BOISE®
Engineered Wood Products

EASTERN ENGINEERED WOOD PRODUCTS BUILDER GUIDE

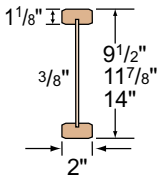
for Residential Construction with BCI® Joists, VERSA-LAM® and Boise Rimboard Products

EBG 02-2006

Eastern Product Profiles

BCI® Joists

CATEGORY 1
BCI® 5000s 1.8



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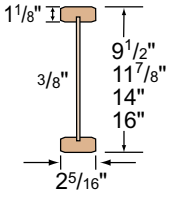
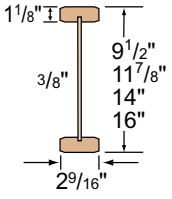
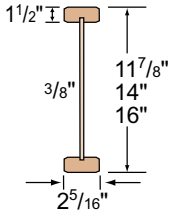
BCI® 6000s 1.8



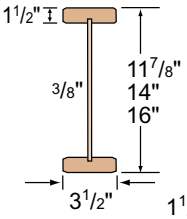
CATEGORY 3
BCI® 6500s 1.8



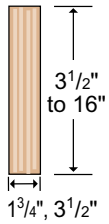
CATEGORY 4
BCI® 60s 2.0



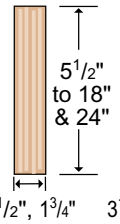
CATEGORY 5
BCI® 90s 2.0



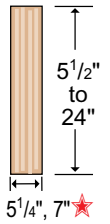
VERSA-LAM® 1.7 2650★



VERSA-LAM® 2.0 3100 SP



VERSA-LAM® 2.0 3100



★Product may not be available. Check with supplier or Boise representative for availability.
Increase in category is an increase in span length. See below for BCI® Residential Floor Span Tables.
★For further information, refer to VERSA-LAM® 1.7 2650 Header Guide.

Residential Floor Span Tables

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.

		★ ★ ★ 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, **33% stiffer than L/360 code minimum.** However, floor performance may still be an issue in certain applications, especially with 9 1/2" and 11 7/8" deep joists without a direct-attached ceiling.					**Live Load deflection limited to L/960+:** In addition to providing a floor that is **100% stiffer than the three star floor**, 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 **meet the minimum building code** 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.				
Joist Depth	BCI® Joist Series	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.
9 1/2"	5000s 1.8	17'–6"	16'–0"	15'–2"	14'–1"	12'–5"	11'–6"	11'–6"	10'–0"	10'–0"	9'–11"	19'–4"	17'–9"	16'–4"	14'–7"	12'–5"
	6000s 1.8	18'–2"	16'–8"	15'–8"	14'–8"	13'–4"	11'–6"	11'–6"	10'–0"	10'–0"	10'–0"	20'–2"	18'–5"	17'–5"	15'–9"	13'–8"
	6500s 1.8	18'–8"	17'–1"	16'–1"	15'–0"	13'–8"	11'–6"	11'–6"	10'–0"	10'–0"	10'–0"	20'–8"	18'–11"	17'–10"	16'–7"	14'–3"
11 7/8"	5000s 1.8	20'–9"	19'–0"	17'–11"	16'–7"	13'–4"	15'–6"	14'–9"	13'–11"	12'–11"	11'–9"	23'–0"	20'–4"	18'–6"	16'–7"	13'–4"
	6000s 1.8	21'–7"	19'–8"	18'–7"	17'–4"	14'–10"	15'–6"	15'–4"	14'–5"	13'–5"	12'–1"	23'–10"	21'–10"	20'–0"	17'–11"	14'–10"
	6500s 1.8	22'–2"	20'–3"	19'–2"	17'–10"	14'–10"	16'–0"	15'–10"	14'–11"	13'–10"	12'–7"	24'–6"	22'–5"	21'–1"	18'–10"	14'–10"
	60s 2.0	23'–7"	21'–6"	20'–4"	18'–11"	17'–3"	18'–0"	16'–9"	15'–9"	14'–8"	13'–3"	26'–1"	23'–10"	22'–6"	21'–0"	17'–3"
	90s 2.0	26'–7"	24'–3"	22'–10"	21'–3"	19'–4"	19'–0"	18'–10"	17'–8"	16'–5"	14'–10"	29'–5"	26'–10"	25'–3"	23'–6"	19'–4"
14"	5000s 1.8	23'–7"	21'–7"	20'–2"	18'–0"	13'–11"	18'–6"	16'–10"	15'–11"	14'–9"	13'–5"	25'–7"	22'–1"	20'–2"	18'–0"	13'–11"
	6000s 1.8	24'–6"	22'–5"	21'–2"	19'–6"	15'–5"	19'–2"	17'–6"	16'–6"	15'–4"	13'–11"	27'–1"	23'–11"	21'–10"	19'–6"	15'–5"
	6500s 1.8	25'–2"	23'–0"	21'–8"	20'–2"	15'–5"	19'–8"	17'–11"	16'–11"	15'–8"	14'–3"	27'–9"	25'–2"	22'–11"	20'–6"	15'–5"
	60s 2.0	26'–9"	24'–5"	23'–0"	21'–5"	17'–5"	20'–11"	19'–0"	17'–11"	16'–7"	15'–1"	29'–7"	27'–0"	25'–6"	23'–3"	17'–5"
	90s 2.0	30'–1"	27'–5"	25'–10"	24'–0"	19'–6"	23'–6"	21'–4"	20'–0"	18'–6"	16'–9"	33'–3"	30'–4"	28'–7"	26'–0"	19'–6"
16"	6000s 1.8	27'–0"	24'–9"	23'–4"	20'–10"	15'–9"	21'–2"	19'–4"	18'–2"	16'–11"	15'–4"	29'–6"	25'–6"	23'–4"	20'–10"	15'–9"
	6500s 1.8	27'–9"	25'–4"	23'–11"	21'–1"	15'–9"	21'–9"	19'–9"	18'–8"	17'–4"	15'–8"	30'–8"	26'–11"	24'–6"	21'–1"	15'–9"
	60s 2.0	29'–7"	27'–0"	25'–6"	23'–5"	17'–7"	23'–2"	21'–1"	19'–10"	18'–5"	16'–8"	32'–8"	29'–10"	28'–2"	23'–5"	17'–7"
	90s 2.0	33'–4"	30'–4"	28'–7"	26'–2"	19'–7"	26'–0"	23'–7"	22'–2"	20'–6"	18'–7"	36'–10"	33'–7"	31'–8"	26'–2"	19'–7"

- Span table is based on a residential floor load of 40 psf live load and 10 psf dead load (12 psf dead load for 90s 2.0 joists).
- Span values assume 23/32" minimum 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).
- Span values represent the most restrictive of simple or multiple span applications.
- Span 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.
- 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.

(Shaded values do not satisfy the requirements of the North Carolina State Building Code. Refer to the THREE STAR table when spans exceed 20 feet.)

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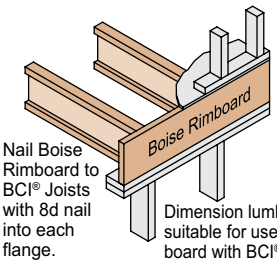
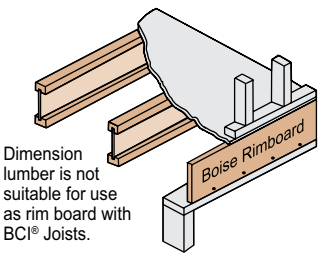
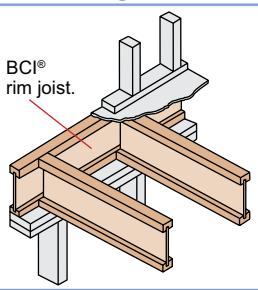
BCI® Floor Framing Details

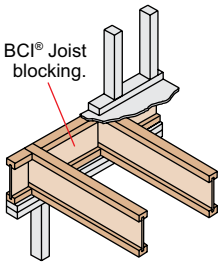
Additional floor framing details available with BC FRAMER® software

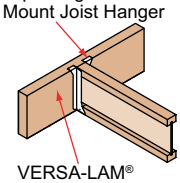
END BEARING DETAILS

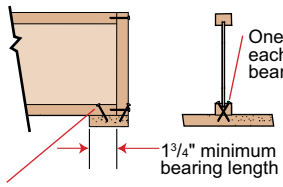


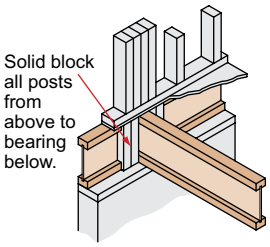


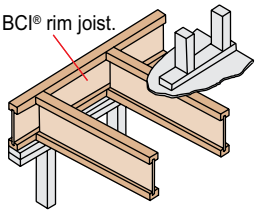




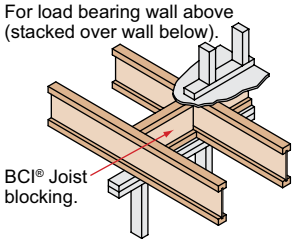


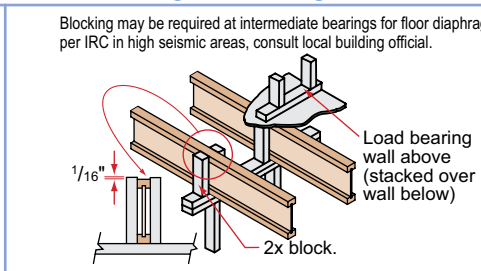


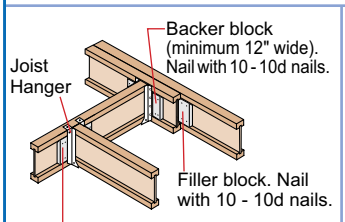


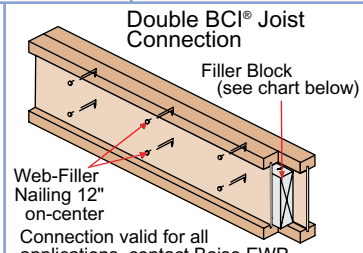


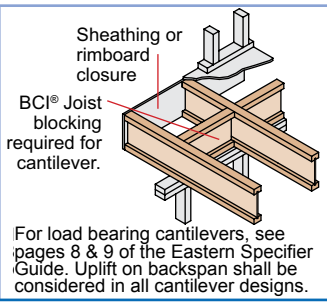
INTERMEDIATE BEARING DETAILS





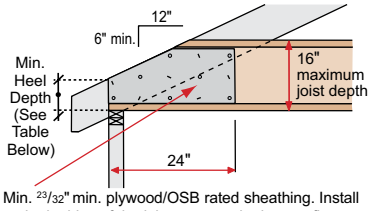






Slope cut joist reinforcement

Connection of rafter to wall/reinforced joist per local building code requirements. 2x blocking required at bearing (not shown for clarity).



Min. 23/32" min. plywood/OSB rated sheathing. Install on both sides of the joist, snug to the bottom flange. Coat contact faces with rated subfloor/joist adhesive and fasten with 3 rows of minimum 10d box nails at 6" o.c. Alternate nailing from each side and clinch.

	Minimum Heel Depth					
End Wall Bearing	Roof Pitch					
	6/12	**7/12**	**8/12**	**9/12**	10/12	12/12
2 x 4	4⅜"	4⁵⁄₁₆"	4¼"	4¼"	4¼"	4¼"
2 x 6	3⅜"	3³⁄₁₆"	2⁵⁄₁₆"	2¾"	2⁹⁄₁₆"	2¼"

LATERAL SUPPORT

- BCI® Joists must be laterally supported at the ends with hangers, BCI® rim joists, rim boards, BCI® blocking panels or x-bracing. BCI® blocking panels or x-bracing 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

- 1¾ inches is required at end supports. 3½ inches is required at cantilever and intermediate supports.
- 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® 5000s rim joist: 2-10d box nails, one each in the top and bottom flange.
  - BCI® 6000s, 60s rim joist: 2-16d box nails, one each in the top and bottom flange.
  - BCI® 6500s, 90s 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:
  - 8d nails at 6 inches on center.
  - When used for shear transfer, follow the building designer's specification.
- 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:
  - See *Closest Allowable Nail Spacing* on page 10.
  - BCI® 5000s joist: Maximum nail spacing is 18 inches on center.
  - BCI® 6000s, 6500s, 60s, 90s joist: Maximum nail spacing is 24 inches on center.
  - 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 EWP Engineering for further information.

BACKER AND FILLER BLOCK DIMENSIONS

Series	Backer Block Thickness	Filler Block Thickness
5000s 1.8	¾" or ⅞" wood panels	Two ¾" wood panels or 2 x _
6000s 1.8	1⅛" or two ½" wood panels	2 x _ + ⅝" or ¾" wood panel
6500s 1.8	1⅛" or two ½" wood panels	2 x _ + ⅝" or ¾" wood panel
60s 2.0	1⅛" or two ½" wood panels	2 x _ + ⅝" or ¾" wood panel
90s 2.0	2 x _ lumber	Double 2 x _ lumber

- Cut backer and filler blocks to a maximum depth equal to the web depth minus 1/4" to avoid a forced fit.

WEB STIFFENER REQUIREMENTS

- See *Web Stiffener Requirements* on page 9 of the Eastern Specifier Guide.

PROTECT BCI® JOISTS FROM THE WEATHER

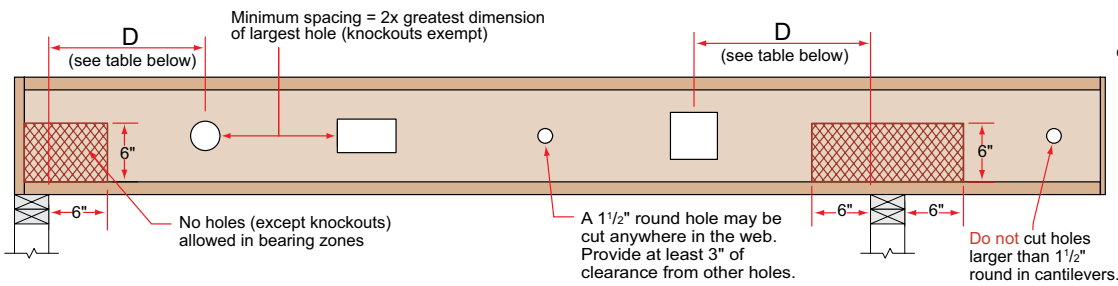
- BCI® Joists are intended only for applications that provide permanent protection from the weather. Bundles of BCI® Joists should be covered and stored off of the ground on stickers.

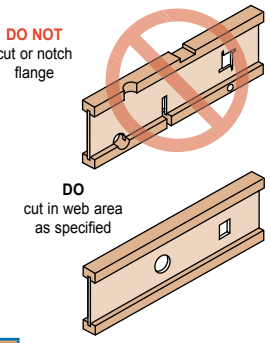
BCI® RIM JOISTS AND BCI® BLOCKING (All Series)

Depth [in]	Vertical Load Capacity [plf]
9½	2800
11⅞	2775
14	2750
16	2450

BCI® Joist Hole Location & Sizing

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





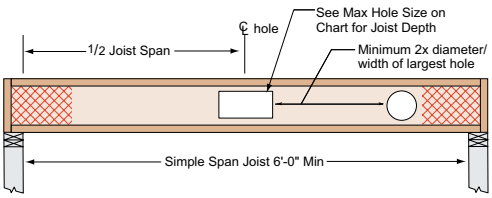
Minimum distance from support, listed in table below, is required for all holes greater than 1½"

MINIMUM DISTANCE (D) FROM ANY SUPPORT TO THE CENTERLINE OF THE HOLE															
Round Hole Diameter [in]			2	3	4	5	6	6½	7	8	8⅞	9	10	11	12	13
Rectangular Hole Side [in]			-	-	-	3	5	6	7	-	-	-	-	-	-	-
Any 9½" Joist	Span [ft]	8	1'-0"	1'-1"	1'-5"	2'-1"	2'-9"	3'-1"	3'-5"							
		12	1'-0"	1'-2"	2'-2"	3'-2"	4'-2"	4'-8"	5'-2"							
		16	1'-0"	1'-7"	2'-11"	4'-3"	5'-7"	6'-3"	6'-11"							
Round Hole Diameter [in]			2	3	4	5	6	6½	7	8	8⅞	9	10	11	12	13
Rectangular Hole Side [in]			-	-	-	2	3	4	5	7	8	-	-	-	-	-
Any 11⅞" Joist	Span [ft]	8	1'-0"	1'-1"	1'-5"	1'-10"	2'-4"	2'-7"	2'-10"	3'-4"	3'-9"					
		12	1'-0"	1'-4"	2'-1"	2'-10"	3'-7"	3'-11"	4'-3"	5'-0"	5'-8"					
		16	1'-0"	1'-10"	2'-10"	3'-9"	4'-9"	5'-3"	5'-9"	6'-9"	7'-7"					
		20	1'-1"	2'-3"	3'-6"	4'-9"	5'-11"	6'-7"	7'-2"	8'-5"	9'-6"					
Round Hole Diameter [in]			2	3	4	5	6	6½	7	8	8⅞	9	10	11	12	13
Rectangular Hole Side [in]			-	-	-	-	2	3	3	5	6	6	8	9	-	-
Any 14" Joist	Span [ft]	8	1'-0"	1'-1"	1'-2"	1'-3"	1'-8"	1'-10"	2'-1"	2'-6"	2'-10"	2'-11"	3'-4"	3'-8"		
		12	1'-0"	1'-1"	1'-3"	1'-10"	2'-6"	2'-10"	3'-1"	3'-9"	4'-3"	4'-4"	5'-0"	5'-7"		
		16	1'-0"	1'-1"	1'-8"	2'-6"	3'-4"	3'-9"	4'-2"	5'-0"	5'-8"	5'-10"	6'-8"	7'-5"		
		20	1'-0"	1'-1"	2'-1"	3'-2"	4'-2"	4'-8"	5'-2"	6'-3"	7'-2"	7'-3"	8'-4"	9'-4"		
		24	1'-0"	1'-4"	2'-6"	3'-9"	5'-0"	5'-8"	6'-3"	7'-6"	8'-7"	8'-9"	10'-0"	11'-2"		
Round Hole Diameter [in]			2	3	4	5	6	6½	7	8	8⅞	9	10	11	12	13
Rectangular Hole Side [in]			-	-	-	-	-	-	2	3	5	5	6	8	9	10
Any 16" Joist	Span [ft]	8	1'-0"	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-7"	1'-11"	2'-0"	2'-5"	2'-9"	3'-2"	3'-7"
		12	1'-0"	1'-1"	1'-2"	1'-2"	1'-3"	1'-6"	1'-10"	2'-5"	2'-11"	3'-0"	3'-7"	4'-2"	4'-9"	5'-4"
		16	1'-0"	1'-1"	1'-2"	1'-2"	1'-8"	2'-1"	2'-6"	3'-3"	3'-11"	4'-0"	4'-10"	5'-7"	6'-4"	7'-2"
		20	1'-0"	1'-1"	1'-2"	1'-2"	2'-1"	2'-7"	3'-1"	4'-1"	4'-11"	5'-1"	6'-0"	7'-0"	8'-0"	8'-11"
		24	1'-0"	1'-1"	1'-2"	1'-4"	2'-6"	3'-1"	3'-9"	4'-11"	5'-11"	6'-1"	7'-3"	8'-5"	9'-7"	10'-9"

- 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.

Large Rectangular Holes in BCI® Joists

Single Span Joist

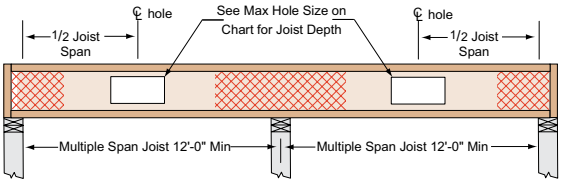


Notes:

Additional holes may be cut in the web provided they meet the specifications as shown in the hole distance chart shown above or as allowed using BC CALC® sizing software.

Joist Depth	Maximum Hole Size	
	Simple Span	Multiple Span
9½"	6" x 14"	6" x 12"
11⅞"	8" x 16"	8" x 13"
14"	9" x 18" 10" x 17"	8" x 16"
16"	11" x 18" 12" x 16"	10" x 14"

Multiple Span Joist



Larger holes may be possible for either Single or Multiple span joists; use BC CALC® sizing software for specific analysis.

VERSA-LAM® Floor & Roof Application Tables

GENERAL NOTES

- Continuous lateral support at the top of the beam is assumed.
- Minimum 3-inch end bearing or see BC CALC® software requirements.
- Bearing length specifications assume bearing across the full width of the beam.
- Uniform loading is assumed for all tables.
- Multiple member beams require proper connection schedules.
- Dry service conditions are assumed.
- It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

Floor Notes (see pages 5, 6, 9)

- Floor loads are 40 psf live load and 10 psf dead load.
- Deflection is limited to L/360 live load and L/240 total load.
- Table based upon either simple or continuous floor joist spans.
- Tables assume a wall weight of 100 plf (pages 6, 9).
- Interior floor support may vary a maximum of 4 feet from centerline (page 9).

Roof Notes (see pages 7, 8 & 9)

- Always use roof live and dead loads that meet or exceed the required design loading.
- No roof load reductions have been taken.
- Table assumes 2'-0" roof overhang.

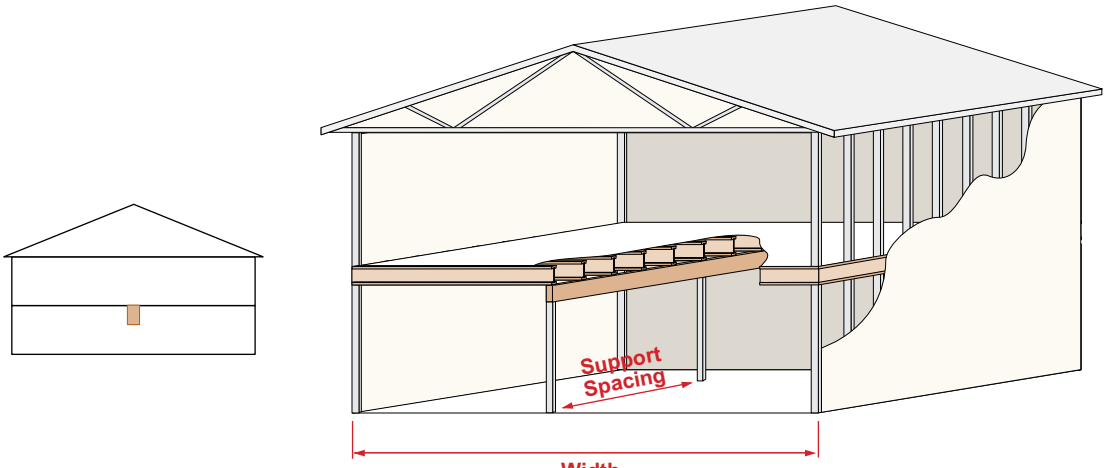
Ridge Beam (see page 8)

- Deflection is limited to L/240 live load and L/180 total load.
- Table based upon either simple or continuous beam span conditions.

Header (Roof) (see page 7)

- Deflection is limited to L/240 live load and L/180 total load.

One Floor Beam Span Table

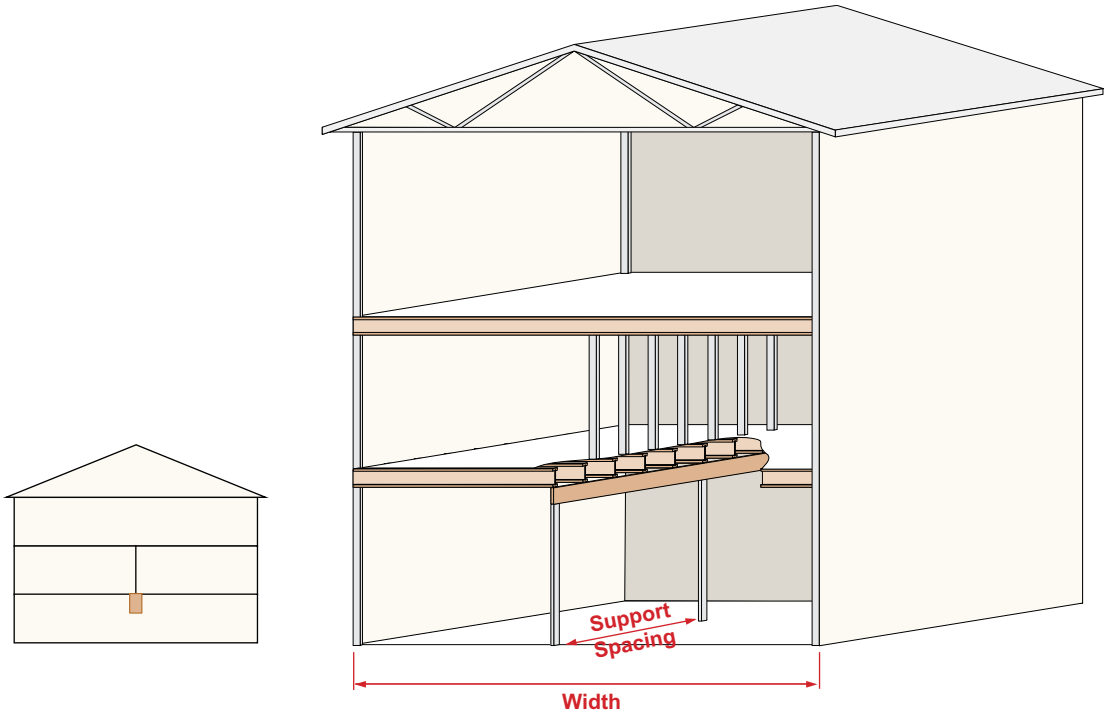


Required Beam Depths and Bearing Lengths [in]

VERSA-LAM 2.0 3100

Load Duration %	Floor Load [psf] Live	Floor Load [psf] Dead	Beam Support Spacing [Feet]	Width of Building Segment [feet] KEY: Beam Breadth [in] X Beam Depth [in] End Support / Intermediate Support Bearing Length Requirements [in]							
				20	24	26	28	30	32	36	40
100%	40	10	8	3.5 x 7.25 1.5/3	3.5 x 7.25 1.5/3	3.5 x 9.5 1.5/3	3.5 x 9.5 1.5/3	3.5 x 9.5 1.5/4.5	3.5 x 9.5 1.5/4.5	3.5 x 9.5 3/4.5	3.5 x 9.5 3/4.5
				5.25 x 7.25 1.5/1.5	5.25 x 7.25 1.5/3	5.25 x 7.25 1.5/3	5.25 x 7.25 1.5/3	5.25 x 7.25 1.5/3	5.25 x 7.25 1.5/3	5.25 x 7.25 1.5/3	5.25 x 9.5 1.5/3
			10	3.5 x 9.5 1.5/3	3.5 x 9.5 1.5/4.5	3.5 x 9.5 1.5/4.5	3.5 x 9.5 1.5/4.5	3.5 x 11.875 3/4.5	3.5 x 11.875 3/4.5	3.5 x 11.875 3/6	3.5 x 11.875 3/6
				5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/4.5	5.25 x 9.5 1.5/4.5
			12	3.5 x 11.875 1.5/4.5	3.5 x 11.875 3/4.5	3.5 x 11.875 3/4.5	3.5 x 11.875 3/4.5	3.5 x 11.875 3/6	3.5 x 11.875 3/6	3.5 x 14 3/6	3.5 x 14 3/7.5
				5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/3	5.25 x 11.875 1.5/3	5.25 x 11.875 1.5/3	5.25 x 11.875 1.5/4.5	5.25 x 11.875 1.5/4.5	5.25 x 11.875 3/4.5	5.25 x 11.875 3/4.5
			14	3.5 x 11.875 1.5/4.5	3.5 x 14 3/4.5	3.5 x 14 3/6	3.5 x 14 3/6	3.5 x 14 3/6	3.5 x 14 3/6	3.5 x 16 3/7.5	3.5 x 16 3/7.5
				5.25 x 11.875 1.5/3	5.25 x 11.875 1.5/3	5.25 x 11.875 1.5/4.5	5.25 x 11.875 1.5/4.5	5.25 x 11.875 1.5/4.5	5.25 x 14 3/4.5	5.25 x 14 3/4.5	5.25 x 14 3/6
			16	3.5 x 14 3/4.5	3.5 x 16 3/6	3.5 x 16 3/6	3.5 x 16 3/6	3.5 x 16 3/7.5	3.5 x 16 3/7.5	3.5 x 18 4.5/9	3.5 x 18 4.5/9
				5.25 x 11.875 1.5/3	5.25 x 14 1.5/4.5	5.25 x 14 1.5/4.5	5.25 x 14 1.5/4.5	5.25 x 14 3/4.5	5.25 x 14 3/4.5	5.25 x 16 3/6	5.25 x 16 3/6
			18	3.5 x 16 3/6	3.5 x 16 3/6	3.5 x 18 3/7.5	3.5 x 18 3/7.5	3.5 x 18 3/7.5	3.5 x 18 4.5/9	5.25 x 16 3/6	5.25 x 18 3/7.5
				5.25 x 14 1.5/4.5	5.25 x 14 3/4.5	5.25 x 16 3/4.5	5.25 x 16 3/4.5	5.25 x 16 3/6	5.25 x 16 3/6	7 x 16 3/4.5	7 x 16 3/6
			20	3.5 x 18 3/6	3.5 x 18 3/7.5	5.25 x 16 3/6	5.25 x 18 3/6	5.25 x 18 3/6	5.25 x 18 3/6	5.25 x 18 3/7.5	-
				5.25 x 16 1.5/4.5	5.25 x 16 3/4.5	7 x 16 1.5/4.5	7 x 16 1.5/4.5	7 x 16 3/4.5	7 x 16 3/4.5	7 x 18 3/6	7 x 18 3/6

Two Floor Beam Span Tables



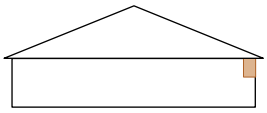
Required Beam Depths and Bearing Lengths [in]

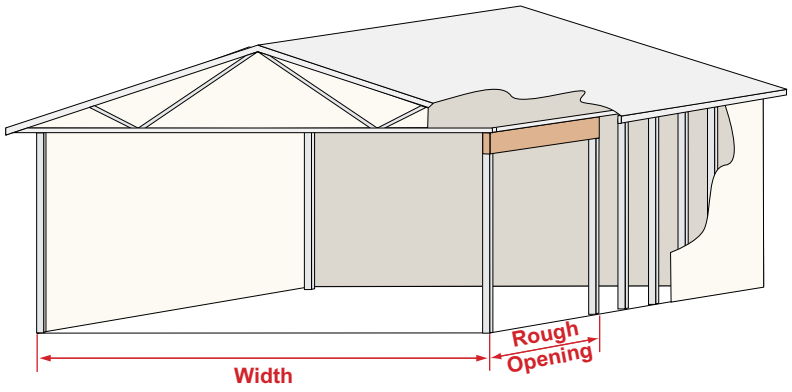
VERSA-LAM 2.0 3100

Load Duration %	Floor Load [psf] Live	Floor Load [psf] Dead	Beam Support Spacing [Feet]	Width of Building Segment [feet] — KEY: Beam Breadth [in] X Beam Depth [in] End Support / Intermediate Support Bearing Length Requirements [in]							
				20	24	26	28	30	32	36	40
100%	40	10	8	3.5 x 9.5 3/4.5	3.5 x 11.875 3/6	3.5 x 11.875 3/6	3.5 x 11.875 3/6	3.5 x 11.875 3/7.5	3.5 x 14 3/7.5	3.5 x 14 4.5/9	3.5 x 16 4.5/9
				5.25 x 9.5 1.5/3	5.25 x 9.5 1.5/4.5	5.25 x 9.5 3/4.5	5.25 x 9.5 3/4.5	5.25 x 9.5 3/4.5	5.25 x 9.5 3/6	5.25 x 11.875 3/6	5.25 x 11.875 3/6
			10	3.5 x 11.875 3/6	3.5 x 14 3/7.5	3.5 x 14 3/7.5	3.5 x 14 3/7.5	3.5 x 16 4.5/9	3.5 x 16 4.5/9	3.5 x 18	5.25 x 14 3/7.5
				5.25 x 9.5 1.5/4.5	5.25 x 11.875 3/4.5	5.25 x 11.875 3/6	5.25 x 11.875 3/6	5.25 x 11.875 3/6	5.25 x 11.875 3/6	5.25 x 14 3/7.5	7 x 11.875 3/6
			12	3.5 x 14 3/7.5	3.5 x 16 4.5/9	3.5 x 16 4.5/9	3.5 x 18 4.5/9	3.5 x 18	5.25 x 14 3/7.5	5.25 x 16 4.5/9	5.25 x 16 4.5/9
				5.25 x 11.875 3/4.5	5.25 x 11.875 3/6	5.25 x 14 3/6	5.25 x 14 3/6	5.25 x 14 3/7.5	7 x 11.875 3/6	7 x 14 3/6	7 x 14 3/7.5
			14	3.5 x 16 4.5/9	3.5 x 18	5.25 x 16 3/7.5	5.25 x 16 3/7.5	5.25 x 16 4.5/9	5.25 x 16 4.5/9	5.25 x 18	-
				5.25 x 14 3/6	5.25 x 14 3/7.5	7 x 14 3/6	7 x 14 3/6	7 x 14 3/6	7 x 14 3/7.5	7 x 16 3/7.5	7 x 16 4.5/9
			16	3.5 x 18 4.5/9	5.25 x 16 3/7.5	5.25 x 18 4.5/9	5.25 x 18 4.5/9	5.25 x 18 4.5/9	-	-	-
				5.25 x 16 3/6	7 x 16 3/6	7 x 16 3/6	7 x 16 3/6	7 x 16 3/7.5	7 x 16 3/7.5	7 x 18 4.5/9	7 x 18 4.5/9
			18	5.25 x 18 3/7.5	5.25 x 18 4.5/9	-	-	-	-	-	-
				7 x 16 3/6	7 x 16 3/6	7 x 18 3/7.5	7 x 18 3/7.5	7 x 18 3/7.5	7 x 18 4.5/9	-	-
			20	-	-	-	-	-	-	-	-
				7 x 18 3/6	7 x 18 3/7.5	-	-	-	-	-	-

See General Notes on page 5.

Roof Header Span Tables





- Minimum end bearing 3 inches or see BC CALC® software requirement.
- 4.5 inch bearing length required in shaded areas.
- See General Notes on page 5.

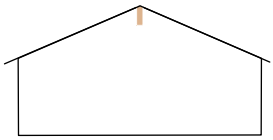
Required Beam Depths and Bearing Lengths [in]

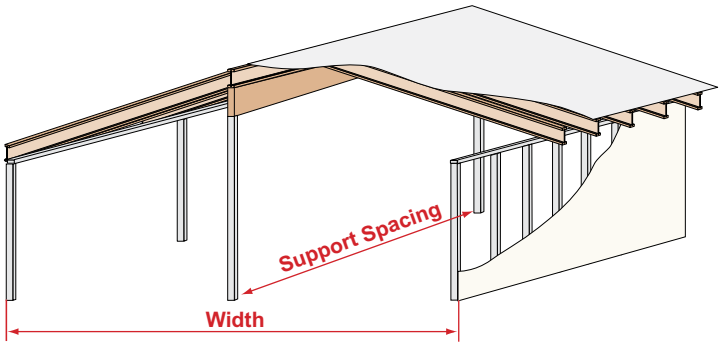
VERSA-LAM 2.0 3100

Load Duration %	Roof Load [psf] Live	Roof Load [psf] Dead	Rough Opening [Feet]	Width of Building Segment [feet] KEY: Beam Breadth [in] X Beam Depth [in] 20	24	26	28	30	32	36	40
125%	20	15	9	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5
			16	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14
				5.25 x 9.5	5.25 x 9.5	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			18	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14
	20	20	9	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 11.875
				5.25 x 7.25	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5
			16	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14
				5.25 x 9.5	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			18	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16	3.5 x 16
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14	5.25 x 14	5.25 x 14
115%	20	15	9	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5
			16	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14
				5.25 x 9.5	5.25 x 9.5	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			18	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14
	25	15	9	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 11.875	3.5 x 11.875
				5.25 x 7.25	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5
			16	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14
				5.25 x 9.5	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			18	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16	3.5 x 16
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14	5.25 x 14	5.25 x 14
	30	15	9	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 7.25	3.5 x 9.5	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875
				5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5
			16	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			18	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 18
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14
	40	15	9	3.5 x 7.25	3.5 x 7.25	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25
			12	3.5 x 9.5	3.5 x 9.5	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14
				5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 11.875
			16	3.5 x 11.875	3.5 x 14	3.5 x 14	3.5 x 14	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 18
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14	5.25 x 14
			18	3.5 x 14	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 18	3.5 x 18	3.5 x 18	5.25 x 16
				5.25 x 11.875	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 16	7 x 14
	50	15	9	3.5 x 7.25	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 9.5	3.5 x 11.875
				5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 7.25	5.25 x 9.5	5.25 x 9.5
			12	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 11.875	3.5 x 14	3.5 x 14
				5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 9.5	5.25 x 11.875	5.25 x 11.875	5.25 x 11.875
			16	3.5 x 14	3.5 x 14	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 16	3.5 x 18	3.5 x 18
				5.25 x 11.875	5.25 x 11.875	5.25 x 11.875	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 16
			18	3.5 x 16	3.5 x 16	3.5 x 18	3.5 x 18	3.5 x 18	5.25 x 16	5.25 x 16	5.25 x 18
				5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 14	5.25 x 16	7 x 14	7 x 14	7 x 14

Roof Ridge Beam Span Tables

See General Notes on page 5.





Required Beam Depths and Bearing Lengths [in]

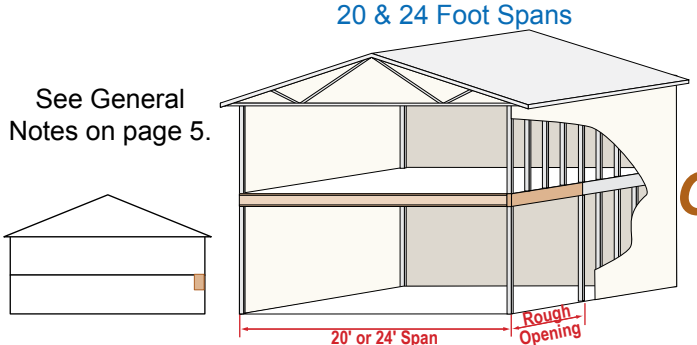
VERSA-LAM 2.0 3100

Load Duration %	Roof Load [psf] Live	Roof Load [psf] Dead	Beam Support Spacing [Feet]	Width of Building Segment [feet] — KEY: Beam Breadth [in] X Beam Depth [in] End Support / Intermediate Support Bearing Length Requirements [in]															
				20		24		26		28		30		32		36		40	
125%	20	15	12	3.5 x 7.25	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5
				5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3
			16	3.5 x 9.5	1.5/3	3.5 x 11.875	1.5/3	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/6
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5
			20	3.5 x 11.875	1.5/3	3.5 x 14	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 14	3/6	3.5 x 16	3/6	3.5 x 16	3/6
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5
			24	3.5 x 16	1.5/4.5	3.5 x 16	3/4.5	3.5 x 16	3/6	3.5 x 16	3/6	3.5 x 18	3/6	3.5 x 18	3/6	3.5 x 18	3/7.5	3.5 x 18	3/7.5
				5.25 x 14	1.5/3	5.25 x 14	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	5.25 x 16	3/4.5	5.25 x 16	3/6
	20	20	12	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 9.5	3/4.5
				5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3
			16	3.5 x 11.875	1.5/3	3.5 x 11.875	1.5/4.5	3.5 x 9.5	1.5/3	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 14	3/6	3.5 x 14	3/6
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5
			20	3.5 x 14	1.5/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 16	3/6	3.5 x 16	3/6	3.5 x 16	3/7.5	3.5 x 16	3/7.5
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5	5.25 x 14	3/4.5
			24	3.5 x 16	3/4.5	3.5 x 16	3/6	3.5 x 18	3/6	3.5 x 18	3/6	3.5 x 18	3/7.5	3.5 x 18	3/7.5	3.5 x 18	3/7.5	5.25 x 18	3/6
				5.25 x 14	1.5/3	5.25 x 14	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	5.25 x 16	3/4.5	5.25 x 16	3/6	7 x 16	3/4.5
115%	20	15	12	3.5 x 7.25	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5
				5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3
			16	3.5 x 9.5	1.5/3	3.5 x 11.875	1.5/3	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 14	3/6
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5
			20	3.5 x 11.875	1.5/3	3.5 x 14	1.5/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 14	3/6	3.5 x 16	3/6	3.5 x 16	3/6
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5
			24	3.5 x 16	1.5/4.5	3.5 x 16	3/4.5	3.5 x 16	3/6	3.5 x 16	3/6	3.5 x 18	3/6	3.5 x 18	3/6	3.5 x 18	3/7.5	5.25 x 16	3/6
				5.25 x 14	1.5/3	5.25 x 14	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	5.25 x 16	3/4.5	7 x 16	1.5/4.5
	25	15	12	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 9.5	3/4.5
				5.25 x 7.25	1.5/1.5	5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3
			16	3.5 x 11.875	1.5/3	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 14	3/6	3.5 x 14	3/6
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5
			20	3.5 x 14	1.5/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 14	3/4.5	3.5 x 16	3/6	3.5 x 16	3/6	3.5 x 16	3/7.5	3.5 x 18	3/7.5
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5	5.25 x 14	3/4.5
			24	3.5 x 16	3/4.5	3.5 x 16	3/6	3.5 x 18	3/6	3.5 x 18	3/6	3.5 x 18	3/7.5	3.5 x 18	3/7.5	5.25 x 16	3/6	5.25 x 18	3/6
				5.25 x 14	1.5/3	5.25 x 14	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	5.25 x 16	3/4.5	7 x 16	1.5/4.5	7 x 16	3/4.5
	30	15	12	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/6
				5.25 x 7.25	1.5/3	5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/4.5
			16	3.5 x 11.875	1.5/4.5	3.5 x 11.875	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/6	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 14	3/7.5
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5	5.25 x 11.875	3/4.5
			20	3.5 x 14	3/4.5	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 16	3/6	3.5 x 16	3/6	3.5 x 16	3/7.5	3.5 x 18	3/7.5	3.5 x 18	4.5/9
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5	5.25 x 14	3/4.5	5.25 x 14	3/6	5.25 x 16	3/6
			24	3.5 x 16	3/6	3.5 x 18	3/6	3.5 x 18	3/6	5.25 x 16	3/4.5	5.25 x 16	3/6	5.25 x 16	3/6	5.25 x 18	3/6	5.25 x 18	3/7.5
				5.25 x 14	1.5/4.5	5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	7 x 14	1.5/4.5	7 x 14	1.5/4.5	7 x 16	1.5/4.5	7 x 16	3/4.5	7 x 16	3/6
	40	15	12	3.5 x 9.5	1.5/3	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 9.5	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/6	3.5 x 11.875	3/6
				5.25 x 7.25	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/4.5	5.25 x 9.5	1.5/4.5
			16	3.5 x 11.875	1.5/4.5	3.5 x 11.875	3/4.5	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 16	3/7.5	3.5 x 16	3/7.5
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5	5.25 x 11.875	1.5/4.5	5.25 x 11.875	3/4.5	5.25 x 11.875	3/4.5	5.25 x 14	3/6
			20	3.5 x 14	3/6	3.5 x 16	3/6	3.5 x 16	3/7.5	3.5 x 18	3/7.5	3.5 x 18	3/7.5	3.5 x 18	3/7.5	5.25 x 16	3/6	5.25 x 16	3/7.5
				5.25 x 14	1.5/4.5	5.25 x 14	1.5/4.5	5.25 x 14	3/4.5	5.25 x 14	3/4.5	5.25 x 14	3/6	5.25 x 14	3/6	7 x 14	3/4.5	7 x 14	3/6
			24	3.5 x 18	3/6	3.5 x 18	3/7.5	5.25 x 16	3/6	5.25 x 18	3/6	5.25 x 18	3/6	5.25 x 18	3/6	5.25 x 18	3/7.5	-	
				5.25 x 16	1.5/4.5	5.25 x 16	3/4.5	7 x 16	1.5/4.5	7 x 16	1.5/4.5	7 x 16	3/4.5	7 x 16	3/4.5	7 x 16	3/6	7 x 18	3/6
	50	15	12	3.5 x 9.5	1.5/4.5	3.5 x 9.5	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/4.5	3.5 x 11.875	3/6	3.5 x 11.875	3/6	3.5 x 11.875	3/6	3.5 x 14	3/7.5
				5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/3	5.25 x 9.5	1.5/4.5	5.25 x 9.5	1.5/4.5	5.25 x 9.5	3/4.5	5.25 x 11.875	3/4.5
			16	3.5 x 11.875	3/4.5	3.5 x 14	3/6	3.5 x 14	3/6	3.5 x 16	3/6	3.5 x 16	3/7.5	3.5 x 16	3/7.5	3.5 x 16	4.5/9	3.5 x 18	4.5/9
				5.25 x 11.875	1.5/3	5.25 x 11.875	1.5/4.5	5.25 x 11.875	3/4.5	5.25 x 11.875	3/4.5	5.25 x 11.875	3/4.5	5.25 x 14	3/6	5.25 x 14	3/6	5.25 x 14	3/6
			20	3.5 x 16	3/6	3.5 x 18	3/7.5	3.5 x 18	3/7.5	3.5 x 18	3/7.5	5.25 x 16	3/6	5.25 x 16	3/6	5.25 x 18	3/7.5	5.25 x 18	3/7.5
				5.25 x 14	1.5/4.5	5.25 x 14	3/4.5	5.25 x 14	3/6	7 x 14	1.5/4.5	7 x 14	3/4.5	7 x 14	3/4.5	7 x 16	3/6	7 x 16	3/6
			24	3.5 x 18	3/7.5	5.25 x 18	3/6	5.25 x 18	3/6	5.25 x 18	3/6	5.25 x 18	3/7.5	-		-		-	
				5.25 x 16	3/4.5	7 x 16	3/4.5	7 x 16	3/4.5	7 x 16	3/4.5	7 x 16	3/6	7 x 18	3/6	7 x 18	3/6	7 x 18	3/7.5

Roof and One Floor Span Tables

See General Notes on page 5.

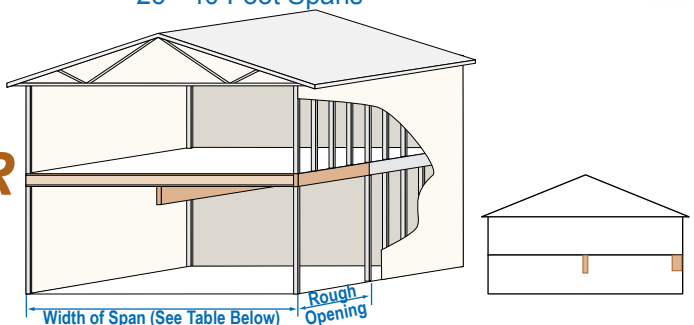
20 & 24 Foot Spans



*Assumes no intermediate support of floor joists

OR

26 - 40 Foot Spans



Interior floor support may vary a minimum of 4 feet from centerline.

Required Beam Depths and Bearing Lengths [in]

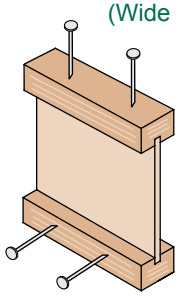
VERSA-LAM 2.0 3100

Load Duration %	Roof Load [psf] Live	Roof Load [psf] Dead	Rough Opening [Feet]	Width of Building Segment [feet] KEY: Beam Breadth [in] X Beam Depth [in] 20	24	26	28	30	32	36	40
125%	20	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875
			16	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16
			18	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
	20	20	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875
			16	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16
			18	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
115%	20	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875
			16	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16
			18	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
	25	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875
			16	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 14	3.5 x 18 5.25 x 14	3.5 x 18 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 14
			18	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	5.25 x 16 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
	30	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 11.875 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 16 5.25 x 11.875
			16	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 14	5.25 x 16 7 x 16
			18	3.5 x 18 5.25 x 16	5.25 x 18 7 x 16	5.25 x 16 7 x 16	5.25 x 16 7 x 16	5.25 x 16 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
	40	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 9.5 5.25 x 7.25
			9	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 9.5 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5
			12	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14
			16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 14	3.5 x 18 5.25 x 16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 14	5.25 x 16 7 x 14	5.25 x 16 7 x 16	5.25 x 18 7 x 16
			18	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 20 7 x 18	5.25 x 20 7 x 18
	50	15	6	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 7.25 5.25 x 7.25	3.5 x 9.5 5.25 x 7.25	3.5 x9.5 5.25 x 7.25
			9	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 11.875 5.25 x 9.5	3.5 x 14 5.25 x 11.875
			12	3.5 x 14 5.25 x 11.875	3.5 x 16 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 14 5.25 x 11.875	3.5 x 16 5.25 x 11.875	3.5 x 16 5.25 x 14	3.5 x 16 5.25 x 14	3.5 x 18 5.25 x 14
			16	3.5 x 18 5.25 x 16	5.25 x 16 7 x 16	5.25 x 16 7 x 14	5.25 x 16 7 x 16	5.25 x 16 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 16
			18	5.25 x 18 7 x 16	5.25 x 18 7 x 18	5.25 x 18 7 x 16	5.25 x 18 7 x 16	5.25 x 18 7 x 18	5.25 x 20 7 x 18	5.25 x 20 7 x 18	5.25 x 20 7 x 18

- Minimum end bearing 3 inches or see BC CALC® software requirement.
- 4.5 inch bearing length required in shaded areas.
- See General Notes on page 5.

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 (Wide Face)	
	O.C. Spacing [inches]	End of Joist [inches]	O.C. Spacing [inches]	End of Joist [inches]
8d Box	2	1 1/2	4	1 1/2
8d Common	2	1 1/2	4	3
10d & 12d Box	2	1 1/2	4	3
16d Box	2	1 1/2	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 1/2 inch.
- Simpson Strong-Tie A35 connectors may be attached to the side of BCI® 60s & 90s 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.

Multiple Member Connectors

Side-Loaded Applications

Number of Members	Maximum Uniform Side Load [plf]							
	Nailed		1/2" Dia. Through Bolt(1)			5/8" Dia. Through Bolt(1)		
	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(2)	350	525	375	755	1515	420	840	1685
4(3)	use bolt schedule		335	670	1345	370	745	1495
3 1/2" VERSA-LAM®								
2(3)	use bolt schedule		855	1715	N/A	1125	2250	N/A
1 3/4" VERSA-LAM® (Depths of 24")								
Number of Members	Nailed		1/2" Dia. Through Bolt(1)			5/8" Dia. Through Bolt(1)		
	3 rows 16d Sinkers @ 12" o.c.	4 rows 16d Sinkers @ 12" o.c.	3 rows @ 24" o.c. 8" staggered	3 rows @ 18" o.c. 6" staggered	3 rows @ 12" o.c. 4" staggered	3 rows @ 24" o.c. 8" staggered	3 rows @ 18" o.c. 6" staggered	3 rows @ 12" o.c. 4" staggered
2	705	940	755	1010	1515	840	1120	1685
3(2)	525	705	565	755	1135	630	840	1260
4(3)	use bolt schedule		505	670	1010	560	745	1120

1. 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.
2. The nail schedules shown apply to both sides of a 3-member beam.
3. 7" wide beams must be top-loaded or loaded from both sides (lesser side shall be no less than 25% of opposite side).

Top-Loaded Applications

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

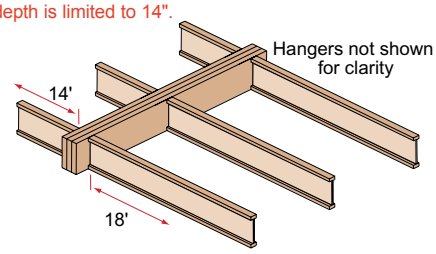
Plies	Depth	Nailing	Maximum Uniform Load From One Side
(2) 1 3/4" plies	Depths 11 7/8" & less	2 rows 16d box/sinker nails @ 12" o.c.	400 plf
	Depths 14" - 18"	3 rows 16d box/sinker nails @ 12" o.c.	600 plf
	Depth = 24"	4 rows 16d box/sinker nails @ 12" o.c.	800 plf
(3) 1 3/4"" plies (2)	Depths 11 7/8" & less	2 rows 16d box/sinker nails @ 12" o.c.	300 plf
	Depths 14" - 18"	3 rows 16d box/sinker nails @ 12" o.c.	450 plf
	Depth = 24"	4 rows 16d box/sinker nails @ 12" o.c.	600 plf
(4) 1 3/4" plies	Depths 18" & less	2 rows 1/2" bolts @ 24" o.c., staggered	335 plf
	Depth = 24"	3 rows 1/2" bolts @ 24" o.c., staggered every 8"	505 plf
(2) 3 1/2" plies	Depths 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

1. Beams wider than 7" must be designed by the engineer of record.
2. 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.
3. Use allowable load tables or BC CALC® software to size beams.
4. An equivalent specific gravity of 0.5 may be used when designing specific connections with VERSA-LAM®.
5. Connection values are based upon the 2001 NDS.
6. ***FastenMaster TrussLok, Simpson Strong-Tie SDS, and USP WS screws may also be used to connect multiple member VERSA-LAM® beams, contact Boise 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.

1. Calculate the tributary width that beam is supporting:
   14' / 2 + 18' / 2 = 16'
2. Use PLF tables on pages 28-30 of ESG or BC CALC® to size beam.
   A Triple VERSA-LAM® 2.0 3100 1 3/4" x 14" is found to adequately support the design loads
3. Calculate the maximum plf load from one side (the right side in this case).
   Max. Side Load = (18' / 2) x (40 + 10 psf) = 450 plf
4. Go to the Multiple Member Connection Table, Side-Loaded Applications, 1 3/4" VERSA-LAM®, 3 members
5. 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

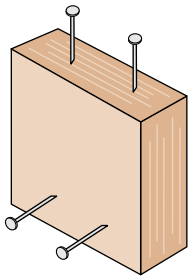
Closest Allowable Nail Spacing

VERSA-LAM® & VERSA-RIM® Products

Nail Size	Nailing Parallel to Glue Lines (Narrow Face)[1]								Nailing Perpendicular to Glue Lines (Wide Face)	
	VERSA-RIM® 1 1/16"		VERSA-LAM® 1.4 1800 Rimboard 1 1/4"		VERSA-LAM® 1 3/4"		VERSA-LAM® 3 1/2" & Wider		All Products	
	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]
8d Box	3	1½	3	1½	2	1	2	½	2	½
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.

Nailing Parallel to Glue Lines (Narrow Face)

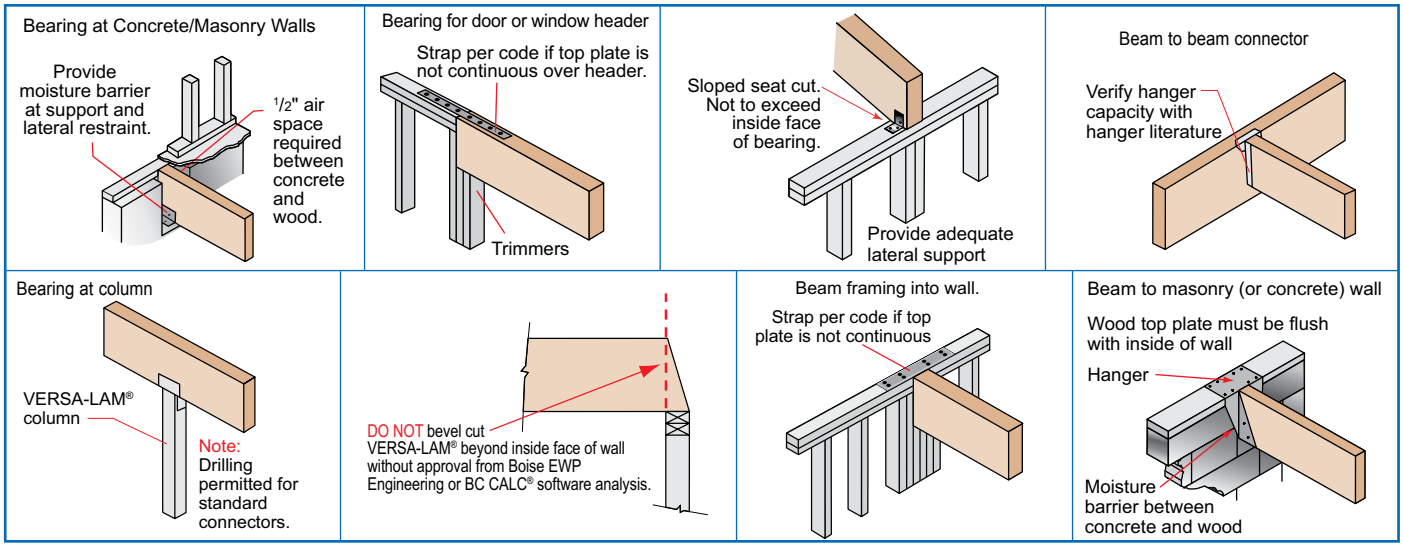


Nailing Perpendicular to Glue Lines (Wide Face)

Nailing Notes

1) For 1¾" thickness and greater, 2 rows of nails (such as for a metal strap) are allowed (use ½" minimum offset between rows and stagger nails).
2) For 2¼" thickness and greater, minimum nail spacing may be reduced to 3½" (use ¾" offset for multiple rows).

VERSA-LAM® Beam Details



VERSA-LAM® Installation Notes

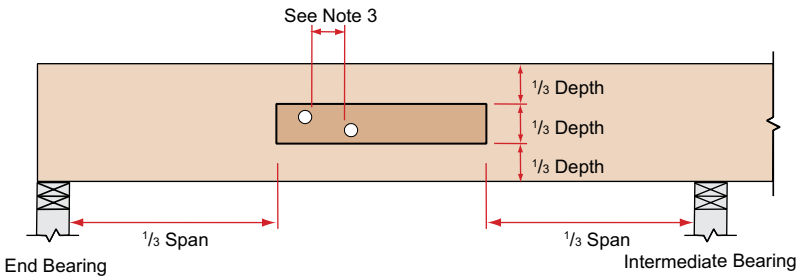
- Minimum of ½" air space between beam and wall pocket or adequate barrier must be provided between beam and concrete/masonry.
- Adequate bearing shall be provided. If not shown on plans, please refer to load tables in your region's Specifier Guide.
- VERSA-LAM® beams are intended for interior applications 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).

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 EWP Engineering.

If in doubt ask! For the number of the closest Boise EWP distributor/support center, call **1-800-232-0788**

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Boise is a participant in the Sustainable Forestry Initiative® (SFI®), a comprehensive forest management program that is a combination of environmental responsibilities and sound business practices. The procurement systems of Boise's engineered wood product facilities have been audited by PricewaterhouseCoopers to the SFI® Standard and its products will carry the SFI® Label. These procurement systems provide tracking information on Boise's supply chain sources.

Lifetime Guaranteed Quality and Performance

Boise warrants its BCI® Joist, VERSA-LAM®, and ALLJOIST® products to comply with our specifications, to be free from defects in material and workmanship, and to meet or exceed our performance specifications for the normal and expected life of the structure when correctly stored, installed and used according to our Installation Guide.

BCI® Joists, VERSA-LAM® and ALLJOIST® must be stored, installed and used in accordance with this Installation Guide, building codes and to the extent not inconsistent with this 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 this Installation Guide will void the limited warranty.

For information about Boise's engineered wood products, including sales terms and conditions, warranties and disclaimers,

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