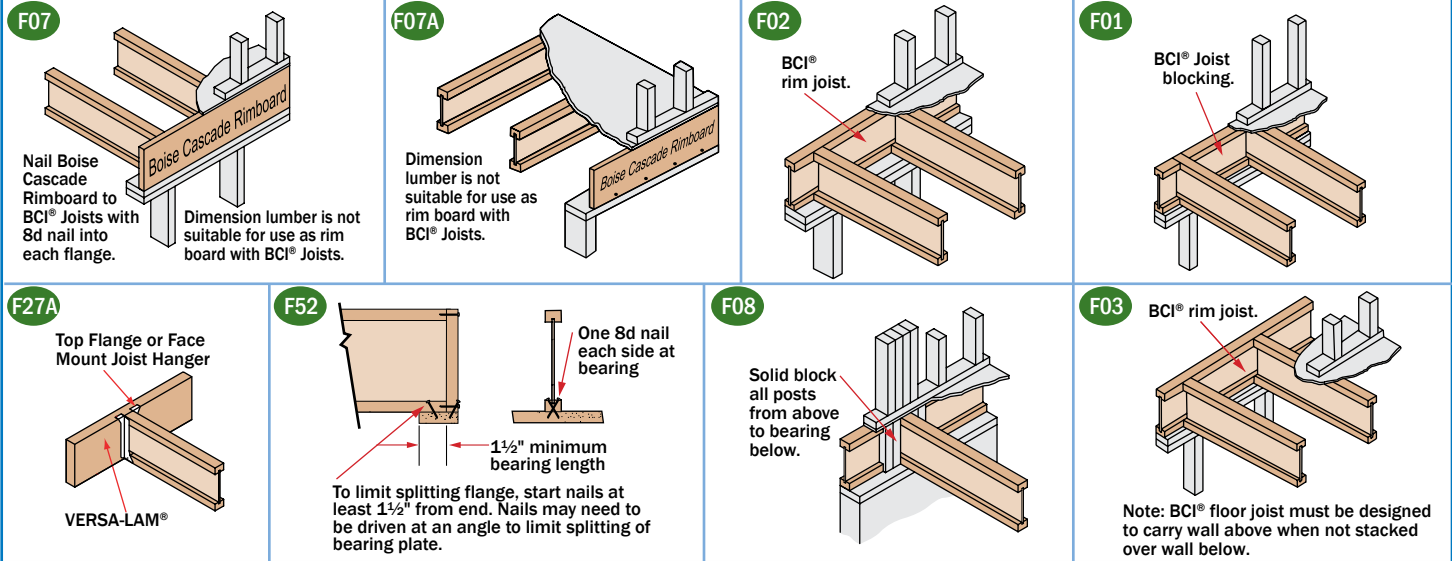
**DO NOT ALLOW WORKERS ON BCI® JOISTS UNTIL ALL HANGERS, BCI® RIM JOISTS, RIM BOARDS, BCI® BLOCKING PANELS, X-BRACING AND TEMPORARY 1x4 STRUT LINES ARE INSTALLED AS SPECIFIED BELOW. SERIOUS ACCIDENTS CAN RESULT FROM INSUFFICIENT ATTENTION TO PROPER BRACING DURING CONSTRUCTION. ACCIDENTS CAN BE AVOIDED UNDER NORMAL CONDITIONS BY FOLLOWING THESE GUIDELINES:**

- Build a braced end wall at the end of the bay, or permanently install the first eight feet of BCI® Joists and the first course of sheathing. As an alternate, temporary sheathing may be nailed to the first four feet of BCI® Joists at the end of the bay.
- All hangers, BCI® rim joists, rim boards, BCI® blocking panels, and x-bracing must be completely installed and properly nailed as each BCI® Joist is set.
- Install temporary 1x4 strut lines at no more than eight feet on center as additional BCI® Joists are set. Nail the strut lines to the sheathed area, or braced end wall, and to each BCI® Joist with two 8d nails.
- The ends of cantilevers must be temporarily secured by strut lines on both the top and bottom flanges.
- Straighten the BCI® Joists to within ½ inch of true alignment before attaching strut lines and sheathing.
- Remove the temporary strut lines only as required to install the permanent sheathing.
- Failure to install temporary bracing may result in sideways buckling or roll-over under light construction loads.
- Do not stack construction materials (sheathing, drywall, etc) in the middle of BCI Joist spans, contact Boise Cascade EWP Engineering for proper storage and shoring information.

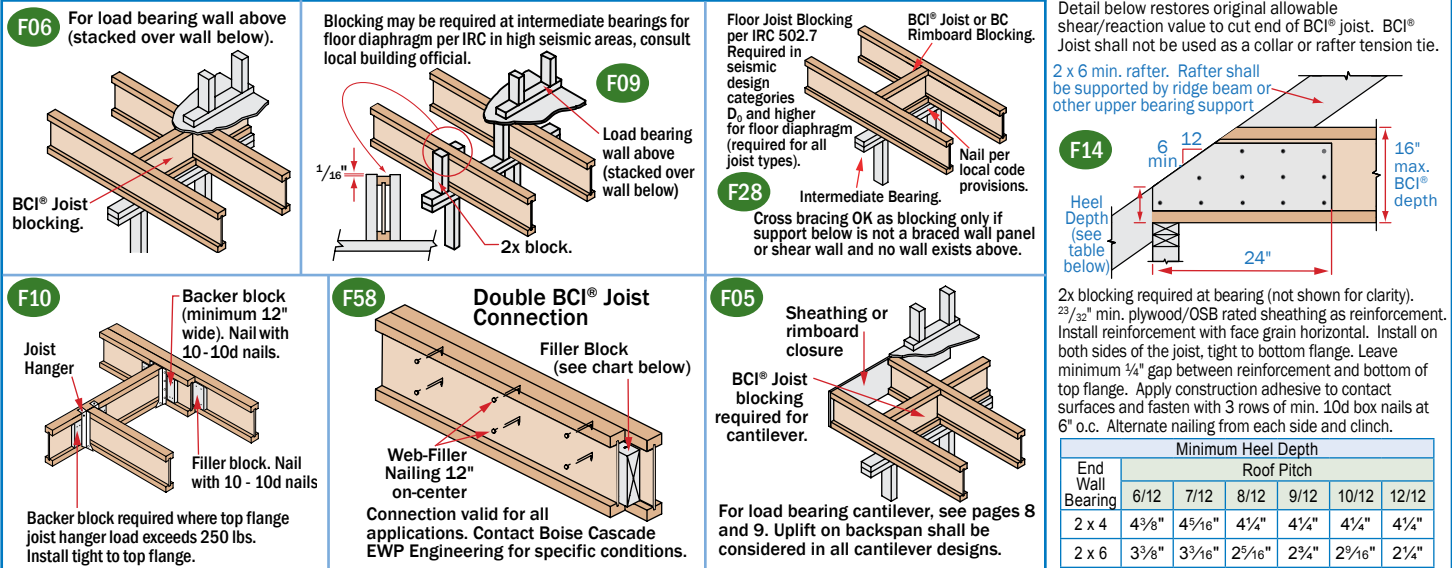


Additional floor framing details available with BC FRAMER® software (see page 33)

## END BEARING DETAILS



## INTERMEDIATE BEARING DETAILS



## LATERAL SUPPORT

- BCI® Joists shall be laterally supported at the ends with hangers, rimboard, BCI® rim joist or blocking panels. BCI® blocking panels or rimboard are required at cantilever supports.
- Blocking may be required at intermediate bearings for floor diaphragm per IRC in high seismic areas, consult local building official.

## MINIMUM BEARING LENGTH FOR BCI® JOISTS

- Minimum Bearing Lengths: 1½" end bearing, 3½" intermediate and adjacent cantilever bearing.
- Longer bearing lengths allow higher reaction values. Refer to the building code evaluation report or the BC CALC® software.

## NAILING REQUIREMENTS

- BCI® rim joist, rim board or closure panel to BCI® joist:
  - Rims or closure panel 1¾ inches thick and less: 2-8d nails, one each in the top and bottom flange.
  - BCI® 5000 rim joist: 2-10d box nails, one each in the top and bottom flange.
  - BCI® 6000, 60 rim joist: 2-16d box nails, one each in the top and bottom flange.
  - BCI® 6500, 90 rim joist: Toe-nail top flange to rim joist with 2-10d box nails, one each side of flange.
- BCI® rim joist, rim board or BCI® blocking panel to support:
  - Min. 8d nails @ 6" o.c. per IRC.
  - Connection per design professional of record's specification for shear transfer.

- BCI® joist to support:
  - 2-8d nails, one on each side of the web, placed 1½ inches minimum from the end of the BCI® Joist to limit splitting.
- Sheathing to BCI® joist:
  - Prescriptive residential floor sheathing nailing requires 8d common nails @ 6" o.c. on edges and @ 12" o.c. in the field (IRC Table R602.3(1)).
  - See closest allowable nail spacing limits on page 24 for floor diaphragm nailing specified at closer spacing than IRC.
  - Maximum nail spacing for minimum lateral stability: 18" for BCI® 5000, 24" for larger BCI® joist series.
  - 14 gauge staples may be substituted for 8d nails if the staples penetrate at least 1 inch into the joist.
  - Wood screws may be acceptable, contact local building official and/or Boise Cascade EWP Engineering for further information.

## BACKER AND FILLER BLOCK DIMENSIONS

| Series   | Backer Block Thickness    | Filler Block Thickness       |
|----------|---------------------------|------------------------------|
| 5000 1.7 | ¾" or 7/8" wood panels    | Two ¾" wood panels or 2x_    |
| 6000 1.8 | 1½" or two ¾" wood panels | 2x_ + 7/16" or ½" wood panel |
| 6500 1.8 | 1½" or two ¾" wood panels | 2x_ + 5/8" or ¾" wood panel  |
| 60 2.0   | 1½" or two ¾" wood panels | 2x_ + 7/16" or ½" wood panel |
| 90 2.0   | 2x_ lumber                | Double 2x_ lumber            |

- Cut backer and filler blocks to a maximum depth equal to the web depth minus ¼" to avoid a forced fit.

## BCI® RIM JOISTS AND BCI® BLOCKING

| Depth [in] | Series                       | Vertical Load Capacity |                     |
|------------|------------------------------|------------------------|---------------------|
|            |                              | No W.S. <sup>(1)</sup> | W.S. <sup>(2)</sup> |
| 9½"        | 5000 1.7, 6000 1.8, 6500 1.8 | 2300                   | N/A                 |
| 11½"       | 5000 1.7, 6000 1.8, 6500 1.8 | 2150                   | N/A                 |
|            | 60 2.0, 90 2.0               | 2500                   | N/A                 |
| 14"        | 5000 1.7, 6000 1.8, 6500 1.8 | 2000                   | N/A                 |
|            | 60 2.0, 90 2.0               | 2400                   | N/A                 |
| 16"        | 6000 1.8, 6500 1.8           | 1900                   | 2500                |
|            | 60 2.0, 90 2.0               | 2300                   | 2700                |
| 18"        | 60 2.0, 90 2.0               | N/A                    | 2700                |
| 20"        | 90 2.0                       | N/A                    | 2700                |

- No web stiffeners required
- Web stiffeners required at each end of blocking, values not applicable for rim joists

N/A: Not applicable

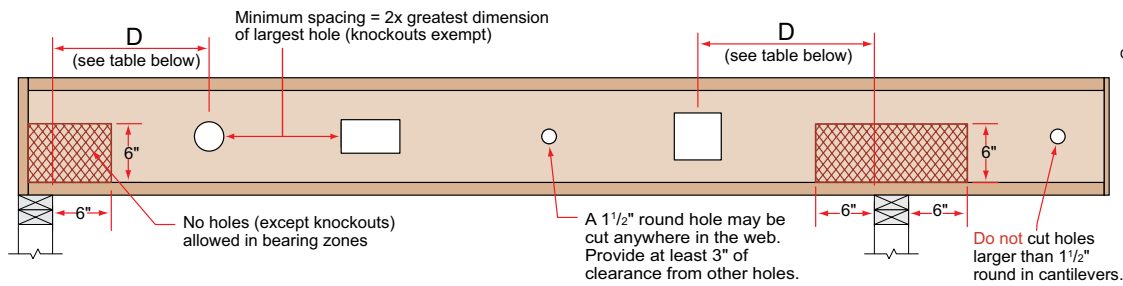
## WEB STIFFENER REQUIREMENTS

- See Web Stiffener Requirements on page 9.

## PROTECT BCI® JOISTS FROM THE WEATHER

- BCI® Joists are intended only for applications that provide permanent protection from the weather. Bundles of BCI® Joists should be covered and stored off of the ground on stickers.

BCI® Joists are manufactured with 1½" round perforated knockouts in the web at approximately 12" on center



Minimum distance from support, listed in table below, is required for all holes greater than 1½"

| MINIMUM DISTANCE (D) FROM ANY SUPPORT TO THE CENTERLINE OF THE HOLE |           |    |       |       |        |       |        |        |        |        |        |        |        |         |        |        |
|---------------------------------------------------------------------|-----------|----|-------|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | 3     | 5      | 7      | -      | -      | -      | -      | -      | -       | -      | -      |
| Any 9½" Joist                                                       | Span [ft] | 8  | 1'-0" | 1'-1" | 1'-8"  | 2'-4" | 2'-11" | 3'-7"  |        |        |        |        |        |         |        |        |
|                                                                     |           | 12 | 1'-0" | 1'-7" | 2'-7"  | 3'-6" | 4'-5"  | 5'-4"  |        |        |        |        |        |         |        |        |
|                                                                     |           | 16 | 1'-0" | 2'-2" | 3'-5"  | 4'-8" | 5'-11" | 7'-2"  |        |        |        |        |        |         |        |        |
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | 2     | 3      | 5      | 7      | 8      | -      | -      | -      | -       | -      | -      |
| Any 11⅞" Joist                                                      | Span [ft] | 8  | 1'-0" | 1'-1" | 1'-6"  | 2'-0" | 2'-5"  | 2'-11" | 3'-5"  | 3'-10" |        |        |        |         |        |        |
|                                                                     |           | 12 | 1'-0" | 1'-7" | 2'-3"  | 3'-0" | 3'-8"  | 4'-5"  | 5'-1"  | 5'-9"  |        |        |        |         |        |        |
|                                                                     |           | 16 | 1'-2" | 2'-1" | 3'-0"  | 4'-0" | 4'-11" | 5'-10" | 6'-10" | 7'-8"  |        |        |        |         |        |        |
|                                                                     |           | 20 | 1'-5" | 2'-7" | 3'-10" | 5'-0" | 6'-2"  | 7'-4"  | 8'-6"  | 9'-7"  |        |        |        |         |        |        |
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | -     | 2      | 3      | 5      | 6      | 8      | 9      | -      | -       | -      | -      |
| Any 14" Joist                                                       | Span [ft] | 8  | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-6"  | 1'-11" | 2'-4"  | 2'-9"  | 3'-3"  | 3'-8"  |        |         |        |        |
|                                                                     |           | 12 | 1'-0" | 1'-1" | 1'-2"  | 1'-7" | 2'-3"  | 2'-11" | 3'-6"  | 4'-1"  | 4'-10" | 5'-6"  |        |         |        |        |
|                                                                     |           | 16 | 1'-0" | 1'-1" | 1'-3"  | 2'-2" | 3'-0"  | 3'-10" | 4'-9"  | 5'-6"  | 6'-6"  | 7'-4"  |        |         |        |        |
|                                                                     |           | 20 | 1'-0" | 1'-1" | 1'-7"  | 2'-8" | 3'-9"  | 4'-10" | 5'-11" | 6'-10" | 8'-1"  | 9'-2"  |        |         |        |        |
|                                                                     |           | 24 | 1'-0" | 1'-1" | 1'-11" | 3'-3" | 4'-6"  | 5'-10" | 7'-1"  | 8'-3"  | 9'-9"  | 11'-0" |        |         |        |        |
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | -     | -      | 2      | 3      | 5      | 6      | 8      | 9      | 10      | -      | -      |
| Any 16" Joist                                                       | Span [ft] | 8  | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-3"  | 1'-3"  | 1'-7"  | 1'-11" | 2'-4"  | 2'-9"  | 3'-2"  | 3'-7"   |        |        |
|                                                                     |           | 12 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-3"  | 1'-9"  | 2'-4"  | 2'-11" | 3'-7"  | 4'-2"  | 4'-9"  | 5'-4"   |        |        |
|                                                                     |           | 16 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-7"  | 2'-5"  | 3'-2"  | 3'-10" | 4'-9"  | 5'-7"  | 6'-4"  | 7'-2"   |        |        |
|                                                                     |           | 20 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 2'-0"  | 3'-0"  | 4'-0"  | 4'-10" | 5'-11" | 6'-11" | 7'-11" | 8'-11"  |        |        |
|                                                                     |           | 24 | 1'-0" | 1'-1" | 1'-2"  | 1'-3" | 2'-5"  | 3'-7"  | 4'-9"  | 5'-10" | 7'-2"  | 8'-4"  | 9'-6"  | 10'-9"  |        |        |
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | -     | -      | -      | 2      | 3      | 5      | 6      | 7      | 9       | 10     | 11     |
| 18" BCI® 90 2.0 Joist                                               | Span [ft] | 12 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-5"  | 1'-11" | 2'-4"  | 2'-9"  | 3'-3"  | 3'-9"  | 4'-2"  | 4'-8"   | 5'-1"  | 5'-7"  |
|                                                                     |           | 16 | 1'-0" | 1'-1" | 1'-2"  | 1'-4" | 1'-11" | 2'-7"  | 3'-2"  | 3'-8"  | 4'-5"  | 5'-0"  | 5'-7"  | 6'-3"   | 6'-10" | 7'-5"  |
|                                                                     |           | 20 | 1'-0" | 1'-1" | 1'-2"  | 1'-8" | 2'-5"  | 3'-3"  | 4'-0"  | 4'-8"  | 5'-6"  | 6'-3"  | 7'-0"  | 7'-9"   | 8'-7"  | 9'-4"  |
|                                                                     |           | 24 | 1'-0" | 1'-1" | 1'-2"  | 2'-0" | 2'-11" | 3'-10" | 4'-9"  | 5'-7"  | 6'-7"  | 7'-6"  | 8'-5"  | 9'-4"   | 10'-3" | 11'-2" |
|                                                                     |           | 28 | 1'-0" | 1'-1" | 1'-4"  | 2'-5" | 3'-5"  | 4'-6"  | 5'-7"  | 6'-6"  | 7'-9"  | 8'-9"  | 9'-10" | 10'-11" | 12'-0" | 13'-1" |
| Round Hole Diameter [in]                                            |           |    | 2     | 3     | 4      | 5     | 6      | 7      | 8      | 8⅞     | 10     | 11     | 12     | 13      | 14     | 15     |
| Rectangular Hole Side [in]                                          |           |    | -     | -     | -      | -     | -      | -      | -      | 2      | 3      | 5      | 6      | 7       | 8      | 10     |
| 20" BCI® 90 2.0 Joist                                               | Span [ft] | 12 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-3"  | 1'-6"  | 1'-11" | 2'-3"  | 2'-9"  | 3'-2"  | 3'-7"  | 3'-11"  | 4'-4"  | 4'-9"  |
|                                                                     |           | 16 | 1'-0" | 1'-1" | 1'-2"  | 1'-2" | 1'-6"  | 2'-1"  | 2'-7"  | 3'-1"  | 3'-8"  | 4'-3"  | 4'-9"  | 5'-3"   | 5'-10" | 6'-4"  |
|                                                                     |           | 20 | 1'-0" | 1'-1" | 1'-2"  | 1'-3" | 1'-11" | 2'-7"  | 3'-3"  | 3'-10" | 4'-7"  | 5'-3"  | 5'-11" | 6'-7"   | 7'-4"  | 8'-0"  |
|                                                                     |           | 24 | 1'-0" | 1'-1" | 1'-2"  | 1'-6" | 2'-4"  | 3'-1"  | 3'-11" | 4'-7"  | 5'-6"  | 6'-4"  | 7'-2"  | 7'-11"  | 8'-9"  | 9'-7"  |
|                                                                     |           | 28 | 1'-0" | 1'-1" | 1'-2"  | 1'-9" | 2'-8"  | 3'-8"  | 4'-7"  | 5'-5"  | 6'-6"  | 7'-5"  | 8'-4"  | 9'-3"   | 10'-3" | 11'-2" |

- Select a table row based on joist depth and the actual joist span rounded up to the nearest table span. Scan across the row to the column headed by the appropriate round hole diameter or rectangular hole side. Use the longest side of a rectangular hole. The table value is the closest that the centerline of the hole may be to the centerline of the nearest support.
- The entire web may be cut out. **DO NOT** cut the flanges. Holes apply to either single or multiple joists in repetitive member conditions.
- For multiple holes, the amount of uncut web between holes must equal at least twice the diameter (or longest side) of the largest hole.
- 1½" round knockouts in the web may be removed by using a short piece of metal pipe and hammer.
- Holes may be positioned vertically anywhere in the web. The joist may be set with the 1½" knockout holes turned either up or down.
- This table was designed to apply to the design conditions covered by tables elsewhere in this publication. Use the BC CALC® software to check other hole sizes or holes under other design conditions. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.



# Reinforced Load Bearing Cantilever Table

## KEY TO TABLE

0 No Reinforcement Required  
WS Web Stiffeners at Support

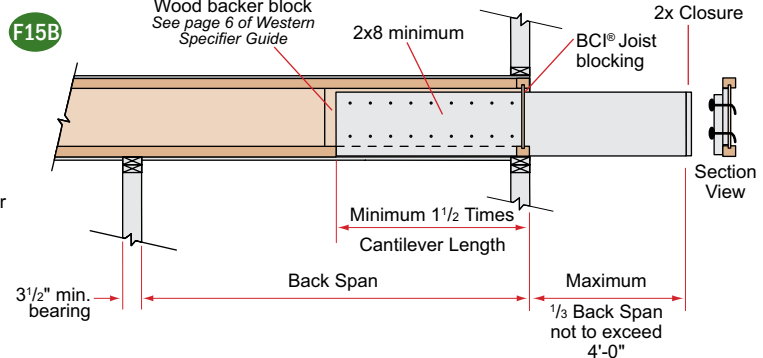
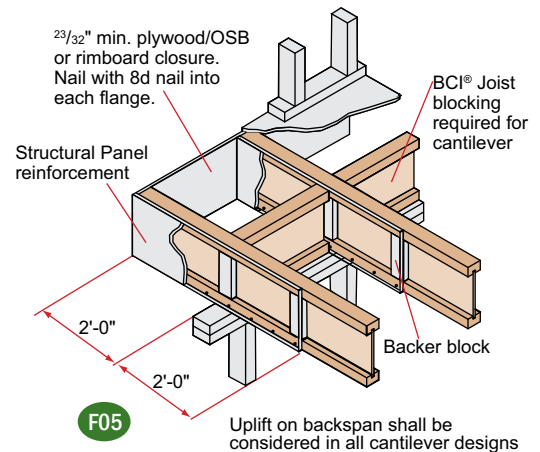
## BCI® Joists

1 Web Stiffeners Plus One Reinforcer  
2 Web Stiffeners Plus Two Reinforcers  
X Use Deeper Joists or Closer Spacing

| Joist Depth [in] | Joist Series | Roof Truss Span [ft] | Roof Total Load [psf] |      |    |    |      |    |    |      |    |
|------------------|--------------|----------------------|-----------------------|------|----|----|------|----|----|------|----|
|                  |              |                      | 35                    |      |    | 45 |      |    | 55 |      |    |
|                  |              |                      | 16                    | 19.2 | 24 | 16 | 19.2 | 24 | 16 | 19.2 | 24 |
| 9½"              | 5000<br>1.7  | 24                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 28                   | 0                     | 0    | X  | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 30                   | 0                     | 0    | X  | 0  | X    | X  | X  | X    | X  |
|                  |              | 32                   | 0                     | 0    | X  | 0  | X    | X  | X  | X    | X  |
|                  |              | 34                   | 0                     | 0    | X  | 0  | X    | X  | X  | X    | X  |
|                  |              | 36                   | 0                     | 0    | X  | 0  | X    | X  | X  | X    | X  |
|                  |              | 38                   | 0                     | X    | X  | X  | X    | X  | X  | X    | X  |
|                  |              | 40                   | 0                     | X    | X  | X  | X    | X  | X  | X    | X  |
|                  | 6000<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | X  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | X  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 0    | X  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 38                   | 0                     | 0    | 1  | 0  | 1    | X  | 0  | X    | X  |
|                  |              | 40                   | 0                     | 0    | X  | 0  | X    | X  | 1  | X    | X  |
|                  | 6500<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 1  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | 0    | X  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 0    | X  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 1    | X  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 38                   | 0                     | 0    | 1  | 0  | 1    | X  | 0  | X    | X  |
| 11⅝"             | 5000<br>1.7  | 24                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | 0    | X  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | 0    | X  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | WS   | X  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | X  | 0  | WS   | X  |
|                  |              | 32                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 34                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | X    | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | WS   | X  | 0  | X    | X  |
|                  |              | 38                   | 0                     | 0    | 1  | 0  | WS   | X  | WS | X    | X  |
|                  |              | 40                   | 0                     | 0    | X  | 0  | X    | X  | X  | X    | X  |
|                  | 6000<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 1  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 1  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | 0    | X  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 0    | X  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | WS   | X  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 1    | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 40                   | 0                     | 0    | 1  | 0  | WS   | X  | 0  | 1    | X  |
|                  | 6500<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 1  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 1  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | WS | 0  | 0    | X  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 0    | X  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | WS   | X  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | 1    | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  |
| 60<br>2.0        | 24           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 1    |    |
|                  | 26           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 1    |    |
|                  | 28           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | X    |    |
|                  | 30           | 0                    | 0                     | 0    | 0  | 0  | 1    | 0  | 0  | X    |    |
|                  | 32           | 0                    | 0                     | 0    | 0  | 0  | 1    | 0  | 0  | X    |    |
|                  | 34           | 0                    | 0                     | 0    | 0  | 0  | X    | 0  | 1  | X    |    |
|                  | 36           | 0                    | 0                     | 0    | 0  | 0  | X    | 0  | 1  | X    |    |
|                  | 38           | 0                    | 0                     | 0    | 0  | 0  | X    | 0  | 1  | X    |    |
| 90<br>2.0        | 24           | 0                    | 0                     | 0    | 0  | 0  | X    | 0  | X  | X    |    |
|                  | 26           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    |    |
|                  | 28           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    |    |
|                  | 30           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    |    |
|                  | 32           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    |    |
|                  | 34           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 1    |    |
|                  | 36           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 1    |    |
|                  | 38           | 0                    | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 1    |    |

| Joist Depth [in] | Joist Series | Roof Truss Span [ft] | Roof Total Load [psf] |      |    |    |      |    |    |      |    |    |
|------------------|--------------|----------------------|-----------------------|------|----|----|------|----|----|------|----|----|
|                  |              |                      | 35                    |      |    | 45 |      |    | 55 |      |    |    |
|                  |              |                      | Joist Spacing [in]    |      |    |    |      |    |    |      |    |    |
|                  |              |                      | 16                    | 19.2 | 24 | 16 | 19.2 | 24 | 16 | 19.2 | 24 |    |
| 14"              | 5000<br>1.7  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 34                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | WS   | X  | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | WS   | X  | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | WS   | X  | 0  | 1    | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | WS   | X  | WS | X    | X  | X  |
|                  | 6000<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | WS   | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | 1    | X  | X  |
|                  | 6500<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | X  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 36                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | X  | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | WS   | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | X  | 0  | 1    | X  | X  |
|                  | 60<br>2.0    | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | 1  |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | 1  |
|                  |              | 38                   | 0                     | 0    | 0  | 0  | 0    | 1  | 0  | WS   | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | 1  | 0  | 1    | X  | X  |
|                  | 90<br>2.0    | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 38                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 1  |
|                  |              | 40                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 1  |
| 16"              | 6000<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | WS |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | X  | X  |
|                  | 6500<br>1.8  | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | WS |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | X  |
|                  |              | 38                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | X  | X  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | X  | X  |
|                  | 60<br>2.0    | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | 0  | WS |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | WS |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | 1  |
|                  |              | 38                   | 0                     | 0    | 0  | 0  | 0    | 0  | WS | 0    | WS | 1  |
|                  |              | 40                   | 0                     | 0    | WS | 0  | 0    | WS | 0  | WS   | 1  | 1  |
|                  | 90<br>2.0    | 24                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 26                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 28                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 30                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 32                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | 0  |
|                  |              | 34                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 36                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 38                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |
|                  |              | 40                   | 0                     | 0    | 0  | 0  | 0    | 0  | 0  | 0    | 0  | WS |





| Web Stiffener Nailing Schedule |                |                  |              |
|--------------------------------|----------------|------------------|--------------|
| BCI®<br>Joist<br>Series        | Joist<br>Depth | Bearing Location |              |
|                                |                | End              | Intermediate |
| 5000<br>1.7                    | 9½"            | 2-8d             | 2-8d         |
|                                | 11⅞"           | 2-8d             | 3-8d         |
|                                | 14"            | 2-8d             | 5-8d         |
| 6000<br>1.8                    | 9½"            | 2-8d             | 2-8d         |
|                                | 11⅞"           | 2-8d             | 3-8d         |
|                                | 14"            | 2-8d             | 5-8d         |
|                                | 16"            | 2-8d             | 6-8d         |
| 6500<br>1.8                    | 9½"            | 2-8d             | 2-8d         |
|                                | 11⅞"           | 2-8d             | 3-8d         |
|                                | 14"            | 2-8d             | 5-8d         |
|                                | 16"            | 2-8d             | 6-8d         |
| 60 2.0                         | 11⅞"           | 2-8d             | 3-8d         |
|                                | 14"            | 2-8d             | 5-8d         |
|                                | 16"            | 2-8d             | 6-8d         |
| 90 2.0                         | 11⅞"           | 3-16d            | 3-16d        |
|                                | 14"            | 5-16d            | 5-16d        |
|                                | 16"            | 6-16d            | 6-16d        |
|                                | 18"            | 7-16d            | 7-16d        |
|                                | 20"            | 8-16d            | 8-16d        |

## Allowable Uniform Floor Load

(in pounds per linear foot [PLF])

### 100% Load Duration

| Span Length | BCI® 5000 1.7 Series<br>2" Flange Width |            |                          |            |                         |            | BCI® 6000 1.8 Series<br>2 <sup>5</sup> / <sub>16</sub> " Flange Width |            |                          |            |                         |            |                         |            |
|-------------|-----------------------------------------|------------|--------------------------|------------|-------------------------|------------|-----------------------------------------------------------------------|------------|--------------------------|------------|-------------------------|------------|-------------------------|------------|
|             | 9½"<br>BCI®<br>5000 1.7                 |            | 11⅞"<br>BCI®<br>5000 1.7 |            | 14"<br>BCI®<br>5000 1.7 |            | 9½"<br>BCI®<br>6000 1.8                                               |            | 11⅞"<br>BCI®<br>6000 1.8 |            | 14"<br>BCI®<br>6000 1.8 |            | 16"<br>BCI®<br>6000 1.8 |            |
|             | Live Load                               | Total Load | Live Load                | Total Load | Live Load               | Total Load | Live Load                                                             | Total Load | Live Load                | Total Load | Live Load               | Total Load | Live Load               | Total Load |
| 6           | -                                       | 280        | -                        | 300        | -                       | 313        | -                                                                     | 320        | -                        | 333        | -                       | 346        | -                       | 353        |
| 7           | -                                       | 240        | -                        | 257        | -                       | 268        | -                                                                     | 274        | -                        | 285        | -                       | 297        | -                       | 302        |
| 8           | -                                       | 210        | -                        | 225        | -                       | 235        | -                                                                     | 240        | -                        | 250        | -                       | 260        | -                       | 265        |
| 9           | -                                       | 186        | -                        | 200        | -                       | 208        | -                                                                     | 213        | -                        | 222        | -                       | 231        | -                       | 235        |
| 10          | 151                                     | 168        | -                        | 180        | -                       | 188        | 175                                                                   | 192        | -                        | 200        | -                       | 208        | -                       | 212        |
| 11          | 117                                     | 152        | -                        | 163        | -                       | 170        | 135                                                                   | 174        | -                        | 181        | -                       | 189        | -                       | 192        |
| 12          | 91                                      | 136        | 146                      | 150        | -                       | 156        | 107                                                                   | 160        | -                        | 166        | -                       | 173        | -                       | 176        |
| 13          | 73                                      | 116        | 117                      | 138        | -                       | 144        | 85                                                                    | 147        | 138                      | 153        | -                       | 160        | -                       | 163        |
| 14          | 59                                      | 100        | 95                       | 128        | -                       | 134        | 69                                                                    | 129        | 113                      | 142        | -                       | 148        | -                       | 151        |
| 15          | 48                                      | 87         | 78                       | 112        | 115                     | 125        | 57                                                                    | 112        | 93                       | 133        | 135                     | 138        | -                       | 141        |
| 16          | 40                                      | 76         | 65                       | 98         | 96                      | 116        | 47                                                                    | 95         | 78                       | 125        | 113                     | 130        | -                       | 132        |
| 17          |                                         |            | 55                       | 87         | 80                      | 103        | 40                                                                    | 80         | 65                       | 112        | 95                      | 122        | -                       | 124        |
| 18          |                                         |            | 47                       | 77         | 68                      | 92         |                                                                       |            | 56                       | 100        | 81                      | 115        | 108                     | 117        |
| 19          |                                         |            | 40                       | 69         | 58                      | 82         |                                                                       |            | 48                       | 89         | 70                      | 106        | 93                      | 111        |
| 20          |                                         |            |                          |            | 50                      | 74         |                                                                       |            | 41                       | 81         | 60                      | 96         | 80                      | 106        |
| 21          |                                         |            |                          |            | 44                      | 67         |                                                                       |            |                          |            | 52                      | 87         | 70                      | 99         |
| 22          |                                         |            |                          |            |                         |            |                                                                       |            |                          |            | 46                      | 79         | 61                      | 90         |

- Total Load values are limited by shear, moment, or deflection equal to L/240.
- Live Load values are limited by deflection equal to L/480. For deflection limits of L/360 and L/960, multiply the Live Load values by 1.33 and 0.50 respectively.
- Both the Total Load and Live Load columns must be checked. Where a Live Load value is not shown, the Total Load value will control.
- Table values apply to either simple or multiple span joists. Span is measured center to center of the minimum required bearing length. Analyze multiple span joists with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values do not consider composite action from gluing and nailing floor sheathing (composite action is considered in floor span tables on page 4).
- Total Load values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.
- For assistance with floor design, consult the section *About Floor Performance* on page 4.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.



## Allowable Uniform Floor Load (in pounds per linear foot [PLF])

### 100% Load Duration

| Span Length | BCI® 6500 1.8 Series<br>2 <sup>9</sup> / <sub>16</sub> " Flange Width |            |                    |            |                   |            |                   |            | BCI® 60 2.0 Series<br>2 <sup>5</sup> / <sub>16</sub> " Flange Width |            |                 |            |                 |            |
|-------------|-----------------------------------------------------------------------|------------|--------------------|------------|-------------------|------------|-------------------|------------|---------------------------------------------------------------------|------------|-----------------|------------|-----------------|------------|
|             | 9½" BCI® 6500 1.8                                                     |            | 11⅞" BCI® 6500 1.8 |            | 14" BCI® 6500 1.8 |            | 16" BCI® 6500 1.8 |            | 11⅞" BCI® 60 2.0                                                    |            | 14" BCI® 60 2.0 |            | 16" BCI® 60 2.0 |            |
|             | Live Load                                                             | Total Load | Live Load          | Total Load | Live Load         | Total Load | Live Load         | Total Load | Live Load                                                           | Total Load | Live Load       | Total Load | Live Load       | Total Load |
|             |                                                                       |            |                    |            |                   |            |                   |            |                                                                     |            |                 |            |                 |            |
| 6           | -                                                                     | 320        | -                  | 333        | -                 | 346        | -                 | 353        | -                                                                   | 366        | -               | 366        | -               | 366        |
| 7           | -                                                                     | 274        | -                  | 285        | -                 | 297        | -                 | 302        | -                                                                   | 314        | -               | 314        | -               | 314        |
| 8           | -                                                                     | 240        | -                  | 250        | -                 | 260        | -                 | 265        | -                                                                   | 275        | -               | 275        | -               | 275        |
| 9           | -                                                                     | 213        | -                  | 222        | -                 | 231        | -                 | 235        | -                                                                   | 244        | -               | 244        | -               | 244        |
| 10          | 190                                                                   | 192        | -                  | 200        | -                 | 208        | -                 | 212        | -                                                                   | 220        | -               | 220        | -               | 220        |
| 11          | 147                                                                   | 174        | -                  | 181        | -                 | 189        | -                 | 192        | -                                                                   | 200        | -               | 200        | -               | 200        |
| 12          | 116                                                                   | 160        | -                  | 166        | -                 | 173        | -                 | 176        | -                                                                   | 183        | -               | 183        | -               | 183        |
| 13          | 93                                                                    | 147        | 152                | 153        | -                 | 160        | -                 | 163        | -                                                                   | 169        | -               | 169        | -               | 169        |
| 14          | 76                                                                    | 137        | 124                | 142        | -                 | 148        | -                 | 151        | 149                                                                 | 157        | -               | 157        | -               | 157        |
| 15          | 62                                                                    | 124        | 103                | 133        | -                 | 138        | -                 | 141        | 123                                                                 | 146        | -               | 146        | -               | 146        |
| 16          | 52                                                                    | 104        | 85                 | 125        | 123               | 130        | -                 | 132        | 103                                                                 | 137        | -               | 137        | -               | 137        |
| 17          | 44                                                                    | 88         | 72                 | 117        | 104               | 122        | -                 | 124        | 87                                                                  | 129        | 125             | 129        | -               | 129        |
| 18          |                                                                       |            | 61                 | 110        | 88                | 115        | 117               | 117        | 74                                                                  | 122        | 106             | 122        | -               | 122        |
| 19          |                                                                       |            | 52                 | 99         | 76                | 109        | 101               | 111        | 63                                                                  | 115        | 92              | 115        | -               | 115        |
| 20          |                                                                       |            | 45                 | 89         | 65                | 104        | 87                | 106        | 55                                                                  | 110        | 79              | 110        | 105             | 110        |
| 21          |                                                                       |            |                    |            | 57                | 96         | 76                | 100        | 48                                                                  | 96         | 69              | 104        | 92              | 104        |
| 22          |                                                                       |            |                    |            | 50                | 88         | 66                | 96         | 42                                                                  | 84         | 60              | 100        | 81              | 100        |
| 23          |                                                                       |            |                    |            | 44                | 80         | 58                | 92         |                                                                     |            | 53              | 95         | 71              | 95         |
| 24          |                                                                       |            |                    |            |                   |            | 52                | 84         |                                                                     |            | 47              | 91         | 63              | 91         |
| 25          |                                                                       |            |                    |            |                   |            | 46                | 77         |                                                                     |            | 42              | 84         | 56              | 88         |
| 26          |                                                                       |            |                    |            |                   |            | 41                | 72         |                                                                     |            |                 |            | 50              | 84         |
| 27          |                                                                       |            |                    |            |                   |            |                   |            |                                                                     |            |                 |            | 45              | 81         |
| 28          |                                                                       |            |                    |            |                   |            |                   |            |                                                                     |            |                 |            | 40              | 78         |
| 29          |                                                                       |            |                    |            |                   |            |                   |            |                                                                     |            |                 |            |                 |            |
| 30          |                                                                       |            |                    |            |                   |            |                   |            |                                                                     |            |                 |            |                 |            |



## Allowable Uniform Floor Load

(in pounds per linear foot [PLF])

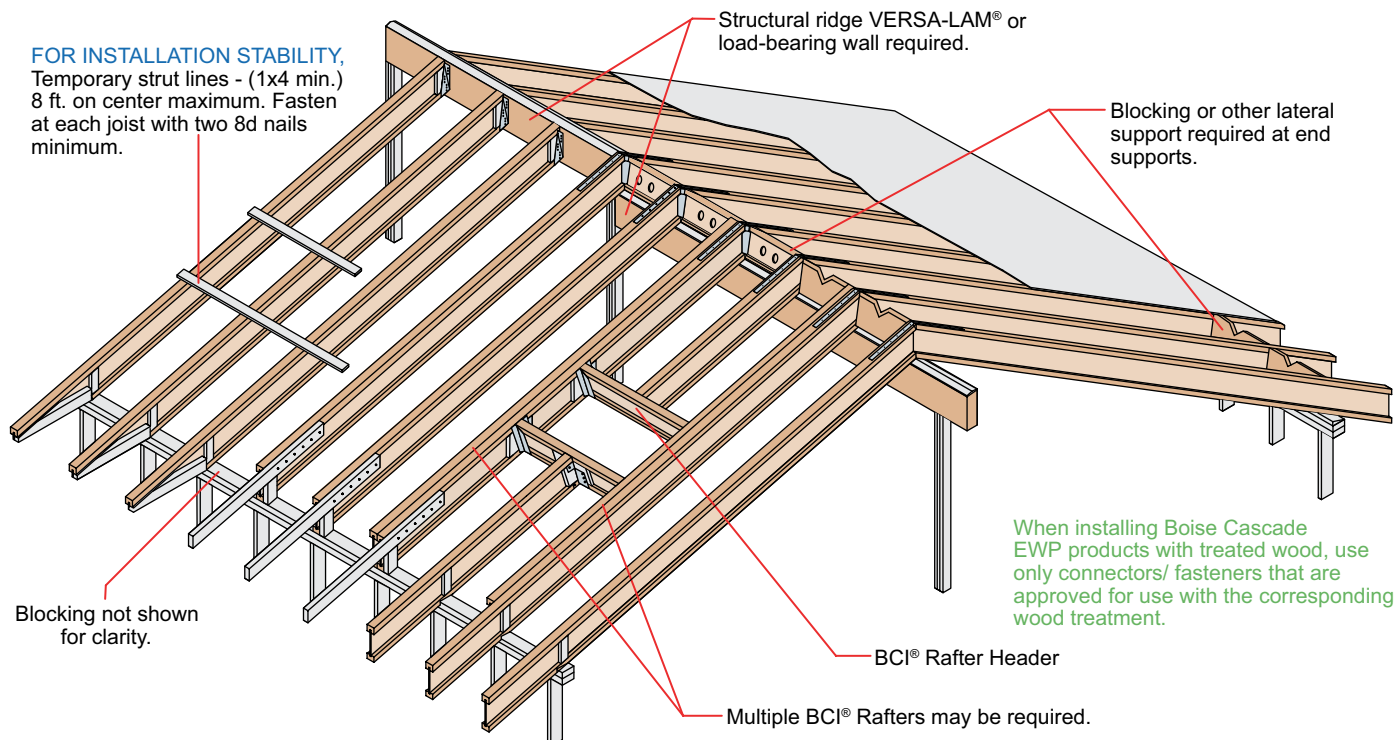
### 100% Load Duration

| Span Length | BCI® 90 2.0 Series<br>3½" Flange Width |            |                    |            |                    |            |                    |            |                    |            |
|-------------|----------------------------------------|------------|--------------------|------------|--------------------|------------|--------------------|------------|--------------------|------------|
|             | 11⅞"<br>BCI® 90 2.0                    |            | 14"<br>BCI® 90 2.0 |            | 16"<br>BCI® 90 2.0 |            | 18"<br>BCI® 90 2.0 |            | 20"<br>BCI® 90 2.0 |            |
|             | Live Load                              | Total Load | Live Load          | Total Load | Live Load          | Total Load | Live Load          | Total Load | Live Load          | Total Load |
| 6           | -                                      | 450        | -                  | 453        | -                  | 456        | -                  | 553        | -                  | 573        |
| 7           | -                                      | 385        | -                  | 388        | -                  | 391        | -                  | 474        | -                  | 491        |
| 8           | -                                      | 337        | -                  | 340        | -                  | 342        | -                  | 415        | -                  | 430        |
| 9           | -                                      | 300        | -                  | 302        | -                  | 304        | -                  | 368        | -                  | 382        |
| 10          | -                                      | 270        | -                  | 272        | -                  | 274        | -                  | 332        | -                  | 344        |
| 11          | -                                      | 245        | -                  | 247        | -                  | 249        | -                  | 301        | -                  | 312        |
| 12          | -                                      | 225        | -                  | 226        | -                  | 228        | -                  | 276        | -                  | 286        |
| 13          | -                                      | 207        | -                  | 209        | -                  | 210        | -                  | 255        | -                  | 264        |
| 14          | -                                      | 192        | -                  | 194        | -                  | 195        | -                  | 237        | -                  | 245        |
| 15          | 174                                    | 180        | -                  | 181        | -                  | 182        | -                  | 221        | -                  | 229        |
| 16          | 146                                    | 168        | -                  | 170        | -                  | 171        | -                  | 207        | -                  | 215        |
| 17          | 124                                    | 158        | -                  | 160        | -                  | 161        | -                  | 195        | -                  | 202        |
| 18          | 106                                    | 150        | 150                | 151        | -                  | 152        | -                  | 184        | -                  | 191        |
| 19          | 91                                     | 142        | 129                | 143        | -                  | 144        | -                  | 174        | -                  | 181        |
| 20          | 79                                     | 135        | 112                | 136        | -                  | 137        | -                  | 166        | -                  | 172        |
| 21          | 69                                     | 128        | 98                 | 129        | -                  | 130        | -                  | 158        | -                  | 163        |
| 22          | 61                                     | 122        | 86                 | 123        | 115                | 124        | 146                | 150        | -                  | 156        |
| 23          | 53                                     | 107        | 76                 | 118        | 101                | 119        | 129                | 144        | -                  | 149        |
| 24          | 47                                     | 95         | 68                 | 113        | 90                 | 114        | 115                | 138        | -                  | 143        |
| 25          | 42                                     | 85         | 60                 | 108        | 80                 | 109        | 103                | 132        | 128                | 137        |
| 26          |                                        |            | 54                 | 104        | 72                 | 105        | 92                 | 127        | 115                | 132        |
| 27          |                                        |            | 48                 | 97         | 65                 | 101        | 83                 | 122        | 104                | 127        |
| 28          |                                        |            | 44                 | 88         | 58                 | 97         | 75                 | 118        | 94                 | 122        |
| 29          |                                        |            |                    |            | 53                 | 94         | 68                 | 114        | 85                 | 118        |
| 30          |                                        |            |                    |            | 48                 | 91         | 62                 | 110        | 77                 | 114        |

- Total Load values are limited by shear, moment, or deflection equal to L/240.
- Live Load values are limited by deflection equal to L/480. For deflection limits of L/360 and L/960, multiply the Live Load values by 1.33 and 0.50 respectively.
- Both the Total Load and Live Load columns must be checked. Where a Live Load value is not shown, the Total Load value will control.
- Table values apply to either simple or multiple span joists. Span is measured center to center of the minimum required bearing length. Analyze multiple span joists with the BC CALC® software if the length of any span is less than half the length of an adjacent span.

- Table values do not consider composite action from gluing and nailing floor sheathing (composite action is considered in floor span tables on page 4).
- Total Load values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.
- For assistance with floor design, consult the section *About Floor Performance* on page 4.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

## BCI® Rafters



### SAFETY WARNING

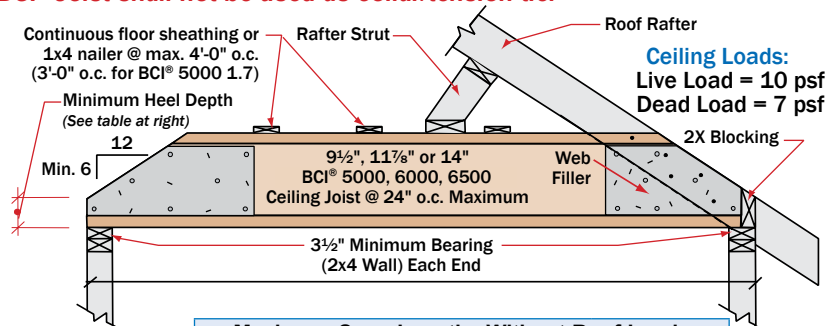
**DO NOT ALLOW WORKERS ON BCI® JOISTS UNTIL ALL HANGERS, BCI® RIM JOISTS, RIM BOARDS, BCI® BLOCKING PANELS, X-BRACING AND TEMPORARY 1x4 STRUT LINES ARE INSTALLED AS SPECIFIED BELOW.**

**SERIOUS ACCIDENTS CAN RESULT FROM INSUFFICIENT ATTENTION TO PROPER BRACING DURING CONSTRUCTION. ACCIDENTS CAN BE AVOIDED UNDER NORMAL CONDITIONS BY FOLLOWING THESE GUIDELINES:**

- Build a braced end wall at the end of the bay, or permanently install the first eight feet of BCI® Joists and the first course of sheathing. As an alternate, temporary sheathing may be nailed to the first four feet of BCI® Joists at the end of the bay.
- All hangers, BCI® rim joists, rim boards, BCI® blocking panels, and x-bracing must be completely installed and properly nailed as each BCI® Joist is set.
- Install temporary 1x4 strut lines at no more than eight feet on center as additional BCI® Joists are set. Nail the strut lines to the sheathed area, or braced end wall, and to each BCI® Joist with two 8d nails.
- The ends of cantilevers must be temporarily secured by strut lines on both the top and bottom flanges.
- Straighten the BCI® Joists to within 1/2 inch of true alignment before attaching strut lines and sheathing.
- Remove the temporary strut lines only as required to install the permanent sheathing.
- Failure to install temporary bracing may result in sideways buckling or roll-over under light construction loads.

### BCI® Ceiling Joist with Bevel End Cut (For Limited-Access Attics Only)

**BCI® Joist shall not be used as collar/tension tie.**



#### Maximum Span Lengths Without Roof Loads

|                                             |        |
|---------------------------------------------|--------|
| 9 1/2" BCI® 5000 1.7 / 6000 1.8 / 6500 1.8  | 19'-6" |
| 11 1/8" BCI® 5000 1.7 / 6000 1.8 / 6500 1.8 | 22'-0" |
| 14" BCI® 6000 1.8 / 6500 1.8                | 25'-0" |

(If roof loads present, see Notes 2 & 3 at right)

| Minimum<br>Heel<br>Depths | Joist<br>Depth | End Wall |        |
|---------------------------|----------------|----------|--------|
|                           |                | 2 x 4    | 2 x 6  |
|                           | 9 1/2"         | 2 1/2"   | 1 1/2" |
|                           | 11 1/8"        | 3 1/2"   | 2 1/2" |
|                           | 14"            | 4 1/2"   | 3 1/2" |

#### Notes:

- 1) Detail is to be used only for ceiling joists with no access to attic space.
- 2) Ceiling joist must be designed to carry all roof load transferred through rafter struts as shown.
- 3) BCI® ceiling joist end reaction may not exceed 550 pounds.
- 4) Minimum roof slope is 6/12.
- 5) Nail roof rafter to BCI® top flange with 1-16d sinker or box nail.
- 6) Nail BCI® top flange to roof rafter with 1-16d nail (for stability resistance only).
- 7) Install a web stiffener on each side of BCI® Joist at beveled ends. Nail roof rafter to BCI® Joist per building code requirements for ceiling joist to roof rafter connection.



Additional roof framing details available with BC FRAMER® software (see page 33)

**R01**

2x beveled plate for slope greater than  $\frac{1}{4}/12$ .

Simpson VPA or USP TMP connectors or equal can be used in lieu of beveled plate for slopes from  $3/12$  to  $12/12$ .

**R04**

10d nails at 6" o.c.

2x4 one side for 135 PLF max.  
2x6 one side for 240 PLF max.

Backer block. Thickness per corresponding BCI® series.

2x block

BCI® blocking Holes cut for ventilation.

4'-0" horiz.

2'-6" horiz.

**R02**

Rimboard / VERSA-LAM® blocking. Ventilation "V" cut:  $\frac{1}{3}$  of length,  $\frac{1}{2}$  of depth

2x4 blocking for soffit support.

2'-6" max.

Flange of BCI® Joists may be birdsmouth cut only at the low end of the joist. Birds mouth cut BCI® joist must bear fully on plate, web stiffener required each side. Bottom flange shall be fully supported.

**DN05**

**DO NOT** bevel-cut joist beyond inside face of wall, except for specific conditions in details shown on pages 6 and 13 of the Western Specifier Guide.

**R03**

Rimboard / VERSA-LAM® blocking. Ventilation "V" cut:  $\frac{1}{3}$  of length,  $\frac{1}{2}$  of depth

Tight fit for lateral stability.

Flange of BCI® Joists may be birdsmouth cut only at the low end of the joist. Birds mouth cut BCI® Joist must bear fully on plate, web stiffener required each side.

2'-6" max.

**R07**

Backer block (minimum 12" wide). Nail with 10 - 10d nails.

Joist Hanger

Filler block. Nail with 10 - 10d nails.

Backer block required where top flange joist hanger load exceeds 250 lbs. Install tight to top flange.

**R05**

Simpson or USP LSTA24 strap, nailing per governing building code.

VERSA-LAM® LVL support beam.

BCI® blocking Holes cut for ventilation.

Double-beveled wood plate.

Blocking on both sides of ridge may be required for shear transfer per design professional of record.

**R06**

Simpson or USP LSTA24 strap where slope exceeds  $7/12$  (straps may be required for lower slopes in high-wind areas). Nailing per governing building code.

VERSA-LAM® LVL support beam.

Beveled web stiffener on each side.

Simpson LSSUI or USP TMU hanger.

**R11**

Double joist may be required when L exceeds rafter spacing.

Blocking as required.

Nail outrigger through BCI® web.

2" x \_ outrigger notched around BCI® top flange. Outrigger spacing no greater than 24" on-center.

End Wall.

L (2'-0" max.)

## LATERAL SUPPORT

- BCI® Joists must be laterally supported at end supports (including supports adjacent to overhangs) with hangers, rimboard, or blocking (VERSA-LAM®, Boise Cascade Rimboard or BCI® Joist). Metal cross bracing or other x-bracing provides adequate lateral support for BCI® Joists, consult governing building code for roof diaphragm connection provisions.

## MINIMUM BEARING LENGTH FOR BCI® JOISTS

- Minimum Bearing Lengths:  $1\frac{1}{2}$ " end bearing,  $3\frac{1}{2}$ " intermediate and adjacent cantilever bearing.
- Longer bearing lengths allow higher reaction values. Refer to the building code evaluation report or the BC CALC® software.

## NAILING REQUIREMENTS

- BCI® rim joist, rim board or closure panel to BCI® joist:
  - Rims or closure panel  $1\frac{3}{4}$  inches thick and less: 2-8d nails, one each in the top and bottom flange.
  - BCI® 5000 rim joist: 2-10d box nails, one each in the top and bottom flange.
  - BCI® 6000, 60 rim joist: 2-16d box nails, one each in the top and bottom flange.
  - BCI® 6500, 90 rim joist: Toe-nail top flange to rim joist with 2-10d box nails, one each side of flange.
- BCI® rim joist, rim board or BCI® blocking panel to support:
  - Min. 8d nails @ 6" o.c. per IRC.
  - Connection per design professional of record's specification for shear transfer.

- BCI® joist to support:

- 2-8d nails, one on each side of the web, placed  $1\frac{1}{2}$  inches minimum from the end of the BCI® Joist to limit splitting.

- Sheathing to BCI® joist:

- Prescriptive residential roof sheathing nailing requires 8d common nails @ 6" o.c. on edges and @ 12" o.c. in the field (IRC Table R602.3(1)).
- See closest allowable nail spacing limits on page 24 for floor diaphragm nailing specified at closer spacing than IRC.
- Maximum nail spacing for minimum lateral stability: 18" for BCI® 5000, 24" for larger BCI® joist series.
- 14 gauge staples may be substituted for 8d nails if the staples penetrate at least 1 inch into the joist.
- Wood screws may be acceptable, contact local building official and/or Boise Cascade EWP Engineering for further information.

## BACKER AND FILLER BLOCK DIMENSIONS

| Series   | Backer Block Thickness                              | Filler Block Thickness                               |
|----------|-----------------------------------------------------|------------------------------------------------------|
| 5000 1.7 | $\frac{3}{4}$ " or $\frac{1}{2}$ " wood panels      | Two $\frac{3}{4}$ " wood panels or 2x_               |
| 6000 1.8 | $1\frac{1}{8}$ " or two $\frac{1}{2}$ " wood panels | 2x_ + $\frac{7}{16}$ " or $\frac{1}{2}$ " wood panel |
| 6500 1.8 | $1\frac{1}{8}$ " or two $\frac{3}{8}$ " wood panels | 2x_ + $\frac{3}{8}$ " or $\frac{3}{4}$ " wood panel  |
| 60 2.0   | $1\frac{1}{8}$ " or two $\frac{1}{2}$ " wood panels | 2x_ + $\frac{7}{16}$ " or $\frac{1}{2}$ " wood panel |
| 90 2.0   | 2x_ lumber                                          | Double 2x_ lumber                                    |

- Cut backer and filler blocks to a maximum depth equal to the web depth minus  $\frac{1}{4}$ " to avoid a forced fit.

## WEB STIFFENER REQUIREMENTS

- See Web Stiffener Requirements on page 9.

## PROTECT BCI® JOISTS FROM THE WEATHER

- BCI® Joists are intended only for applications that provide permanent protection from the weather. Bundles of BCI® Joists should be covered and stored off of the ground on stickers.

## MAXIMUM SLOPE

- Unless otherwise noted, all roof details are valid for slopes of 12 in 12 or less.

## VENTILATION

- The  $1\frac{1}{2}$  inch, pre-stamped knock-out holes spaced at 12 inches on center along the BCI® Joist may all be knocked out and used for cross ventilation. Deeper joists than what is structurally needed may be advantageous in ventilation design. Consult local building official and/or ventilation specialist for specific ventilation requirements.

## BIRDSMOUTH CUTS

- BCI® Joists may be birdsmouth cut only at the low end support. BCI® joists with birdsmouth cuts may cantilever up to 2'-6" past the low end support. The bottom flange must sit fully on the support and may not overhang the inside face of the support. High end supports and intermediate supports may not be birdsmouth cut.

Maximum clear span in feet and inches, based on horizontal spans.

### 115% and 125% Load Duration

|               |                  |                    |                    | BCI® 5000 1.7 Series |                    |                     |                       |                    |                     |                      |                    |                     |                      |                    |                     | BCI® 6000 1.8 Series                          |                    |                     |                      |                    |                     |                      |                    |                     |  |  |  |
|---------------|------------------|--------------------|--------------------|----------------------|--------------------|---------------------|-----------------------|--------------------|---------------------|----------------------|--------------------|---------------------|----------------------|--------------------|---------------------|-----------------------------------------------|--------------------|---------------------|----------------------|--------------------|---------------------|----------------------|--------------------|---------------------|--|--|--|
|               |                  |                    |                    | 2" Flange Width      |                    |                     |                       |                    |                     |                      |                    |                     |                      |                    |                     | 2 <sup>5</sup> / <sub>16</sub> " Flange Width |                    |                     |                      |                    |                     |                      |                    |                     |  |  |  |
|               |                  |                    |                    | 9½" BCI®<br>5000 1.7 |                    |                     | 11⅞" BCI®<br>5000 1.7 |                    |                     | 14" BCI®<br>5000 1.7 |                    |                     | 9½" BCI®<br>6000 1.8 |                    |                     | 11⅞" BCI®<br>6000 1.8                         |                    |                     | 14" BCI®<br>6000 1.8 |                    |                     | 16" BCI®<br>6000 1.8 |                    |                     |  |  |  |
|               |                  | Live Load<br>[psf] | Dead Load<br>[psf] | 4/12<br>or<br>Less   | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less    | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less   | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less   | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less                            | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less   | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less   | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 |  |  |  |
|               |                  |                    |                    |                      |                    |                     |                       |                    |                     |                      |                    |                     |                      |                    |                     |                                               |                    |                     |                      |                    |                     |                      |                    |                     |  |  |  |
| 12"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 24'-1"               | 22'-9"             | 21'-1"              | 28'-7"                | 26'-11"            | 25'-0"              | 32'-7"               | 30'-8"             | 28'-6"              | 25'-6"               | 24'-1"             | 22'-4"              | 30'-5"                                        | 28'-8"             | 26'-7"              | 34'-8"               | 32'-8"             | 30'-4"              | 38'-4"               | 36'-2"             | 33'-6"              |  |  |  |
|               |                  | 20                 | 15                 | 22'-10"              | 21'-5"             | 19'-9"              | 27'-1"                | 25'-5"             | 23'-5"              | 30'-10"              | 29'-0"             | 26'-9"              | 24'-2"               | 22'-8"             | 20'-11"             | 28'-10"                                       | 27'-1"             | 25'-0"              | 32'-10"              | 30'-10"            | 28'-5"              | 36'-4"               | 34'-1"             | 31'-5"              |  |  |  |
|               |                  | 20                 | 20                 | 21'-9"               | 20'-5"             | 18'-9"              | 25'-10"               | 24'-2"             | 22'-3"              | 29'-5"               | 27'-7"             | 25'-4"              | 23'-1"               | 21'-7"             | 19'-10"             | 27'-6"                                        | 25'-9"             | 23'-8"              | 31'-4"               | 29'-4"             | 26'-11"             | 34'-8"               | 32'-5"             | 29'-10"             |  |  |  |
|               | Snow<br>115%     | 25                 | 10                 | 22'-11"              | 21'-8"             | 20'-2"              | 27'-2"                | 25'-8"             | 23'-10"             | 30'-10"              | 29'-3"             | 27'-2"              | 24'-3"               | 22'-11"            | 21'-4"              | 28'-11"                                       | 27'-4"             | 25'-5"              | 32'-11"              | 31'-1"             | 28'-11"             | 36'-5"               | 34'-5"             | 32'-0"              |  |  |  |
|               |                  | 25                 | 15                 | 21'-10"              | 20'-7"             | 19'-0"              | 25'-10"               | 24'-4"             | 22'-7"              | 28'-9"               | 27'-9"             | 25'-8"              | 23'-1"               | 21'-9"             | 20'-2"              | 27'-7"                                        | 25'-11"            | 24'-0"              | 31'-5"               | 29'-7"             | 27'-4"              | 34'-9"               | 32'-8"             | 30'-3"              |  |  |  |
|               |                  | 30                 | 10                 | 21'-11"              | 20'-9"             | 19'-4"              | 25'-11"               | 24'-7"             | 22'-11"             | 28'-10"              | 28'-0"             | 26'-1"              | 23'-2"               | 21'-11"            | 20'-6"              | 27'-7"                                        | 26'-2"             | 24'-5"              | 31'-6"               | 29'-9"             | 27'-9"              | 34'-10"              | 32'-11"            | 30'-9"              |  |  |  |
|               |                  | 30                 | 15                 | 21'-0"               | 19'-10"            | 18'-4"              | 24'-10"               | 23'-5"             | 21'-9"              | 27'-2"               | 26'-6"             | 24'-10"             | 22'-3"               | 21'-0"             | 19'-5"              | 26'-6"                                        | 25'-0"             | 23'-2"              | 30'-2"               | 28'-5"             | 26'-5"              | 33'-0"               | 31'-6"             | 29'-3"              |  |  |  |
|               |                  | 40                 | 10                 | 19'-11"              | 19'-1"             | 18'-0"              | 23'-7"                | 22'-8"             | 21'-4"              | 25'-10"              | 25'-5"             | 24'-4"              | 21'-1"               | 20'-3"             | 19'-1"              | 25'-1"                                        | 24'-1"             | 22'-9"              | 28'-8"               | 27'-5"             | 25'-11"             | 31'-4"               | 30'-5"             | 28'-8"              |  |  |  |
|               |                  | 40                 | 15                 | 19'-7"               | 18'-7"             | 17'-3"              | 22'-6"                | 22'-0"             | 20'-6"              | 24'-7"               | 24'-1"             | 23'-4"              | 20'-9"               | 19'-8"             | 18'-4"              | 24'-9"                                        | 23'-5"             | 21'-10"             | 27'-11"              | 26'-8"             | 24'-10"             | 29'-10"              | 29'-3"             | 27'-6"              |  |  |  |
|               |                  | 50                 | 10                 | 18'-5"               | 17'-8"             | 16'-9"              | 21'-7"                | 20'-11"            | 19'-11"             | 23'-7"               | 23'-3"             | 22'-8"              | 19'-6"               | 18'-9"             | 17'-9"              | 23'-3"                                        | 22'-4"             | 21'-2"              | 26'-6"               | 25'-5"             | 24'-2"              | 28'-8"               | 28'-2"             | 26'-8"              |  |  |  |
|               |                  | 50                 | 15                 | 18'-3"               | 17'-7"             | 16'-5"              | 20'-9"                | 20'-5"             | 19'-5"              | 22'-7"               | 22'-3"             | 21'-8"              | 19'-6"               | 18'-7"             | 17'-4"              | 23'-3"                                        | 22'-2"             | 20'-8"              | 25'-8"               | 25'-3"             | 23'-7"              | 27'-5"               | 27'-0"             | 26'-1"              |  |  |  |
| 16"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 21'-10"              | 20'-7"             | 19'-1"              | 25'-11"               | 24'-5"             | 22'-8"              | 29'-6"               | 27'-10"            | 25'-10"             | 23'-2"               | 21'-10"            | 20'-3"              | 27'-7"                                        | 26'-0"             | 24'-2"              | 31'-5"               | 29'-7"             | 27'-6"              | 34'-9"               | 32'-9"             | 30'-5"              |  |  |  |
|               |                  | 20                 | 15                 | 20'-8"               | 19'-5"             | 17'-11"             | 24'-6"                | 23'-0"             | 21'-3"              | 27'-8"               | 26'-3"             | 24'-3"              | 21'-11"              | 20'-7"             | 19'-0"              | 26'-1"                                        | 24'-6"             | 22'-8"              | 29'-9"               | 27'-11"            | 25'-9"              | 32'-11"              | 30'-11"            | 28'-6"              |  |  |  |
|               |                  | 20                 | 20                 | 19'-9"               | 18'-6"             | 17'-0"              | 23'-5"                | 21'-11"            | 20'-2"              | 25'-10"              | 25'-0"             | 22'-11"             | 20'-11"              | 19'-7"             | 18'-0"              | 24'-11"                                       | 23'-4"             | 21'-5"              | 28'-5"               | 26'-7"             | 24'-5"              | 31'-5"               | 29'-5"             | 27'-0"              |  |  |  |
|               | Snow<br>115%     | 25                 | 10                 | 20'-9"               | 19'-7"             | 18'-3"              | 24'-6"                | 23'-3"             | 21'-8"              | 26'-8"               | 26'-1"             | 24'-8"              | 22'-0"               | 20'-9"             | 19'-4"              | 26'-2"                                        | 24'-9"             | 23'-0"              | 29'-10"              | 28'-2"             | 26'-3"              | 32'-5"               | 31'-2"             | 29'-0"              |  |  |  |
|               |                  | 25                 | 15                 | 19'-9"               | 18'-7"             | 17'-3"              | 22'-10"               | 22'-1"             | 20'-5"              | 24'-10"              | 24'-3"             | 23'-4"              | 20'-11"              | 19'-9"             | 18'-3"              | 24'-11"                                       | 23'-6"             | 21'-9"              | 28'-3"               | 26'-9"             | 24'-10"             | 30'-3"               | 29'-5"             | 27'-5"              |  |  |  |
|               |                  | 30                 | 10                 | 19'-10"              | 18'-9"             | 17'-6"              | 22'-11"               | 22'-3"             | 20'-9"              | 24'-11"              | 24'-6"             | 23'-8"              | 21'-0"               | 19'-11"            | 18'-7"              | 25'-0"                                        | 23'-8"             | 22'-1"              | 28'-4"               | 27'-0"             | 25'-2"              | 30'-4"               | 29'-9"             | 27'-10"             |  |  |  |
|               |                  | 30                 | 15                 | 19'-0"               | 17'-11"            | 16'-8"              | 21'-6"                | 21'-0"             | 19'-9"              | 23'-5"               | 22'-11"            | 22'-2"              | 20'-1"               | 19'-0"             | 17'-7"              | 24'-0"                                        | 22'-7"             | 21'-0"              | 26'-8"               | 25'-9"             | 23'-11"             | 28'-6"               | 27'-10"            | 26'-6"              |  |  |  |
|               |                  | 40                 | 10                 | 18'-0"               | 17'-4"             | 16'-4"              | 20'-6"                | 20'-2"             | 19'-4"              | 22'-4"               | 22'-0"             | 21'-7"              | 19'-1"               | 18'-4"             | 17'-3"              | 22'-9"                                        | 21'-10"            | 20'-7"              | 25'-5"               | 24'-11"            | 23'-6"              | 27'-2"               | 26'-9"             | 26'-0"              |  |  |  |
|               |                  | 40                 | 15                 | 17'-2"               | 16'-10"            | 15'-8"              | 19'-6"                | 19'-1"             | 18'-7"              | 21'-3"               | 20'-10"            | 20'-3"              | 18'-9"               | 17'-9"             | 16'-7"              | 22'-2"                                        | 21'-2"             | 19'-9"              | 24'-2"               | 23'-8"             | 22'-6"              | 25'-10"              | 25'-4"             | 24'-8"              |  |  |  |
|               |                  | 50                 | 10                 | 16'-6"               | 16'-0"             | 15'-2"              | 18'-8"                | 18'-6"             | 18'-0"              | 20'-4"               | 20'-1"             | 19'-9"              | 17'-8"               | 16'-11"            | 16'-1"              | 21'-1"                                        | 20'-2"             | 19'-2"              | 23'-2"               | 22'-11"            | 21'-10"             | 24'-9"               | 24'-6"             | 24'-1"              |  |  |  |
|               |                  | 50                 | 15                 | 15'-10"              | 15'-6"             | 14'-10"             | 17'-11"               | 17'-7"             | 17'-3"              | 19'-6"               | 19'-2"             | 18'-9"              | 17'-8"               | 16'-10"            | 15'-9"              | 20'-4"                                        | 20'-0"             | 18'-9"              | 22'-2"               | 21'-10"            | 21'-4"              | 23'-9"               | 23'-4"             | 22'-10"             |  |  |  |
| 19.2"<br>o.c. | Non-Snow<br>125% | 20                 | 10                 | 20'-6"               | 19'-4"             | 18'-0"              | 24'-4"                | 22'-11"            | 21'-4"              | 27'-5"               | 26'-2"             | 24'-3"              | 21'-9"               | 20'-6"             | 19'-0"              | 25'-11"                                       | 24'-5"             | 22'-8"              | 29'-6"               | 27'-10"            | 25'-10"             | 32'-8"               | 30'-10"            | 28'-7"              |  |  |  |
|               |                  | 20                 | 15                 | 19'-5"               | 18'-3"             | 16'-10"             | 23'-0"                | 21'-8"             | 20'-0"              | 25'-3"               | 24'-6"             | 22'-9"              | 20'-7"               | 19'-4"             | 17'-10"             | 24'-6"                                        | 23'-0"             | 21'-3"              | 27'-11"              | 26'-3"             | 24'-3"              | 30'-8"               | 29'-0"             | 26'-10"             |  |  |  |
|               |                  | 20                 | 20                 | 18'-6"               | 17'-4"             | 15'-11"             | 21'-8"                | 20'-7"             | 18'-11"             | 23'-7"               | 22'-9"             | 21'-7"              | 19'-7"               | 18'-4"             | 16'-11"             | 23'-4"                                        | 21'-11"            | 20'-2"              | 26'-8"               | 24'-11"            | 22'-11"             | 28'-8"               | 27'-7"             | 25'-5"              |  |  |  |
|               | Snow<br>115%     | 25                 | 10                 | 19'-6"               | 18'-5"             | 17'-2"              | 22'-4"                | 21'-10"            | 20'-4"              | 24'-4"               | 23'-10"            | 23'-2"              | 20'-7"               | 19'-6"             | 18'-2"              | 24'-7"                                        | 23'-3"             | 21'-8"              | 27'-8"               | 26'-6"             | 24'-8"              | 29'-7"               | 28'-11"            | 27'-3"              |  |  |  |
|               |                  | 25                 | 15                 | 18'-4"               | 17'-6"             | 16'-2"              | 20'-10"               | 20'-3"             | 19'-2"              | 22'-8"               | 22'-1"             | 21'-4"              | 19'-8"               | 18'-6"             | 17'-2"              | 23'-5"                                        | 22'-1"             | 20'-5"              | 25'-9"               | 25'-1"             | 23'-4"              | 27'-7"               | 26'-10"            | 25'-9"              |  |  |  |
|               |                  | 30                 | 10                 | 18'-5"               | 17'-8"             | 16'-5"              | 20'-11"               | 20'-6"             | 19'-6"              | 22'-9"               | 22'-4"             | 21'-10"             | 19'-8"               | 18'-8"             | 17'-5"              | 23'-6"                                        | 22'-3"             | 20'-9"              | 25'-10"              | 25'-4"             | 23'-8"              | 27'-8"               | 27'-2"             | 26'-2"              |  |  |  |
|               |                  | 30                 | 15                 | 17'-4"               | 16'-10"            | 15'-8"              | 19'-7"                | 19'-2"             | 18'-6"              | 21'-5"               | 20'-11"            | 20'-3"              | 18'-11"              | 17'-10"            | 16'-7"              | 22'-4"                                        | 21'-3"             | 19'-9"              | 24'-4"               | 23'-9"             | 22'-6"              | 26'-0"               | 25'-5"             | 24'-7"              |  |  |  |
|               |                  | 40                 | 10                 | 16'-6"               | 16'-3"             | 15'-4"              | 18'-8"                | 18'-5"             | 18'-0"              | 20'-4"               | 20'-1"             | 19'-8"              | 17'-11"              | 17'-2"             | 16'-3"              | 21'-3"                                        | 20'-6"             | 19'-4"              | 23'-2"               | 22'-10"            | 22'-1"              | 24'-9"               | 24'-5"             | 23'-11"             |  |  |  |
|               |                  | 40                 | 15                 | 15'-8"               | 15'-4"             | 14'-8"              | 17'-9"                | 17'-5"             | 16'-11"             | 19'-4"               | 19'-0"             | 18'-6"              | 17'-8"               | 16'-8"             | 15'-7"              | 20'-2"                                        | 19'-10"            | 18'-7"              | 22'-0"               | 21'-7"             | 21'-0"              | 23'-6"               | 23'-1"             | 22'-6"              |  |  |  |
|               |                  | 50                 | 10                 | 15'-0"               | 14'-10"            | 14'-3"              | 17'-0"                | 16'-10"            | 16'-7"              | 18'-7"               | 18'-4"             | 18'-0"              | 16'-7"               | 15'-11"            | 15'-1"              | 19'-5"                                        | 19'-0"             | 18'-0"              | 21'-1"               | 20'-10"            | 20'-6"              | 22'-7"               | 22'-4"             | 21'-11"             |  |  |  |
|               |                  | 50                 | 15                 | 14'-5"               | 14'-2"             | 13'-10"             | 16'-4"                | 16'-1"             | 15'-8"              | 17'-10"              | 17'-6"             | 17'-1"              | 16'-4"               | 15'-9"             | 14'-9"              | 18'-7"                                        | 18'-3"             | 17'-7"              | 20'-3"               | 19'-11"            | 19'-5"              | 21'-8"               | 21'-3"             | 20'-10"             |  |  |  |
| 24"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 19'-0"               | 17'-11"            | 16'-8"              | 22'-5"                | 21'-3"             | 19'-9"              | 24'-6"               | 23'-11"            | 22'-6"              | 20'-1"               | 19'-0"             | 17'-7"              | 24'-0"                                        | 22'-7"             | 21'-0"              | 27'-4"               | 25'-9"             | 23'-11"             | 29'-9"               | 28'-6"             | 26'-6"              |  |  |  |
|               |                  | 20                 | 15                 | 18'-0"               | 16'-11"            | 15'-7"              | 20'-9"                | 20'-0"             | 18'-6"              | 22'-7"               | 21'-11"            | 21'-0"              | 19'-0"               | 17'-11"            | 16'-6"              | 22'-8"                                        | 21'-4"             | 19'-8"              | 25'-8"               | 24'-4"             | 22'-5"              | 27'-5"               | 26'-7"             | 24'-10"             |  |  |  |
|               |                  | 20                 | 20                 | 17'-1"               | 16'-1"             | 14'-9"              | 19'-4"                | 18'-8"             | 17'-6"              | 21'-1"               | 20'-4"             | 19'-5"              | 18'-2"               | 17'-0"             | 15'-8"              | 21'-8"                                        | 20'-3"             | 18'-8"              | 23'-11"              | 23'-1"             | 21'-3"              | 25'-7"               | 24'-9"             | 23'-6"              |  |  |  |
|               | Snow<br>115%     | 25                 | 10                 | 17'-7"               | 17'-1"             | 15'-11"             | 19'-11"               | 19'-6"             | 18'-10"             | 21'-9"               | 21'-3"             | 20'-8"              | 19'-1"               | 18'-1"             | 16'-10"             | 22'-8"                                        | 21'-6"             | 20'-0"              | 24'-8"               | 24'-2"             | 22'-10"             | 26'-5"               | 25'-10"            | 25'-2"              |  |  |  |
|               |                  | 25                 | 15                 | 16'-5"               | 15'-11"            | 15'-0"              | 18'-7"                | 18'-1"             | 17'-5"              | 20'-3"               | 19'-9"             | 19'-0"              | 18'-2"               | 17'-2"             | 15'-10"             | 21'-2"                                        | 20'-5"             | 18'-11"             | 23'-0"               | 22'-5"             | 21'-7"              | 24'-8"               | 24'-0"             | 23'-2"              |  |  |  |
|               |                  | 30                 | 10                 | 16'-5"               | 16'-2"             | 15'-3"              | 18'-8"                | 18'-4"             | 17'-10"             | 20'-4"               | 20'-0"             | 19'-6"              | 18'-3"               | 17'-3"             | 16'-2"              | 21'-2"                                        | 20'-7"             | 19'-3"              | 23'-1"               | 22'-8"             | 21'-11"             | 24'-9"               | 24'-3"             | 23'-8"              |  |  |  |
|               |                  | 30                 | 15                 | 15'-5"               | 15'-1"             | 14'-6"              | 17'-6"                | 17'-1"             | 16'-7"              | 19'-1"               | 18'-8"             | 18'-1"              | 17'-6"               | 16'-6"             | 15'-4"              | 19'-11"                                       | 19'-6"             | 18'-3"              | 21'-9"               | 21'-3"             | 20'-6"              | 23'-3"               | 22'-8"             | 21'-11"             |  |  |  |
|               |                  | 40                 | 10                 | 14'-8"               | 14'-6"             | 14'-2"              | 16'-8"                | 16'-5"             | 16'-1"              | 18'-2"               | 17'-11"            | 17'-7"              | 16'-7"               | 15'-11"            | 15'-0"              | 19'-0"                                        | 18'-8"             | 17'-11"             | 20'-8"               | 20'-4"             | 20'-0"              | 22'-1"               | 21'-9"             | 21'-4"              |  |  |  |
|               |                  | 40                 | 15                 | 14'-0"               | 13'-8"             | 13'-4"              | 15'-10"               | 15'-7"             | 15'-2"              | 17'-3"               | 16'-11"            | 16'-6"              | 15'-11"              | 15'-5"             | 14'-5"              | 18'-0"                                        | 17'-8"             | 17'-2"              | 19'-8"               | 19'-3"             | 18'-9"              | 21'-0"               | 20'-7"             | 19'-8"              |  |  |  |
|               |                  | 50                 | 10                 | 13'-5"               | 13'-3"             | 13'-0"              | 15'-3"                | 15'-0"             | 14'-9"              | 16'-7"               | 16'-5"             | 16'-1"              | 15'-3"               | 14'-8"             | 14'-0"              | 17'-4"                                        | 17'-1"             | 16'-8"              | 18'-10"              | 18'-8"             | 18'-4"              | 19'-10"              | 19'-5"             | 18'-9"              |  |  |  |
|               |                  | 50                 | 15                 | 12'-10"              | 12'-8"             | 12'-4"              | 14'-7"                | 14'-4"             | 14'-0"              | 15'-11"              | 15'-8"             | 14'-11"             | 14'-7"               | 14'-4"             | 13'-8"              | 16'-7"                                        | 16'-4"             | 15'-11"             | 17'-11"              | 17'-4"             | 16'-6"              | 18'-3"               | 17'-8"             | 16'-10"             |  |  |  |

- Table values are limited by shear, moment, total load deflection equal to L/180 and live load deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Table values represent the most restrictive of simple or multiple span applications.
- Table values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.

- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.
- Slope roof joists at least ¼" over 12" to minimize ponding.
- Allowable spans and loads shall be adjusted and checked for wind load as required by local building code.

# Roof Span Tables

Maximum clear span in feet and inches, based on horizontal spans.

## 115% and 125% Load Duration

|            |               |                 |                 | BCI® 6500 1.8 Series<br>2 <sup>9</sup> / <sub>16</sub> " Flange Width |              |               |                    |              |               |                   |              |               |                   |              |               |
|------------|---------------|-----------------|-----------------|-----------------------------------------------------------------------|--------------|---------------|--------------------|--------------|---------------|-------------------|--------------|---------------|-------------------|--------------|---------------|
|            |               |                 |                 | 9½" BCI® 6500 1.8                                                     |              |               | 11⅞" BCI® 6500 1.8 |              |               | 14" BCI® 6500 1.8 |              |               | 16" BCI® 6500 1.8 |              |               |
|            |               | Live Load [psf] | Dead Load [psf] | 4/12 or Less                                                          | 4/12 to 8/12 | 8/12 to 12/12 | 4/12 or Less       | 4/12 to 8/12 | 8/12 to 12/12 | 4/12 or Less      | 4/12 to 8/12 | 8/12 to 12/12 | 4/12 or Less      | 4/12 to 8/12 | 8/12 to 12/12 |
| 12" o.c.   | Non-Snow 125% | 20              | 10              | 26'-5"                                                                | 24'-11"      | 23'-1"        | 31'-5"             | 29'-7"       | 27'-5"        | 35'-9"            | 33'-8"       | 31'-3"        | 39'-6"            | 37'-3"       | 34'-7"        |
|            |               | 20              | 15              | 25'-0"                                                                | 23'-6"       | 21'-8"        | 29'-9"             | 27'-11"      | 25'-9"        | 33'-10"           | 31'-9"       | 29'-4"        | 37'-5"            | 35'-2"       | 32'-5"        |
|            |               | 20              | 20              | 23'-10"                                                               | 22'-4"       | 20'-6"        | 28'-4"             | 26'-7"       | 24'-5"        | 32'-3"            | 30'-3"       | 27'-9"        | 35'-8"            | 33'-5"       | 30'-9"        |
|            | Snow 115%     | 25              | 10              | 25'-1"                                                                | 23'-8"       | 22'-1"        | 29'-10"            | 28'-2"       | 26'-2"        | 33'-11"           | 32'-1"       | 29'-10"       | 37'-6"            | 35'-5"       | 33'-0"        |
|            |               | 25              | 15              | 23'-11"                                                               | 22'-6"       | 20'-10"       | 28'-5"             | 26'-9"       | 24'-9"        | 32'-4"            | 30'-5"       | 28'-2"        | 35'-9"            | 33'-8"       | 31'-2"        |
|            |               | 30              | 10              | 23'-11"                                                               | 22'-8"       | 21'-2"        | 28'-6"             | 27'-0"       | 25'-2"        | 32'-5"            | 30'-8"       | 28'-8"        | 35'-10"           | 33'-11"      | 31'-8"        |
|            |               | 30              | 15              | 23'-0"                                                                | 21'-8"       | 20'-1"        | 27'-4"             | 25'-9"       | 23'-11"       | 31'-1"            | 29'-4"       | 27'-3"        | 34'-5"            | 32'-5"       | 30'-1"        |
|            |               | 40              | 10              | 21'-10"                                                               | 20'-11"      | 19'-9"        | 25'-11"            | 24'-10"      | 23'-6"        | 29'-6"            | 28'-4"       | 26'-9"        | 32'-8"            | 31'-4"       | 29'-7"        |
|            |               | 40              | 15              | 21'-5"                                                                | 20'-4"       | 18'-11"       | 25'-6"             | 24'-2"       | 22'-6"        | 29'-1"            | 27'-6"       | 25'-7"        | 31'-5"            | 30'-5"       | 28'-4"        |
|            |               | 50              | 10              | 20'-2"                                                                | 19'-4"       | 18'-4"        | 24'-0"             | 23'-0"       | 21'-10"       | 27'-4"            | 26'-3"       | 24'-11"       | 30'-2"            | 29'-0"       | 27'-6"        |
| 50         | 15            | 20'-2"          | 19'-3"          | 18'-0"                                                                | 24'-0"       | 22'-10"       | 21'-4"             | 27'-0"       | 26'-0"        | 24'-4"            | 28'-11"      | 28'-5"        | 26'-11"           |              |               |
| 16" o.c.   | Non-Snow 125% | 20              | 10              | 23'-11"                                                               | 22'-7"       | 20'-11"       | 28'-5"             | 26'-10"      | 24'-11"       | 32'-5"            | 30'-6"       | 28'-4"        | 35'-10"           | 33'-9"       | 31'-4"        |
|            |               | 20              | 15              | 22'-8"                                                                | 21'-3"       | 19'-8"        | 26'-11"            | 25'-4"       | 23'-4"        | 30'-8"            | 28'-10"      | 26'-7"        | 33'-11"           | 31'-10"      | 29'-5"        |
|            |               | 20              | 20              | 21'-7"                                                                | 20'-3"       | 18'-7"        | 25'-8"             | 24'-1"       | 22'-1"        | 29'-3"            | 27'-5"       | 25'-2"        | 32'-4"            | 30'-3"       | 27'-10"       |
|            | Snow 115%     | 25              | 10              | 22'-8"                                                                | 21'-6"       | 20'-0"        | 27'-0"             | 25'-6"       | 23'-9"        | 30'-9"            | 29'-1"       | 27'-1"        | 34'-0"            | 32'-2"       | 29'-11"       |
|            |               | 25              | 15              | 21'-8"                                                                | 20'-5"       | 18'-11"       | 25'-9"             | 24'-3"       | 22'-5"        | 29'-4"            | 27'-7"       | 25'-7"        | 31'-10"           | 30'-6"       | 28'-3"        |
|            |               | 30              | 10              | 21'-8"                                                                | 20'-7"       | 19'-2"        | 25'-10"            | 24'-5"       | 22'-10"       | 29'-5"            | 27'-10"      | 26'-0"        | 31'-11"           | 30'-9"       | 28'-9"        |
|            |               | 30              | 15              | 20'-10"                                                               | 19'-8"       | 18'-3"        | 24'-9"             | 23'-4"       | 21'-8"        | 28'-1"            | 26'-7"       | 24'-8"        | 30'-0"            | 29'-4"       | 27'-4"        |
|            |               | 40              | 10              | 19'-9"                                                                | 18'-11"      | 17'-10"       | 23'-6"             | 22'-6"       | 21'-3"        | 26'-9"            | 25'-8"       | 24'-3"        | 28'-7"            | 28'-2"       | 26'-9"        |
|            |               | 40              | 15              | 19'-5"                                                                | 18'-5"       | 17'-2"        | 23'-1"             | 21'-11"      | 20'-5"        | 25'-5"            | 24'-11"      | 23'-3"        | 27'-2"            | 26'-8"       | 25'-8"        |
|            |               | 50              | 10              | 18'-3"                                                                | 17'-6"       | 16'-8"        | 21'-9"             | 20'-10"      | 19'-10"       | 24'-5"            | 23'-9"       | 22'-7"        | 26'-1"            | 25'-9"       | 24'-11"       |
| 50         | 15            | 18'-3"          | 17'-5"          | 16'-3"                                                                | 21'-5"       | 20'-9"        | 19'-4"             | 23'-5"       | 23'-0"        | 22'-0"            | 25'-0"       | 24'-7"        | 24'-0"            |              |               |
| 19.2" o.c. | Non-Snow 125% | 20              | 10              | 22'-6"                                                                | 21'-2"       | 19'-8"        | 26'-9"             | 25'-2"       | 23'-5"        | 30'-5"            | 28'-8"       | 26'-8"        | 33'-8"            | 31'-9"       | 29'-5"        |
|            |               | 20              | 15              | 21'-3"                                                                | 20'-0"       | 18'-5"        | 25'-4"             | 23'-9"       | 21'-11"       | 28'-10"           | 27'-1"       | 25'-0"        | 31'-10"           | 29'-11"      | 27'-7"        |
|            |               | 20              | 20              | 20'-3"                                                                | 19'-0"       | 17'-6"        | 24'-2"             | 22'-7"       | 20'-9"        | 27'-6"            | 25'-9"       | 23'-8"        | 30'-2"            | 28'-5"       | 26'-2"        |
|            | Snow 115%     | 25              | 10              | 21'-4"                                                                | 20'-2"       | 18'-9"        | 25'-4"             | 24'-0"       | 22'-4"        | 28'-11"           | 27'-4"       | 25'-5"        | 31'-1"            | 30'-2"       | 28'-1"        |
|            |               | 25              | 15              | 20'-4"                                                                | 19'-2"       | 17'-9"        | 24'-2"             | 22'-9"       | 21'-1"        | 27'-2"            | 25'-11"      | 24'-0"        | 29'-0"            | 28'-3"       | 26'-7"        |
|            |               | 30              | 10              | 20'-4"                                                                | 19'-4"       | 18'-0"        | 24'-3"             | 23'-0"       | 21'-5"        | 27'-3"            | 26'-2"       | 24'-5"        | 29'-1"            | 28'-7"       | 27'-0"        |
|            |               | 30              | 15              | 19'-6"                                                                | 18'-5"       | 17'-1"        | 23'-3"             | 21'-11"      | 20'-4"        | 25'-7"            | 25'-0"       | 23'-2"        | 27'-5"            | 26'-9"       | 25'-8"        |
|            |               | 40              | 10              | 18'-6"                                                                | 17'-9"       | 16'-9"        | 22'-1"             | 21'-2"       | 20'-0"        | 24'-4"            | 24'-0"       | 22'-9"        | 26'-1"            | 25'-8"       | 25'-2"        |
|            |               | 40              | 15              | 18'-3"                                                                | 17'-3"       | 16'-1"        | 21'-3"             | 20'-7"       | 19'-2"        | 23'-2"            | 22'-9"       | 21'-10"       | 24'-9"            | 24'-4"       | 23'-8"        |
|            |               | 50              | 10              | 17'-1"                                                                | 16'-5"       | 15'-7"        | 20'-5"             | 19'-7"       | 18'-7"        | 22'-3"            | 22'-0"       | 21'-2"        | 23'-9"            | 23'-6"       | 23'-1"        |
| 50         | 15            | 17'-1"          | 16'-4"          | 15'-3"                                                                | 19'-7"       | 19'-3"        | 18'-2"             | 21'-4"       | 21'-0"        | 20'-6"            | 22'-10"      | 22'-2"        | 21'-2"            |              |               |
| 24" o.c.   | Non-Snow 125% | 20              | 10              | 20'-10"                                                               | 19'-8"       | 18'-3"        | 24'-9"             | 23'-4"       | 21'-8"        | 28'-2"            | 26'-7"       | 24'-8"        | 31'-2"            | 29'-5"       | 27'-4"        |
|            |               | 20              | 15              | 19'-8"                                                                | 18'-6"       | 17'-1"        | 23'-5"             | 22'-0"       | 20'-4"        | 26'-8"            | 25'-1"       | 23'-2"        | 28'-11"           | 27'-9"       | 25'-7"        |
|            |               | 20              | 20              | 18'-9"                                                                | 17'-7"       | 16'-2"        | 22'-4"             | 20'-11"      | 19'-3"        | 25'-3"            | 23'-10"      | 21'-11"       | 26'-11"           | 26'-0"       | 24'-3"        |
|            | Snow 115%     | 25              | 10              | 19'-9"                                                                | 18'-8"       | 17'-5"        | 23'-6"             | 22'-3"       | 20'-8"        | 26'-0"            | 25'-4"       | 23'-7"        | 27'-10"           | 27'-3"       | 26'-1"        |
|            |               | 25              | 15              | 18'-10"                                                               | 17'-9"       | 16'-5"        | 22'-3"             | 21'-1"       | 19'-6"        | 24'-3"            | 23'-7"       | 22'-3"        | 25'-11"           | 25'-3"       | 24'-4"        |
|            |               | 30              | 10              | 18'-10"                                                               | 17'-10"      | 16'-8"        | 22'-4"             | 21'-3"       | 19'-10"       | 24'-4"            | 23'-11"      | 22'-7"        | 26'-0"            | 25'-7"       | 24'-11"       |
|            |               | 30              | 15              | 18'-1"                                                                | 17'-1"       | 15'-10"       | 21'-0"             | 20'-4"       | 18'-10"       | 22'-10"           | 22'-4"       | 21'-6"        | 24'-5"            | 23'-11"      | 23'-1"        |
|            |               | 40              | 10              | 17'-1"                                                                | 16'-5"       | 15'-6"        | 20'-0"             | 19'-7"       | 18'-6"        | 21'-9"            | 21'-5"       | 21'-0"        | 23'-3"            | 22'-11"      | 22'-3"        |
|            |               | 40              | 15              | 16'-9"                                                                | 16'-0"       | 14'-11"       | 19'-0"             | 18'-7"       | 17'-9"        | 20'-8"            | 20'-4"       | 19'-3"        | 21'-7"            | 20'-9"       | 19'-8"        |
|            |               | 50              | 10              | 15'-10"                                                               | 15'-2"       | 14'-5"        | 18'-3"             | 18'-0"       | 17'-3"        | 19'-6"            | 19'-0"       | 18'-5"        | 19'-10"           | 19'-5"       | 18'-9"        |
| 50         | 15            | 15'-5"          | 15'-1"          | 14'-1"                                                                | 17'-3"       | 16'-8"        | 15'-11"            | 17'-11"      | 17'-4"        | 16'-6"            | 18'-3"       | 17'-8"        | 16'-10"           |              |               |





Maximum clear span in feet and inches, based on horizontal spans.

## 115% and 125% Load Duration

|               |                  |                    |                    | BCI® 60 2.0 Series<br>2 <sup>5</sup> / <sub>16</sub> " Flange Width |                    |                     |                    |                    |                     |                    |                    |                     |
|---------------|------------------|--------------------|--------------------|---------------------------------------------------------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|
|               |                  |                    |                    | 11 <sup>7</sup> / <sub>8</sub> " BCI® 60 2.0                        |                    |                     | 14" BCI® 60 2.0    |                    |                     | 16" BCI® 60 2.0    |                    |                     |
|               |                  | Live Load<br>[psf] | Dead Load<br>[psf] | 4/12<br>or<br>Less                                                  | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 |
| 12"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 33'-7"                                                              | 31'-8"             | 29'-5"              | 38'-4"             | 36'-1"             | 33'-6"              | 42'-5"             | 40'-0"             | 37'-1"              |
|               |                  | 20                 | 15                 | 31'-10"                                                             | 29'-11"            | 27'-7"              | 36'-3"             | 34'-1"             | 31'-5"              | 40'-2"             | 37'-8"             | 34'-10"             |
|               |                  | 20                 | 20                 | 30'-4"                                                              | 28'-5"             | 26'-2"              | 34'-7"             | 32'-5"             | 29'-9"              | 38'-4"             | 35'-10"            | 33'-0"              |
|               | Snow<br>115%     | 25                 | 10                 | 31'-11"                                                             | 30'-2"             | 28'-1"              | 36'-4"             | 34'-4"             | 32'-0"              | 40'-3"             | 38'-1"             | 35'-5"              |
|               |                  | 25                 | 15                 | 30'-5"                                                              | 28'-8"             | 26'-6"              | 34'-8"             | 32'-8"             | 30'-3"              | 38'-5"             | 36'-2"             | 33'-6"              |
|               |                  | 30                 | 10                 | 30'-6"                                                              | 28'-11"            | 26'-11"             | 34'-9"             | 32'-11"            | 30'-8"              | 38'-6"             | 36'-5"             | 34'-0"              |
|               |                  | 30                 | 15                 | 29'-3"                                                              | 27'-7"             | 25'-7"              | 33'-4"             | 31'-5"             | 29'-2"              | 36'-11"            | 34'-10"            | 32'-4"              |
|               |                  | 40                 | 10                 | 27'-9"                                                              | 26'-7"             | 25'-2"              | 31'-8"             | 30'-4"             | 28'-8"              | 35'-0"             | 33'-7"             | 31'-9"              |
|               |                  | 40                 | 15                 | 27'-4"                                                              | 25'-10"            | 24'-1"              | 31'-2"             | 29'-6"             | 27'-6"              | 34'-6"             | 32'-8"             | 30'-5"              |
|               |                  | 50                 | 10                 | 25'-9"                                                              | 24'-8"             | 23'-5"              | 29'-4"             | 28'-1"             | 26'-8"              | 32'-5"             | 31'-1"             | 29'-6"              |
|               |                  | 50                 | 15                 | 25'-9"                                                              | 24'-6"             | 22'-11"             | 29'-4"             | 27'-11"            | 26'-1"              | 32'-5"             | 30'-11"            | 28'-11"             |
| 16"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 30'-5"                                                              | 28'-9"             | 26'-8"              | 34'-9"             | 32'-9"             | 30'-5"              | 38'-5"             | 36'-3"             | 33'-8"              |
|               |                  | 20                 | 15                 | 28'-10"                                                             | 27'-1"             | 25'-0"              | 32'-10"            | 30'-10"            | 28'-6"              | 36'-5"             | 34'-2"             | 31'-7"              |
|               |                  | 20                 | 20                 | 27'-6"                                                              | 25'-9"             | 23'-8"              | 31'-4"             | 29'-4"             | 27'-0"              | 34'-9"             | 32'-6"             | 29'-11"             |
|               | Snow<br>115%     | 25                 | 10                 | 28'-11"                                                             | 27'-4"             | 25'-5"              | 32'-11"            | 31'-2"             | 29'-0"              | 36'-6"             | 34'-6"             | 32'-1"              |
|               |                  | 25                 | 15                 | 27'-7"                                                              | 26'-0"             | 24'-1"              | 31'-5"             | 29'-7"             | 27'-5"              | 34'-10"            | 32'-9"             | 30'-4"              |
|               |                  | 30                 | 10                 | 27'-8"                                                              | 26'-2"             | 24'-5"              | 31'-6"             | 29'-10"            | 27'-10"             | 34'-11"            | 33'-0"             | 30'-10"             |
|               |                  | 30                 | 15                 | 26'-6"                                                              | 25'-0"             | 23'-3"              | 30'-2"             | 28'-6"             | 26'-6"              | 33'-5"             | 31'-7"             | 29'-4"              |
|               |                  | 40                 | 10                 | 25'-2"                                                              | 24'-1"             | 22'-9"              | 28'-8"             | 27'-6"             | 26'-0"              | 31'-9"             | 30'-5"             | 28'-9"              |
|               |                  | 40                 | 15                 | 24'-9"                                                              | 23'-5"             | 21'-10"             | 28'-3"             | 26'-8"             | 24'-11"             | 31'-3"             | 29'-7"             | 27'-7"              |
|               |                  | 50                 | 10                 | 23'-3"                                                              | 22'-4"             | 21'-2"              | 26'-6"             | 25'-5"             | 24'-2"              | 29'-5"             | 28'-2"             | 26'-9"              |
|               |                  | 50                 | 15                 | 23'-3"                                                              | 22'-2"             | 20'-9"              | 26'-6"             | 25'-3"             | 23'-8"              | 28'-7"             | 27'-8"             | 26'-2"              |
| 19.2"<br>o.c. | Non-Snow<br>125% | 20                 | 10                 | 28'-7"                                                              | 27'-0"             | 25'-1"              | 32'-7"             | 30'-9"             | 28'-7"              | 36'-1"             | 34'-1"             | 31'-7"              |
|               |                  | 20                 | 15                 | 27'-1"                                                              | 25'-5"             | 23'-6"              | 30'-10"            | 29'-0"             | 26'-9"              | 34'-2"             | 32'-1"             | 29'-8"              |
|               |                  | 20                 | 20                 | 25'-10"                                                             | 24'-2"             | 22'-3"              | 29'-5"             | 27'-7"             | 25'-4"              | 32'-7"             | 30'-6"             | 28'-1"              |
|               | Snow<br>115%     | 25                 | 10                 | 27'-2"                                                              | 25'-8"             | 23'-11"             | 30'-11"            | 29'-3"             | 27'-3"              | 34'-3"             | 32'-5"             | 30'-2"              |
|               |                  | 25                 | 15                 | 25'-11"                                                             | 24'-5"             | 22'-7"              | 29'-6"             | 27'-10"            | 25'-9"              | 32'-8"             | 30'-9"             | 28'-6"              |
|               |                  | 30                 | 10                 | 25'-11"                                                             | 24'-7"             | 22'-11"             | 29'-7"             | 28'-0"             | 26'-2"              | 32'-9"             | 31'-0"             | 29'-0"              |
|               |                  | 30                 | 15                 | 24'-11"                                                             | 23'-6"             | 21'-10"             | 28'-4"             | 26'-9"             | 24'-10"             | 31'-5"             | 29'-8"             | 27'-6"              |
|               |                  | 40                 | 10                 | 23'-7"                                                              | 22'-8"             | 21'-5"              | 26'-11"            | 25'-10"            | 24'-5"              | 29'-10"            | 28'-7"             | 27'-0"              |
|               |                  | 40                 | 15                 | 23'-3"                                                              | 22'-0"             | 20'-6"              | 26'-6"             | 25'-1"             | 23'-5"              | 28'-1"             | 27'-0"             | 25'-7"              |
|               |                  | 50                 | 10                 | 21'-10"                                                             | 21'-0"             | 19'-11"             | 24'-11"            | 23'-11"            | 22'-8"              | 25'-10"            | 25'-3"             | 24'-5"              |
|               |                  | 50                 | 15                 | 21'-10"                                                             | 20'-10"            | 19'-6"              | 23'-9"             | 23'-0"             | 21'-11"             | 23'-9"             | 23'-0"             | 21'-11"             |
| 24"<br>o.c.   | Non-Snow<br>125% | 20                 | 10                 | 26'-6"                                                              | 25'-0"             | 23'-3"              | 30'-2"             | 28'-6"             | 26'-6"              | 33'-5"             | 31'-7"             | 29'-4"              |
|               |                  | 20                 | 15                 | 25'-1"                                                              | 23'-7"             | 21'-9"              | 28'-7"             | 26'-10"            | 24'-10"             | 31'-8"             | 29'-9"             | 27'-6"              |
|               |                  | 20                 | 20                 | 23'-11"                                                             | 22'-5"             | 20'-7"              | 27'-3"             | 25'-6"             | 23'-6"              | 30'-2"             | 28'-3"             | 26'-0"              |
|               | Snow<br>115%     | 25                 | 10                 | 25'-2"                                                              | 23'-9"             | 22'-2"              | 28'-8"             | 27'-1"             | 25'-3"              | 31'-9"             | 30'-0"             | 28'-0"              |
|               |                  | 25                 | 15                 | 24'-0"                                                              | 22'-7"             | 20'-11"             | 27'-4"             | 25'-9"             | 23'-10"             | 30'-3"             | 28'-6"             | 26'-5"              |
|               |                  | 30                 | 10                 | 24'-0"                                                              | 22'-9"             | 21'-3"              | 27'-5"             | 25'-11"            | 24'-3"              | 30'-4"             | 28'-9"             | 26'-10"             |
|               |                  | 30                 | 15                 | 23'-0"                                                              | 21'-9"             | 20'-2"              | 26'-3"             | 24'-9"             | 23'-0"              | 27'-4"             | 26'-1"             | 24'-5"              |
|               |                  | 40                 | 10                 | 21'-10"                                                             | 21'-0"             | 19'-10"             | 24'-9"             | 23'-11"            | 22'-7"              | 24'-9"             | 24'-1"             | 23'-1"              |
|               |                  | 40                 | 15                 | 21'-6"                                                              | 20'-4"             | 19'-0"              | 22'-5"             | 21'-6"             | 20'-5"              | 22'-5"             | 21'-6"             | 20'-5"              |
|               |                  | 50                 | 10                 | 20'-2"                                                              | 19'-5"             | 18'-5"              | 20'-8"             | 20'-2"             | 19'-6"              | 20'-8"             | 20'-2"             | 19'-6"              |
|               |                  | 50                 | 15                 | 19'-0"                                                              | 18'-4"             | 17'-6"              | 19'-0"             | 18'-4"             | 17'-6"              | 19'-0"             | 18'-4"             | 17'-6"              |

- Table values are limited by shear, moment, total load deflection equal to L/180 and live load deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Table values represent the most restrictive of simple or multiple span applications.
- Table values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.
- Slope roof joists at least 1/4" over 12" to minimize ponding.
- Allowable spans and loads shall be adjusted and checked for wind load as required by local building code.

# Roof Span Tables

Maximum clear span in feet and inches, based on horizontal spans.

## 115% and 125% Load Duration

|            |                  |                    |                    | BCI® 90 2.0 Series<br>3 1/2" Flange Width |                    |                     |                    |                    |                     |                    |                    |                     |                    |                    |                     |                    |                    |                     |
|------------|------------------|--------------------|--------------------|-------------------------------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|
|            |                  | Live Load<br>[psf] | Dead Load<br>[psf] | 11 5/8" BCI® 90 2.0                       |                    |                     | 14" BCI® 90 2.0    |                    |                     | 16" BCI® 90 2.0    |                    |                     | 18" BCI® 90 2.0    |                    |                     | 20" BCI® 90 2.0    |                    |                     |
|            |                  |                    |                    | 4/12<br>or<br>Less                        | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 | 4/12<br>or<br>Less | 4/12<br>to<br>8/12 | 8/12<br>to<br>12/12 |
| 12" o.c.   | Non-Snow<br>125% | 20                 | 10                 | 38'-5"                                    | 36'-3"             | 33'-8"              | 43'-7"             | 41'-2"             | 38'-2"              | 48'-4"             | 45'-7"             | 42'-3"              | 50'-0"             | 49'-9"             | 46'-2"              | 50'-0"             | 50'-0"             | 50'-0"              |
|            |                  | 20                 | 15                 | 36'-5"                                    | 34'-2"             | 31'-7"              | 41'-4"             | 38'-10"            | 35'-10"             | 45'-9"             | 43'-0"             | 39'-8"              | 50'-0"             | 46'-11"            | 43'-4"              | 50'-0"             | 50'-0"             | 46'-11"             |
|            |                  | 20                 | 20                 | 34'-9"                                    | 32'-6"             | 29'-11"             | 39'-5"             | 36'-11"            | 33'-11"             | 43'-8"             | 40'-10"            | 37'-7"              | 47'-8"             | 44'-8"             | 41'-1"              | 50'-0"             | 48'-4"             | 44'-5"              |
|            | Snow<br>115%     | 25                 | 10                 | 36'-6"                                    | 34'-6"             | 32'-1"              | 41'-5"             | 39'-2"             | 36'-5"              | 45'-10"            | 43'-4"             | 40'-4"              | 50'-0"             | 47'-5"             | 44'-1"              | 50'-0"             | 50'-0"             | 47'-9"              |
|            |                  | 25                 | 15                 | 34'-10"                                   | 32'-9"             | 30'-4"              | 39'-6"             | 37'-2"             | 34'-5"              | 43'-9"             | 41'-2"             | 38'-2"              | 47'-10"            | 45'-0"             | 41'-8"              | 50'-0"             | 48'-8"             | 45'-1"              |
|            |                  | 30                 | 10                 | 34'-11"                                   | 33'-1"             | 30'-10"             | 39'-7"             | 37'-6"             | 35'-0"              | 43'-10"            | 41'-6"             | 38'-9"              | 47'-11"            | 45'-5"             | 42'-4"              | 50'-0"             | 49'-1"             | 45'-10"             |
|            |                  | 30                 | 15                 | 33'-5"                                    | 31'-7"             | 29'-4"              | 38'-0"             | 35'-10"            | 33'-3"              | 42'-1"             | 39'-8"             | 36'-10"             | 45'-11"            | 43'-4"             | 40'-3"              | 49'-9"             | 46'-11"            | 43'-7"              |
|            |                  | 40                 | 10                 | 31'-9"                                    | 30'-5"             | 28'-9"              | 36'-0"             | 34'-7"             | 32'-8"              | 39'-11"            | 38'-3"             | 36'-2"              | 43'-7"             | 41'-10"            | 39'-6"              | 47'-2"             | 45'-3"             | 42'-9"              |
|            |                  | 40                 | 15                 | 31'-3"                                    | 29'-7"             | 27'-7"              | 35'-6"             | 33'-7"             | 31'-3"              | 39'-3"             | 37'-2"             | 34'-8"              | 42'-11"            | 40'-8"             | 37'-10"             | 46'-5"             | 44'-0"             | 41'-0"              |
|            |                  | 50                 | 10                 | 29'-5"                                    | 28'-2"             | 26'-9"              | 33'-4"             | 32'-0"             | 30'-5"              | 36'-11"            | 35'-5"             | 33'-8"              | 40'-5"             | 38'-9"             | 36'-9"              | 43'-8"             | 41'-11"            | 39'-10"             |
|            |                  | 50                 | 15                 | 29'-5"                                    | 28'-0"             | 26'-2"              | 33'-4"             | 31'-9"             | 29'-8"              | 36'-11"            | 35'-3"             | 32'-11"             | 40'-5"             | 38'-6"             | 36'-0"              | 43'-8"             | 41'-8"             | 38'-11"             |
| 16" o.c.   | Non-Snow<br>125% | 20                 | 10                 | 34'-10"                                   | 32'-10"            | 30'-6"              | 39'-6"             | 37'-4"             | 34'-7"              | 43'-9"             | 41'-4"             | 38'-4"              | 47'-10"            | 45'-2"             | 41'-11"             | 50'-0"             | 48'-10"            | 45'-4"              |
|            |                  | 20                 | 15                 | 33'-0"                                    | 31'-0"             | 28'-7"              | 37'-5"             | 35'-2"             | 32'-6"              | 41'-5"             | 38'-11"            | 36'-0"              | 45'-4"             | 42'-7"             | 39'-4"              | 49'-0"             | 46'-1"             | 42'-6"              |
|            |                  | 20                 | 20                 | 31'-6"                                    | 29'-6"             | 27'-1"              | 35'-8"             | 33'-5"             | 30'-9"              | 39'-7"             | 37'-0"             | 34'-1"              | 43'-3"             | 40'-6"             | 37'-3"              | 46'-9"             | 43'-10"            | 40'-3"              |
|            | Snow<br>115%     | 25                 | 10                 | 33'-1"                                    | 31'-3"             | 29'-1"              | 37'-6"             | 35'-6"             | 33'-1"              | 41'-7"             | 39'-4"             | 36'-7"              | 45'-5"             | 42'-11"            | 40'-0"              | 49'-2"             | 46'-6"             | 43'-3"              |
|            |                  | 25                 | 15                 | 31'-6"                                    | 29'-8"             | 27'-6"              | 35'-9"             | 33'-8"             | 31'-3"              | 39'-8"             | 37'-4"             | 34'-7"              | 43'-4"             | 40'-10"            | 37'-9"              | 46'-10"            | 44'-2"             | 40'-11"             |
|            |                  | 30                 | 10                 | 31'-7"                                    | 29'-11"            | 27'-11"             | 35'-10"            | 34'-0"             | 31'-9"              | 39'-9"             | 37'-8"             | 35'-2"              | 43'-5"             | 41'-2"             | 38'-5"              | 47'-0"             | 44'-6"             | 41'-6"              |
|            |                  | 30                 | 15                 | 30'-4"                                    | 28'-7"             | 26'-7"              | 34'-5"             | 32'-5"             | 30'-2"              | 38'-1"             | 35'-11"            | 33'-5"              | 41'-7"             | 39'-3"             | 36'-6"              | 45'-0"             | 42'-6"             | 39'-6"              |
|            |                  | 40                 | 10                 | 28'-9"                                    | 27'-7"             | 26'-1"              | 32'-7"             | 31'-4"             | 29'-7"              | 36'-2"             | 34'-8"             | 32'-9"              | 39'-6"             | 37'-11"            | 35'-10"             | 42'-9"             | 41'-0"             | 38'-9"              |
|            |                  | 40                 | 15                 | 28'-4"                                    | 26'-9"             | 25'-0"              | 32'-1"             | 30'-5"             | 28'-4"              | 35'-7"             | 33'-8"             | 31'-5"              | 38'-10"            | 36'-10"            | 34'-4"              | 42'-1"             | 39'-10"            | 37'-2"              |
|            |                  | 50                 | 10                 | 26'-7"                                    | 25'-6"             | 24'-3"              | 30'-2"             | 29'-0"             | 27'-6"              | 33'-5"             | 32'-1"             | 30'-6"              | 36'-7"             | 35'-1"             | 33'-4"              | 39'-7"             | 38'-0"             | 36'-1"              |
|            |                  | 50                 | 15                 | 26'-7"                                    | 25'-4"             | 23'-9"              | 30'-2"             | 28'-9"             | 26'-11"             | 33'-5"             | 31'-11"            | 29'-10"             | 36'-7"             | 34'-10"            | 32'-7"              | 39'-7"             | 37'-8"             | 35'-3"              |
| 19.2" o.c. | Non-Snow<br>125% | 20                 | 10                 | 32'-9"                                    | 30'-11"            | 28'-8"              | 37'-2"             | 35'-0"             | 32'-6"              | 41'-2"             | 38'-10"            | 36'-0"              | 44'-11"            | 42'-5"             | 39'-4"              | 48'-8"             | 45'-11"            | 42'-7"              |
|            |                  | 20                 | 15                 | 31'-0"                                    | 29'-1"             | 26'-11"             | 35'-2"             | 33'-0"             | 30'-6"              | 38'-11"            | 36'-7"             | 33'-9"              | 42'-7"             | 40'-0"             | 36'-11"             | 46'-0"             | 43'-3"             | 39'-11"             |
|            |                  | 20                 | 20                 | 29'-6"                                    | 27'-8"             | 25'-5"              | 33'-6"             | 31'-5"             | 28'-11"             | 37'-2"             | 34'-9"             | 32'-0"              | 40'-7"             | 38'-0"             | 35'-0"              | 43'-11"            | 41'-2"             | 37'-10"             |
|            | Snow<br>115%     | 25                 | 10                 | 31'-1"                                    | 29'-5"             | 27'-4"              | 35'-3"             | 33'-4"             | 31'-1"              | 39'-0"             | 36'-11"            | 34'-5"              | 42'-8"             | 40'-4"             | 37'-7"              | 46'-2"             | 43'-8"             | 40'-8"              |
|            |                  | 25                 | 15                 | 29'-7"                                    | 27'-11"            | 25'-10"             | 33'-7"             | 31'-8"             | 29'-4"              | 37'-3"             | 35'-1"             | 32'-6"              | 40'-8"             | 38'-4"             | 35'-6"              | 44'-0"             | 41'-6"             | 38'-5"              |
|            |                  | 30                 | 10                 | 29'-8"                                    | 28'-1"             | 26'-3"              | 33'-8"             | 31'-11"            | 29'-10"             | 37'-4"             | 35'-4"             | 33'-0"              | 40'-9"             | 38'-8"             | 36'-1"              | 44'-1"             | 41'-10"            | 39'-0"              |
|            |                  | 30                 | 15                 | 28'-5"                                    | 26'-10"            | 24'-11"             | 32'-3"             | 30'-6"             | 28'-4"              | 35'-9"             | 33'-9"             | 31'-4"              | 39'-1"             | 36'-11"            | 34'-3"              | 42'-3"             | 39'-11"            | 37'-1"              |
|            |                  | 40                 | 10                 | 27'-0"                                    | 25'-11"            | 24'-6"              | 30'-7"             | 29'-5"             | 27'-9"              | 33'-11"            | 32'-7"             | 30'-9"              | 37'-1"             | 35'-7"             | 33'-7"              | 40'-1"             | 38'-6"             | 36'-5"              |
|            |                  | 40                 | 15                 | 26'-7"                                    | 25'-2"             | 23'-5"              | 30'-2"             | 28'-7"             | 26'-7"              | 33'-5"             | 31'-7"             | 29'-6"              | 36'-6"             | 34'-7"             | 32'-3"              | 39'-6"             | 37'-5"             | 34'-11"             |
|            |                  | 50                 | 10                 | 24'-11"                                   | 24'-0"             | 22'-9"              | 28'-4"             | 27'-2"             | 25'-10"             | 31'-5"             | 30'-2"             | 28'-8"              | 34'-4"             | 32'-11"            | 31'-4"              | 37'-1"             | 35'-8"             | 33'-10"             |
|            |                  | 50                 | 15                 | 24'-11"                                   | 23'-10"            | 22'-3"              | 28'-4"             | 27'-0"             | 25'-3"              | 29'-8"             | 28'-8"             | 27'-5"              | 34'-4"             | 32'-8"             | 30'-7"              | 37'-1"             | 35'-5"             | 33'-1"              |
| 24" o.c.   | Non-Snow<br>125% | 20                 | 10                 | 30'-4"                                    | 28'-7"             | 26'-7"              | 34'-5"             | 32'-5"             | 30'-2"              | 38'-1"             | 35'-11"            | 33'-5"              | 41'-7"             | 39'-3"             | 36'-6"              | 45'-0"             | 42'-6"             | 39'-6"              |
|            |                  | 20                 | 15                 | 28'-8"                                    | 26'-11"            | 24'-11"             | 32'-6"             | 30'-7"             | 28'-3"              | 36'-1"             | 33'-11"            | 31'-4"              | 39'-5"             | 37'-0"             | 34'-2"              | 42'-8"             | 40'-1"             | 37'-0"              |
|            |                  | 20                 | 20                 | 27'-4"                                    | 25'-7"             | 23'-7"              | 31'-0"             | 29'-1"             | 26'-9"              | 34'-4"             | 32'-2"             | 29'-8"              | 37'-7"             | 35'-2"             | 32'-5"              | 40'-8"             | 38'-1"             | 35'-1"              |
|            | Snow<br>115%     | 25                 | 10                 | 28'-9"                                    | 27'-2"             | 25'-4"              | 32'-7"             | 30'-10"            | 28'-9"              | 36'-2"             | 34'-2"             | 31'-10"             | 39'-6"             | 37'-4"             | 34'-10"             | 42'-9"             | 40'-5"             | 37'-8"              |
|            |                  | 25                 | 15                 | 27'-5"                                    | 25'-10"            | 23'-11"             | 31'-1"             | 29'-4"             | 27'-2"              | 34'-5"             | 32'-6"             | 30'-1"              | 37'-8"             | 35'-6"             | 32'-11"             | 40'-9"             | 38'-5"             | 35'-7"              |
|            |                  | 30                 | 10                 | 27'-6"                                    | 26'-0"             | 24'-4"              | 31'-2"             | 29'-7"             | 27'-7"              | 34'-6"             | 32'-9"             | 30'-7"              | 37'-9"             | 35'-9"             | 33'-5"              | 40'-10"            | 38'-9"             | 36'-2"              |
|            |                  | 30                 | 15                 | 26'-4"                                    | 24'-10"            | 23'-1"              | 29'-10"            | 28'-2"             | 26'-3"              | 33'-1"             | 31'-3"             | 29'-1"              | 36'-2"             | 34'-2"             | 31'-9"              | 39'-2"             | 37'-0"             | 34'-4"              |
|            |                  | 40                 | 10                 | 24'-11"                                   | 24'-0"             | 22'-8"              | 28'-4"             | 27'-2"             | 25'-9"              | 30'-11"            | 30'-0"             | 28'-6"              | 34'-4"             | 32'-11"            | 31'-2"              | 37'-1"             | 35'-8"             | 33'-8"              |
|            |                  | 40                 | 15                 | 24'-7"                                    | 23'-3"             | 21'-9"              | 27'-9"             | 26'-5"             | 24'-8"              | 28'-0"             | 26'-11"            | 25'-6"              | 33'-9"             | 32'-0"             | 29'-10"             | 35'-2"             | 33'-10"            | 32'-1"              |
|            |                  | 50                 | 10                 | 23'-1"                                    | 22'-2"             | 21'-1"              | 25'-7"             | 24'-11"            | 23'-11"             | 25'-9"             | 25'-2"             | 24'-4"              | 31'-3"             | 30'-6"             | 29'-0"              | 32'-5"             | 31'-8"             | 30'-7"              |
|            |                  | 50                 | 15                 | 23'-1"                                    | 22'-0"             | 20'-7"              | 23'-6"             | 22'-9"             | 21'-8"              | 23'-8"             | 22'-11"            | 21'-10"             | 28'-9"             | 27'-10"            | 26'-7"              | 29'-10"            | 28'-10"            | 27'-6"              |



## Allowable Uniform Roof Load

(in pounds per linear foot [PLF])

### 115% and 125% Load Duration

Use of these tables should be limited to roof slopes of 3½" per foot or less.  
For steeper slopes, see pages 15-18.

| Span Length | BCI® 5000 1.7 Series<br>2" Flange Width |                 |          |                    |                 |          |                   |                 |          |
|-------------|-----------------------------------------|-----------------|----------|--------------------|-----------------|----------|-------------------|-----------------|----------|
|             | 9½" BCI® 5000 1.7                       |                 |          | 11⅞" BCI® 5000 1.7 |                 |          | 14" BCI® 5000 1.7 |                 |          |
|             | Total Load                              |                 | Deflect. | Total Load         |                 | Deflect. | Total Load        |                 | Deflect. |
|             | Snow (115%)                             | Non-Snow (125%) | L/240    | Snow (115%)        | Non-Snow (125%) | L/240    | Snow (115%)       | Non-Snow (125%) | L/240    |
|             |                                         |                 |          |                    |                 |          |                   |                 |          |
| 6           | 315                                     | 343             | -        | 338                | 367             | -        | 353               | 383             | -        |
| 7           | 270                                     | 294             | -        | 289                | 315             | -        | 302               | 329             | -        |
| 8           | 236                                     | 257             | -        | 253                | 275             | -        | 264               | 287             | -        |
| 9           | 210                                     | 228             | -        | 225                | 245             | -        | 235               | 255             | -        |
| 10          | 189                                     | 205             | -        | 202                | 220             | -        | 211               | 230             | -        |
| 11          | 172                                     | 187             | -        | 184                | 200             | -        | 192               | 209             | -        |
| 12          | 154                                     | 167             | -        | 169                | 183             | -        | 176               | 191             | -        |
| 13          | 131                                     | 142             | -        | 156                | 169             | -        | 162               | 177             | -        |
| 14          | 113                                     | 123             | 110      | 144                | 157             | -        | 151               | 164             | -        |
| 15          | 98                                      | 107             | 90       | 126                | 137             | -        | 141               | 153             | -        |
| 16          | 86                                      | 94              | 75       | 110                | 120             | -        | 131               | 142             | -        |
| 17          | 76                                      | 82              | 63       | 98                 | 106             | -        | 116               | 126             | -        |
| 18          | 68                                      | 70              | 53       | 87                 | 95              | -        | 103               | 112             | -        |
| 19          | 59                                      | 59              | 45       | 78                 | 85              | 74       | 93                | 101             | -        |
| 20          | 51                                      | 51              | 39       | 71                 | 77              | 64       | 84                | 91              | -        |
| 21          |                                         |                 |          | 64                 | 70              | 55       | 76                | 83              | -        |
| 22          |                                         |                 |          | 58                 | 63              | 48       | 69                | 75              | -        |
| 23          |                                         |                 |          | 53                 | 55              | 42       | 63                | 69              | 62       |
| 24          |                                         |                 |          |                    |                 |          | 58                | 63              | 55       |
| 25          |                                         |                 |          |                    |                 |          | 53                | 58              | 49       |
| 26          |                                         |                 |          |                    |                 |          |                   |                 |          |
| 27          |                                         |                 |          |                    |                 |          |                   |                 |          |
| 28          |                                         |                 |          |                    |                 |          |                   |                 |          |

- Total Load values are limited by shear, moment, or deflection equal to L/180.
- Deflection values (Deflect.) are limited by live load deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Both the Total Load and Deflection columns must be checked. Where a Deflection value is not shown, the Total Load value will control.
- Table values apply to either simple or multiple span joists. Span is measured center to center of the minimum required bearing length. Analyze multiple span joists with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Slope roof joists at least ¼ inch over 12 inches to minimize ponding.
- Table values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.
- Allowable spans and loads shall be adjusted and checked for wind load as required by local building code.



## Allowable Uniform Roof Load (in pounds per linear foot [PLF])

### 115% and 125% Load Duration

Use of these tables should be limited to roof slopes of 3½" per foot or less.  
For steeper slopes, see pages 15-18.

| Span Length | BCI® 6000 1.8 Series<br>2 <sup>5</sup> / <sub>16</sub> " Flange Width |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |
|-------------|-----------------------------------------------------------------------|--------------------|----------|--------------------|--------------------|----------|-------------------|--------------------|----------|-------------------|--------------------|----------|
|             | 9½" BCI® 6000 1.8                                                     |                    |          | 11⅞" BCI® 6000 1.8 |                    |          | 14" BCI® 6000 1.8 |                    |          | 16" BCI® 6000 1.8 |                    |          |
|             | Total Load                                                            |                    | Deflect. | Total Load         |                    | Deflect. | Total Load        |                    | Deflect. | Total Load        |                    | Deflect. |
|             | Snow<br>(115%)                                                        | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)     | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)    | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)    | Non-Snow<br>(125%) | L/240    |
|             |                                                                       |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |
| 6           | 360                                                                   | 392                | -        | 375                | 408                | -        | 390               | 424                | -        | 398               | 432                | -        |
| 7           | 309                                                                   | 336                | -        | 322                | 350                | -        | 334               | 364                | -        | 341               | 371                | -        |
| 8           | 270                                                                   | 294                | -        | 281                | 306                | -        | 293               | 318                | -        | 298               | 324                | -        |
| 9           | 240                                                                   | 261                | -        | 250                | 272                | -        | 260               | 283                | -        | 265               | 288                | -        |
| 10          | 216                                                                   | 235                | -        | 225                | 245                | -        | 234               | 254                | -        | 238               | 259                | -        |
| 11          | 196                                                                   | 213                | -        | 204                | 222                | -        | 213               | 231                | -        | 217               | 236                | -        |
| 12          | 180                                                                   | 196                | -        | 187                | 204                | -        | 195               | 212                | -        | 199               | 216                | -        |
| 13          | 166                                                                   | 180                | 159      | 173                | 188                | -        | 180               | 196                | -        | 183               | 199                | -        |
| 14          | 145                                                                   | 158                | 129      | 161                | 175                | -        | 167               | 182                | -        | 170               | 185                | -        |
| 15          | 126                                                                   | 137                | 106      | 150                | 163                | -        | 156               | 169                | -        | 159               | 173                | -        |
| 16          | 111                                                                   | 115                | 88       | 140                | 153                | -        | 146               | 159                | -        | 149               | 162                | -        |
| 17          | 97                                                                    | 97                 | 74       | 126                | 137                | 122      | 137               | 149                | -        | 140               | 152                | -        |
| 18          | 82                                                                    | 82                 | 63       | 112                | 122                | 103      | 130               | 141                | -        | 132               | 144                | -        |
| 19          | 70                                                                    | 70                 | 53       | 101                | 110                | 89       | 120               | 130                | -        | 125               | 136                | -        |
| 20          | 60                                                                    | 60                 | 46       | 91                 | 99                 | 76       | 108               | 117                | -        | 119               | 129                | -        |
| 21          | 52                                                                    | 52                 | 40       | 83                 | 87                 | 66       | 98                | 107                | 97       | 112               | 122                | -        |
| 22          |                                                                       |                    |          | 75                 | 76                 | 58       | 89                | 97                 | 85       | 102               | 111                | -        |
| 23          |                                                                       |                    |          | 67                 | 67                 | 51       | 82                | 89                 | 75       | 93                | 101                | -        |
| 24          |                                                                       |                    |          | 59                 | 59                 | 45       | 75                | 81                 | 66       | 86                | 93                 | -        |
| 25          |                                                                       |                    |          | 52                 | 52                 | 40       | 69                | 75                 | 58       | 79                | 86                 | 78       |
| 26          |                                                                       |                    |          |                    |                    |          | 64                | 68                 | 52       | 73                | 79                 | 70       |
| 27          |                                                                       |                    |          |                    |                    |          | 59                | 61                 | 47       | 67                | 73                 | 63       |
| 28          |                                                                       |                    |          |                    |                    |          | 55                | 55                 | 42       | 63                | 68                 | 56       |



## Allowable Uniform Roof Load

(in pounds per linear foot [PLF])

### 115% and 125% Load Duration

Use of these tables should be limited to roof slopes of 3½" per foot or less.  
For steeper slopes, see pages 15-18.

| Span Length | BCI® 6500 1.8 Series<br>2 <sup>9</sup> / <sub>16</sub> " Flange Width |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |
|-------------|-----------------------------------------------------------------------|--------------------|----------|--------------------|--------------------|----------|-------------------|--------------------|----------|-------------------|--------------------|----------|
|             | 9½" BCI® 6500 1.8                                                     |                    |          | 11⅞" BCI® 6500 1.8 |                    |          | 14" BCI® 6500 1.8 |                    |          | 16" BCI® 6500 1.8 |                    |          |
|             | Total Load                                                            |                    | Deflect. | Total Load         |                    | Deflect. | Total Load        |                    | Deflect. | Total Load        |                    | Deflect. |
|             | Snow<br>(115%)                                                        | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)     | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)    | Non-Snow<br>(125%) | L/240    | Snow<br>(115%)    | Non-Snow<br>(125%) | L/240    |
|             |                                                                       |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |
| 6           | 360                                                                   | 392                | -        | 375                | 408                | -        | 390               | 424                | -        | 398               | 432                | -        |
| 7           | 309                                                                   | 336                | -        | 322                | 350                | -        | 334               | 364                | -        | 341               | 371                | -        |
| 8           | 270                                                                   | 294                | -        | 281                | 306                | -        | 293               | 318                | -        | 298               | 324                | -        |
| 9           | 240                                                                   | 261                | -        | 250                | 272                | -        | 260               | 283                | -        | 265               | 288                | -        |
| 10          | 216                                                                   | 235                | -        | 225                | 245                | -        | 234               | 254                | -        | 238               | 259                | -        |
| 11          | 196                                                                   | 213                | -        | 204                | 222                | -        | 213               | 231                | -        | 217               | 236                | -        |
| 12          | 180                                                                   | 196                | -        | 187                | 204                | -        | 195               | 212                | -        | 199               | 216                | -        |
| 13          | 166                                                                   | 180                | -        | 173                | 188                | -        | 180               | 196                | -        | 183               | 199                | -        |
| 14          | 154                                                                   | 168                | 141      | 161                | 175                | -        | 167               | 182                | -        | 170               | 185                | -        |
| 15          | 140                                                                   | 152                | 116      | 150                | 163                | -        | 156               | 169                | -        | 159               | 173                | -        |
| 16          | 123                                                                   | 126                | 97       | 140                | 153                | -        | 146               | 159                | -        | 149               | 162                | -        |
| 17          | 106                                                                   | 106                | 81       | 132                | 144                | -        | 137               | 149                | -        | 140               | 152                | -        |
| 18          | 90                                                                    | 90                 | 69       | 125                | 135                | 114      | 130               | 141                | -        | 132               | 144                | -        |
| 19          | 77                                                                    | 77                 | 59       | 112                | 122                | 97       | 123               | 134                | -        | 125               | 136                | -        |
| 20          | 66                                                                    | 66                 | 51       | 101                | 110                | 84       | 117               | 127                | -        | 119               | 129                | -        |
| 21          | 57                                                                    | 57                 | 44       | 91                 | 95                 | 73       | 108               | 118                | 106      | 113               | 123                | -        |
| 22          | 50                                                                    | 50                 | 38       | 83                 | 83                 | 64       | 99                | 107                | 92       | 108               | 118                | -        |
| 23          |                                                                       |                    |          | 73                 | 73                 | 56       | 90                | 98                 | 81       | 103               | 112                | -        |
| 24          |                                                                       |                    |          | 64                 | 64                 | 49       | 83                | 90                 | 72       | 95                | 103                | -        |
| 25          |                                                                       |                    |          | 57                 | 57                 | 44       | 76                | 83                 | 64       | 87                | 95                 | 85       |
| 26          |                                                                       |                    |          | 51                 | 51                 | 39       | 71                | 74                 | 57       | 81                | 88                 | 76       |
| 27          |                                                                       |                    |          |                    |                    |          | 65                | 67                 | 51       | 75                | 81                 | 68       |
| 28          |                                                                       |                    |          |                    |                    |          | 60                | 60                 | 46       | 69                | 76                 | 61       |
| 29          |                                                                       |                    |          |                    |                    |          | 54                | 54                 | 41       | 65                | 70                 | 55       |
| 30          |                                                                       |                    |          |                    |                    |          |                   |                    |          | 60                | 66                 | 50       |
| 31          |                                                                       |                    |          |                    |                    |          |                   |                    |          | 57                | 60                 | 45       |
| 32          |                                                                       |                    |          |                    |                    |          |                   |                    |          | 53                | 54                 | 41       |
| 33          |                                                                       |                    |          |                    |                    |          |                   |                    |          | 50                | 50                 | 38       |
| 34          |                                                                       |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |
| 35          |                                                                       |                    |          |                    |                    |          |                   |                    |          |                   |                    |          |

- Total Load values are limited by shear, moment, or deflection equal to L/180.
- Deflection values (Deflect.) are limited by live load deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Both the Total Load and Deflection columns must be checked. Where a Deflection value is not shown, the Total Load value will control.

- Table values apply to either simple or multiple span joists. Span is measured center to center of the minimum required bearing length. Analyze multiple span joists with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Slope roof joists at least ¼ inch over 12 inches to minimize ponding.

- Table values assume minimum bearing lengths without web stiffeners for joist depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.
- Allowable spans and loads shall be adjusted and checked for wind load as required by local building code.

## Allowable Uniform Roof Load

(in pounds per linear foot [PLF])

### 115% and 125% Load Duration

Use of these tables should be limited to roof slopes of 3½" per foot or less.  
For steeper slopes, see pages 15-18.

| Span Length | BCI® 60 2.0 Series<br>2 <sup>5</sup> / <sub>16</sub> " Flange Width |                 |          |                 |                 |          |                 |                 |          |
|-------------|---------------------------------------------------------------------|-----------------|----------|-----------------|-----------------|----------|-----------------|-----------------|----------|
|             | 11⅞" BCI® 60 2.0                                                    |                 |          | 14" BCI® 60 2.0 |                 |          | 16" BCI® 60 2.0 |                 |          |
|             | Total Load                                                          |                 | Deflect. | Total Load      |                 | Deflect. | Total Load      |                 | Deflect. |
|             | Snow (115%)                                                         | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    |
| 6           | 413                                                                 | 449             | -        | 413             | 449             | -        | 413             | 449             | -        |
| 7           | 354                                                                 | 385             | -        | 354             | 385             | -        | 354             | 385             | -        |
| 8           | 309                                                                 | 336             | -        | 309             | 336             | -        | 309             | 336             | -        |
| 9           | 275                                                                 | 299             | -        | 275             | 299             | -        | 275             | 299             | -        |
| 10          | 247                                                                 | 269             | -        | 247             | 269             | -        | 247             | 269             | -        |
| 11          | 225                                                                 | 245             | -        | 225             | 245             | -        | 225             | 245             | -        |
| 12          | 206                                                                 | 224             | -        | 206             | 224             | -        | 206             | 224             | -        |
| 13          | 190                                                                 | 207             | -        | 190             | 207             | -        | 190             | 207             | -        |
| 14          | 177                                                                 | 192             | -        | 177             | 192             | -        | 177             | 192             | -        |
| 15          | 165                                                                 | 179             | -        | 165             | 179             | -        | 165             | 179             | -        |
| 16          | 154                                                                 | 168             | -        | 154             | 168             | -        | 154             | 168             | -        |
| 17          | 145                                                                 | 158             | -        | 145             | 158             | -        | 145             | 158             | -        |
| 18          | 137                                                                 | 149             | -        | 137             | 149             | -        | 137             | 149             | -        |
| 19          | 130                                                                 | 141             | 118      | 130             | 141             | -        | 130             | 141             | -        |
| 20          | 123                                                                 | 133             | 102      | 123             | 134             | -        | 123             | 134             | -        |
| 21          | 116                                                                 | 116             | 88       | 118             | 128             | -        | 118             | 128             | -        |
| 22          | 101                                                                 | 101             | 77       | 112             | 122             | -        | 112             | 122             | -        |
| 23          | 89                                                                  | 89              | 68       | 107             | 117             | 99       | 107             | 117             | -        |
| 24          | 79                                                                  | 79              | 60       | 103             | 112             | 88       | 103             | 112             | -        |
| 25          | 70                                                                  | 70              | 53       | 99              | 102             | 78       | 99              | 107             | -        |
| 26          | 62                                                                  | 62              | 47       | 91              | 91              | 69       | 95              | 103             | 93       |
| 27          | 56                                                                  | 56              | 42       | 81              | 81              | 62       | 91              | 99              | 84       |
| 28          | 50                                                                  | 50              | 38       | 73              | 73              | 56       | 88              | 96              | 75       |
| 29          |                                                                     |                 |          | 66              | 66              | 50       | 85              | 89              | 68       |
| 30          |                                                                     |                 |          | 60              | 60              | 46       | 81              | 81              | 61       |
| 31          |                                                                     |                 |          | 54              | 54              | 41       | 73              | 73              | 56       |
| 32          |                                                                     |                 |          |                 |                 |          | 67              | 67              | 51       |
| 33          |                                                                     |                 |          |                 |                 |          | 61              | 61              | 46       |
| 34          |                                                                     |                 |          |                 |                 |          | 56              | 56              | 43       |
| 35          |                                                                     |                 |          |                 |                 |          | 51              | 51              | 39       |





## Allowable Uniform Roof Load

(in pounds per linear foot [PLF])

### 115% and 125% Load Duration

Use of these tables should be limited to roof slopes of 3½" per foot or less.  
For steeper slopes, see pages 15-18.

| Span Length | BCI® 90 2.0 Series<br>3½" Flange Width |                 |          |                 |                 |          |                 |                 |          |                 |                 |          |                 |                 |          |
|-------------|----------------------------------------|-----------------|----------|-----------------|-----------------|----------|-----------------|-----------------|----------|-----------------|-----------------|----------|-----------------|-----------------|----------|
|             | 11⅞" BCI® 90 2.0                       |                 |          | 14" BCI® 90 2.0 |                 |          | 16" BCI® 90 2.0 |                 |          | 18" BCI® 90 2.0 |                 |          | 20" BCI® 90 2.0 |                 |          |
|             | Total Load                             |                 | Deflect. | Total Load      |                 | Deflect. | Total Load      |                 | Deflect. | Total Load      |                 | Deflect. | Total Load      |                 | Deflect. |
|             | Snow (115%)                            | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    | Snow (115%)     | Non-Snow (125%) | L/240    |
|             |                                        |                 |          |                 |                 |          |                 |                 |          |                 |                 |          |                 |                 |          |
| 6           | 507                                    | 551             | -        | 510             | 555             | -        | 514             | 559             | -        | 623             | 677             | -        | 646             | 702             | -        |
| 7           | 434                                    | 472             | -        | 437             | 476             | -        | 441             | 479             | -        | 534             | 581             | -        | 553             | 602             | -        |
| 8           | 380                                    | 413             | -        | 383             | 416             | -        | 385             | 419             | -        | 467             | 508             | -        | 484             | 526             | -        |
| 9           | 338                                    | 367             | -        | 340             | 370             | -        | 343             | 372             | -        | 415             | 451             | -        | 430             | 468             | -        |
| 10          | 304                                    | 330             | -        | 306             | 333             | -        | 308             | 335             | -        | 374             | 406             | -        | 387             | 421             | -        |
| 11          | 276                                    | 300             | -        | 278             | 302             | -        | 280             | 305             | -        | 340             | 369             | -        | 352             | 383             | -        |
| 12          | 253                                    | 275             | -        | 255             | 277             | -        | 257             | 279             | -        | 311             | 338             | -        | 323             | 351             | -        |
| 13          | 234                                    | 254             | -        | 235             | 256             | -        | 237             | 258             | -        | 287             | 312             | -        | 298             | 324             | -        |
| 14          | 217                                    | 236             | -        | 218             | 238             | -        | 220             | 239             | -        | 267             | 290             | -        | 276             | 301             | -        |
| 15          | 202                                    | 220             | -        | 204             | 222             | -        | 205             | 223             | -        | 249             | 271             | -        | 258             | 280             | -        |
| 16          | 190                                    | 206             | -        | 191             | 208             | -        | 192             | 209             | -        | 233             | 254             | -        | 242             | 263             | -        |
| 17          | 178                                    | 194             | -        | 180             | 196             | -        | 181             | 197             | -        | 220             | 239             | -        | 228             | 247             | -        |
| 18          | 169                                    | 183             | -        | 170             | 185             | -        | 171             | 186             | -        | 207             | 225             | -        | 215             | 234             | -        |
| 19          | 160                                    | 174             | -        | 161             | 175             | -        | 162             | 176             | -        | 196             | 214             | -        | 204             | 221             | -        |
| 20          | 152                                    | 165             | 148      | 153             | 166             | -        | 154             | 167             | -        | 187             | 203             | -        | 193             | 210             | -        |
| 21          | 144                                    | 157             | 129      | 145             | 158             | -        | 147             | 159             | -        | 178             | 193             | -        | 184             | 200             | -        |
| 22          | 138                                    | 148             | 113      | 139             | 151             | -        | 140             | 152             | -        | 170             | 184             | -        | 176             | 191             | -        |
| 23          | 130                                    | 130             | 100      | 133             | 144             | -        | 134             | 145             | -        | 162             | 176             | -        | 168             | 183             | -        |
| 24          | 115                                    | 115             | 88       | 127             | 138             | 126      | 128             | 139             | -        | 155             | 169             | -        | 161             | 175             | -        |
| 25          | 103                                    | 103             | 78       | 122             | 133             | 112      | 123             | 134             | -        | 149             | 162             | -        | 155             | 168             | -        |
| 26          | 92                                     | 92              | 70       | 117             | 128             | 100      | 118             | 129             | -        | 143             | 156             | -        | 149             | 162             | -        |
| 27          | 82                                     | 82              | 63       | 113             | 118             | 90       | 114             | 124             | -        | 138             | 150             | -        | 143             | 156             | -        |
| 28          | 74                                     | 74              | 56       | 106             | 106             | 81       | 110             | 119             | 109      | 133             | 145             | -        | 138             | 150             | -        |
| 29          | 67                                     | 67              | 51       | 96              | 96              | 73       | 106             | 115             | 98       | 129             | 140             | 127      | 133             | 145             | -        |
| 30          | 60                                     | 60              | 46       | 87              | 87              | 67       | 102             | 111             | 89       | 124             | 135             | 115      | 129             | 140             | -        |
| 31          | 55                                     | 55              | 42       | 79              | 79              | 60       | 99              | 106             | 81       | 120             | 131             | 105      | 125             | 135             | -        |
| 32          | 50                                     | 50              | 38       | 72              | 72              | 55       | 96              | 97              | 74       | 116             | 125             | 96       | 121             | 131             | 120      |
| 33          |                                        |                 |          | 66              | 66              | 50       | 89              | 89              | 68       | 113             | 114             | 88       | 117             | 127             | 110      |
| 34          |                                        |                 |          | 60              | 60              | 46       | 81              | 81              | 62       | 105             | 105             | 80       | 114             | 123             | 101      |
| 35          |                                        |                 |          | 56              | 56              | 42       | 75              | 75              | 57       | 97              | 97              | 74       | 110             | 120             | 93       |

- Total Load values are limited by shear, moment, or deflection equal to L/180.
- Deflection values (Deflect.) are limited by live load deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Both the Total Load and Deflection columns must be checked. Where a Deflection value is not shown, the Total Load value will control.

- Table values apply to either simple or multiple span joists. Span is measured center to center of the minimum required bearing length. Analyze multiple span joists with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Slope roof joists at least ¼ inch over 12 inches to minimize ponding.
- Table values assume minimum bearing lengths without web stiffeners for joist

depths of 16 inches and less. 18 and 20 inch joists require web stiffeners.

- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.
- Allowable spans and loads shall be adjusted and checked for wind load as required by local building code.

| BCI® Joist Series | Depth [inches] | Weight [plf] | Moment [ft-lbs] | EI x 10 <sup>6</sup> [lb-in <sup>2</sup> ] | K x 10 <sup>6</sup> [lbs] | Shear [lbs] | End Reaction [lbs]   |                   |                      |                   | Intermediate Reaction [lbs] |                   |                      |                   |
|-------------------|----------------|--------------|-----------------|--------------------------------------------|---------------------------|-------------|----------------------|-------------------|----------------------|-------------------|-----------------------------|-------------------|----------------------|-------------------|
|                   |                |              |                 |                                            |                           |             | 1½" Bearing          |                   | 3½" Bearing          |                   | 3½" Bearing                 |                   | 5¼" Bearing          |                   |
|                   |                |              |                 |                                            |                           |             | No WS <sup>(1)</sup> | WS <sup>(2)</sup> | No WS <sup>(1)</sup> | WS <sup>(2)</sup> | No WS <sup>(1)</sup>        | WS <sup>(2)</sup> | No WS <sup>(1)</sup> | WS <sup>(2)</sup> |
| 5000<br>1.7       | 9½             | 2.0          | 2460            | 160                                        | 5.0                       | 1475        | 950                  | 1125              | 1125                 | 1275              | 2100                        | 2350              | 2525                 | 2750              |
|                   | 11⅞            | 2.3          | 3150            | 265                                        | 6.0                       | 1625        | 950                  | 1425              | 1425                 | 1475              | 2250                        | 2850              | 2525                 | 3000              |
|                   | 14             | 2.5          | 3735            | 390                                        | 8.0                       | 1825        | 950                  | 1525              | 1475                 | 1725              | 2350                        | 3050              | 2525                 | 3200              |
| 6000<br>1.8       | 9½             | 2.2          | 3165            | 190                                        | 5.0                       | 1575        | 1175                 | 1375              | 1375                 | 1425              | 2400                        | 2650              | 2700                 | 2750              |
|                   | 11⅞            | 2.5          | 4060            | 320                                        | 6.0                       | 1675        | 1175                 | 1425              | 1425                 | 1475              | 2500                        | 2850              | 2900                 | 3000              |
|                   | 14             | 2.7          | 4815            | 470                                        | 8.0                       | 1925        | 1175                 | 1525              | 1525                 | 1725              | 2600                        | 3150              | 2925                 | 3200              |
|                   | 16             | 2.9          | 5495            | 635                                        | 9.0                       | 2175        | 1175                 | 1625              | 1550                 | 1975              | 2650                        | 3350              | 2950                 | 3350              |
| 6500<br>1.8       | 9½             | 2.3          | 3505            | 210                                        | 5.0                       | 1575        | 1175                 | 1375              | 1375                 | 1425              | 2400                        | 2650              | 2700                 | 2750              |
|                   | 11⅞            | 2.6          | 4495            | 350                                        | 7.0                       | 1675        | 1175                 | 1425              | 1425                 | 1475              | 2500                        | 2850              | 2900                 | 3000              |
|                   | 14             | 3.0          | 5330            | 515                                        | 8.0                       | 1925        | 1175                 | 1525              | 1525                 | 1725              | 2600                        | 3150              | 2925                 | 3200              |
|                   | 16             | 3.2          | 6085            | 695                                        | 9.0                       | 2175        | 1175                 | 1625              | 1550                 | 1975              | 2650                        | 3350              | 2950                 | 3350              |
| 60<br>2.0         | 11⅞            | 2.9          | 6235            | 430                                        | 7.0                       | 1675        | 1175                 | 1425              | 1425                 | 1475              | 2750                        | 2850              | 3200                 | 3250              |
|                   | 14             | 3.1          | 7440            | 635                                        | 8.0                       | 1925        | 1175                 | 1525              | 1525                 | 1725              | 2750                        | 3450              | 3200                 | 3650              |
|                   | 16             | 3.3          | 8520            | 860                                        | 9.0                       | 2175        | 1175                 | 1625              | 1550                 | 1975              | 2750                        | 3650              | 3200                 | 3750              |
| 90<br>2.0         | 11⅞            | 3.9          | 9550            | 645                                        | 7.0                       | 2150        | 1425                 | 1850              | 1800                 | 1950              | 3375                        | 3700              | 4000                 | 4300              |
|                   | 14             | 4.1          | 11390           | 940                                        | 8.0                       | 2350        | 1450                 | 1950              | 1850                 | 2150              | 3400                        | 3850              | 4100                 | 4450              |
|                   | 16             | 4.4          | 13050           | 1275                                       | 9.0                       | 2550        | 1475                 | 2150              | 1900                 | 2350              | 3425                        | 4000              | 4200                 | 4650              |
|                   | 18             | 4.6          | 14690           | 1660                                       | 10.0                      | 2750        | N/A <sup>(3)</sup>   | 2300              | N/A <sup>(3)</sup>   | 2550              | N/A <sup>(3)</sup>          | 4150              | N/A <sup>(3)</sup>   | 4750              |
|                   | 20             | 4.8          | 16310           | 2100                                       | 11.0                      | 2850        | N/A <sup>(3)</sup>   | 2500              | N/A <sup>(3)</sup>   | 2650              | N/A <sup>(3)</sup>          | 4300              | N/A <sup>(3)</sup>   | 4850              |

**NOTES:**

(1) No web stiffeners required.

(2) Web stiffeners required.

- Moment, shear and reactions values based upon a load duration of 100% and may be adjusted for other load durations.
- Design values listed are applicable for Allowable Stress Design (ASD).
- No additional repetitive member increase allowed.

**BUILDING CODE EVALUATION REPORTS**

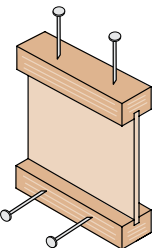
- ICC ESR 1336 (IBC, IRC)

$$\Delta = \frac{5wl^4}{384EI} + \frac{wl^2}{K}$$

 $\Delta$  = deflection [in] $w$  = uniform load [lb/in] $l$  = clear span [in] $EI$  = bending stiffness [lb-in<sup>2</sup>] $K$  = shear deformation coefficient [lb]**BCI® Closest Allowable Nail Spacing**

Nailing Perpendicular to Glue Lines (Wide Face)

Nailing Parallel to Glue Lines (Narrow Face)



| Nail Size        | All BCI® Joists                                |                       |                                             |                       |
|------------------|------------------------------------------------|-----------------------|---------------------------------------------|-----------------------|
|                  | Nailing Perpendicular to Glue Line (Wide Face) |                       | Nailing Parallel to Glue Line (Narrow Face) |                       |
|                  | O.C. Spacing [inches]                          | End of Joist [inches] | O.C. Spacing [inches]                       | End of Joist [inches] |
| 8d Box           | 2                                              | 1½                    | 4                                           | 1½                    |
| 8d Common        | 2                                              | 1½                    | 4                                           | 3                     |
| 10d & 12d Box    | 2                                              | 1½                    | 4                                           | 3                     |
| 16d Box          | 2                                              | 1½                    | 4                                           | 3                     |
| 10d & 12d Common | 3                                              | 2                     | 6                                           | 4                     |
| 16d Sinker       | 3                                              | 2                     | 6                                           | 4                     |
| 16d Common       | 3                                              | 2                     | 6                                           | 4                     |

- If more than one row of nails is used, the rows must be offset at least ½ inch.
- Simpson Strong-Tie A35 connectors may be attached to the side of BCI® 60 & 90 joist flanges only. Use nails as specified by Simpson Strong-Tie; do not attach connectors on both sides of a flange at the same location.

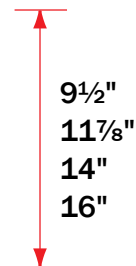
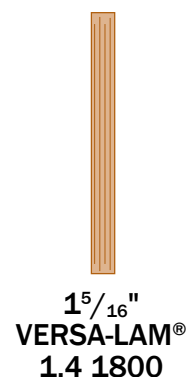
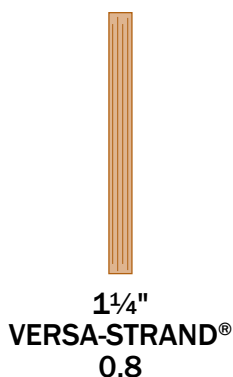
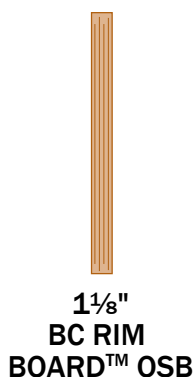
**BCI® Diaphragm Table <sup>(1)</sup>**

| BCI® Series | Diaphragm Capacity <sup>(2)(3)</sup> [lb/ft] |                                                                                                        |
|-------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------|
|             | Unblocked                                    | Blocked                                                                                                |
| 5000        | As permitted for 2x framing in building code | 320 lb/ft for 6" o.c. nailing @ panel edges<br>425 lb/ft for 4" o.c. nailing, staggered, @ panel edges |
| 6000, 6500  | As permitted for 3x framing in building code | 360 lb/ft for 6" o.c. nailing @ panel edges<br>480 lb/ft for 4" o.c. nailing, staggered @ panel edges  |
| 60, 90      | As permitted for 3x framing in building code | As permitted for 3x framing in building code with nail spacing no closer than 3" o.c.                  |

**NOTES:**

- (1) See table 6 of ICC ESR 1336.
- (2) BCI joists may be substituted for solid sawn framing in horizontal wood diaphragms as shown in Table 2306.3.1 of the IBC.
- (3) Limits controlled by BCI closest allowable nail spacing limits.

## Boise Cascade Rimboard Product Profiles



\*18 inch and 20 inch deep rimboard are special order products, contact local supplier or Boise Cascade representative for product availability.

**F07** **Perpendicular**  
See chart for vertical load capacity.

Min. 8d nails @ 6" o.c. per IRC.  
Connection per design professional of record's specification for shear transfer.

**F07A** **Parallel**  
See chart for vertical load capacity.

Min. 8d nails @ 6" o.c. per IRC.  
Connection per design professional of record's specification for shear transfer.

**F56**

1/2" dia through bolts (ASTM A307 Grades A&B, SAE J429 Grades 1 or 2, or higher) with washers and nuts or 1/2" dia lag screws (full penetration)  
350 lb capacity for 1 1/8" & thicker rim, 300 lb capacity for 1" rim, per fastener

Exterior wood sheathing

Treated Ledger - Use only fasteners that are approved for use with corresponding wood treatment.

Boise Cascade Rimboard

Design of moisture control by others (only structural components shown above)

For information regarding connection of exterior decks to interior floor systems per the 2009 IRC, section 502.2.2.3, contact Boise Cascade EWP Engineering.

## Boise Cascade Rimboard Properties

| Product                                                             | Type | Vertical Load Capacity |                 |                  |                 | Maximum Floor Diaphragm Lateral Capacity [lb/ft]                                                                          | Specific Gravity for Lateral Nail Design | Allowable Design Values               |                                |                           |                                             |
|---------------------------------------------------------------------|------|------------------------|-----------------|------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|--------------------------------|---------------------------|---------------------------------------------|
|                                                                     |      | Uniform [plf]          |                 | Point [lb]       |                 |                                                                                                                           |                                          | Flexural Stress [lb/in²]              | Modulus of Elasticity [lb/in²] | Horizontal Shear [lb/in²] | Compression Perpendicular to Grain [lb/in²] |
|                                                                     |      | 16" Depth & Less       | 18" & 20" Depth | 16" Depth & Less | 18" & 20" Depth |                                                                                                                           |                                          |                                       |                                |                           |                                             |
| 1⅝" BC RIM BOARD™ OSB <sup>(2)</sup>                                | OSB  | 4850                   | 3200            | 3500             | 3500            | 200                                                                                                                       | 0.5                                      | Limited span capabilities, see note 2 |                                |                           |                                             |
| 1¼" VERSA-STRAND™ 0.8 (DURA-STRAND) <sup>(3)</sup>                  | OSB  | 5700                   | 3500            | 5900             | 5500            | 240 w/ 8d nails @ 6" o.c.<br>330 w/ 8d nails @ 4" o.c.                                                                    | ---(3)                                   | 1130                                  | 800,000                        | 355                       | 1415                                        |
| 1 <sup>5</sup> / <sub>16</sub> " VERSA-LAM® 1.4 1800 <sup>(1)</sup> | LVL  | 6000                   | 5450            | 4450             | 4450            | Permitted per building code for all nominal 2" thick framing blocked and unblocked diaphragms (4" nail spacing & greater) | 0.5                                      | 1800                                  | 1,400,000                      | 225                       | 525                                         |

| Product                                    | Closest Allowable Nail Spacing - Narrow Face [in] |           |                                    |         |                              |            |
|--------------------------------------------|---------------------------------------------------|-----------|------------------------------------|---------|------------------------------|------------|
|                                            | 8d Box                                            | 8d Common | 10d & 12d Box                      | 16d Box | 10d, 12d Common & 16d Sinker | 16d Common |
| 1 1/8" BC RIM BOARD™ OSB <sup>(2)</sup>    | 3                                                 | 3         | See note 2 for nailing information |         |                              |            |
| 1 1/4" VERSA-STRAND™ 0.8 <sup>(3)</sup>    | 4                                                 | 4         | 4                                  | 4       | 4                            | 6          |
| 1 5/16" VERSA-LAM® 1.4 1800 <sup>(1)</sup> | 3                                                 | 3         | 3                                  | 3       | 4                            | 6          |

## Notes

- See ICC ESR 1040 for further product information.
- See *Performance Rated Rim Boards, APA EWS #W345J* for further product information.
- See ICC ESR 1053 for further product information.
- Not all products and depths may be available. Check with Boise Cascade representative for product availability.

## An Introduction to VERSA-LAM® Products



When you specify VERSA-LAM® laminated veneer headers/beams, you are building quality into your design. They are excellent as floor and roof framing supports or as headers for doors, windows and garage doors and columns.

Because they have no camber, VERSA-LAM® LVL products provide flatter, quieter floors, and consequently, the builder can expect happier customers with significantly fewer call backs.

## VERSA-LAM® Beam Architectural Specifications

**Scope:** This work includes the complete furnishing and installation of all VERSA-LAM® beams as shown on the drawings, herein specified and necessary to complete the work.

**Materials:** Douglas Fir-Larch veneers, laminated in a press with all grain parallel with the length of the member. Glues used in lamination are phenol formaldehyde and isocyanate exterior-type adhesives which comply with ASTM D2559.

**Design:** VERSA-LAM® beams shall be sized and detailed to fit the dimensions and loads indicated on the plans. All designs shall be in accordance with allowable values developed in accordance with ASTM D5456 and listed in the governing code evaluation service's report and

section properties based upon standard engineering principles. Verification of design of the VERSA-LAM® beams by complete calculations shall be available upon request.

**Drawings:** Additional drawings showing layout and detail necessary for determining fit and placement in the buildings are (are not) to be provided by the supplier.

**Fabrication:** VERSA-LAM® beams shall be manufactured in a plant evaluated for fabrication by the governing code evaluation service and under the supervision of a third-party inspection agency listed by the corresponding evaluation service.

**Storage and Installation:** VERSA-LAM® beams, if stored prior to erection, shall be stored on stickers spaced a maximum of 15 ft. apart. Beams shall be stored on a dry, level surface and protected from the weather. They shall be handled with care so they are not damaged.

VERSA-LAM® beams are to be installed in accordance with the plans and Boise Cascade EWP's Installation Guide. Temporary construction loads which cause stresses beyond design limits are not permitted. Erection bracing shall be provided to assure adequate lateral support for the individual beams and the entire system until the sheathing material has been applied.

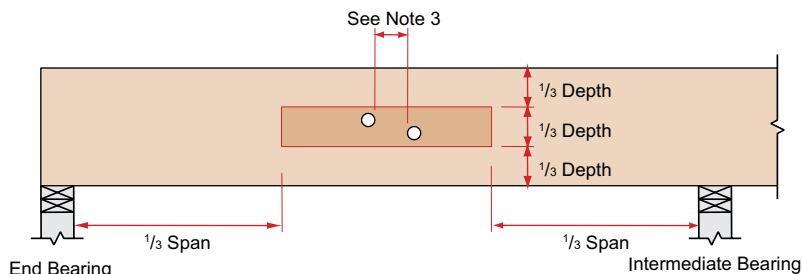
**Codes:** VERSA-LAM® beams shall be evaluated by a model code evaluation service.

## Allowable Holes in VERSA-LAM® Beams

### Notes

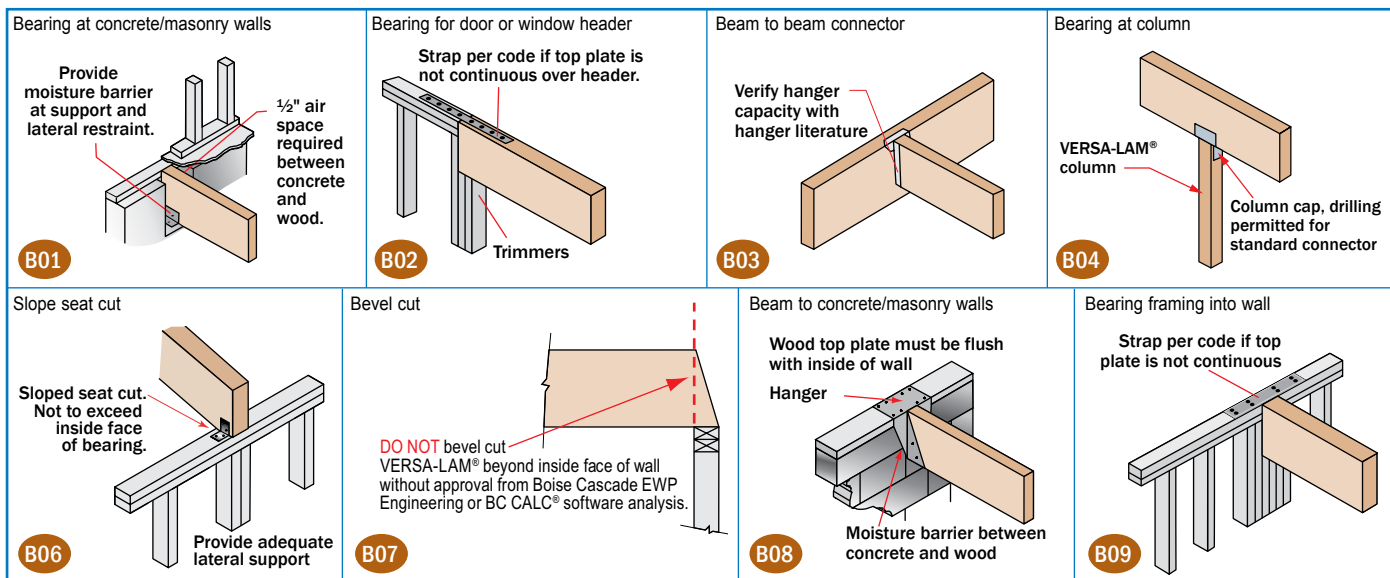
1. Square and rectangular holes are not permitted.
2. Round holes may be drilled or cut with a hole saw anywhere within the shaded area of the beam.
3. The horizontal distance between adjacent holes must be at least two times the size of the larger hole.
4. Do not drill more than three access holes in any four foot long section of beam.
5. The maximum round hole diameter permitted is:

| Beam Depth         | Max. Hole Diameter |
|--------------------|--------------------|
| 5 1/2"             | 3/4"               |
| 7 1/4"             | 1"                 |
| 9 1/4" and greater | 2"                 |



6. These limitations apply to holes drilled for plumbing or wiring access only. The size and location of holes drilled for fasteners are governed by the provisions of the *National Design Specification® for Wood Construction*.
7. Beams deflect under load. Size holes to provide clearance where required.
8. This hole chart is valid for beams supporting uniform load only. For beams supporting concentrated loads or for beams with larger holes, contact Boise Cascade EWP Engineering.





## VERSA-LAM® Installation Notes

- Minimum of 1/2" air space between beam and wall pocket or adequate barrier must be provided between beam and concrete/masonry.
- Adequate bearing shall be provided. If not shown on plans, please refer to load tables in your region's Specifier Guide.
- VERSA-LAM® beams are intended for interior applications only and should be kept as dry as possible during construction.
- Continuous lateral support of top of beam shall be provided (side or top bearing framing).

## Multiple Member Connectors

### Side-Loaded Applications

| Number of Members                          | Maximum Uniform Side Load [plf] |                               |                                       |                             |                            |                                       |                             |                            |
|--------------------------------------------|---------------------------------|-------------------------------|---------------------------------------|-----------------------------|----------------------------|---------------------------------------|-----------------------------|----------------------------|
|                                            | Nailed                          |                               | 1/2" Dia. Through Bolt <sup>(1)</sup> |                             |                            | 5/8" Dia. Through Bolt <sup>(1)</sup> |                             |                            |
|                                            | 2 rows 16d Sinkers @ 12" o.c.   | 3 rows 16d Sinkers @ 12" o.c. | 2 rows @ 24" o.c. staggered           | 2 rows @ 12" o.c. staggered | 2 rows @ 6" o.c. staggered | 2 rows @ 24" o.c. staggered           | 2 rows @ 12" o.c. staggered | 2 rows @ 6" o.c. staggered |
| 1 3/4" VERSA-LAM® (Depths of 18" and less) |                                 |                               |                                       |                             |                            |                                       |                             |                            |
| 2                                          | 470                             | 705                           | 505                                   | 1010                        | 2020                       | 560                                   | 1120                        | 2245                       |
| 3 <sup>(2)</sup>                           | 350                             | 525                           | 375                                   | 755                         | 1515                       | 420                                   | 840                         | 1685                       |
| 4 <sup>(3)</sup>                           | use bolt schedule               |                               | 335                                   | 670                         | 1345                       | 370                                   | 745                         | 1495                       |
| 3 1/2" VERSA-LAM®                          |                                 |                               |                                       |                             |                            |                                       |                             |                            |
| 2 <sup>(3)</sup>                           | use bolt schedule               |                               | 855                                   | 1715                        | N/A                        | 1125                                  | 2250                        | N/A                        |

- Design values apply to common bolts that conform to ANSI/ASME standard B18.21-1981 (ASTM A307 Grades A&B, SAE J429 Grades 1 or 2, or higher). A washer not less than a standard cut washer shall be between the wood and the bolt head and between the wood and the nut. The distance from the edge of the beam to the bolt holes must be at least 2" for 1/2" bolts and 2 1/2" for 5/8" bolts. Bolt holes shall be the same diameter as the bolt.
- The nail schedules shown apply to both sides of a three member beam.
- 7" wide beams must be top-loaded or loaded from both sides.

### Top-Loaded Applications

For top-loaded beams and beams with side loads with less than those shown:

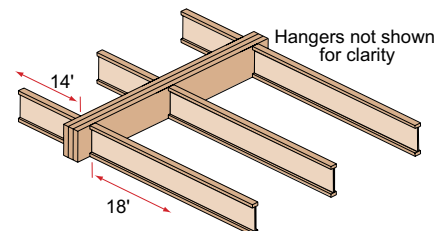
| Plies                           | Depth                | Nailing                                          | Maximum Uniform Load From One Side |
|---------------------------------|----------------------|--------------------------------------------------|------------------------------------|
| (2) 1 3/4" plies                | Depth 11 7/8" & less | 2 rows 16d box/sinker nails @ 12" o.c.           | 400 plf                            |
|                                 | Depth 14" - 18"      | 3 rows 16d box/sinker nails @ 12" o.c.           | 600 plf                            |
| (3) 1 3/4" plies <sup>(2)</sup> | Depth 11 7/8" & less | 2 rows 16d box/sinker nails @ 12" o.c.           | 300 plf                            |
|                                 | Depth 14" - 18"      | 3 rows 16d box/sinker nails @ 12" o.c.           | 450 plf                            |
| (4) 1 3/4" plies                | Depth 18" & less     | 2 rows 1/2" bolts @ 24" o.c., staggered          | 335 plf                            |
| (2) 3 1/2" plies                | Depth 18" & less     | 2 rows 1/2" bolts @ 24" o.c., staggered          | 855 plf                            |
|                                 | Depth 20" - 24"      | 3 rows 1/2" bolts @ 24" o.c., staggered every 8" | 1285 plf                           |

- Beams wider than 7" must be designed by the engineer of record.
- All values in these tables may be increased by 15% for snow-load roofs and by 25% for non-snow load roofs where the building code allows.
- Use allowable load tables or BC CALC® software to size beams.
- An equivalent specific gravity of 0.5 may be used when designing specific connections with VERSA-LAM®.
- Connection values are based upon the 2005 NDS.
- FastenMaster TrussLok, Simpson Strong-Tie SDW or SDS, and USP WS screws may also be used to connect multiple member VERSA-LAM® beams, contact Boise Cascade EWP Engineering for further information.

## Designing Connections for Multiple VERSA-LAM® Members

When using multiple ply VERSA-LAM® beams to create a wider member, the connection of the plies is as critical as determining the beam size. When side loaded beams are not connected properly, the inside plies do not support their share of the load and thus the load-carrying capacity of the full member decreases significantly. The following is an example of how to size and connect a multiple-ply VERSA-LAM® floor beam.

Given: Beam shown below is supporting residential floor load (40 psf live load, 10 psf dead load) and is spanning 16'-0". Beam depth is limited to 14".



Find: A multiple 1 3/4" ply VERSA-LAM® that is adequate to support the design loads and the member's proper connection schedule.

- Calculate the tributary width that beam is supporting:  
 $14' / 2 + 18' / 2 = 16'$
- Use PLF tables on pages 28-30 of WSG or BC CALC® to size beam.  
A Triple VERSA-LAM® 2.0 2800 1 3/4" x 14" is found to adequately support the design loads.
- Calculate the maximum plf load from one side (the right side in this case).  
Max. Side Load =  $(18' / 2) \times (40 + 10 \text{ psf}) = 450 \text{ plf}$
- Go to the Multiple Member Connection Table, Side-Loaded Applications, 1 3/4" VERSA-LAM®, 3 members
- The proper connection schedule must have a capacity greater than the max. side load:

Nailed: 3 rows 16d sinkers @ 12" o.c.:

525 plf is greater than 450 plf OK

Bolts: 1/2" diameter 2 rows @ 12" staggered:

755 plf is greater than 450 plf OK

## VERSA-LAM® 2.0 2800 and 2.0 3100 (100% Load Duration)

|              |                |   |                                                                         |
|--------------|----------------|---|-------------------------------------------------------------------------|
| KEY TO TABLE | Top Figure     | - | Allowable Total Load [plf]                                              |
|              | Middle Figure  | - | Allowable Live Load [plf]                                               |
|              | Bottom Figures | - | Minimum Required Bearing Length at End / Intermediate Supports [inches] |

| Span<br>[ft] | 1¾" VERSA-LAM® 2.0 2800 <sup>(1)</sup> |           |           |            |                    |                    | 3¾" VERSA-LAM® 2.0 3100 |           |           |            |            |            | 5¼" VERSA-LAM® 2.0 3100 |           |            |            |            |            | 7" VERSA-LAM® 2.0 3100 |            |            |            |            |        |
|--------------|----------------------------------------|-----------|-----------|------------|--------------------|--------------------|-------------------------|-----------|-----------|------------|------------|------------|-------------------------|-----------|------------|------------|------------|------------|------------------------|------------|------------|------------|------------|--------|
|              | 7¼"                                    | 9½"       | 11¾"      | 14"        | 16" <sup>(2)</sup> | 18" <sup>(2)</sup> | 7¼"                     | 9½"       | 11¾"      | 14"        | 16"        | 18"        | 9½"                     | 11¾"      | 14"        | 16"        | 18"        | 20"        | 11¾"                   | 14"        | 16"        | 18"        | 20"        | 24"    |
| 6            | 763                                    | 1063      | 1425      | 1796       | 2194               | 2617               | 1526                    | 2127      | 2850      | 3591       | 4388       | 5234       | 3190                    | 4275      | 5387       | 6583       | 7851       | 7848       | 5700                   | 7183       | 8777       | 10468      | 10464      | 10457  |
|              | 762                                    | -         | -         | -          | -                  | -                  | 1525                    | -         | -         | -          | -          | -          | -                       | -         | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -      |
|              | 1.8 / 4.4                              | 2.4 / 6.1 | 3.3 / 8.2 | 4.1 / 10.3 | 5 / 12.6           | 6 / 15             | 1.8 / 4.4               | 2.4 / 6.1 | 3.3 / 8.2 | 4.1 / 10.3 | 5 / 12.6   | 6 / 15     | 2.4 / 6.1               | 3.3 / 8.2 | 4.1 / 10.3 | 5 / 12.6   | 6 / 15     | 6 / 15     | 3.3 / 8.2              | 4.1 / 10.3 | 5 / 12.6   | 6 / 15     | 6 / 15     | 6 / 15 |
| 7            | 614                                    | 877       | 1161      | 1445       | 1742               | 2074               | 1229                    | 1754      | 2322      | 2889       | 3484       | 4147       | 2632                    | 3483      | 4334       | 5226       | 6221       | 6723       | 4644                   | 5778       | 6967       | 8295       | 8964       | 8957   |
|              | 480                                    | -         | -         | -          | -                  | -                  | 960                     | -         | -         | -          | -          | -          | -                       | -         | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -      |
|              | 1.6 / 4.1                              | 2.4 / 5.9 | 3.1 / 7.8 | 3.9 / 9.7  | 4.7 / 11.5         | 6 / 13.9           | 1.6 / 4.1               | 2.4 / 5.9 | 3.1 / 7.8 | 3.9 / 9.7  | 4.7 / 11.5 | 6 / 13.9   | 2.4 / 5.9               | 3.1 / 7.8 | 3.9 / 9.7  | 4.7 / 11.5 | 6 / 13.9   | 6 / 15     | 3.1 / 7.8              | 3.9 / 9.7  | 4.7 / 11.5 | 6 / 13.9   | 6 / 15     | 6 / 15 |
| 8            | 470                                    | 746       | 979       | 1208       | 1444               | 1702               | 939                     | 1493      | 1958      | 2416       | 2887       | 3404       | 2239                    | 2938      | 3624       | 4331       | 5106       | 5879       | 3917                   | 4832       | 5775       | 6808       | 7839       | 7832   |
|              | 322                                    | 724       | -         | -          | -                  | -                  | 643                     | 1447      | -         | -          | -          | -          | 2171                    | -         | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -      |
|              | 1.5 / 3.6                              | 2.3 / 5.7 | 3 / 7.5   | 3.7 / 9.3  | 4.4 / 11.1         | 5.2 / 13           | 1.5 / 3.6               | 2.3 / 5.7 | 3 / 7.5   | 3.7 / 9.3  | 4.4 / 11.1 | 5.2 / 13   | 2.3 / 5.7               | 3 / 7.5   | 3.7 / 9.3  | 4.4 / 11.1 | 5.2 / 13   | 6 / 15     | 3 / 7.5                | 3.7 / 9.3  | 4.4 / 11.1 | 5.2 / 13   | 6 / 15     | 6 / 15 |
| 9            | 336                                    | 618       | 846       | 1038       | 1232               | 1443               | 671                     | 1237      | 1693      | 2076       | 2465       | 2886       | 1855                    | 2539      | 3113       | 3697       | 4328       | 5013       | 3386                   | 4151       | 4930       | 5771       | 6684       | 6957   |
|              | 226                                    | 508       | -         | -          | -                  | -                  | 452                     | 1016      | -         | -          | -          | -          | 1525                    | -         | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -      |
|              | 1.5 / 3                                | 2.1 / 5.3 | 2.9 / 7.3 | 3.6 / 8.9  | 4.3 / 10.6         | 5 / 12.4           | 1.5 / 3                 | 2.1 / 5.3 | 2.9 / 7.3 | 3.6 / 8.9  | 4.3 / 10.6 | 5 / 12.4   | 2.1 / 5.3               | 2.9 / 7.3 | 3.6 / 8.9  | 4.3 / 10.6 | 5 / 12.4   | 5.8 / 14.4 | 2.9 / 7.3              | 3.6 / 8.9  | 4.3 / 10.6 | 5 / 12.4   | 5.8 / 14.4 | 6 / 15 |
| 10           | 244                                    | 500       | 745       | 909        | 1075               | 1252               | 487                     | 1000      | 1491      | 1819       | 2150       | 2504       | 1500                    | 2236      | 2728       | 3225       | 3756       | 4326       | 2981                   | 3638       | 4299       | 5008       | 5768       | 6257   |
|              | 165                                    | 370       | 724       | -          | -                  | -                  | 329                     | 741       | 1447      | -          | -          | -          | 1111                    | 2171      | -          | -          | -          | -          | 2894                   | -          | -          | -          | -          | -      |
|              | 1.5 / 3                                | 1.9 / 4.8 | 2.9 / 7.1 | 3.5 / 8.7  | 4.1 / 10.3         | 4.8 / 12           | 1.5 / 3                 | 1.9 / 4.8 | 2.9 / 7.1 | 3.5 / 8.7  | 4.1 / 10.3 | 4.8 / 12   | 1.9 / 4.8               | 2.9 / 7.1 | 3.5 / 8.7  | 4.1 / 10.3 | 4.8 / 12   | 5.5 / 13.8 | 2.9 / 7.1              | 3.5 / 8.7  | 4.1 / 10.3 | 4.8 / 12   | 5.5 / 13.8 | 6 / 15 |
| 11           | 182                                    | 412       | 630       | 809        | 953                | 1105               | 365                     | 825       | 1260      | 1618       | 1906       | 2211       | 1237                    | 1890      | 2428       | 2858       | 3316       | 3803       | 2520                   | 3237       | 3811       | 4422       | 5071       | 5684   |
|              | 124                                    | 278       | 544       | -          | -                  | -                  | 247                     | 557       | 1087      | -          | -          | -          | 835                     | 1631      | -          | -          | -          | -          | 2175                   | -          | -          | -          | -          | -      |
|              | 1.5 / 3                                | 1.7 / 4.4 | 2.7 / 6.7 | 3.4 / 8.5  | 4 / 10.1           | 4.7 / 11.7         | 1.5 / 3                 | 1.7 / 4.4 | 2.7 / 6.7 | 3.4 / 8.5  | 4 / 10.1   | 4.7 / 11.7 | 1.7 / 4.4               | 2.7 / 6.7 | 3.4 / 8.5  | 4 / 10.1   | 4.7 / 11.7 | 5.4 / 13.4 | 2.7 / 6.7              | 3.4 / 8.5  | 4 / 10.1   | 4.7 / 11.7 | 5.4 / 13.4 | 6 / 15 |
| 12           | 140                                    | 317       | 528       | 722        | 856                | 989                | 279                     | 635       | 1057      | 1444       | 1711       | 1979       | 952                     | 1585      | 2167       | 2567       | 2968       | 3393       | 2114                   | 2889       | 3422       | 3958       | 4524       | 5207   |
|              | 95                                     | 214       | 419       | 686        | -                  | -                  | 191                     | 429       | 837       | 1372       | -          | -          | 643                     | 1256      | 2058       | -          | -          | -          | 1675                   | 2745       | -          | -          | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3.7 | 2.4 / 6.1 | 3.3 / 8.3  | 3.9 / 9.9          | 4.6 / 11.4         | 1.5 / 3                 | 1.5 / 3.7 | 2.4 / 6.1 | 3.3 / 8.3  | 3.9 / 9.9  | 4.6 / 11.4 | 1.5 / 3.7               | 2.4 / 6.1 | 3.3 / 8.3  | 3.9 / 9.9  | 4.6 / 11.4 | 5.2 / 13   | 2.4 / 6.1              | 3.3 / 8.3  | 3.9 / 9.9  | 4.6 / 11.4 | 5.2 / 13   | 6 / 15 |
| 13           | 109                                    | 249       | 449       | 614        | 776                | 895                | 218                     | 497       | 899       | 1229       | 1552       | 1791       | 746                     | 1348      | 1843       | 2328       | 2686       | 3062       | 1798                   | 2458       | 3104       | 3581       | 4083       | 4803   |
|              | 75                                     | 169       | 329       | 540        | -                  | -                  | 150                     | 337       | 659       | 1079       | -          | -          | 506                     | 988       | 1619       | -          | -          | -          | 1317                   | 2159       | -          | -          | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3.1 | 2.3 / 5.6 | 3.1 / 7.7  | 3.9 / 9.7          | 4.5 / 11.2         | 1.5 / 3                 | 1.5 / 3.1 | 2.3 / 5.6 | 3.1 / 7.7  | 3.9 / 9.7  | 4.5 / 11.2 | 1.5 / 3.1               | 2.3 / 5.6 | 3.1 / 7.7  | 3.9 / 9.7  | 4.5 / 11.2 | 5.1 / 12.7 | 2.3 / 5.6              | 3.1 / 7.7  | 3.9 / 9.7  | 4.5 / 11.2 | 5.1 / 12.7 | 6 / 15 |
| 14           | 87                                     | 198       | 387       | 529        | 682                | 817                | 174                     | 396       | 774       | 1058       | 1363       | 1635       | 595                     | 1160      | 1587       | 2045       | 2452       | 2789       | 1547                   | 2116       | 2726       | 3270       | 3719       | 4457   |
|              | 60                                     | 135       | 264       | 432        | 645                | -                  | 120                     | 270       | 527       | 864        | 1290       | -          | 405                     | 791       | 1296       | 1935       | -          | -          | 1055                   | 1728       | 2580       | -          | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3   | 2.1 / 5.2 | 2.9 / 7.1  | 3.7 / 9.2          | 4.4 / 11           | 1.5 / 3                 | 1.5 / 3   | 2.1 / 5.2 | 2.9 / 7.1  | 3.7 / 9.2  | 4.4 / 11   | 1.5 / 3                 | 2.1 / 5.2 | 2.9 / 7.1  | 3.7 / 9.2  | 4.4 / 11   | 5 / 12.5   | 2.1 / 5.2              | 2.9 / 7.1  | 3.7 / 9.2  | 4.4 / 11   | 5 / 12.5   | 6 / 15 |
| 15           | 70                                     | 160       | 316       | 460        | 593                | 741                | 140                     | 321       | 632       | 920        | 1186       | 1483       | 481                     | 949       | 1380       | 1778       | 2224       | 2561       | 1265                   | 1840       | 2371       | 2965       | 3415       | 4157   |
|              | 49                                     | 110       | 214       | 351        | 524                | -                  | 98                      | 220       | 429       | 703        | 1049       | -          | 329                     | 643       | 1054       | 1573       | -          | -          | 858                    | 1405       | 2098       | -          | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3   | 1.8 / 4.6 | 2.7 / 6.7  | 3.4 / 8.6          | 4.3 / 10.7         | 1.5 / 3                 | 1.5 / 3   | 1.8 / 4.6 | 2.7 / 6.7  | 3.4 / 8.6  | 4.3 / 10.7 | 1.5 / 3                 | 1.8 / 4.6 | 2.7 / 6.7  | 3.4 / 8.6  | 4.3 / 10.7 | 4.9 / 12.3 | 1.8 / 4.6              | 2.7 / 6.7  | 3.4 / 8.6  | 4.3 / 10.7 | 4.9 / 12.3 | 6 / 15 |
| 16           | 57                                     | 131       | 260       | 403        | 520                | 651                | 114                     | 263       | 519       | 807        | 1040       | 1301       | 394                     | 779       | 1210       | 1560       | 1952       | 2367       | 1039                   | 1614       | 2080       | 2602       | 3156       | 3894   |
|              | 40                                     | 90        | 177       | 289        | 432                | 615                | 80                      | 181       | 353       | 579        | 864        | 1230       | 271                     | 530       | 868        | 1296       | 1846       | -          | 707                    | 1158       | 1728       | 2461       | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3   | 1.6 / 4   | 2.5 / 6.2  | 3.2 / 8            | 4 / 10             | 1.5 / 3                 | 1.5 / 3   | 1.6 / 4   | 2.5 / 6.2  | 3.2 / 8    | 4 / 10     | 1.5 / 3                 | 1.6 / 4   | 2.5 / 6.2  | 3.2 / 8    | 4 / 10     | 4.9 / 12.2 | 1.6 / 4                | 2.5 / 6.2  | 3.2 / 8    | 4 / 10     | 4.9 / 12.2 | 6 / 15 |
| 17           | 109                                    | 216       | 356       | 460        | 575                | 94                 | 218                     | 431       | 711       | 920        | 1151       | 1327       | 647                     | 1067      | 1380       | 1726       | 2109       | 862        | 1423                   | 1840       | 2302       | 2812       | 3658       |        |
|              | 75                                     | 147       | 241       | 360        | 513                | 67                 | 151                     | 295       | 483       | 720        | 1026       | 1226       | 442                     | 724       | 1081       | 1539       | -          | -          | 589                    | 965        | 1441       | 2052       | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3.6 | 2.3 / 5.9 | 3 / 7.6    | 3.8 / 9.4          | 1.5 / 3            | 1.5 / 3                 | 1.5 / 3.6 | 2.3 / 5.9 | 3 / 7.6    | 3.8 / 9.4  | 1.5 / 3    | 1.5 / 3.6               | 2.3 / 5.9 | 3 / 7.6    | 3.8 / 9.4  | 4.6 / 11.5 | 1.5 / 3.6  | 2.3 / 5.9              | 3 / 7.6    | 3.8 / 9.4  | 4.6 / 11.5 | 6 / 15     |        |
| 18           | 91                                     | 181       | 299       | 409        | 512                | 78                 | 182                     | 362       | 597       | 819        | 1025       | 1273       | 542                     | 896       | 1228       | 1537       | 1878       | 723        | 1195                   | 1638       | 2049       | 2504       | 3408       |        |
|              | 64                                     | 124       | 203       | 303        | 432                | 56                 | 127                     | 248       | 407       | 607        | 864        | 1191       | 372                     | 610       | 910        | 1296       | 1778       | 496        | 813                    | 1214       | 1728       | 2371       | -          | -      |
|              | 1.5 / 3                                | 1.5 / 3.2 | 2.1 / 5.2 | 2.9 / 7.1  | 3.6 / 8.9          | 1.5 / 3            | 1.5 / 3                 | 1.5 / 3.2 | 2.1 / 5.2 | 2.9 / 7.1  | 3.6 / 8.9  | 1.5 / 3    | 1.5 / 3.2               | 2.1 / 5.2 | 2.9 / 7.1  | 3.6 / 8.9  | 4.4 / 10.9 | 1.5 / 3.2  | 2.1 / 5.2              | 2.9 / 7.1  | 3.6 / 8.9  | 4.4 / 10.9 | 5.9 / 14.8 |        |
| 19           | 77                                     | 153       | 253       | 367        | 459                | 66                 | 153                     | 306       | 506       | 733        | 918        | 1230       | 459                     | 759       | 1100       | 1377       | 1683       | 612        | 1012                   | 1467       | 1836       | 2244       | 3174       |        |
|              | 54                                     | 105       | 173       | 258        | 367                | 48                 | 108                     | 211       | 346       | 516        | 735        | 162        | 316                     | 519       | 774        | 1102       | 1512       | 422        | 691                    | 1032       | 1470       | 2016       | -          |        |
|              | 1.5 / 3                                | 1.5 / 3   | 1.9 / 4.7 | 2.7 / 6.8  | 3.4 / 8.5          | 1.5 / 3            | 1.5 / 3                 | 1.5 / 3   | 1.9 / 4.7 | 2.7 / 6.8  | 3.4 / 8.5  | 1.5 / 3    | 1.5 / 3                 | 1.9 / 4.7 | 2.7 / 6.8  | 3.4 / 8.5  | 4.1 / 10.3 | 1.5 / 3    | 1.9 / 4.7              | 2.7 / 6.8  | 3.4 / 8.5  | 4.1 / 10.3 | 5.8 / 14.6 |        |
| 20           | 65                                     | 130       | 216       | 325        | 413                | 55                 | 130                     | 261       | 432       | 649        | 827        | 196        | 391                     | 648       | 974        | 1240       | 1516       | 521        | 864                    | 1299       | 1654       | 2022       | 2860       |        |
|              | 46                                     | 90        | 148       | 221        | 315                | 41                 | 93                      | 181       | 296       | 442        | 630        | 139        | 271                     | 445       | 664        | 945        | 1296       | 362        | 593                    | 885        | 1260       | 1728       | -          |        |
|              | 1.5 / 3                                | 1.5 / 3   | 1.7 / 4.2 | 2.5 / 6.3  | 3.2 / 8            | 1.5 / 3            | 1.5 / 3                 | 1.5 / 3   | 1.7 / 4.2 | 2.5 / 6.3  | 3.2 / 8    | 1.5 / 3    | 1.5 / 3                 | 1.7 / 4.2 | 2.5 / 6.3  | 3.2 / 8    | 3.9 / 9.8  | 1.5 / 3    | 1.7 / 4.2              | 2.5 / 6.3  | 3.2 / 8    | 3.9 / 9.8  | 5.5 / 13.8 |        |
| 22           | 97                                     | 161       | 242       | 340        | 459                | 96                 | 193                     | 321       | 484       | 681        | 944        | 1240       | 482                     | 726       | 1021       | 1248       | 1512       | 386        | 643                    | 969        | 1361       | 1665       | 2356       |        |
|              | 68                                     | 111       | 166       | 237        | 327                | 70                 | 136                     | 223       | 332       | 473        | 654        | 904        | 204                     | 334       | 499        |            |            |            |                        |            |            |            |            |        |

## VERSA-LAM® 2.0 2800 and 2.0 3100 (115% Load Duration)

### KEY TO TABLE

|                |   |                                                                         |
|----------------|---|-------------------------------------------------------------------------|
| Top Figure     | - | Allowable Total Load [plf]                                              |
| Middle Figure  | - | Allowable Live Load [plf]                                               |
| Bottom Figures | - | Minimum Required Bearing Length at End / Intermediate Supports [inches] |

| Span<br>[ft] | 1½" VERSA-LAM® 2.0 2800 <sup>(1)</sup> |         |         |          |                    |                    | 3½" VERSA-LAM® 2.0 3100 |         |         |          |          |          | 5½" VERSA-LAM® 2.0 3100 |         |          |          |          |          | 7" VERSA-LAM® 2.0 3100 |          |          |          |          |          |
|--------------|----------------------------------------|---------|---------|----------|--------------------|--------------------|-------------------------|---------|---------|----------|----------|----------|-------------------------|---------|----------|----------|----------|----------|------------------------|----------|----------|----------|----------|----------|
|              | 7¼"                                    | 9½"     | 11½"    | 14"      | 16" <sup>(2)</sup> | 18" <sup>(2)</sup> | 7¼"                     | 9½"     | 11½"    | 14"      | 16"      | 18"      | 9½"                     | 11½"    | 14"      | 16"      | 18"      | 20"      | 11½"                   | 14"      | 16"      | 18"      | 20"      | 24"      |
| 6            | 878                                    | 1224    | 1640    | 2066     | 2524               | 2617               | 1756                    | 2447    | 3279    | 4132     | 5049     | 5234     | 3671                    | 4919    | 6198     | 7573     | 7851     | 7848     | 6558                   | 8264     | 10098    | 10468    | 10464    | 10457    |
|              | -                                      | -       | -       | -        | -                  | -                  | -                       | -       | -       | -        | -        | -        | -                       | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
| 7            | 2/5                                    | 2.8/7   | 3.8/9.4 | 4.7/11.8 | 5.8/14.5           | 6/15               | 2/5                     | 2.8/7   | 3.8/9.4 | 4.7/11.8 | 5.8/14.5 | 6/15     | 2.8/7                   | 3.8/9.4 | 4.7/11.8 | 5.8/14.5 | 6/15     | 6/15     | 3.8/9.4                | 4.7/11.8 | 5.8/14.5 | 6/15     | 6/15     | 6/15     |
|              | 707                                    | 1009    | 1336    | 1662     | 2004               | 2242               | 1414                    | 2019    | 2672    | 3325     | 4008     | 4484     | 3028                    | 4008    | 4987     | 6013     | 6726     | 6723     | 5344                   | 6649     | 8017     | 8968     | 8964     | 8957     |
| 8            | 1.9/4.7                                | 2.7/6.8 | 3.6/8.9 | 4.4/11.5 | 5.4/13.4           | 6/15               | 1.9/4.7                 | 2.7/6.8 | 3.6/8.9 | 4.4/11.5 | 5.4/13.4 | 6/15     | 2.7/6.8                 | 3.6/8.9 | 4.4/11.5 | 5.4/13.4 | 6/15     | 6/15     | 3.6/8.9                | 4.4/11.5 | 5.4/13.4 | 6/15     | 6/15     | 6/15     |
|              | 541                                    | 859     | 1127    | 1390     | 1661               | 1958               | 1081                    | 1718    | 2254    | 2780     | 3323     | 3917     | 2577                    | 3381    | 4171     | 4984     | 5875     | 5879     | 4508                   | 5561     | 6645     | 7834     | 7839     | 7832     |
| 9            | 482                                    | -       | -       | -        | -                  | -                  | 965                     | -       | -       | -        | -        | -        | -                       | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
|              | 1.7/4.1                                | 2.6/6.6 | 3.5/8.6 | 4.3/10.6 | 5.1/12.7           | 6/15               | 1.7/4.1                 | 2.6/6.6 | 3.5/8.6 | 4.3/10.6 | 5.1/12.7 | 6/15     | 2.6/6.6                 | 3.5/8.6 | 4.3/10.6 | 5.1/12.7 | 6/15     | 6/15     | 3.5/8.6                | 4.3/10.6 | 5.1/12.7 | 6/15     | 6/15     | 6/15     |
| 10           | 426                                    | 712     | 974     | 1194     | 1418               | 1660               | 853                     | 1423    | 1948    | 2389     | 2837     | 3321     | 2135                    | 2923    | 3583     | 4255     | 4981     | 5223     | 3897                   | 4778     | 5673     | 6642     | 6964     | 6957     |
|              | 339                                    | -       | -       | -        | -                  | -                  | 678                     | -       | -       | -        | -        | -        | -                       | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
| 11           | 1.5/3.7                                | 2.5/6.1 | 3.4/8.4 | 4.1/10.3 | 4.9/12.2           | 5.7/14.3           | 1.5/3.7                 | 2.5/6.1 | 3.4/8.4 | 4.1/10.3 | 4.9/12.2 | 5.7/14.3 | 2.5/6.1                 | 3.4/8.4 | 4.1/10.3 | 4.9/12.2 | 5.7/14.3 | 6/15     | 3.4/8.4                | 4.1/10.3 | 4.9/12.2 | 5.7/14.3 | 6/15     | 6/15     |
|              | 326                                    | 576     | 858     | 1047     | 1237               | 1441               | 652                     | 1151    | 1716    | 2094     | 2474     | 2882     | 1727                    | 2574    | 3140     | 3711     | 4323     | 4698     | 3431                   | 4187     | 4949     | 5764     | 6264     | 6257     |
| 12           | 247                                    | 556     | -       | -        | -                  | -                  | 494                     | 1111    | -       | -        | -        | -        | 1667                    | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
|              | 1.5/3.1                                | 2.2/5.5 | 3.3/8.2 | 4/10     | 4.7/11.9           | 5.5/13.8           | 1.5/3.1                 | 2.2/5.5 | 3.3/8.2 | 4/10     | 4.7/11.9 | 5.5/13.8 | 2.2/5.5                 | 3.3/8.2 | 4/10     | 4.7/11.9 | 5.5/13.8 | 6/15     | 3.3/8.2                | 4/10     | 4.7/11.9 | 5.5/13.8 | 6/15     | 6/15     |
| 13           | 244                                    | 475     | 725     | 932      | 1097               | 1272               | 488                     | 950     | 1450    | 1863     | 2194     | 2545     | 1425                    | 2176    | 2795     | 3290     | 3817     | 4268     | 2901                   | 3726     | 4387     | 5090     | 5691     | 5684     |
|              | 186                                    | 418     | -       | -        | -                  | -                  | 371                     | 835     | -       | -        | -        | -        | 1253                    | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
| 14           | 1.5/3                                  | 2/5     | 3.1/7.7 | 3.9/9.8  | 4.6/11.6           | 5.4/13.4           | 1.5/3                   | 2/5     | 3.1/7.7 | 3.9/9.8  | 4.6/11.6 | 5.4/13.4 | 2/5                     | 3.1/7.7 | 3.9/9.8  | 4.6/11.6 | 5.4/13.4 | 6/15     | 3.1/7.7                | 3.9/9.8  | 4.6/11.6 | 5.4/13.4 | 6/15     | 6/15     |
|              | 187                                    | 398     | 609     | 831      | 985                | 1139               | 375                     | 797     | 1217    | 1663     | 1970     | 2278     | 1195                    | 1826    | 2494     | 2955     | 3417     | 3906     | 2434                   | 3326     | 3940     | 4556     | 5208     | 5207     |
| 15           | 143                                    | 322     | -       | -        | -                  | -                  | 286                     | 643     | -       | -        | -        | -        | 965                     | -       | -        | -        | -        | -        | -                      | -        | -        | -        | -        | -        |
|              | 1.5/3                                  | 1.8/4.6 | 2.8/7   | 3.8/9.6  | 4.5/11.3           | 5.2/13.1           | 1.5/3                   | 1.8/4.6 | 2.8/7   | 3.8/9.6  | 4.5/11.3 | 5.2/13.1 | 1.8/4.6                 | 2.8/7   | 3.8/9.6  | 4.5/11.3 | 5.2/13.1 | 6/15     | 2.8/7                  | 3.8/9.6  | 4.5/11.3 | 5.2/13.1 | 6/15     | 6/15     |
| 16           | 147                                    | 333     | 518     | 708      | 894                | 1031               | 293                     | 666     | 1035    | 1415     | 1787     | 2062     | 999                     | 1553    | 2123     | 2681     | 3092     | 3525     | 2071                   | 2830     | 3574     | 4123     | 4701     | 4803     |
|              | 112                                    | 253     | 494     | -        | -                  | -                  | 225                     | 506     | 988     | -        | -        | -        | 759                     | 1482    | -        | -        | -        | -        | 1976                   | -        | -        | -        | -        | -        |
| 17           | 1.5/3                                  | 1.7/4.2 | 2.6/6.5 | 3.5/8.8  | 4.5/11.2           | 5.1/12.9           | 1.5/3                   | 1.7/4.2 | 2.6/6.5 | 3.5/8.8  | 4.5/11.2 | 5.1/12.9 | 1.7/4.2                 | 2.6/6.5 | 3.5/8.8  | 4.5/11.2 | 5.1/12.9 | 5.9/14.7 | 2.6/6.5                | 3.5/8.8  | 4.5/11.2 | 5.1/12.9 | 5.9/14.7 | 6/15     |
|              | 117                                    | 266     | 446     | 609      | 785                | 941                | 234                     | 532     | 891     | 1218     | 1570     | 1883     | 797                     | 1337    | 1828     | 2355     | 2824     | 3212     | 1783                   | 2437     | 3139     | 3765     | 4283     | 4457     |
| 18           | 90                                     | 203     | 396     | -        | -                  | -                  | 180                     | 405     | 791     | -        | -        | -        | 608                     | 1187    | -        | -        | -        | -        | 1582                   | -        | -        | -        | -        | -        |
|              | 1.5/3                                  | 1.5/3.6 | 2.4/6   | 3.3/8.2  | 4.2/10.6           | 5.1/12.7           | 1.5/3                   | 1.5/3.6 | 2.4/6   | 3.3/8.2  | 4.2/10.6 | 5.1/12.7 | 1.5/3.6                 | 2.4/6   | 3.3/8.2  | 4.2/10.6 | 5.1/12.7 | 5.8/14.4 | 2.4/6                  | 3.3/8.2  | 4.2/10.6 | 5.1/12.7 | 5.8/14.4 | 6/15     |
| 19           | 94                                     | 215     | 388     | 530      | 683                | 854                | 189                     | 431     | 775     | 1060     | 1366     | 1708     | 646                     | 1163    | 1590     | 2048     | 2561     | 2949     | 1550                   | 2119     | 2731     | 3415     | 3932     | 4157     |
|              | 73                                     | 165     | 322     | 527      | -                  | -                  | 146                     | 329     | 643     | 1054     | -        | -        | 494                     | 965     | 1581     | -        | -        | -        | 1286                   | 2108     | -        | -        | -        | -        |
| 20           | 1.5/3                                  | 1.5/3.1 | 2.2/5.6 | 3.1/7.7  | 3.9/9.9            | 4.9/12.3           | 1.5/3                   | 1.5/3.1 | 2.2/5.6 | 3.1/7.7  | 3.9/9.9  | 4.9/12.3 | 1.5/3.1                 | 2.2/5.6 | 3.1/7.7  | 3.9/9.9  | 4.9/12.3 | 5.7/14.2 | 2.2/5.6                | 3.1/7.7  | 3.9/9.9  | 4.9/12.3 | 5.7/14.2 | 6/15     |
|              | 77                                     | 177     | 340     | 465      | 599                | 749                | 154                     | 353     | 680     | 930      | 1198     | 1499     | 530                     | 1020    | 1395     | 1798     | 2248     | 2726     | 1360                   | 1860     | 2397     | 2998     | 3635     | 3894     |
| 21           | 60                                     | 136     | 265     | 434      | -                  | -                  | 121                     | 271     | 530     | 868      | -        | -        | 407                     | 795     | 1303     | -        | -        | -        | 1060                   | 1737     | -        | -        | -        | -        |
|              | 1.5/3                                  | 1.5/3   | 2.1/5.3 | 2.9/7.2  | 3.7/9.2            | 4.6/11.5           | 1.5/3                   | 1.5/3   | 2.1/5.3 | 2.9/7.2  | 3.7/9.2  | 4.6/11.5 | 1.5/3                   | 2.1/5.3 | 2.9/7.2  | 3.7/9.2  | 4.6/11.5 | 5.6/14   | 2.1/5.3                | 2.9/7.2  | 3.7/9.2  | 4.6/11.5 | 5.6/14   | 6/15     |
| 22           | 64                                     | 147     | 289     | 411      | 530                | 663                | 128                     | 293     | 578     | 822      | 1060     | 1326     | 440                     | 868     | 1233     | 1590     | 1989     | 2429     | 1157                   | 1644     | 2120     | 2652     | 3239     | 3663     |
|              | 50                                     | 113     | 221     | 362      | -                  | -                  | 101                     | 226     | 442     | 724      | -        | -        | 339                     | 663     | 1086     | -        | -        | -        | 884                    | 1448     | -        | -        | -        | -        |
| 23           | 1.5/3                                  | 1.5/3   | 1.9/4.8 | 2.7/6.8  | 3.5/8.7            | 4.3/10.9           | 1.5/3                   | 1.5/3   | 1.9/4.8 | 2.7/6.8  | 3.5/8.7  | 4.3/10.9 | 1.5/3                   | 1.9/4.8 | 2.7/6.8  | 3.5/8.7  | 4.3/10.9 | 5.3/13.3 | 1.9/4.8                | 2.7/6.8  | 3.5/8.7  | 4.3/10.9 | 5.3/13.3 | 6/15     |
|              | 53                                     | 123     | 243     | 366      | 472                | 590                | 106                     | 246     | 486     | 732      | 944      | 1181     | 368                     | 728     | 1098     | 1416     | 1771     | 2164     | 971                    | 1464     | 1888     | 2362     | 2885     | 3457     |
| 24           | 42                                     | 95      | 186     | 305      | 455                | -                  | 85                      | 191     | 372     | 610      | 910      | -        | 286                     | 558     | 915      | 1366     | -        | -        | 744                    | 1220     | 1821     | -        | -        | -        |
|              | 1.5/3                                  | 1.5/3   | 1.7/4.3 | 2.6/6.4  | 3.3/8.2            | 4.1/10.3           | 1.5/3                   | 1.5/3   | 1.7/4.3 | 2.6/6.4  | 3.3/8.2  | 4.1/10.3 | 1.5/3                   | 1.7/4.3 | 2.6/6.4  | 3.3/8.2  | 4.1/10.3 | 5/12.5   | 1.7/4.3                | 2.6/6.4  | 3.3/8.2  | 4.1/10.3 | 5/12.5   | 6/15     |
| 25           | 104                                    | 206     | 328     | 423      | 529                | -                  | 90                      | 208     | 411     | 656      | 846      | 1058     | 311                     | 617     | 984      | 1269     | 1587     | 1939     | 823                    | 1311     | 1691     | 2116     | 2586     | 3273     |
|              | 81                                     | 158     | 259     | 387      | -                  | -                  | 72                      | 162     | 316     | 519      | 774      | -        | 243                     | 475     | 778      | 1161     | -        | -        | 633                    | 1037     | 1548     | -        | -        | -        |
| 26           | 1.5/3                                  | 1.5/3.8 | 2.4/6   | 3.1/7.8  | 3.9/9.7            | -                  | 1.5/3                   | 1.5/3   | 1.5/3.8 | 2.4/6    | 3.1/7.8  | 3.9/9.7  | 1.5/3                   | 1.5/3.8 | 2.4/6    | 3.1/7.8  | 3.9/9.7  | 4.7/11.9 | 1.5/3.8                | 2.4/6    | 3.1/7.8  | 3.9/9.7  | 4.7/11.9 | 6/15     |
|              | 88                                     | 176     | 290     | 381      | 477                | -                  | 76                      | 177     | 351     | 580      | 762      | 953      | 265                     | 527     | 870      | 1143     | 1430     | 1748     | 702                    | 1160     | 1524     | 1907     | 2330     | 3107     |
| 27           | 69                                     | 136     | 222     | 332      | 473                | -                  | 62                      | 139     | 271     | 445      | 664      | 945      | 208                     | 407     | 667      | 996      | 1418     | -        | 543                    | 889      | 1327     | 1890     | -        | -        |
|              | 1.5/3                                  | 1.5/3.4 | 2.3/5.6 | 3/7.4    | 3.7/9.2            | -                  | 1.5/3                   | 1.5/3   | 1.5/3.4 | 2.3/5.6  | 3/7.4    | 3.7/9.2  | 1.5/3                   | 1.5/3.4 | 2.3/5.6  | 3/7.4    | 3.7/9.2  | 4.5/11.3 | 1.5/3.4                | 2.3/5.6  | 3/7.4    | 3.7/9.2  | 4.5/11.3 | 6/15     |
| 28           | 65                                     | 131     | 216     | 314      | 393                | -                  | 55                      | 131     | 261     | 433      | 627      | 785      | 196                     | 392     | 649      | 941      | 1178     | 1440     | 522                    | 866      | 1254     | 1570     | 1920     | 2716     |
|              | 52                                     | 102     | 167     | 249      | 355                | -                  | 46                      | 104     | 204     | 334      | 499      | 710      | 157                     | 306     | 501      | 748      | 1065     | -        | 408                    | 668      | 997      | 1420     | -        | -        |
| 29           | 1.5/3                                  | 1.5/3   | 1.9/4.7 | 2.7/6.7  | 3.4/8.4            | -                  | 1.5/3                   | 1.5/3   | 1.9/4.7 | 2.7/6.7  | 3.4/8.4  | -        | 1.5/3                   | 1.5/3   | 1.9/4.7  | 2.7/6.7  | 3.4/8.4  | 4.1/10.2 | 1.5/3                  | 1.5/3    | 1.9/4.7  | 2.7/6.7  | 3.4/8.4  | 4.1/10.2 |
|              | 99                                     | 165     | 249     | 329      | -                  | -                  | 99                      | 199     | 330     | 498      | 657      | -        | 148                     | 298     | 496      | 747      | 986      | 1205     | 397                    | 661      | 995      | 1314     | 1607     | 2276     |
| 30           | 79                                     | 129     | 192     | 273      | -                  | -                  | 80                      | 157     | 257     | 384      | 547      | -        | 121                     | 236     | 386      | 576      | 820      | 1125     | 314                    | 515      | 768      | 1094     | 1500     | -        |
|              | 1.5/3                                  | 1.6/3.9 | 2.3/5.9 | 3.1/7.7  | -                  | -                  | 1.5/3                   | 1.5/3   | 1.6/3.9 | 2.3/5.9  | 3.1/7.7  | -        | 1.5/3                   | 1.6/3.9 | 2.3/5.9  | 3.1/7.7  | 3.8/9.4  | -        | 1.5/3                  | 1.6/3.9  | 2.3/5.9  | 3.1/7.7  | 3.8/9.4  | 5.3/13.3 |

## VERSA-LAM® 2.0 2800 and 2.0 3100 (125% Load Duration)

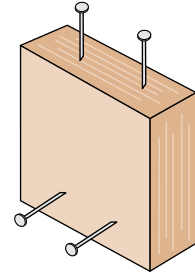
|              |                |                                                                           |
|--------------|----------------|---------------------------------------------------------------------------|
| KEY TO TABLE | Top Figure     | - Allowable Total Load [plf]                                              |
|              | Middle Figure  | - Allowable Live Load [plf]                                               |
|              | Bottom Figures | - Minimum Required Bearing Length at End / Intermediate Supports [inches] |

| Span<br>[ft] | 1½" VERSA-LAM® 2.0 2800 <sup>(1)</sup> |           |            |            |                    |                    | 3½" VERSA-LAM® 2.0 3100 |           |            |            |            |            | 5¼" VERSA-LAM® 2.0 3100 |            |            |            |            |            | 7" VERSA-LAM® 2.0 3100 |            |            |            |            |            |
|--------------|----------------------------------------|-----------|------------|------------|--------------------|--------------------|-------------------------|-----------|------------|------------|------------|------------|-------------------------|------------|------------|------------|------------|------------|------------------------|------------|------------|------------|------------|------------|
|              | 7¼"                                    | 9½"       | 11¾"       | 14"        | 16" <sup>(2)</sup> | 18" <sup>(2)</sup> | 7¼"                     | 9½"       | 11¾"       | 14"        | 16"        | 18"        | 9½"                     | 11¾"       | 14"        | 16"        | 18"        | 20"        | 11¾"                   | 14"        | 16"        | 18"        | 20"        | 24"        |
| 6            | 955                                    | 1330      | 1783       | 2246       | 2618               | 2617               | 1909                    | 2661      | 3565       | 4492       | 5236       | 5234       | 3991                    | 5348       | 6738       | 7853       | 7851       | 7848       | 7131                   | 8984       | 10471      | 10468      | 10464      | 10457      |
|              | 2.2 / 5.5                              | 3.1 / 7.6 | 4.1 / 10.2 | 5.1 / 12.9 | 6 / 15             | 6 / 15             | 2.2 / 5.5               | 3.1 / 7.6 | 4.1 / 10.2 | 5.1 / 12.9 | 6 / 15     | 6 / 15     | 3.1 / 7.6               | 4.1 / 10.2 | 5.1 / 12.9 | 6 / 15     | 6 / 15     | 6 / 15     | 4.1 / 10.2             | 5.1 / 12.9 | 6 / 15     | 6 / 15     | 6 / 15     | 6 / 15     |
| 7            | 769                                    | 1098      | 1453       | 1807       | 2179               | 2242               | 1538                    | 2195      | 2905       | 3615       | 4358       | 4484       | 3293                    | 4358       | 5422       | 6537       | 6726       | 6723       | 5810                   | 7229       | 8716       | 8968       | 8964       | 8957       |
|              | 2.1 / 5.1                              | 2.9 / 7.3 | 3.9 / 9.7  | 4.8 / 12.1 | 5.8 / 14.6         | 6 / 15             | 2.1 / 5.1               | 2.9 / 7.3 | 3.9 / 9.7  | 4.8 / 12.1 | 5.8 / 14.6 | 6 / 15     | 2.9 / 7.3               | 3.9 / 9.7  | 4.8 / 12.1 | 5.8 / 14.6 | 6 / 15     | 6 / 15     | 3.9 / 9.7              | 4.8 / 12.1 | 5.8 / 14.6 | 6 / 15     | 6 / 15     | 6 / 15     |
| 8            | 588                                    | 934       | 1225       | 1512       | 1806               | 1961               | 1176                    | 1868      | 2451       | 3023       | 3613       | 3921       | 2802                    | 3676       | 4535       | 5419       | 5882       | 5879       | 4901                   | 6047       | 7226       | 7843       | 7839       | 7832       |
|              | 1.8 / 4.5                              | 2.9 / 7.1 | 3.8 / 9.4  | 4.6 / 11.6 | 5.5 / 13.8         | 6 / 15             | 1.8 / 4.5               | 2.9 / 7.1 | 3.8 / 9.4  | 4.6 / 11.6 | 5.5 / 13.8 | 6 / 15     | 2.9 / 7.1               | 3.8 / 9.4  | 4.6 / 11.6 | 5.5 / 13.8 | 6 / 15     | 6 / 15     | 3.8 / 9.4              | 4.6 / 11.6 | 5.5 / 13.8 | 6 / 15     | 6 / 15     | 6 / 15     |
| 9            | 448                                    | 774       | 1059       | 1299       | 1542               | 1742               | 897                     | 1548      | 2119       | 2598       | 3085       | 3484       | 2322                    | 3178       | 3897       | 4627       | 5226       | 5223       | 4238                   | 5195       | 6169       | 6968       | 6964       | 6957       |
|              | 1.5 / 3.9                              | 2.7 / 6.7 | 3.7 / 9.1  | 4.5 / 11.2 | 5.3 / 13.3         | 6 / 15             | 1.5 / 3.9               | 2.7 / 6.7 | 3.7 / 9.1  | 4.5 / 11.2 | 5.3 / 13.3 | 6 / 15     | 2.7 / 6.7               | 3.7 / 9.1  | 4.5 / 11.2 | 5.3 / 13.3 | 6 / 15     | 6 / 15     | 3.7 / 9.1              | 4.5 / 11.2 | 5.3 / 13.3 | 6 / 15     | 6 / 15     | 6 / 15     |
| 10           | 326                                    | 626       | 933        | 1138       | 1345               | 1567               | 652                     | 1252      | 1866       | 2277       | 2691       | 3134       | 1878                    | 2799       | 3415       | 4036       | 4701       | 4698       | 3732                   | 4554       | 5381       | 6268       | 6264       | 6257       |
|              | 1.5 / 3.1                              | 2.4 / 6   | 3.6 / 8.9  | 4.4 / 10.9 | 5.2 / 12.9         | 6 / 15             | 1.5 / 3.1               | 2.4 / 6   | 3.6 / 8.9  | 4.4 / 10.9 | 5.2 / 12.9 | 6 / 15     | 2.4 / 6                 | 3.6 / 8.9  | 4.4 / 10.9 | 5.2 / 12.9 | 6 / 15     | 6 / 15     | 3.6 / 8.9              | 4.4 / 10.9 | 5.2 / 12.9 | 6 / 15     | 6 / 15     | 6 / 15     |
| 11           | 247                                    | 556       | -          | -          | -                  | -                  | 494                     | 1111      | -          | -          | -          | -          | 1667                    | -          | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -          |
|              | 186                                    | 418       | -          | -          | -                  | -                  | 371                     | 835       | -          | -          | -          | -          | 1253                    | -          | -          | -          | -          | -          | -                      | -          | -          | -          | -          | -          |
| 12           | 187                                    | 425       | 662        | 904        | 1071               | 1239               | 375                     | 849       | 1324       | 1809       | 2142       | 2478       | 1274                    | 1986       | 2713       | 3214       | 3716       | 3911       | 2648                   | 3617       | 4285       | 4955       | 5214       | 5207       |
|              | 15 / 3                                 | 2 / 4.9   | 3.1 / 7.6  | 4.2 / 10.4 | 4.9 / 12.3         | 5.7 / 14.3         | 1.5 / 3                 | 2 / 4.9   | 3.1 / 7.6  | 4.2 / 10.4 | 4.9 / 12.3 | 5.7 / 14.3 | 2 / 4.9                 | 3.1 / 7.6  | 4.2 / 10.4 | 4.9 / 12.3 | 5.7 / 14.3 | 6 / 15     | 3.1 / 7.6              | 4.2 / 10.4 | 4.9 / 12.3 | 5.7 / 14.3 | 6 / 15     | 6 / 15     |
| 13           | 147                                    | 333       | 563        | 770        | 972                | 1121               | 293                     | 666       | 1126       | 1539       | 1944       | 2242       | 999                     | 1690       | 2309       | 2916       | 3363       | 3608       | 2253                   | 3078       | 3888       | 4485       | 4810       | 4803       |
|              | 112                                    | 253       | 494        | -          | -                  | -                  | 225                     | 506       | 988        | -          | -          | -          | 759                     | 1482       | -          | -          | -          | -          | 1976                   | -          | -          | -          | -          | -          |
| 14           | 117                                    | 266       | 485        | 663        | 854                | 1024               | 234                     | 532       | 970        | 1325       | 1707       | 2048       | 797                     | 1455       | 1988       | 2561       | 3071       | 3348       | 1939                   | 2651       | 3415       | 4095       | 4464       | 4457       |
|              | 90                                     | 203       | 396        | 648        | -                  | -                  | 180                     | 405       | 791        | 1296       | -          | -          | 608                     | 1187       | 1944       | -          | -          | -          | 1582                   | 2593       | -          | -          | -          | -          |
| 15           | 1.5 / 3                                | 1.5 / 3.6 | 2.6 / 6.5  | 3.6 / 8.9  | 4.6 / 11.5         | 5.5 / 13.8         | 1.5 / 3                 | 1.5 / 3.6 | 2.6 / 6.5  | 3.6 / 8.9  | 4.6 / 11.5 | 5.5 / 13.8 | 1.5 / 3.6               | 2.6 / 6.5  | 3.6 / 8.9  | 4.6 / 11.5 | 5.5 / 13.8 | 6 / 15     | 2.6 / 6.5              | 3.6 / 8.9  | 4.6 / 11.5 | 5.5 / 13.8 | 6 / 15     | 6 / 15     |
|              | 94                                     | 215       | 422        | 576        | 743                | 929                | 189                     | 431       | 843        | 1153       | 1486       | 1857       | 646                     | 1265       | 1729       | 2228       | 2786       | 3123       | 1687                   | 2306       | 2971       | 3715       | 4164       | 4157       |
| 16           | 73                                     | 165       | 322        | 527        | -                  | -                  | 146                     | 329       | 643        | 1054       | -          | -          | 494                     | 965        | 1581       | -          | -          | -          | 1286                   | 2108       | -          | -          | -          | -          |
|              | 77                                     | 177       | 348        | 506        | 652                | 815                | 154                     | 353       | 696        | 1012       | 1304       | 1631       | 530                     | 1044       | 1518       | 1956       | 2446       | 2926       | 1392                   | 2024       | 2608       | 3261       | 3902       | 3894       |
| 17           | 60                                     | 136       | 265        | 434        | 648                | -                  | 121                     | 271       | 530        | 868        | 1296       | -          | 407                     | 795        | 1303       | 1944       | -          | -          | 1060                   | 1737       | 2593       | -          | -          | -          |
|              | 1.5 / 3                                | 1.5 / 3   | 2.2 / 5.4  | 3.1 / 7.8  | 4 / 10             | 5 / 12.5           | 1.5 / 3                 | 1.5 / 3   | 2.2 / 5.4  | 3.1 / 7.8  | 4 / 10     | 5 / 12.5   | 1.5 / 3                 | 2.2 / 5.4  | 3.1 / 7.8  | 4 / 10     | 5 / 12.5   | 6 / 15     | 2.2 / 5.4              | 3.1 / 7.8  | 4 / 10     | 5 / 12.5   | 6 / 15     | 6 / 15     |
| 18           | 64                                     | 147       | 289        | 447        | 577                | 721                | 128                     | 293       | 578        | 895        | 1153       | 1443       | 440                     | 868        | 1342       | 1730       | 2164       | 2643       | 1157                   | 1790       | 2307       | 2885       | 3524       | 3663       |
|              | 50                                     | 113       | 221        | 362        | 540                | -                  | 101                     | 226       | 442        | 724        | 1081       | -          | 339                     | 663        | 1086       | 1621       | -          | -          | 884                    | 1448       | 2161       | -          | -          | -          |
| 19           | 1.5 / 3                                | 1.5 / 3   | 1.9 / 4.8  | 2.9 / 7.3  | 3.8 / 9.5          | 4.7 / 11.8         | 1.5 / 3                 | 1.5 / 3   | 1.9 / 4.8  | 2.9 / 7.3  | 3.8 / 9.5  | 4.7 / 11.8 | 1.5 / 3                 | 1.9 / 4.8  | 2.9 / 7.3  | 3.8 / 9.5  | 4.7 / 11.8 | 5.8 / 14.4 | 1.9 / 4.8              | 2.9 / 7.3  | 3.8 / 9.5  | 4.7 / 11.8 | 5.8 / 14.4 | 6 / 15     |
|              | 53                                     | 123       | 243        | 398        | 514                | 642                | 106                     | 246       | 486        | 797        | 1027       | 1285       | 368                     | 728        | 1195       | 1541       | 1927       | 2355       | 971                    | 1594       | 2054       | 2570       | 3139       | 3457       |
| 20           | 42                                     | 95        | 186        | 305        | 455                | -                  | 85                      | 191       | 372        | 610        | 910        | -          | 286                     | 558        | 915        | 1366       | -          | -          | 744                    | 1220       | 1821       | -          | -          | -          |
|              | 1.5 / 3                                | 1.5 / 3   | 1.7 / 4.3  | 2.8 / 6.9  | 3.6 / 8.9          | 4.5 / 11.2         | 1.5 / 3                 | 1.5 / 3   | 1.7 / 4.3  | 2.8 / 6.9  | 3.6 / 8.9  | 4.5 / 11.2 | 1.5 / 3                 | 1.7 / 4.3  | 2.8 / 6.9  | 3.6 / 8.9  | 4.5 / 11.2 | 5.4 / 13.6 | 1.7 / 4.3              | 2.8 / 6.9  | 3.6 / 8.9  | 4.5 / 11.2 | 5.4 / 13.6 | 6 / 15     |
| 21           | 104                                    | 206       | 339        | 460        | 576                | 790                | 90                      | 208       | 411        | 679        | 920        | 1152       | 311                     | 617        | 1018       | 1381       | 1727       | 2110       | 823                    | 1358       | 1841       | 2303       | 2814       | 3273       |
|              | 81                                     | 158       | 259        | 387        | 551                | 72                 | 162                     | 316       | 519        | 774        | 1102       | 243        | 475                     | 778        | 1161       | 1653       | -          | -          | 633                    | 1037       | 1548       | 2204       | -          | -          |
| 22           | 1.5 / 3                                | 1.5 / 3.8 | 2.5 / 6.3  | 3.4 / 8.5  | 4.2 / 10.6         | 5 / 12.5           | 1.5 / 3                 | 1.5 / 3   | 1.5 / 3.8  | 2.5 / 6.3  | 3.4 / 8.5  | 4.2 / 10.6 | 1.5 / 3                 | 1.5 / 3.8  | 2.5 / 6.3  | 3.4 / 8.5  | 4.2 / 10.6 | 5.2 / 12.9 | 1.5 / 3.8              | 2.5 / 6.3  | 3.4 / 8.5  | 4.2 / 10.6 | 5.2 / 12.9 | 6 / 15     |
|              | 88                                     | 176       | 290        | 415        | 519                | 76                 | 177                     | 351       | 580        | 829        | 1038       | 265        | 527                     | 870        | 1244       | 1557       | 1902       | 2302       | 702                    | 1160       | 1659       | 2075       | 2536       | 3107       |
| 23           | 69                                     | 136       | 222        | 332        | 473                | 62                 | 139                     | 271       | 445        | 664        | 945        | 208        | 407                     | 667        | 996        | 1418       | -          | -          | 543                    | 889        | 1327       | 1890       | -          | -          |
|              | 1.5 / 3                                | 1.5 / 3.4 | 2.3 / 5.6  | 3.2 / 8    | 4 / 10             | 5 / 12.5           | 1.5 / 3                 | 1.5 / 3   | 1.5 / 3.4  | 2.3 / 5.6  | 3.2 / 8    | 4 / 10     | 1.5 / 3                 | 1.5 / 3.4  | 2.3 / 5.6  | 3.2 / 8    | 4 / 10     | 4.9 / 12.2 | 1.5 / 3.4              | 2.3 / 5.6  | 3.2 / 8    | 4 / 10     | 4.9 / 12.2 | 6 / 15     |
| 24           | 65                                     | 131       | 216        | 325        | 427                | 55                 | 131                     | 261       | 433        | 650        | 855        | 196        | 392                     | 649        | 976        | 1282       | 1567       | 2022       | 522                    | 866        | 1301       | 1710       | 2090       | 2820       |
|              | 52                                     | 102       | 167        | 249        | 355                | 46                 | 104                     | 204       | 334        | 499        | 710        | 157        | 306                     | 501        | 748        | 1065       | 1461       | 2008       | 408                    | 668        | 997        | 1420       | 1948       | -          |
| 25           | 1.5 / 3                                | 1.5 / 3   | 1.9 / 4.7  | 2.8 / 7    | 3.6 / 9.1          | 5 / 12.5           | 1.5 / 3                 | 1.5 / 3   | 1.9 / 4.7  | 2.8 / 7    | 3.6 / 9.1  | 5 / 12.5   | 1.5 / 3                 | 1.5 / 3    | 1.9 / 4.7  | 2.8 / 7    | 3.6 / 9.1  | 4.5 / 11.1 | 1.5 / 3                | 1.9 / 4.7  | 2.8 / 7    | 3.6 / 9.1  | 4.5 / 11.1 | 6 / 15     |
|              | 99                                     | 165       | 249        | 356        | 510                | 70                 | 99                      | 199       | 330        | 498        | 713        | 148        | 298                     | 496        | 747        | 1069       | 1313       | 1713       | 397                    | 661        | 995        | 1426       | 1750       | 2477       |
| 26           | 79                                     | 129       | 192        | 273        | 383                | 51                 | 80                      | 157       | 257        | 384        | 547        | 121        | 236                     | 386        | 576        | 820        | 1125       | 1515       | 314                    | 515        | 768        | 1094       | 1500       | -          |
|              | 1.5 / 3                                | 1.6 / 3.9 | 2.3 / 5.9  | 3.3 / 8.3  | 4.1 / 10.2         | 5.1 / 12.9         | 1.5 / 3                 | 1.5 / 3   | 1.6 / 3.9  | 2.3 / 5.9  | 3.3 / 8.3  | 4.1 / 10.2 | 1.5 / 3                 | 1.5 / 3    | 1.6 / 3.9  | 2.3 / 5.9  | 3.3 / 8.3  | 4.1 / 10.2 | 1.5 / 3                | 1.6 / 3.9  | 2.3 / 5.9  | 3.3 / 8.3  | 4.1 / 10.2 | 5.8 / 14.4 |
| 27           | 77                                     | 129       | 194        | 279        | 386                | 51                 | 76                      | 154       | 257        | 388        | 557        | 114        | 231                     | 386        | 583        | 836        | 1114       | 1508       | 308                    | 515        | 777        | 1115       | 1486       | 2104       |
|              | 62                                     | 101       | 151        | 215        | 295                | 39                 | 63                      | 124       | 202        | 302        | 430        | 95         | 185                     | 304        | 453        | 645        | 885        | 1247       | 247                    | 405        | 604        | 860        | 1180       | 2039       |
| 28           | 1.5 / 3                                | 1.5 / 3.3 | 2 / 5      | 2.8 / 7.1  | 3.8 / 9.4          | 4.9 / 12.2         | 1.5 / 3                 | 1.5 / 3   | 1.5 / 3.3  | 2 / 5      | 2.8 / 7.1  | 3.8 / 9.4  | 1.5 / 3                 | 1.5 / 3    | 1.5 / 3.3  | 2 / 5      | 2.8 / 7.1  | 3.8 / 9.4  | 1.5 / 3                | 1.5 / 3.3  | 2 / 5      | 2.8 / 7.1  | 3.8 / 9.4  | 5.3 / 13.3 |



## Closest Allowable Nail Spacing

Nailing Parallel to Glue Lines (Narrow Face)



Nailing Perpendicular to Glue Lines (Wide Face)

### Nailing Notes

- For 1 1/4" thickness and greater, 2 rows of nails (such as for a metal strap) are allowed (use 1/2" minimum offset between rows and stagger nails).

## VERSA-LAM® & VERSA-RIM® Products

| Nail Size        | Nailing Parallel to Glue Lines (Narrow Face) <sup>(1)</sup> |                 |                                            |                 |                               |                 |                              |                 | Nailing Perpendicular to Glue Lines (Wide Face) |                 |
|------------------|-------------------------------------------------------------|-----------------|--------------------------------------------|-----------------|-------------------------------|-----------------|------------------------------|-----------------|-------------------------------------------------|-----------------|
|                  | VERSA-RIM®<br>1 1/16"                                       |                 | VERSA-LAM®<br>1.4 1800 Rimboard<br>1 5/16" |                 | VERSA-LAM®<br>1 3/4" & 2 5/8" |                 | VERSA-LAM®<br>3 1/2" & Wider |                 | All Products                                    |                 |
|                  | O.C.<br>[inches]                                            | End<br>[inches] | O.C.<br>[inches]                           | End<br>[inches] | O.C.<br>[inches]              | End<br>[inches] | O.C.<br>[inches]             | End<br>[inches] | O.C.<br>[inches]                                | End<br>[inches] |
| 8d Box           | 3                                                           | 1 1/2           | 3                                          | 1 1/2           | 2                             | 1               | 2                            | 1 1/2           | 2                                               | 1 1/2           |
| 8d Common        | 4                                                           | 3               | 3                                          | 2               | 3                             | 2               | 2                            | 1               | 2                                               | 1               |
| 10d & 12d Box    | 4                                                           | 3               | 3                                          | 2               | 3                             | 2               | 2                            | 1               | 2                                               | 1               |
| 16d Box          | 4                                                           | 3               | 3                                          | 2               | 3                             | 2               | 2                            | 1               | 2                                               | 1               |
| 10d & 12d Common | 6                                                           | 4               | 4                                          | 3               | 4                             | 3               | 2                            | 2               | 2                                               | 2               |
| 16d Sinker       | 6                                                           | 4               | 4                                          | 3               | 4                             | 3               | 2                            | 2               | 2                                               | 2               |
| 16d Common       | 6                                                           | 4               | 6                                          | 4               | 6                             | 3               | 2                            | 2               | 2                                               | 2               |

- Offset and stagger nail rows from floor sheathing and wall sole plate.
- Simpson Strong-Tie A35 and LPT4 connectors may be attached to the side VERSA-LAM®/VERSA-RIM®. Use nails as specified by Simpson Strong-Tie.

## VERSA-LAM® Design Values

| Grade       | Width [in] | Depth [in] | Weight [lb/ft] | Allowable Shear [lb] | Allowable Moment [ft-lb] | Moment of Inertia [in <sup>4</sup> ] |
|-------------|------------|------------|----------------|----------------------|--------------------------|--------------------------------------|
| 1.7<br>2400 | 1 1/2      | 3 1/2      | 1.3            | 998                  | 702                      | 5.4                                  |
|             |            | 5 1/2      | 2.1            | 1568                 | 1649                     | 20.8                                 |
|             |            | 7 1/4      | 2.8            | 2066                 | 2779                     | 47.6                                 |
|             |            | 9 1/4      | 3.6            | 2636                 | 4404                     | 98.9                                 |
|             |            | 11 1/4     | 4.3            | 3206                 | 6374                     | 178.0                                |
| 2.0<br>2800 | 1 3/4      | 5 1/2      | 2.5            | 1829                 | 2245                     | 24.3                                 |
|             |            | 7 1/4      | 3.3            | 2411                 | 3783                     | 55.6                                 |
|             |            | 9 1/4      | 4.2            | 3076                 | 5994                     | 115.4                                |
|             |            | 9 1/2      | 4.3            | 3159                 | 6304                     | 125.0                                |
|             |            | 11 1/4     | 5.1            | 3741                 | 8675                     | 207.6                                |
|             |            | 11 1/8     | 5.3            | 3948                 | 9608                     | 244.2                                |
|             |            | 14         | 6.3            | 4655                 | 13112                    | 400.2                                |
|             |            | 16         | 7.2            | 5320                 | 16874                    | 597.3                                |
| 2.0<br>2800 | 2%         | 18         | 8.1            | 5985                 | 21079                    | 850.5                                |
|             |            | 5 1/2      | 3.7            | 2743                 | 3368                     | 36.4                                 |
|             |            | 7 1/4      | 4.9            | 3616                 | 5675                     | 83.4                                 |
|             |            | 9 1/4      | 6.2            | 4613                 | 8991                     | 173.1                                |
|             |            | 9 1/2      | 6.4            | 4738                 | 9455                     | 187.6                                |
|             |            | 11 1/4     | 7.6            | 5611                 | 13013                    | 311.5                                |
|             |            | 11 1/8     | 8.0            | 5923                 | 14412                    | 366.3                                |
|             |            | 14         | 9.4            | 6983                 | 19669                    | 600.3                                |
| 2.0<br>3100 | 3 1/2      | 16         | 10.8           | 7980                 | 25311                    | 896.0                                |
|             |            | 18         | 12.1           | 8978                 | 31618                    | 1275.8                               |
|             |            | 5 1/2      | 4.9            | 3658                 | 4971                     | 48.5                                 |
|             |            | 7 1/4      | 6.5            | 4821                 | 8377                     | 111.1                                |
|             |            | 9 1/4      | 8.3            | 6151                 | 13272                    | 230.8                                |
|             |            | 9 1/2      | 8.5            | 6318                 | 13958                    | 250.1                                |
|             |            | 11 1/4     | 10.1           | 7481                 | 19210                    | 415.3                                |
|             |            | 11 1/8     | 10.7           | 7897                 | 21275                    | 488.4                                |
| 2.0<br>3100 | 5 1/4      | 14         | 12.6           | 9310                 | 29035                    | 800.3                                |
|             |            | 16         | 14.4           | 10640                | 37364                    | 1194.7                               |
|             |            | 18         | 16.2           | 11970                | 46674                    | 1701.0                               |
|             |            | 20         | 18.0           | 13300                | 56952                    | 2333.3                               |
|             |            | 5 1/4      | 7.1            | 5237                 | 6830                     | 63.3                                 |
|             |            | 5 1/2      | 7.4            | 5486                 | 7457                     | 72.8                                 |
|             |            | 7 1/4      | 9.8            | 7232                 | 12566                    | 166.7                                |
|             |            | 9 1/4      | 12.5           | 9227                 | 19908                    | 346.3                                |
| 2.0<br>3100 | 5 1/4      | 9 1/2      | 12.8           | 9476                 | 20937                    | 375.1                                |
|             |            | 11 1/4     | 15.2           | 11222                | 28814                    | 622.9                                |
|             |            | 11 1/8     | 16.0           | 11845                | 31913                    | 732.6                                |
|             |            | 14         | 18.9           | 13965                | 43552                    | 1200.5                               |
|             |            | 16         | 21.6           | 15960                | 56046                    | 1792.0                               |
|             |            | 18         | 24.3           | 17955                | 70011                    | 2551.5                               |
|             |            | 20         | 27.0           | 19950                | 85428                    | 3500.0                               |
|             |            | 24         | 32.4           | 23940                | 120549                   | 6048.0                               |

| Design Property                                                         | VERSA-LAM® Beams |                | VERSA-LAM® Columns | VERSA-STUD® | Rimboard / Stair Stringers |
|-------------------------------------------------------------------------|------------------|----------------|--------------------|-------------|----------------------------|
|                                                                         | 1 3/4" & 2 5/8"  | 3 1/2" & Wider |                    |             |                            |
| Grade                                                                   | 2.0 2800         | 2.0 3100       | 1.7 2650           | 1.7 2400    | 1.4 1800                   |
| Modulus of Elasticity E (x 10 <sup>6</sup> psi) <sup>(1)</sup>          | 2.0              | 2.0            | 1.7                | 1.7         | 1.4                        |
| Bending F <sub>b</sub> (psi) <sup>(2)(3)</sup>                          | 2800             | 3100           | 2650               | 2400        | 1800                       |
| Horizontal Shear F <sub>v</sub> (psi) <sup>(2)(4)</sup>                 | 285              | 285            | 285                | 285         | 225                        |
| Tension Parallel to Grain F <sub>t</sub> (psi) <sup>(2)(5)</sup>        | 1950             | 1950           | 1500               | 1500        | 1100                       |
| Compression Parallel to Grain F <sub>c  </sub> (psi) <sup>(2)</sup>     | 3000             | 3000           | 3000               | 3000        | 2500                       |
| Compression Perpendicular to Grain F <sub>c⊥</sub> (psi) <sup>(2)</sup> | 750              | 750            | 750                | 750         | 525                        |
| Equivalent Specific Gravity for Fastener Design (SG)                    | 0.5              | 0.5            | 0.5                | 0.5         | 0.5                        |

- This value cannot be adjusted for load duration.
  - This value is based upon a load duration of 100% and may be adjusted for other load durations.
  - Fiber stress bending value shall be multiplied by the depth factor, (12/d)<sup>1/9</sup> where d = member depth [in].
  - Stress applied perpendicular to the glue lines.
  - Tension value shall be multiplied by a length factor, (4/L)<sup>1/8</sup> where L = member length [ft]. Use L = 4 for members less than four feet long.
  - Stress applied parallel to the glue lines.
- \* Design properties are limited to dry conditions of use where the maximum moisture content of the material will not exceed 16%.

**BUILDING CODE EVALUATION REPORT:**  
ICC ESR 1040

# VERSA-LAM® 1.7 2650 Columns

| Column Length [ft] | 3½" Allowable Axial Load (lb) |        |        |           |        |        |           |        |        |           |        |        |          |        |        |           |        |        |
|--------------------|-------------------------------|--------|--------|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|----------|--------|--------|-----------|--------|--------|
|                    | 3½" x 3½"                     |        |        | 3½" x 4½" |        |        | 3½" x 5¼" |        |        | 3½" x 5½" |        |        | 3½" x 7" |        |        | 3½" x 7¼" |        |        |
|                    | 100%                          | 115%   | 125%   | 100%      | 115%   | 125%   | 100%      | 115%   | 125%   | 100%      | 115%   | 125%   | 100%     | 115%   | 125%   | 100%      | 115%   | 125%   |
| 4                  | 14,700                        | 16,090 | 16,930 | 18,390    | 20,130 | 21,180 | 22,070    | 24,165 | 25,430 | 23,130    | 25,320 | 26,640 | 29,450   | 32,240 | 33,920 | 30,500    | 33,390 | 35,130 |
| 5                  | 12,270                        | 13,150 | 13,660 | 15,350    | 16,440 | 17,090 | 18,425    | 19,740 | 20,515 | 19,300    | 20,680 | 21,490 | 24,580   | 26,330 | 27,365 | 25,460    | 27,270 | 28,340 |
| 6                  | 10,080                        | 10,650 | 10,980 | 12,610    | 13,320 | 13,740 | 15,140    | 15,995 | 16,495 | 15,860    | 16,750 | 17,280 | 20,195   | 21,335 | 22,000 | 20,910    | 22,090 | 22,780 |
| 7                  | 8,310                         | 8,705  | 8,930  | 10,400    | 10,890 | 11,170 | 12,480    | 13,075 | 13,415 | 13,080    | 13,700 | 14,050 | 16,650   | 17,435 | 17,890 | 17,250    | 18,060 | 18,530 |
| 8                  | 6,930                         | 7,205  | 7,370  | 8,660     | 9,010  | 9,210  | 10,405    | 10,825 | 11,070 | 10,900    | 11,340 | 11,600 | 13,880   | 14,440 | 14,760 | 14,370    | 14,960 | 15,290 |
| 9                  | 5,840                         | 6,050  | 6,160  | 7,300     | 7,560  | 7,710  | 8,770     | 9,080  | 9,260  | 9,190     | 9,510  | 9,700  | 11,700   | 12,115 | 12,350 | 12,120    | 12,540 | 12,790 |
| 10                 | 4,980                         | 5,135  | 5,225  | 6,230     | 6,420  | 6,540  | 7,480     | 7,715  | 7,850  | 7,830     | 8,080  | 8,220  | 9,975    | 10,290 | 10,470 | 10,330    | 10,660 | 10,840 |
| 11                 | 4,290                         | 4,410  | 4,480  | 5,360     | 5,520  | 5,600  | 6,445     | 6,625  | 6,730  | 6,750     | 6,940  | 7,050  | 8,595    | 8,835  | 8,975  | 8,900     | 9,150  | 9,300  |
| 12                 | 3,730                         | 3,825  | 3,880  | 4,660     | 4,780  | 4,850  | 5,600     | 5,745  | 5,830  | 5,870     | 6,020  | 6,100  | 7,475    | 7,665  | 7,775  | 7,740     | 7,940  | 8,050  |
| 13                 | 3,270                         | 3,350  | 3,390  | 4,090     | 4,190  | 4,240  | 4,915     | 5,030  | 5,095  | 5,150     | 5,270  | 5,340  | 6,555    | 6,710  | 6,795  | 6,790     | 6,950  | 7,040  |
| 14                 | 2,890                         | 2,950  | 2,990  | 3,610     | 3,690  | 3,740  | 4,340     | 4,435  | 4,490  | 4,550     | 4,650  | 4,700  | 5,790    | 5,915  | 5,990  | 6,000     | 6,130  | 6,200  |

| Column Length [ft] | 5¼" and 7" Allowable Axial Load (lb) |        |        |           |        |        |          |        |        |           |        |        |         |        |        |          |        |        |
|--------------------|--------------------------------------|--------|--------|-----------|--------|--------|----------|--------|--------|-----------|--------|--------|---------|--------|--------|----------|--------|--------|
|                    | 5¼" x 5¼"                            |        |        | 5¼" x 5½" |        |        | 5¼" x 7" |        |        | 5¼" x 7¼" |        |        | 7" x 7" |        |        | 7" x 7¼" |        |        |
|                    | 100%                                 | 115%   | 125%   | 100%      | 115%   | 125%   | 100%     | 115%   | 125%   | 100%      | 115%   | 125%   | 100%    | 115%   | 125%   | 100%     | 115%   | 125%   |
| 6                  | 33,070                               | 36,220 | 38,110 | 34,670    | 37,950 | 39,930 |          |        |        |           |        |        |         |        |        |          |        |        |
| 7                  | 29,420                               | 31,730 | 33,085 | 30,830    | 33,240 | 34,660 |          |        |        |           |        |        |         |        |        |          |        |        |
| 8                  | 25,875                               | 27,570 | 28,565 | 27,110    | 28,880 | 29,930 | 34,525   | 36,790 | 38,115 | 35,760    | 38,090 | 39,480 |         |        |        |          |        |        |
| 9                  | 22,690                               | 23,970 | 24,715 | 23,770    | 25,110 | 25,900 | 30,275   | 31,985 | 32,980 | 31,360    | 33,130 | 34,160 |         |        |        |          |        |        |
| 10                 | 19,930                               | 20,920 | 21,495 | 20,880    | 21,920 | 22,520 | 26,600   | 27,920 | 28,685 | 27,550    | 28,920 | 29,710 |         |        |        |          |        |        |
| 11                 | 17,585                               | 18,375 | 18,820 | 18,420    | 19,250 | 19,720 | 23,465   | 24,510 | 25,125 | 24,310    | 25,400 | 26,010 |         |        |        |          |        |        |
| 12                 | 15,590                               | 16,220 | 16,585 | 16,340    | 16,990 | 17,380 | 20,805   | 21,650 | 22,130 | 21,550    | 22,420 | 22,930 |         |        |        |          |        |        |
| 13                 | 13,895                               | 14,410 | 14,700 | 14,560    | 15,100 | 15,400 | 18,545   | 19,225 | 19,620 | 19,210    | 19,920 | 20,320 |         |        |        |          |        |        |
| 14                 | 12,450                               | 12,870 | 13,115 | 13,040    | 13,480 | 13,740 | 16,615   | 17,180 | 17,500 | 17,210    | 17,790 | 18,130 | 33,260  | 34,825 | 35,740 | 34,460   | 36,070 | 37,030 |
| 15                 | 11,210                               | 11,560 | 11,760 | 11,740    | 12,110 | 12,320 | 14,960   | 15,425 | 15,695 | 15,490    | 15,980 | 16,260 | 30,325  | 31,645 | 32,395 | 31,410   | 32,780 | 33,560 |
| 16                 | 10,135                               | 10,430 | 10,600 | 10,620    | 10,930 | 11,110 | 13,525   | 13,920 | 14,150 | 14,010    | 14,420 | 14,650 | 27,720  | 28,835 | 29,490 | 28,710   | 29,870 | 30,540 |
| 17                 | 9,205                                | 9,455  | 9,600  | 9,650     | 9,910  | 10,060 | 12,285   | 12,620 | 12,810 | 12,730    | 13,070 | 13,270 | 25,415  | 26,375 | 26,920 | 26,330   | 27,320 | 27,880 |
| 18                 | 8,395                                | 8,610  | 8,735  | 8,800     | 9,020  | 9,150  | 11,205   | 11,495 | 11,655 | 11,610    | 11,900 | 12,070 | 23,370  | 24,195 | 24,665 | 24,210   | 25,060 | 25,560 |
| 19                 | 7,685                                | 7,870  | 7,975  | 8,050     | 8,250  | 8,360  | 10,260   | 10,505 | 10,645 | 10,620    | 10,880 | 11,030 | 21,550  | 22,270 | 22,670 | 22,320   | 23,070 | 23,490 |
| 20                 | 7,060                                | 7,220  | 7,310  | 7,400     | 7,560  | 7,660  | 9,420    | 9,635  | 9,760  | 9,760     | 9,980  | 10,110 | 19,925  | 20,550 | 20,910 | 20,640   | 21,280 | 21,660 |
| 21                 | 6,505                                | 6,645  | 6,725  | 6,820     | 6,960  | 7,050  | 8,680    | 8,870  | 8,980  | 8,990     | 9,190  | 9,300  | 18,475  | 19,020 | 19,330 | 19,130   | 19,700 | 20,020 |
| 22                 |                                      |        |        |           |        |        |          |        |        |           |        |        | 17,165  | 17,650 | 17,925 | 17,780   | 18,280 | 18,570 |
| 23                 |                                      |        |        |           |        |        |          |        |        |           |        |        | 15,990  | 16,420 | 16,660 | 16,560   | 17,010 | 17,260 |
| 24                 |                                      |        |        |           |        |        |          |        |        |           |        |        | 14,930  | 15,310 | 15,525 | 15,460   | 15,860 | 16,080 |

| Allowable Design Stresses                            |                               |                                                 | Notes |
|------------------------------------------------------|-------------------------------|-------------------------------------------------|-------|
| Modulus of Elasticity: E = 1.7 x 10 <sup>6</sup> psi |                               |                                                 |       |
| Bending:                                             | Parallel to Gluelines (Beam): | F <sub>b</sub> = 2650*(12/d) <sup>1/9</sup> psi |       |
|                                                      | Perp to Gluelines (Plank):    | F <sub>b</sub> = 2400*(12/d) <sup>1/9</sup> psi |       |
| Compression Parallel to Grain:                       |                               | F <sub>CII</sub> = 3000 psi                     |       |
| Compression Perpendicular to Grain:                  |                               |                                                 |       |
|                                                      | Parallel to Gluelines (Beam): | F <sub>C+</sub> = 750 psi                       |       |
|                                                      | Perp to Gluelines (Plank):    | F <sub>C+</sub> = 450 psi                       |       |
|                                                      | Tension Parallel to Grain:    | F <sub>t</sub> = 1500 psi                       |       |

1) Table assumes that the column is braced at column ends only. Effective column length is equal to actual column length.

2) Allowable loads are based upon one-piece (solid) column members used in dry service conditions. Contact project's design professional of record or Boise EWP Engineering for multi-piece column design.

3) Allowable loads are based on an eccentricity value equal to 0.167 multiplied by either the column thickness or width (worst case).

4) Allowable loads are based on axial loaded columns using the design provisions of the National Design Specification for Wood Construction (NDS), 2005 edition. For side or other combined bending and axial loads, see provisions of NDS, 2005 edition.

5) Load values are not shown for short lengths due to loads exceeding common connector capacities. Load values are not shown for longer lengths if the controlling slenderness ratio exceeds 50 (per NDS).

6) Lateral loads (wind loading) are not considered in this table.

## Notes

- Table assumes that the column is braced at column ends only. Effective column length is equal to actual column length.
- Allowable loads are based upon one-piece (solid) column members used in dry service conditions. Contact project's design professional of record or Boise EWP Engineering for multi-piece column design.
- Allowable loads are based on an eccentricity value equal to 0.167 multiplied by either the column thickness or width (worst case).
- Allowable loads are based on axial loaded columns using the design provisions of the National Design Specification for Wood Construction (NDS), 2005 edition. For side or other combined bending and axial loads, see provisions of NDS, 2005 edition.
- Load values are not shown for short lengths due to loads exceeding common connector capacities. Load values are not shown for longer lengths if the controlling slenderness ratio exceeds 50 (per NDS).
- Lateral loads (wind loading) are not considered in this table.

## VERSA-STUD® 1.7 2400

### Allowable Design Values

| Product                               | Bending $F_b$ [psi] | Compression Parallel to Grain $F_c$ [psi] | Modulus of Elasticity $E$ [psi] | Horizontal Shear $F_v$ [psi] |
|---------------------------------------|---------------------|-------------------------------------------|---------------------------------|------------------------------|
| <b>VERSA-STUD® 1.7 2400</b>           | <b>2400</b>         | <b>3000</b>                               | <b>1,700,000</b>                | <b>285</b>                   |
| Douglas-Fir # 2 Grade                 | 900                 | 1350                                      | 1,600,000                       | 180                          |
| Spruce Pine Fir (North) # 1 / 2 Grade | 875                 | 1150                                      | 1,400,000                       | 135                          |
| Hem-Fir # 2 Grade                     | 850                 | 1300                                      | 1,300,000                       | 150                          |
| Western Woods # 2 Grade               | 675                 | 900                                       | 1,000,000                       | 135                          |

## Notes:

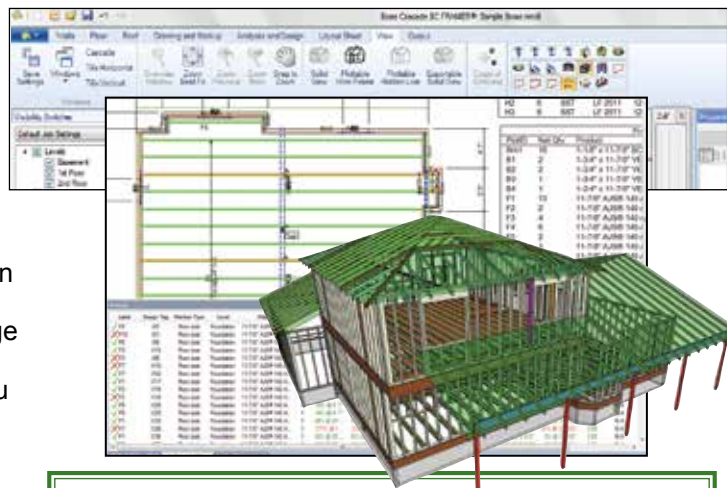
- Design values are for loads applied to the narrow face of the studs.
- Dimension lumber values taken from 2005 Edition, *NDS Design Values for Wood Construction* (per 2006 IBC/IRC).
- Repetitive member and size factors have not been applied.
- For further information, please see VERSA-LAM® 1.7 2400 Wall Guide.



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#### RECOMMENDED HARDWARE

- **CPU:** Quad Core 64 bit Processor
- **L2 Cache:** 3MB/Core
- **RAM:** 4.0GB to 8.0 GB
- **Video:** Full support for DirectX 9; Single monitors, 1280x1024 128MB; Dual monitor, 1280x1024 256MB (Minimum 1024x768)
- **Operating Systems:** Windows® 7 or 8 (Professional Editions 32-bit and 64-bit)

Actual specifications vary by user and will be assessed prior to installation.

## BC CALC® 4.0 Sizing Software

BC CALC® is simple to use, yet robust enough to analyze most all joist, beam, and column applications. Once an analysis is run, the user may print an easy-to-read design report that displays the span and load information with the analysis results.

BC COLUMN® has now been merged into BC CALC®, allowing the sizing of joists, beams, rafters, columns, and studs all in one convenient program.

In addition to BCI® & AJS® Joists, VERSA-LAM®, and BOISE GLULAM®, BC CALC® also offers the analysis of solid sawn lumber and timber members. Thus BC CALC® is the only program needed to analyze structural wood members.



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a Try!



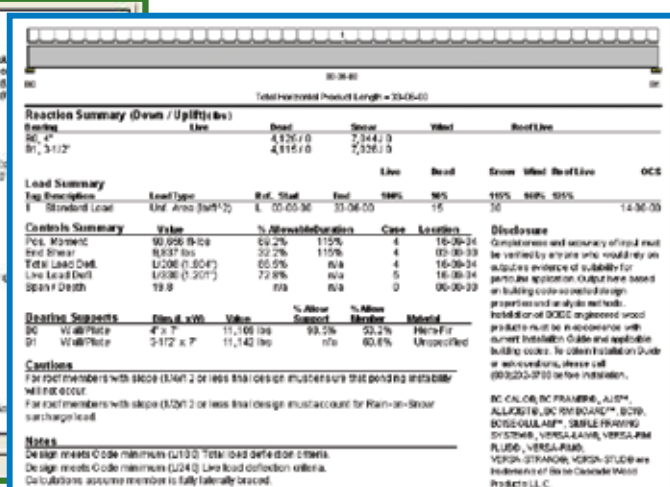
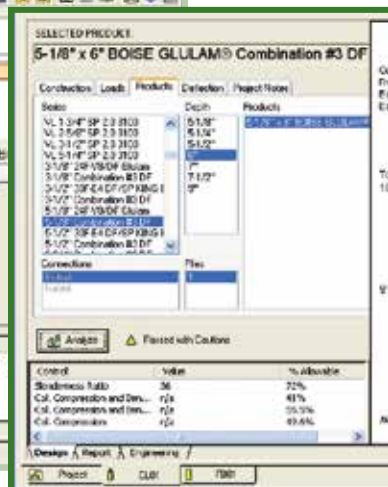
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#### COMPUTER REQUIREMENTS

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or visit their website at  
[www.strongtie.com](http://www.strongtie.com)**

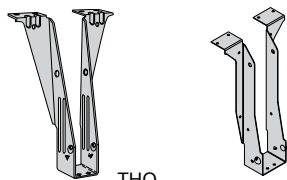
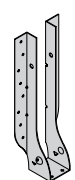
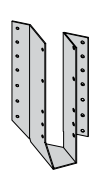
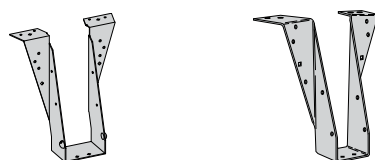
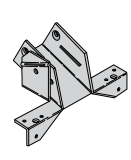
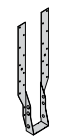
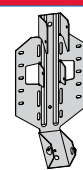
**General Notes**

- ***Bold Italic hangers require web stiffeners.***
- Capacities will vary with different nailing criteria and/or support conditions; contact supplier or Simpson Strong-Tie for further information.
- Capacity values shown are either hanger capacity values (see support requirements below) or BCI® Joist end reaction capacities — whichever is less.
- All capacity values are downward loads at 100% load duration.
- Use sloped seat hangers when BCI® Joist slope exceeds ¼" per foot.
- Use sloped seat hangers and beveled web stiffeners when BCI® Joist slope exceeds ¼" per foot.
- Leave ⅞" clearance (¾" maximum) between the end of the supported joist and the head of the hanger.
- At max design capacity shown, hangers may exceed standard ⅛" deflection by ⅓".
- For proper installation of the VPA, the 2-10dx1½" joist nails through the bend tabs must be installed at approximately a 45-degree angle.

**Support Requirements**

- ***Support material assumed to be VERSA-LAM® or BOISE GLULAM® or sawn lumber (Douglas fir or southern pine species).***
- Minimum support width for single- and double-joist top mount hangers is 3".
- Minimum support width for face mount hangers with 10d and 16d nails is 1¾" and 2", respectively.



| Single Joist - Top Flange                                                                            |          |                   |                |          |              | Single Joist - Face Mount                                                                           |          |                   |                |          |               | Face Mount Skewed 45° Joist Hanger                                                             |          |                   |                  |          |               |
|------------------------------------------------------------------------------------------------------|----------|-------------------|----------------|----------|--------------|-----------------------------------------------------------------------------------------------------|----------|-------------------|----------------|----------|---------------|------------------------------------------------------------------------------------------------|----------|-------------------|------------------|----------|---------------|
| <br>THO TFL         |          |                   |                |          |              | <br>THF            |          |                   |                |          |               | <br>SKH     |          |                   |                  |          |               |
| Joist Depth                                                                                          | BCI®     | Hanger            | Capacity [lbs] | Nailing  |              | Joist Depth                                                                                         | BCI®     | Hanger            | Capacity [lbs] | Nailing  |               | Joist Depth                                                                                    | BCI®     | Hanger            | Capacity [lbs]   | Nailing  |               |
|                                                                                                      |          |                   |                | Header   | Joist        |                                                                                                     |          |                   |                | Header   | Joist         |                                                                                                |          |                   |                  | Header   | Joist         |
| 9 1/2"                                                                                               | 5000 1.7 | TFL2095           | 993            | (6) 10d  | 2-10dx1 1/2" | 9 1/2"                                                                                              | 5000 1.7 | THF20925          | 910            | (8) 10d  | 2-10dx1 1/2"  | 9 1/2"                                                                                         | 5000 1.7 | <b>SKH2020L/R</b> | 1153             | (14) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6000 1.8 | TFL2395           | 1225           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6000 1.8 | THF23925          | 1275           | (12) 10d | 2-10dx1 1/2"  |                                                                                                | 6000 1.8 | <b>SKH2320L/R</b> | 1384             | (14) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6500 1.8 | TFL2595           | 1225           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6500 1.8 | THF26925          | 1275           | (12) 10d | 2-10dx1 1/2"  |                                                                                                | 6500 1.8 | <b>SKH2520L/R</b> | 1384             | (14) 10d | 10-10dx1 1/2" |
| 11 1/2"                                                                                              | 5000 1.7 | TFL20118          | 1068           | (6) 10d  | 2-10dx1 1/2" | 11 1/2"                                                                                             | 5000 1.7 | THF20112          | 910            | (8) 10d  | 2-10dx1 1/2"  | 11 1/2"                                                                                        | 5000 1.7 | <b>SKH2020L/R</b> | 1434             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6000 1.8 | TFL23118          | 1237           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6000 1.8 | THF23118          | 1300           | (14) 10d | 2-10dx1 1/2"  |                                                                                                | 6000 1.8 | <b>SKH2320L/R</b> | 1434             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6500 1.8 | TFL25118          | 1237           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6500 1.8 | THF26112          | 1300           | (14) 10d | 2-10dx1 1/2"  |                                                                                                | 6500 1.8 | <b>SKH2520L/R</b> | 1434             | (16) 10d | 10-10dx1 1/2" |
| 14"                                                                                                  | 60 2.0   | TFL23118          | 1210           | (6) 10d  | 2-10dx1 1/2" | 14"                                                                                                 | 60 2.0   | THF23118          | 1282           | (14) 10d | 2-10dx1 1/2"  | 14"                                                                                            | 60 2.0   | <b>SKH2320L/R</b> | 1428             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 90 2.0   | THO35118          | 1558           | (10) 10d | 2-10dx1 1/2" |                                                                                                     | 90 2.0   | THF35112          | 1585           | (16) 10d | 2-10dx1 1/2"  |                                                                                                | 90 2.0   | <b>SKH410L/R</b>  | 1892             | (16) 16d | 10-16d        |
|                                                                                                      | 5000 1.7 | TFL2014           | 1081           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 5000 1.7 | THF20140          | 1081           | (12) 10d | 2-10dx1 1/2"  |                                                                                                | 5000 1.7 | <b>SKH2024L/R</b> | 1562             | (16) 10d | 10-10dx1 1/2" |
| 16"                                                                                                  | 6000 1.8 | TFL2314           | 1262           | (6) 10d  | 2-10dx1 1/2" | 16"                                                                                                 | 6000 1.8 | THF23140          | 1350           | (18) 10d | 2-10dx1 1/2"  | 16"                                                                                            | 6000 1.8 | <b>SKH2324L/R</b> | 1562             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6500 1.8 | TFL2514           | 1262           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6500 1.8 | THF26140          | 1350           | (18) 10d | 2-10dx1 1/2"  |                                                                                                | 6500 1.8 | <b>SKH2524L/R</b> | 1562             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 60 2.0   | TFL2314           | 1225           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 60 2.0   | THF23140          | 1325           | (18) 10d | 2-10dx1 1/2"  |                                                                                                | 60 2.0   | <b>SKH2324L/R</b> | 1539             | (16) 10d | 10-10dx1 1/2" |
| 18"                                                                                                  | 90 2.0   | THO35140          | 1592           | (12) 10d | 2-10dx1 1/2" | 18"                                                                                                 | 90 2.0   | THF35140          | 1621           | (20) 10d | 2-10dx1 1/2"  | 18"                                                                                            | 90 2.0   | <b>SKH414L/R</b>  | 2035             | (22) 16d | 10-16d        |
|                                                                                                      | 6000 1.8 | TFL2316           | 1268           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6000 1.8 | THF23160          | 1362           | (22) 10d | 2-10dx1 1/2"  |                                                                                                | 6000 1.8 | <b>SKH2324L/R</b> | 1690             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 6500 1.8 | TFL2516           | 1268           | (6) 10d  | 2-10dx1 1/2" |                                                                                                     | 6500 1.8 | THF26160          | 1362           | (22) 10d | 2-10dx1 1/2"  |                                                                                                | 6500 1.8 | <b>SKH2524L/R</b> | 1690             | (16) 10d | 10-10dx1 1/2" |
| 20"                                                                                                  | 60 2.0   | TFL2316           | 1228           | (6) 10d  | 2-10dx1 1/2" | 20"                                                                                                 | 60 2.0   | THF23160          | 1335           | (22) 10d | 2-10dx1 1/2"  | 20"                                                                                            | 60 2.0   | <b>SKH2324L/R</b> | 1650             | (16) 10d | 10-10dx1 1/2" |
|                                                                                                      | 90 2.0   | THO35160          | 1626           | (12) 10d | 2-10dx1 1/2" |                                                                                                     | 90 2.0   | THF35157          | 1657           | (22) 10d | 2-10dx1 1/2"  |                                                                                                | 90 2.0   | <b>SKH414L/R</b>  | 2235             | (22) 16d | 10-16d        |
|                                                                                                      | 18"      | THO35180          | 2389           | (14) 10d | 2-10dx1 1/2" |                                                                                                     | 18"      | THF35165          | 2407           | (24) 10d | 8-10dx1 1/2"  |                                                                                                | 18"      | 90 2.0            | <b>SKH418L/R</b> | 2407     | (28) 16d      |
| 20"                                                                                                  | 90 2.0   | THO35200          | 2553           | (14) 10d | 2-10dx1 1/2" | 20"                                                                                                 | 90 2.0   | THF35165          | 2564           | (24) 10d | 8-10dx1 1/2"  | 20"                                                                                            | 90 2.0   | <b>SKH418L/R</b>  | 2564             | (28) 16d | 10-16d        |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |
| Double Joist - Top Flange                                                                            |          |                   |                |          |              | Double Joist - Face Mount                                                                           |          |                   |                |          |               | Variable Pitch Joist Connector                                                                 |          |                   |                  |          |               |
| <br>THO Double BPH |          |                   |                |          |              | <br>THF Double HD |          |                   |                |          |               | <br>TMP    |          |                   |                  |          |               |
| Joist Depth                                                                                          | BCI®     | Hanger            | Capacity [lbs] | Nailing  |              | Joist Depth                                                                                         | BCI®     | Hanger            | Capacity [lbs] | Nailing  |               | Joist Depth                                                                                    | BCI®     | Hanger            | Capacity [lbs]   | Fastener |               |
|                                                                                                      |          |                   |                | Header   | Joist        |                                                                                                     |          |                   |                | Header   | Joist         |                                                                                                |          |                   | Top Plate        | Rafter   |               |
| 9 1/2"                                                                                               | 5000 1.7 | <b>THO20950-2</b> | 2330           | (10) 16d | 6-10d        | 9 1/2"                                                                                              | 5000 1.7 | <b>THF20925-2</b> | 1390           | (12) 10d | 6-10d         | 9 1/2"                                                                                         | 5000 1.7 | TMP21             | 1125             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6000 1.8 | <b>THO23950-2</b> | 2825           | (10) 10d | 6-10d        |                                                                                                     | 6000 1.8 | <b>THF23925-2</b> | 1625           | (14) 10d | 6-10d         |                                                                                                | 6000 1.8 | TMP23             | 1375             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6500 1.8 | <b>THO25950-2</b> | 2650           | (10) 16d | 6-10d        |                                                                                                     | 6500 1.8 | <b>THF26925-2</b> | 1390           | (12) 10d | 6-10d         |                                                                                                | 6500 1.8 | TMP25             | 1375             | (6) 10d  | 4-10dx1 1/2"  |
| 11 1/2"                                                                                              | 5000 1.7 | <b>THO20118-2</b> | 2330           | (10) 16d | 6-10d        | 11 1/2"                                                                                             | 5000 1.7 | <b>THF20112-2</b> | 1855           | (16) 10d | 6-10d         | 11 1/2"                                                                                        | 5000 1.7 | TMP21             | 1150             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6000 1.8 | <b>THO23118-2</b> | 2925           | (10) 10d | 6-10d        |                                                                                                     | 6000 1.8 | <b>THF23118-2</b> | 1855           | (16) 10d | 6-10d         |                                                                                                | 6000 1.8 | TMP23             | 1425             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6500 1.8 | <b>THO25118-2</b> | 2925           | (10) 16d | 6-10d        |                                                                                                     | 6500 1.8 | <b>THF26112-2</b> | 1855           | (16) 10d | 6-10d         |                                                                                                | 6500 1.8 | TMP25             | 1425             | (6) 10d  | 4-10dx1 1/2"  |
| 14"                                                                                                  | 60 2.0   | <b>THO23118-2</b> | 2921           | (10) 16d | 6-10d        | 14"                                                                                                 | 60 2.0   | <b>THF23118-2</b> | 1855           | (16) 10d | 6-10d         | 14"                                                                                            | 60 2.0   | TMP23             | 1425             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 90 2.0   | <b>BPH71118</b>   | 3455           | (10) 16d | 6-10d        |                                                                                                     | 90 2.0   | <b>HD71120</b>    | 2255           | (16) 16d | 6-10d         |                                                                                                | 90 2.0   | TMP4              | 1800             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 5000 1.7 | <b>THO20140-2</b> | 2330           | (10) 16d | 6-10d        |                                                                                                     | 5000 1.7 | <b>THF20140-2</b> | 2320           | (20) 10d | 6-10d         |                                                                                                | 5000 1.7 | TMP21             | 1150             | (6) 10d  | 4-10dx1 1/2"  |
| 16"                                                                                                  | 6000 1.8 | <b>THO23140-2</b> | 3350           | (12) 10d | 6-10d        | 16"                                                                                                 | 6000 1.8 | <b>THF23140-2</b> | 2540           | (20) 10d | 6-10d         | 16"                                                                                            | 6000 1.8 | TMP23             | 1525             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6500 1.8 | <b>THO25140-2</b> | 3050           | (12) 16d | 6-10d        |                                                                                                     | 6500 1.8 | <b>THF26140-2</b> | 2500           | (20) 10d | 6-10d         |                                                                                                | 6500 1.8 | TMP25             | 1525             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 60 2.0   | <b>THO23140-2</b> | 3335           | (12) 16d | 6-10d        |                                                                                                     | 60 2.0   | <b>THF23140-2</b> | 2540           | (20) 10d | 6-10d         |                                                                                                | 60 2.0   | TMP23             | 1525             | (6) 10d  | 4-10dx1 1/2"  |
| 18"                                                                                                  | 90 2.0   | <b>BPH7114</b>    | 3455           | (10) 16d | 6-10d        | 18"                                                                                                 | 90 2.0   | <b>HD71140</b>    | 2820           | (20) 16d | 6-10d         | 18"                                                                                            | 90 2.0   | TMP4              | 1850             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6000 1.8 | <b>THO23160-2</b> | 3535           | (12) 16d | 6-10d        |                                                                                                     | 6000 1.8 | <b>THF23160-2</b> | 3050           | (24) 10d | 6-10d         |                                                                                                | 6000 1.8 | TMP23             | 1550             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 6500 1.8 | <b>THO25160-2</b> | 3535           | (12) 16d | 6-10d        |                                                                                                     | 6500 1.8 | <b>THF26160-2</b> | 3000           | (24) 10d | 6-10d         |                                                                                                | 6500 1.8 | TMP25             | 1550             | (6) 10d  | 4-10dx1 1/2"  |
| 20"                                                                                                  | 60 2.0   | <b>THO23160-2</b> | 3535           | (12) 16d | 6-10d        | 20"                                                                                                 | 60 2.0   | <b>THF23160-2</b> | 3050           | (24) 10d | 6-10d         | 20"                                                                                            | 60 2.0   | TMP23             | 1550             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 90 2.0   | <b>BPH7116</b>    | 3455           | (10) 16d | 6-10d        |                                                                                                     | 90 2.0   | <b>HD71160</b>    | 3385           | (24) 16d | 6-10d         |                                                                                                | 90 2.0   | TMP4              | 1900             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      | 18"      | <b>BPH7118</b>    | 3510           | (10) 16d | 6-10d        |                                                                                                     | 18"      | <b>HD71180</b>    | 3920           | (28) 16d | 6-10d         |                                                                                                | 18"      | 90 2.0            | <b>TMP4</b>      | 1970     | (6) 10d       |
| 20"                                                                                                  | 90 2.0   | <b>BPH7120</b>    | 3510           | (10) 16d | 6-10d        | 20"                                                                                                 | 90 2.0   | <b>HD71180</b>    | 3920           | (28) 16d | 6-10d         | 20"                                                                                            | 90 2.0   | <b>TMP4</b>       | 1970             | (6) 10d  | 4-10dx1 1/2"  |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |
| Adjustable Height Joist Hanger                                                                       |          |                   |                |          |              | Field Slope and Skew Joist Hanger                                                                   |          |                   |                |          |               | USP<br>STRUCTURAL CONNECTORS®<br>A Miltek Company                                              |          |                   |                  |          |               |
| <br>MSH           |          |                   |                |          |              | <br>LSSH         |          |                   |                |          |               | For more information, contact USP Lumber Connectors at 1-800-328-5934 or www.uspconnectors.com |          |                   |                  |          |               |
| Joist Depth                                                                                          | BCI®     | Hanger            | Capacity [lbs] | Nailing  |              | Joist Depth                                                                                         | BCI®     | Hanger            | Capacity [lbs] | Nailing  |               |                                                                                                |          |                   |                  |          |               |
|                                                                                                      |          |                   |                | Header   | Joist        |                                                                                                     |          |                   |                | Header   | Joist         |                                                                                                |          |                   |                  |          |               |
| 9 1/2"                                                                                               | 5000 1.7 | -                 | -              | -        | -            | 9 1/2"                                                                                              | 5000 1.7 | <b>LSSH20</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 6000 1.8 | <b>MSH2318</b>    | 1381           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 6000 1.8 | <b>LSSH23</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 6500 1.8 | <b>MSH318</b>     | 1381           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 6500 1.8 | <b>LSSH25</b>     | 1412           | (14) 10d | 12-10dx1 1/2" |                                                                                                |          |                   |                  |          |               |
| 11 1/2"                                                                                              | 5000 1.7 | -                 | -              | -        | -            | 11 1/2"                                                                                             | 5000 1.7 | <b>LSSH20</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 6000 1.8 | <b>MSH2318</b>    | 1431           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 6000 1.8 | <b>LSSH23</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 6500 1.8 | <b>MSH318</b>     | 1431           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 6500 1.8 | <b>LSSH25</b>     | 1462           | (14) 10d | 12-10dx1 1/2" |                                                                                                |          |                   |                  |          |               |
| 14"                                                                                                  | 60 2.0   | <b>MSH2318</b>    | 1425           | (6) 10d  | 4-10dx1 1/2" | 14"                                                                                                 | 60 2.0   | <b>LSSH23</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 90 2.0   | <b>MSH422</b>     | 1850           | (6) 10d  | 6-10d        |                                                                                                     | 90 2.0   | <b>LSSH35</b>     | 1920           | (14) 16d | 12-10dx1 1/2" |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 5000 1.7 | -                 | -              | -        | -            |                                                                                                     | 5000 1.7 | <b>LSSH20</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
| 16"                                                                                                  | 6000 1.8 | <b>MSH2322</b>    | 1550           | (6) 10d  | 4-10dx1 1/2" | 16"                                                                                                 | 6000 1.8 | <b>LSSH23</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 6500 1.8 | <b>MSH318</b>     | 1550           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 6500 1.8 | <b>LSSH25</b>     | 1675           | (14) 10d | 12-10dx1 1/2" |                                                                                                |          |                   |                  |          |               |
|                                                                                                      | 60 2.0   | <b>MSH2322</b>    | 1525           | (6) 10d  | 4-10dx1 1/2" |                                                                                                     | 60 2.0   | <b>LSSH23</b>     | 1140           | (10) 10d | 7-10dx1 1/2"  |                                                                                                |          |                   |                  |          |               |
| 18"                                                                                                  | 90 2.0   | <b>MSH422</b>     | 1950           | -        | 6-10d        | 18"                                                                                                 | 90 2.0   | <b>LSSH35</b>     | 1920           | (14) 16d | 12-10dx1 1/2" |                                                                                                |          |                   |                  |          |               |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |
|                                                                                                      |          |                   |                |          |              |                                                                                                     |          |                   |                |          |               |                                                                                                |          |                   |                  |          |               |



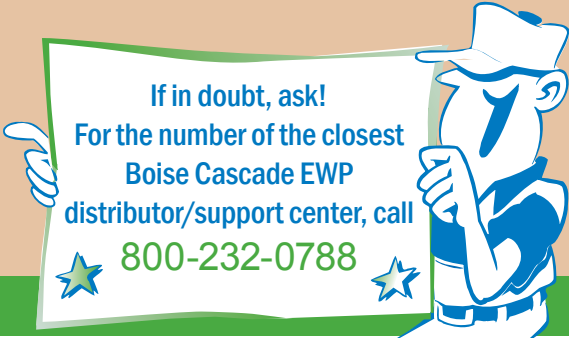
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Boise Cascade Engineered Wood Products build better homes with stronger, stiffer floors using only wood purchased in compliance with a number of green building programs. Take a moment to view our sustainability certification site at <http://www.bc.com/sustainability/certification.html> or view our green brochure at [http://www.bc.com/wood/ewp/Boise\\_EWP\\_Green.html](http://www.bc.com/wood/ewp/Boise_EWP_Green.html).

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