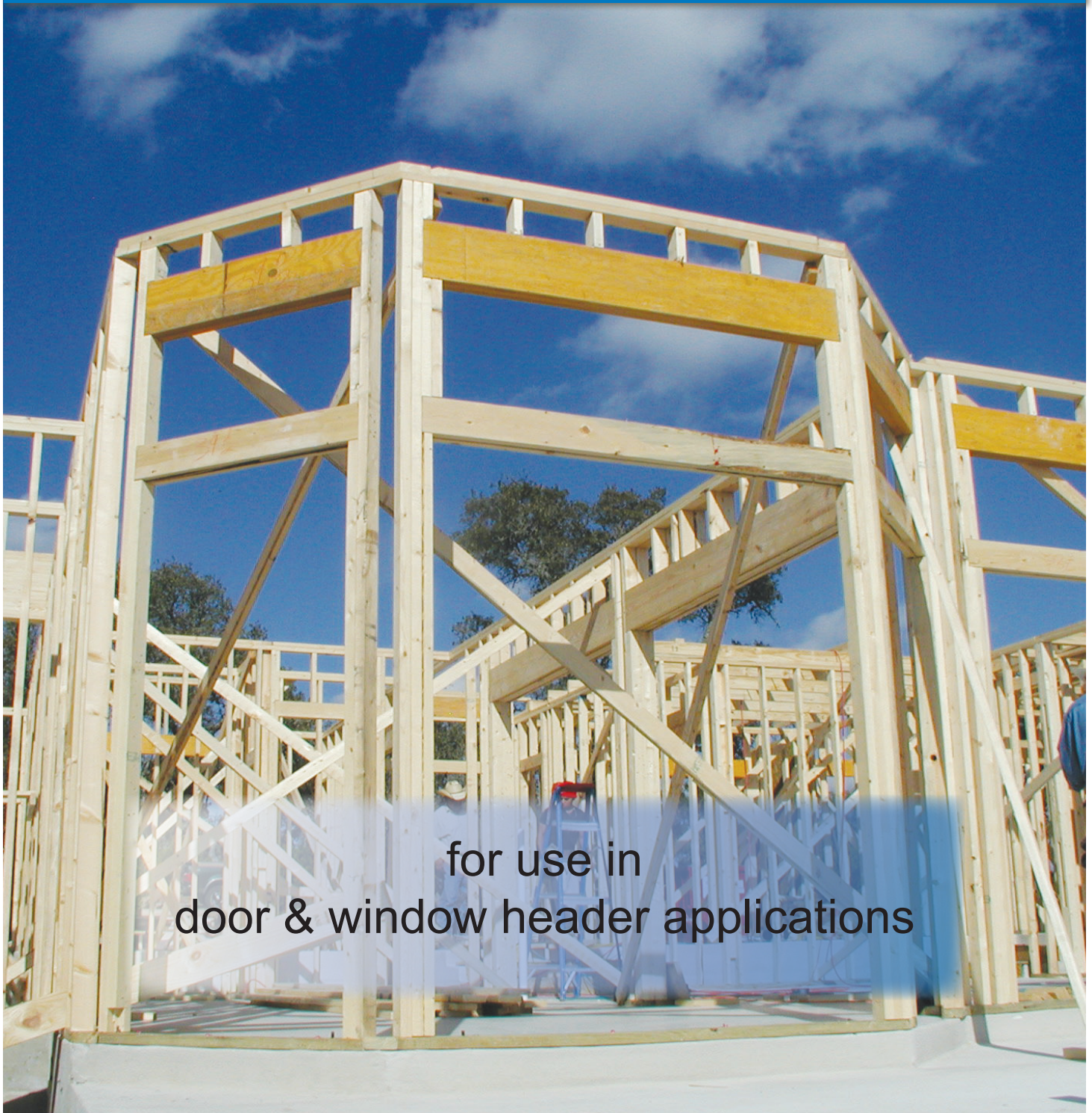




Boise Cascade
Engineered Wood Products

VERSA-LAM® 1.7 2650 EASTERN HEADER GUIDE

for products manufactured in Alexandria [Lena], Louisiana



for use in
door & window header applications

Boise Cascade's new VERSA-LAM® 1.7 2650 headers offer the perfect solution for door and window headers. Manufactured in widths of 1½", 1¾", 3½" and 5¼", and a variety of depths, these new one piece headers install quickly!

These new VERSA-LAM® 1.7 2650 headers won't shrink and are consistent in size. They are stronger than comparably sized dimension lumber and have a consistent moisture content to virtually eliminate drywall call-back problems.

Start framing today with Boise Cascade's new state-of-the-art door and window headers and sleep better tonight!



VERSA-LAM® 1.7 2650 Headers Features & Benefits

- One piece construction frames faster
- Utilizes veneer from smaller trees so it's environmentally friendly
- Widths match 2x4 or 2x6 walls so no shimming necessary
- Stronger than dimensional lumber so pieces may be value-engineered
- Consistent moisture content so shrinkage is eliminated
- Many depths available
- Guaranteed for life for peace of mind

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Width [in]	Depth [in]	Weight [lb/ft]	Allowable Shear [lb]	Allowable Moment [lb-ft]	Moment of Inertia [in ⁴]
1½	3½	1.5	998	776	5.4
	5½	2.4	1568	1821	20.8
	7¼	3.2	2066	3069	47.6
	9¼	4.0	2636	4862	98.9
	11¼	4.9	3206	7038	178.0
1¾	9½	4.8	3159	5966	125.0
	11⅞	6.0	3948	9093	244.2
	14	7.1	4655	12410	400.2
	16	8.1	5320	15970	597.3
3½	3½	3.6	2328	1810	12.5
	4¾	4.4	2909	2758	24.4
	5¼	5.3	3491	3892	42.2
	5½	5.6	3658	4250	48.5
	7	7.1	4655	6702	100.0
	8⅝	8.8	5736	9941	187.1
	9½	9.7	6318	11932	250.1
	11¼	11.4	7481	16421	415.3
	11⅞	12.1	7897	18187	488.4
	14	14.2	9310	24820	800.3
5¼	5¼	8.0	5237	5838	63.3
	7	10.7	6983	10053	150.1
5½	3½	5.6	2438	2575	19.7

Bearing Length Requirements for VERSA-LAM® 1.7 2650 Beams

Reaction [lb]	3½" VERSA-LAM® 1.7 2650 Bearing Length [in]	5¼" VERSA-LAM® 1.7 2650 Bearing Length [in]	5½" X 3½" VERSA-LAM® 1.7 2650 Bearing Length [in]
2,000	1.5"	1.5"	1.5"
4,000	1.5"	1.5"	1.6"
6,000	2.2"	1.5"	2.4"
8,000	3.0"	2.0"	3.2"
10,000	3.8"	2.5"	4.0"
12,000	4.5"	3.0"	4.8"
14,000	5.3"	3.5"	5.6"
16,000	6.0"	4.0"	6.4"
18,000	6.8"	4.5"	7.2"
20,000	7.6"	5.0"	8.0"
22,000	8.3"	5.5"	8.8"

Notes

- Minimum 1½" bearing length at end supports, 3½" bearing length at intermediate supports.
- Full beam width bearing required.
- Values based upon allowable compression perpendicular to grain of 750 lb/in² (450 lb/in² for 5½" x 3½").
- Bearing supports with lower compression values (dimension lumber plates) will require longer bearing lengths.

Allowable Design Stresses

Widths	Bending F _b [psi] ⁽¹⁾	Horizontal Shear F _v [psi]	Modulus of Elasticity (MOE) E [psi]	Tension Parallel to Grain F _t [psi] ⁽²⁾	Compression Parallel to Grain F _c [psi]	Compression Perpendicular to Grain F _c [psi]
1½", 1¾", 3½", 5¼", 5½"	2650*	285*	1,700,000	1650	3000	750*

*For 5½" x 3½" ONLY, the following values apply:

Bending F_b = 2400 psi, Horizontal Shear F_v = 190 psi, Compression Perpendicular to Grain F_c = 450 lb/in²

(1) Fiber stress bending value shall be multiplied by the depth factor, (12/d)^{1/9} where d = member depth [in]

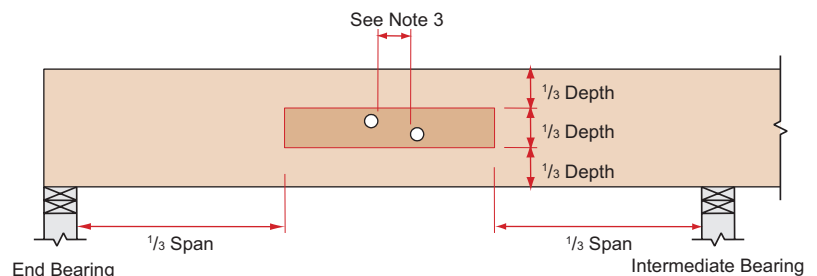
(2) Tension value shall be multiplied by a length factor, (4/L)^{1/8} where L = member length [ft]

Allowable Holes in VERSA-LAM® 1.7 2650 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
3½"	¾"
7¼"	1"
9¼" 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.

How to Use These Tables

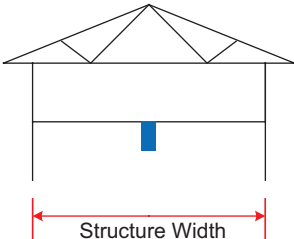
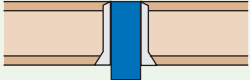
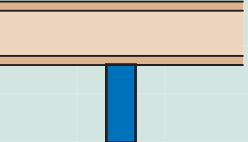
1. Determine HEADER TYPE.
2. Locate CLEAR SPAN.
3. Determine ROOF and/or FLOOR LOAD.
4. Select VERSA-LAM® 1.7 2650 header depth.

Notes:

- **Bolded beam depths require double 2x trimmers at each end.**
- Table valid for either simple or continuous spans.
- Deflection limited to L/360 live load and L/240 total load (L/240 live load and L/180 total load for Roof Only headers) or $\frac{5}{16}$ " total load deflection for headers 7" and smaller.
- All roof framing based upon exterior wall bearing trusses with 2'-0" max overhang.
- Exterior wall weight = 80 plf, interior wall weight = 60 plf.
- Tables based upon uniform loading applications shown in tables only (no attic loads from trusses considered).
- Double 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.



3½" DOOR AND WINDOW HEADERS Header Type Roof Only	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
3'-2"		3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"
3'-8"		3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	4⅜"
4'-2"		3½"	3½"	3½"	3½"	3½"	3½"	3½"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"
4'-8"		3½"	3½"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	5¼"
5'-2"		4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"
5'-8"		4⅜"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5½"	5½"	7"	7"
6'-2"		5¼"	5¼"	5¼"	5¼"	5½"	7"	7"	7"	7"	7"	7"	7"
6'-8"		5½"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	8⅝"
7'-2"		7"	7"	7"	7"	7"	7"	7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
8'-2"		7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
9'-2"		8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"

3½" DOOR AND WINDOW HEADERS Header Type Floor - 1 Story 	Clear Span	 Flush Header	Floor Load: 40 PSF Live, 12 PSF Dead Flush Joists			Floor Load: 40 PSF Live, 12 PSF Dead Continuous Joists			 Dropped Header
	3'-2"		Structure Width			Structure Width			
	3'-8"		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	
	4'-2"		3½"	3½"	3½"	3½"	3½"	3½"	
	4'-8"		3½"	3½"	4⅜"	4⅜"	4⅜"	4⅜"	
	5'-2"		4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	5¼"	
	5'-8"		4⅜"	5¼"	5¼"	5¼"	5¼"	5¼"	
	6'-2"		5¼"	5¼"	5¼"	5¼"	5¼"	5½"	
	6'-8"		5¼"	5½"	7"	5½"	7"	7"	
	7'-2"		5½"	7"	7"	7"	7"	7"	
	8'-2"		7"	7"	7"	7"	7"	7"	
	9'-2"		7"	7"	7"	7"	8⅝"	8⅝"	
	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"			
	8⅝"	8⅝"	9½"	9½"	9½"	11¼"			

How to Use These Tables

1. Determine HEADER TYPE.
2. Locate CLEAR SPAN.
3. Determine ROOF and/or FLOOR LOAD.
4. Select VERSA-LAM® 1.7 2650 header depth.

Notes:

- Bolded beam depths require double 2x trimmers at each end.
- Table valid for either simple or continuous spans.
- Deflection limited to L/360 live load and L/240 total load or 5/16" total load deflection for headers 7" and smaller.
- All roof framing based upon exterior wall bearing trusses with 2'-0" max overhang.
- Exterior wall weight = 80 plf, interior wall weight = 60 plf.
- Tables based upon uniform loading applications shown in tables only (no attic loads from trusses considered).
- Double 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.



3½" DOOR AND WINDOW HEADERS Header Type Roof + 1 Floor (middle support)	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	3'-2"	3½"	3½"	3½"	3½"	3½"	4¾"	3½"	4¾"	4¾"	4¾"	4¾"	4¾"
	3'-8"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	5½"	5½"
	4'-2"	4¾"	4¾"	4¾"	4¾"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"
	4'-8"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5½"	7"	5½"	7"	7"
	5'-2"	5¼"	5¼"	5½"	5½"	7"	7"	7"	7"	7"	7"	7"	7"
	5'-8"	5½"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	8⅝"
	6'-2"	7"	7"	7"	7"	7"	7"	7"	7"	8⅝"	8⅝"	8⅝"	8⅝"
	6'-8"	7"	7"	8⅝"	7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
	7'-2"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"
	8'-2"	8⅝"	8⅝"	8⅝"	8⅝"	9½"	9½"	9½"	9½"	11¼"	9½"	11¼"	11¼"
	9'-2"	9½"	9½"	9½"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"

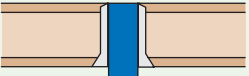
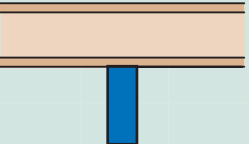
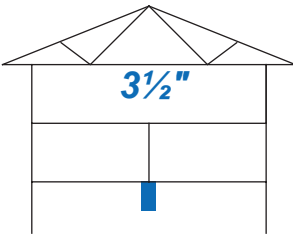
3½" DOOR AND WINDOW HEADERS Header Type Roof Only + 1 Floor (no mid support)	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	3'-2"	3½"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"	4¾"
	3'-8"	4¾"	4¾"	4¾"	4¾"	4¾"	5¼"	4¾"	5¼"	5¼"	5¼"	5¼"	5¼"
	4'-2"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5½"	5¼"	5½"	7"
	4'-8"	5¼"	5¼"	5½"	5½"	7"	7"	7"	7"	7"	7"	7"	7"
	5'-2"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"
	5'-8"	7"	7"	7"	7"	7"	7"	7"	7"	8⅝"	7"	8⅝"	8⅝"
	6'-2"	7"	7"	8⅝"	7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
	6'-8"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"
	7'-2"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"	8⅝"	9½"	9½"	9½"	9½"	11¼"
	8'-2"	9½"	9½"	9½"	9½"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"	11¼"

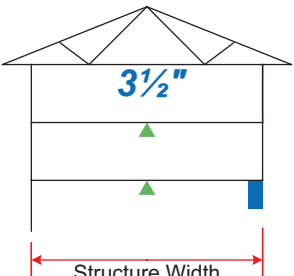
How to Use These Tables

1. Determine HEADER TYPE.
2. Locate CLEAR SPAN.
3. Determine ROOF and/or FLOOR LOAD.
4. Select VERSA-LAM® 1.7 2650 header depth.

Notes:

- Bolded beam depths require double 2x trimmers at each end.
- Table valid for either simple or continuous spans.
- Deflection limited to L/360 live load and L/240 total load or $\frac{5}{16}$ " total load deflection for headers 7" and smaller.
- All roof framing based upon exterior wall bearing trusses with 2'-0" max overhang.
- Exterior wall weight = 80 plf, interior wall weight = 60 plf.
- Tables based upon uniform loading applications shown in tables only (no attic loads from trusses considered).
- Double 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.

DOOR AND WINDOW HEADERS			Floor Load: 40 PSF Live, 12 PSF Dead Flush Joists			Floor Load: 40 PSF Live, 12 PSF Dead Continuous Joists			
Header Type Floor - 2 Stories	Clear Span		Structure Width			Structure Width			
			24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	
			4⅜"	4⅜"	4⅜"	4⅜"	5¼"	5¼"	
 Structure Width	3'-2"	5¼"	5¼"	5¼"	5¼"	5½"	5½"		
	3'-8"	5¼"	5½"	7"	7"	7"	7"		
	4'-2"	7"	7"	7"	7"	7"	7"		
	4'-8"	7"	7"	7"	7"	7"	8⅝"		
	5'-2"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"		
	5'-8"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"		
	6'-2"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"		

DOOR AND WINDOW HEADERS Header Type Roof + 2 Floors (middle support)	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
		4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"
 Structure Width	3'-2"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"	4⅜"
	3'-8"	4⅜"	4⅜"	4⅜"	4⅜"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"
	4'-2"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5¼"	5½"	5½"	5¼"	5½"	7"
	4'-8"	5¼"	5½"	7"	5¼"	5½"	7"	7"	7"	7"	7"	7"	7"
	5'-2"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"
	5'-8"	7"	7"	7"	7"	7"	8⅝"	7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
	6'-2"	7"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"
	6'-8"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"	8⅝"	9½"	9½"
	7'-2"	8⅝"	8⅝"	8⅝"	8⅝"	8⅝"	9½"	9½"	9½"	9½"	9½"	9½"	11¼"

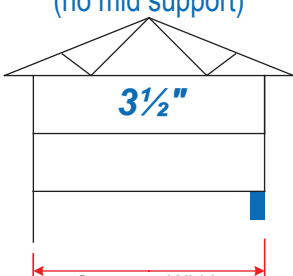
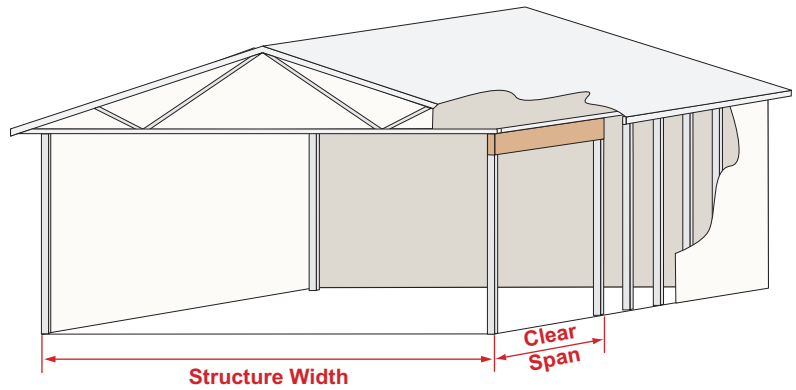
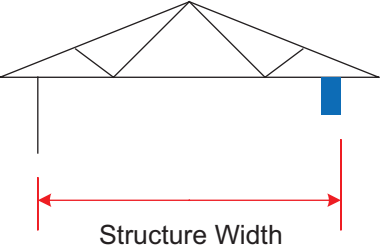
DOOR AND WINDOW HEADERS Header Type Roof + 2 Floors (no mid support) 	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
		4 3 / 8 "	4 3 / 8 "	5 1 / 4 "	4 3 / 8 "	5 1 / 4 "	5 1 / 4 "	4 3 / 8 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "
	3'-2"	4 3 / 8 "	4 3 / 8 "	5 1 / 4 "	4 3 / 8 "	5 1 / 4 "	5 1 / 4 "	4 3 / 8 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "
	3'-8"	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 4 "	5 1 / 2 "	5 1 / 4 "	5 1 / 4 "	7"	5 1 / 4 "	5 1 / 2 "	7"
	4'-2"	5 1 / 2 "	7"	7"	5 1 / 2 "	7"	7"	7"	7"	7"	7"	7"	7"
	4'-8"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	7"	8 5 / 8 "
	5'-2"	7"	7"	8 5 / 8 "	7"	8 5 / 8 "	8 5 / 8 "	7"	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "
	5'-8"	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	9 1 / 2 "	8 5 / 8 "	8 5 / 8 "	9 1 / 2 "
	6'-2"	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	8 5 / 8 "	9 1 / 2 "	9 1 / 2 "	9 1 / 2 "	9 1 / 2 "	9 1 / 2 "	9 1 / 2 "	9 1 / 2 "	11 1 / 4 "

TABLE NOTES

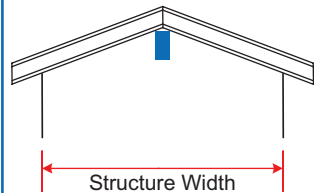
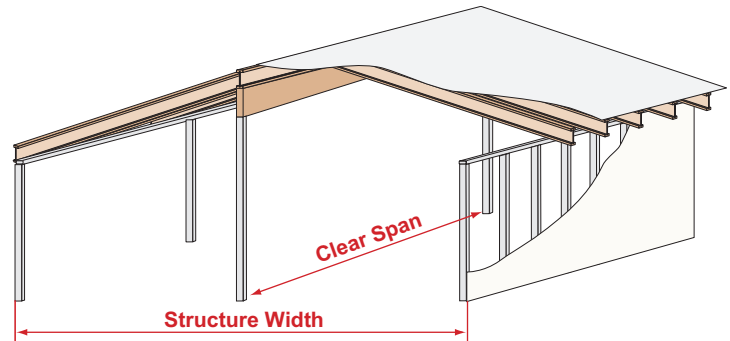
- Deflection is limited to L/240 live load and L/180 total load. Check local building code for other deflection limits that may apply.
- Table assumes roof framing with 2'-0" overhang and no interior bearing.
- Minimum end bearing based on the allowable compression design value perpendicular to grain for the VERSA-LAM® beam. Longer bearing lengths may be required depending support conditions (bearing on wall plate), use BC CALC® sizing software for analysis.
- Table assumes uniform loading only on simple or multiple spans.
- Table assumes that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table valid for dry-use conditions only.
- No attic loads from trusses have been considered.
- Double 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.
- It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.



 Structure Width		Garage Door and Other Roof Headers Minimum End Bearing Lengths: 2 trimmer studs (3") Bolded sizes require 3 trimmer studs (4½")						
Roof Load	Structure Width	Clear Span						
		8'-0"	9'-3"	10'-0"	12'-0"	14'-0"	16'-3"	18'-3"
20 psf Roof (125%) + 15 psf Dead	24'-0"	3½" x 7"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"
	36'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"
20 psf Roof (125%) + 20 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"
	36'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
25 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 7"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"
	36'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
30 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
	36'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"
40 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	3½" x 16"
	36'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	-

How to Use These Tables

1. Determine ROOF LOAD and STRUCTURE WIDTH.
2. Locate CLEAR SPAN.
3. Select VERSA-LAM® 1.7 2650 header size.



Ridge Beams

Minimum End Bearing Lengths:
2 trimmer studs (3").

Bolded sizes require 3 trimmer studs (4½").

Minimum Intermediate Bearing Length: 7½"

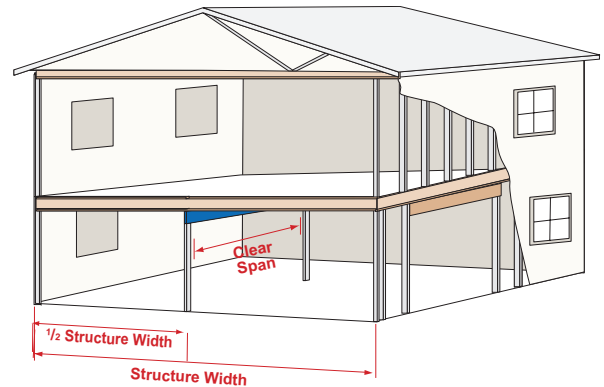
Roof Load	Structure Width	Clear Span							
		10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"
20 psf Roof (125%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	3½" x 16"
	30'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"	3½" x 16"	-
	36'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-
20 psf Roof (125%) + 20 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-
	30'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-
	36'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	3½" x 16"	-	-
25 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 14"	3½" x 16"	-
	30'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-
	36'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	3½" x 16"	-	-
30 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"	3½" x 16"	-
	30'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-
	36'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-	-
40 psf Roof (115%) + 15 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-	-
	30'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"	-	-	-
	36'-0"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	-	-	-	-

TABLE NOTES

- Deflection is limited to L/240 live load and L/180 total load. Check local building code for other deflection limits that may apply.
- Minimum end bearing based on the allowable compression design value perpendicular to grain for the VERSA-LAM® beam. Longer bearing lengths may be required depending support conditions (bearing on wall plate), use BC CALC® sizing software for analysis.
- Table assumes uniform loading only on simple or multiple spans.
- Table assumes that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table valid for dry-use conditions only.
- Double 1¼" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.
- It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

How to Use These Tables

1. Determine FLOOR LOAD and STRUCTURE WIDTH.
2. Locate CLEAR SPAN.
3. Select VERSA-LAM® 1.7 2650 header size.



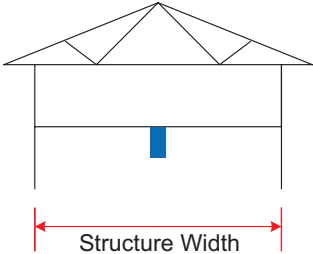
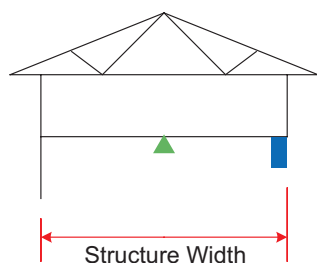
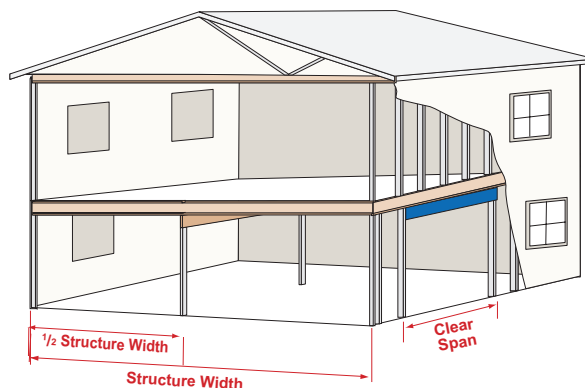
		Floor Beams Minimum End Bearing Lengths: 2 trimmer studs (3"). Bolded sizes require 3 trimmer studs (4½"). Minimum Intermediate Bearing Length: 7½"					
Floor Load	Structure Width	Clear Span					
		8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
40 psf Live + 12 psf Dead	20'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	3½" x 16"
	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11⅞"	3½" x 14"	3½" x 16"	-
	28'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 14"	3½" x 14"	3½" x 16"	-
	32'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 14"	3½" x 16"	-	-
	36'-0"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	-	-
	40'-0"	3½" x 9½"	3½" x 11⅞"	3½" x 14"	-	-	-
	44'-0"	3½" x 9½"	3½" x 14"	3½" x 16"	-	-	-

TABLE NOTES

- Deflection is limited to L/360 live load and L/240 total load. Check local building code for other deflection limits that may apply.
- Table assumes roof framing supported by exterior walls only, no interior bearing.
- Minimum end bearing based on the allowable compression design value perpendicular to grain for the VERSA-LAM® beam. Longer bearing lengths may be required depending support conditions (bearing on wall plate), use BC CALC® sizing software for analysis.
- Table assumes uniform loading only on simple or multiple spans.
- Table assumes that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table valid for dry-use conditions only.
- Double 1¼" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.
- It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® sizing software.

How to Use These Tables

1. Determine ROOF LOAD, FLOOR LOAD, and STRUCTURE WIDTH.
2. Locate CLEAR SPAN.
3. Select VERSA-LAM® 1.7 2650 header size.



Headers Supporting Floor and Roof

Minimum End Bearing Lengths:
2 trimmer studs (3").

Bolded sizes require 3 trimmer studs (4½").

Minimum Intermediate Bearing Length: 7½"

Loading	Structure Width	Clear Span					
		8'-0"	9'-3"	10'-0"	12'-0"	14'-0"	16'-3"
Floor: 40 psf Live + 12 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 9½"	3½" x 11⅞"	3½" x 14"	3½" x 16"
Roof: 20 psf Snow (125%) + 15 psf Dead	30'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
	36'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
Floor: 40 psf Live + 12 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
Roof: 20 psf Snow (125%) + 20 psf Dead	30'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
	36'-0"	3½" x 9½"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
Floor: 40 psf Live + 12 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"
Roof: 25 psf Snow (115%) + 15 psf Dead	30'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
	36'-0"	3½" x 9½"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
Floor: 40 psf Live + 12 psf Dead	24'-0"	3½" x 8⅝"	3½" x 9½"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
Roof: 30 psf Snow (115%) + 15 psf Dead	30'-0"	3½" x 9½"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
	36'-0"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"	-
Floor: 40 psf Live + 12 psf Dead	24'-0"	3½" x 8⅝"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-
Roof: 40 psf Snow (115%) + 15 psf Dead	30'-0"	3½" x 9½"	3½" x 11¼"	3½" x 11⅞"	3½" x 14"	3½" x 16"	-
	36'-0"	3½" x 11¼"	3½" x 11¼"	3½" x 14"	3½" x 16"	-	-

TABLE NOTES

- Deflection is limited to L/360 live load and L/240 total load. Check local building code for other deflection limits that may apply.
- Table assumes roof framing with 2'-0" overhang and no interior bearing.
- Exterior wall weight of 80 PLF assumed.
- Minimum end bearing based on the allowable compression design value perpendicular to grain for the VERSA-LAM® beam. Longer bearing lengths may be required depending support conditions (bearing on wall plate), use BC CALC® sizing software for analysis.
- Table assumes uniform loading only on simple or multiple spans.
- Table assumes that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table valid for dry-use conditions only.
- No attic loads from trusses have been considered.
- Double 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.
- It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® sizing software.

3½" VERSA-LAM® 1.7 2650 Header Sizing Tables

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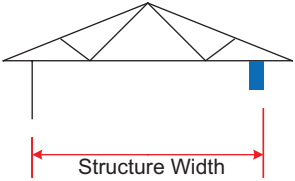
How to Use These Tables

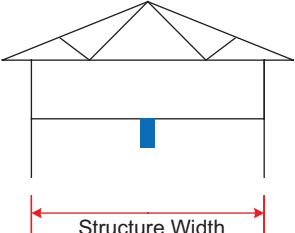
1. Determine HEADER TYPE.
2. Locate CLEAR SPAN.
3. Determine ROOF and/or FLOOR LOAD.
4. Select VERSA-LAM® 1.7 2650 header depth.

Notes:

- Bolded beam depths require double 2x trimmers at each end.
- Table valid for either simple or continuous spans.
- Deflection limited to L/360 live load and L/240 total load (L/240 live load and L/180 total load for Roof Only headers) or $\frac{5}{16}$ " total load deflection for headers 7" and smaller.
- All roof framing based upon exterior wall bearing trusses with 2'-0" max overhang.
- Exterior wall weight = 80 plf, interior wall weight = 60 plf.
- Tables based upon uniform loading applications shown in tables only (no attic loads from trusses considered).
- Triple 1¼" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.



5¼" & 5½" DOOR AND WINDOW HEADERS Header Type Roof Only		Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	Clear Span												
	3'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	3'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	4'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	4'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	5'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	5'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	6'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	6'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	7'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	8'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"

5¼" & 5½" DOOR AND WINDOW HEADERS Header Type Floor - 1 Story		Floor Load: 40 PSF Live, 12 PSF Dead Flush Joists			Floor Load: 40 PSF Live, 12 PSF Dead Continuous Joists		
		Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	Clear Span						
	3'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	3'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	4'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	4'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	5'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	5'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	6'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	6'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	7'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
	8'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"

How to Use These Tables

1. Determine HEADER TYPE.
2. Locate CLEAR SPAN.
3. Determine ROOF and/or FLOOR LOAD.
4. Select VERSA-LAM® 1.7 2650 header depth.

Notes:

- Bolded beam depths require double 2x trimmers at each end.
- Table valid for either simple or continuous spans.
- Deflection limited to L/360 live load and L/240 total load or 5/16" total load deflection for headers 7" and smaller.
- All roof framing based upon exterior wall bearing trusses with 2'-0" max overhang.
- Exterior wall weight = 80 plf, interior wall weight = 60 plf.
- Tables based upon uniform loading applications shown in tables only (no attic loads from trusses considered).
- Triple 1¼" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.



5¼" & 5½" DOOR AND WINDOW HEADERS Header Type Roof + 1 Floor (middle support)	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
	Structure Width			Structure Width			Structure Width			Structure Width		
	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
3'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
3'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
4'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
4'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
5'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
5'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
6'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
6'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
7'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"

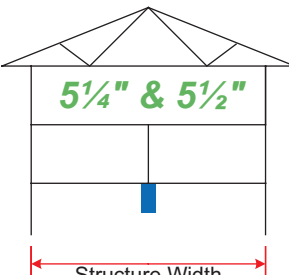
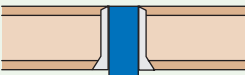
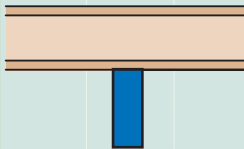
5¼" & 5½" DOOR AND WINDOW HEADERS Header Type Roof Only + 1 Floor (no mid support)	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
	Structure Width			Structure Width			Structure Width			Structure Width		
	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
3'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
3'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
4'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
4'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
5'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
5'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
6'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
6'-8"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"
7'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"

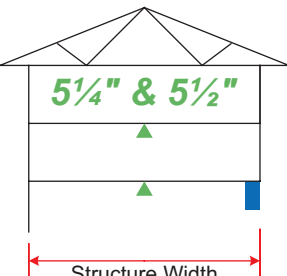
How to Use These Tables

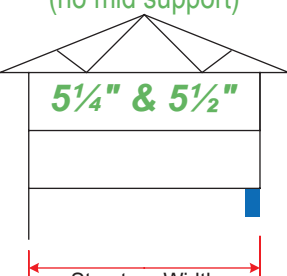
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- Triple 1¾" VERSA-LAM® 1.7 2650 may be substituted in these tables, see page 22 for proper multiple member connections.

DOOR AND WINDOW HEADERS			Floor Load: 40 PSF Live, 12 PSF Dead Flush Joists			Floor Load: 40 PSF Live, 12 PSF Dead Continuous Joists			
Header Type	Clear Span		Structure Width			Structure Width			
Floor - 2 Stories			24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	
	3'-2"		5 1/2" x 3 1/2"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	
	3'-8"		5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	
	4'-2"		5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	5 1/4" x 5 1/4"	
	4'-8"		5 1/4" x 5 1/4"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	
	5'-2"		5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	
	5'-8"		5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	5 1/4" x 7"	
	6'-2"		5 1/4" x 7"	5 1/4" x 7"					

DOOR AND WINDOW HEADERS Header Type Roof + 2 Floors (middle support)	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	3'-2"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5½" x 3½"	5¼" x 5¼"	5½" x 3½"	5¼" x 5¼"	5¼" x 5¼"
	3'-8"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	4'-2"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	4'-8"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 7"	5¼" x 5¼"	5¼" x 7"	5¼" x 7"
	5'-2"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 7"	5¼" x 5¼"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"
	5'-8"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"
	6'-2"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"		5¼" x 7"		
	6'-8"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"		5¼" x 7"					

DOOR AND WINDOW HEADERS Header Type Roof + 2 Floors (no mid support)	Clear Span	Roof Load: 20 PSF Non-Snow (125%), 15 PSF Dead			Roof Load: 30 PSF Snow (115%), 15 PSF Dead			Roof Load: 40 PSF Snow (115%), 15 PSF Dead			Roof Load: 50 PSF Snow (115%), 15 PSF Dead		
		Structure Width			Structure Width			Structure Width			Structure Width		
		24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"	24'-0"	28'-0"	32'-0"
	3'-2"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	3'-8"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"
	4'-2"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 5¼"	5¼" x 7"	5¼" x 5¼"	5¼" x 7"	5¼" x 7"
	4'-8"	5¼" x 5¼"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"
	5'-2"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"
	5'-8"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"	5¼" x 7"		5¼" x 7"	5¼" x 7"		5¼" x 7"		
	6'-2"	5¼" x 7"											

Column Length [ft]	Allowable Axial Load (lb)																	
	3½" x 3½"			3½" x 5¼"			3½" x 7"			5¼" x 5¼"			5¼" x 7"			7" x 7"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%
4	14,530	15,870	16,680	21,800	23,820	25,040	29,080	31,780	33,390									
5	12,050	12,880	13,370	18,090	19,350	20,090	24,140	25,800	26,790									
6	9,860	10,400	10,710	14,800	15,610	16,090	19,740	20,830	21,470	32,690	35,710	37,530						
7	8,110	8,480	8,690	12,170	12,740	13,060	16,240	16,980	17,420	28,940	31,150	32,440						
8	6,740	7,010	7,160	10,120	10,520	10,760	13,510	14,040	14,350	25,360	26,980	27,930	33,846	36,000	37,270			
9	5,670	5,870	5,980	8,520	8,820	8,990	11,370	11,760	11,990	22,180	23,400	24,110	29,600	31,230	32,180			
10	4,830	4,980	5,070	7,260	7,480	7,610	9,680	9,980	10,150	19,450	20,390	20,940	25,950	27,210	27,950			
11	4,160	4,270	4,340	6,250	6,420	6,520	8,330	8,560	8,700	17,130	17,880	18,310	22,870	23,870	24,440			
12	3,610	3,700	3,760	5,430	5,560	5,640	7,240	7,420	7,530	15,170	15,770	16,120	20,250	21,040	21,510			
13	3,170	3,240	3,280	4,760	4,870	4,930	6,350	6,490	6,580	13,510	14,000	14,280	18,030	18,680	19,050			
14	2,800	2,850	2,890	4,200	4,290	4,340	5,600	5,720	5,790	12,090	12,490	12,720	16,140	16,670	16,980	32,430	33,920	34,800
15										10,880	11,210	11,400	14,520	14,970	15,220	29,540	30,800	31,510
16										9,830	10,110	10,270	13,120	13,500	13,710	26,980	28,040	28,660
17										8,930	9,160	9,300	11,910	12,230	12,410	24,720	25,630	26,140
18										8,140	8,340	8,450	10,860	11,130	11,290	22,710	23,490	23,950
19										7,440	7,620	7,720	9,940	10,170	10,300	20,930	21,610	22,000
20										6,840	6,990	7,070	9,120	9,330	9,440	19,340	19,930	20,280
21										6,300	6,430	6,500	8,400	8,580	8,680	17,920	18,440	18,740
22																16,650	17,100	17,370
23																15,500	15,910	16,140
24																14,470	14,830	15,030

Allowable Design Stresses

Modulus of Elasticity: $E = 1.7 \times 10^6$ psi

Flexural Stress: $F_b = 2650(12/d)^{1/9}$ psi

Compression Parallel to Grain: $F_{c||} = 3000$ psi

Compression Perpendicular to Grain: $F_{c\perp} = 450$ psi

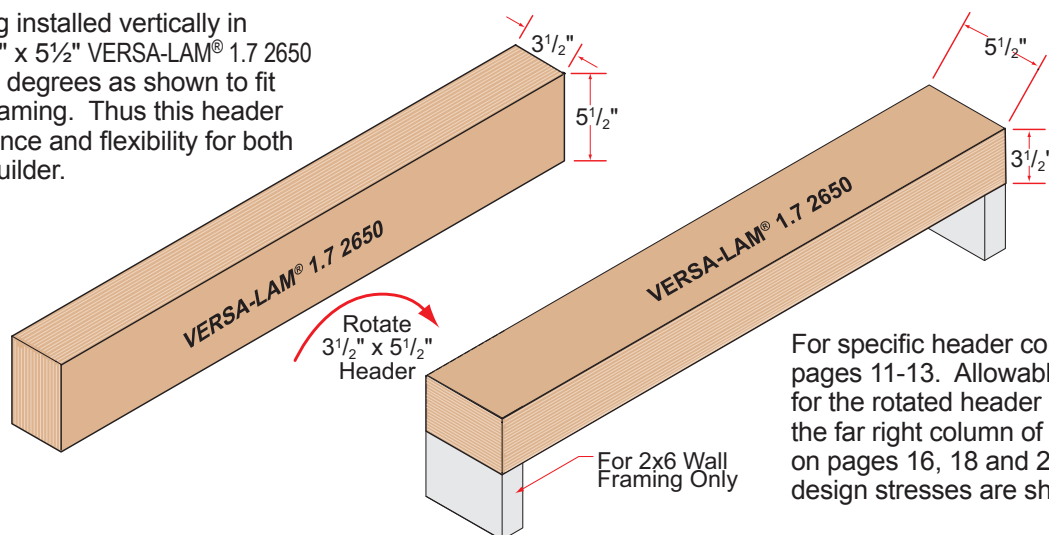
Tension Parallel to Grain: $F_t = 1650$ psi

Notes

- 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 Cascade 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), 2001 edition. For side or other combined bending and axial loads, see provisions of NDS, 2001 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.

Rotated 5½" x 3½" VERSA-LAM® 1.7 2650 Header

In addition to being installed vertically in 2x4 framing, a 3½" x 5½" VERSA-LAM® 1.7 2650 may be rotated 90 degrees as shown to fit flush in 2x6 wall framing. Thus this header provides convenience and flexibility for both the supplier and builder.



For specific header conditions, see pages 11-13. Allowable PLF values for the rotated header are listed in the far right column of the PLF tables on pages 16, 18 and 20. Allowable design stresses are shown on page 3.

3½"

VERSA-LAM® 1.7 2650 (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 [ft]	Width =										
	3½"										
	Depth =										
	3½"	4¾"	5¼"	5½"	7"	8¾"	9½"	11¼"	11¾"	14"	16"
3	1466	1922	2423	2576	3597	4952	5822	7969	8907	13129	
	1166	-	-	-	-	-	-	-	-	-	
	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.7	2.1 / 5.1	2.8 / 7.1	3.3 / 8.3	4.6 / 11.4	5.1 / 12.7	7.5 / 18.8	
4	735	1358	1687	1786	2422	3211	3688	4777	5216	6968	9104
	492	961	1661	-	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.5 / 6.1	2.8 / 7	3.6 / 9.1	4 / 10	5.3 / 13.3	6.9 / 17.4
5	374	734	1240	1354	1824	2375	2698	3409	3686	4740	5922
	252	492	850	978	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.7 / 4.4	2.3 / 5.7	2.6 / 6.4	3.3 / 8.1	3.5 / 8.8	4.5 / 11.3	5.7 / 14.1
6	215	423	733	843	1463	1883	2126	2649	2849	3590	4387
	146	285	492	566	1166	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	2.2 / 5.4	2.4 / 6.1	3 / 7.6	3.3 / 8.2	4.1 / 10.3	5 / 12.6
7	134	265	460	529	1087	1560	1753	2165	2321	2888	3482
	92	179	310	356	735	1374	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 5.2	2.4 / 5.9	2.9 / 7.3	3.1 / 7.8	3.9 / 9.7	4.7 / 11.7
8	89	176	306	352	731	1234	1482	1830	1957	2414	2886
	62	120	208	239	492	921	1230	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.7	2.3 / 5.7	2.8 / 7	3 / 7.5	3.7 / 9.3	4.4 / 11.1
9	61	122	213	246	511	961	1169	1585	1692	2074	2463
	43	84	146	168	346	647	864	1435	1687	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	2 / 5.1	2.7 / 6.8	2.9 / 7.3	3.6 / 8.9	4.3 / 10.6
10		88	154	178	371	698	935	1302	1443	1817	2148
		62	106	122	252	471	630	1046	1230	-	-
		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.8 / 4.5	2.5 / 6.3	2.8 / 6.9	3.5 / 8.7	4.1 / 10.3
12			87	101	212	400	537	896	998	1365	1709
			62	71	146	273	364	605	712	1166	-
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	3.9 / 9.9
14			53	61	131	249	335	560	660	999	1287
			39	45	92	172	230	381	448	735	1096
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.8 / 4.5	2.7 / 6.8	3.5 / 8.7
16					85	164	221	372	438	724	982
					62	115	154	255	300	492	735
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	2.2 / 5.6	3 / 7.6
18					58	112	152	258	304	504	758
					43	81	108	179	211	346	516
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.4	2.7 / 6.6
20						80	108	185	219	364	548
						59	79	131	154	252	376
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 5.4
22						58	79	136	161	270	408
						44	59	98	116	189	283
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.4
24							59	102	121	204	310
							46	76	89	146	218
							1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7
26								78	93	158	241
								60	70	115	171
								1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2
28								60	72	124	189
								48	56	92	137
								1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3
30									56	98	151
									46	75	111
									1.5 / 3	1.5 / 3	1.5 / 3

- Total Load values are limited by shear, moment or deflection equal to L/240. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/360. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1½ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

VERSA-LAM® 1.7 2650 Floor Load Tables

1½", 1¾",
5¼", 5½"

VERSA-LAM® 1.7 2650 (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 [ft]	Width = 1½"					Width = 1¾"				Width = 5¼"		Width = 5½"
	Depth =					Depth =				Depth =		Depth =
	3½"	5½"	7¼"	9¼"	11¼"	9½"	11½"	14"	16"	5½"	7"	3½"
3	628	1104	1623	2384	3415	2911	4453	6565		3635	5395	1534
	500	-	-	-	-	-	-	-		-	-	-
	1.5 / 3	1.5 / 3.7	2.2 / 5.4	3.2 / 8	4.6 / 11.4	3.3 / 8.3	5.1 / 12.7	7.5 / 18.8		1.5 / 3.5	2.1 / 5.1	1.5 / 3
4	315	765	1087	1521	2047	1844	2608	3484	4552	2531	3632	1099
	211	-	-	-	-	-	-	-	-	2491	-	773
	1.5 / 3	1.5 / 3.4	1.9 / 4.8	2.7 / 6.8	3.6 / 9.1	2.8 / 7	4 / 10	5.3 / 13.3	6.9 / 17.4	1.5 / 3.2	1.9 / 4.6	1.5 / 3
5	160	580	817	1116	1461	1349	1843	2370	2961	1860	2737	588
	108	419	-	-	-	-	-	-	-	1276	-	396
	1.5 / 3	1.5 / 3.2	1.8 / 4.6	2.5 / 6.2	3.3 / 8.1	2.6 / 6.4	3.5 / 8.8	4.5 / 11.3	5.7 / 14.1	1.5 / 3	1.7 / 4.4	1.5 / 3
6	92	361	654	881	1135	1063	1424	1795	2193	1099	2194	338
	62	242	555	-	-	-	-	-	-	738	1750	229
	1.5 / 3	1.5 / 3	1.8 / 4.4	2.4 / 5.9	3 / 7.6	2.4 / 6.1	3.3 / 8.2	4.1 / 10.3	5 / 12.6	1.5 / 3	1.7 / 4.2	1.5 / 3
7	58	227	498	727	928	877	1160	1444	1741	689	1631	211
	39	153	350	726	-	-	-	-	-	465	1102	144
	1.5 / 3	1.5 / 3	1.6 / 3.9	2.3 / 5.7	2.9 / 7.3	2.4 / 5.9	3.1 / 7.8	3.9 / 9.7	4.7 / 11.7	1.5 / 3	1.5 / 3.6	1.5 / 3
8	151	348	604	784	741	979	1207	1443	1459	459	1097	139
	102	234	487	-	615	-	-	-	-	311	738	97
	1.5 / 3	1.5 / 3.1	2.2 / 5.4	2.8 / 7	2.3 / 5.7	3 / 7.5	3.7 / 9.3	4.4 / 11.1	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3
9	105	244	476	679	584	846	1037	1231	320	767	96	96
	72	165	342	615	432	844	-	-	219	518	68	68
	1.5 / 3	1.5 / 3	1.9 / 4.8	2.7 / 6.8	2 / 5.1	2.9 / 7.3	3.6 / 8.9	4.3 / 10.6	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3
10	76	177	370	558	468	721	909	1074	231	556	69	69
	52	120	249	448	315	615	-	-	159	378	49	49
	1.5 / 3	1.5 / 3	1.7 / 4.2	2.5 / 6.3	1.8 / 4.5	2.8 / 6.9	3.5 / 8.7	4.1 / 10.3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3
12	101	212	384	269	499	682	855	130	317			
	69	144	259	182	356	583	-	92	219			
	1.5 / 3	1.5 / 3	2.1 / 5.2	1.5 / 3.1	2.3 / 5.8	3.2 / 7.9	3.9 / 9.9	1.5 / 3	1.5 / 3			
14	62	132	240	167	330	499	644	79	196			
	44	91	163	115	224	367	548	58	138			
	1.5 / 3	1.5 / 3	1.5 / 3.8	1.5 / 3	1.8 / 4.5	2.7 / 6.8	3.5 / 8.7	1.5 / 3	1.5 / 3			
16	87	159	110	219	362	491	50	128				
	61	109	77	150	246	367	39	92				
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	2.2 / 5.6	3 / 7.6	1.5 / 3	1.5 / 3				
18	60	110	76	152	252	379	87					
	43	77	54	105	173	258	65					
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.4	2.7 / 6.6	1.5 / 3					
20	79	54	109	182	274	60						
	56	39	77	126	188	47						
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 5.4	1.5 / 3						
22	58	81	135	204								
	42	58	95	141								
	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.4								
24	61	102	155									
	44	73	109									
	1.5 / 3	1.5 / 3	1.5 / 3.7									
26	79	120										
	57	86										
	1.5 / 3	1.5 / 3.2										
28	62	95										
	46	69										
	1.5 / 3	1.5 / 3										
30	75											
	56											
	1.5 / 3											

- Total Load values are limited by shear, moment or deflection equal to L/240. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/360. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1¾ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

3½"

VERSA-LAM® 1.7 2650 (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 [ft]	Width =										
	3½"										
	Depth =										
	3½"	4¾"	5¼"	5½"	7"	8¾"	9½"	11¼"	11¾"	14"	16"
3	1687	2211	2788	2963	4137	5696	6697	9166	10245	15101	
	-	-	-	-	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3.2	1.6 / 4	1.7 / 4.2	2.4 / 5.9	3.3 / 8.1	3.8 / 9.6	5.2 / 13.1	5.9 / 14.7	8.6 / 21.6	
4	981	1562	1941	2055	2786	3694	4243	5495	6000	8016	10472
	738	1442	-	-	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3.7	1.6 / 3.9	2.1 / 5.3	2.8 / 7.1	3.2 / 8.1	4.2 / 10.5	4.6 / 11.5	6.1 / 15.3	8 / 20
5	500	980	1427	1558	2099	2732	3104	3922	4241	5453	6813
	378	738	1276	1467	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 3.7	2 / 5	2.6 / 6.5	3 / 7.4	3.7 / 9.4	4.1 / 10.1	5.2 / 13	6.5 / 16.3
6	288	565	979	1080	1683	2167	2446	3048	3278	4130	5047
	219	427	738	849	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2.5 / 6.2	2.8 / 7	3.5 / 8.7	3.8 / 9.4	4.7 / 11.8	5.8 / 14.5
7	180	354	614	707	1251	1795	2018	2491	2670	3323	4007
	138	269	465	534	1102	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	2.4 / 6	2.7 / 6.8	3.3 / 8.3	3.6 / 8.9	4.4 / 11.1	5.4 / 13.4
8	119	236	410	472	956	1420	1706	2106	2252	2779	3321
	92	180	311	358	738	1381	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	2.2 / 5.4	2.6 / 6.5	3.2 / 8.1	3.5 / 8.6	4.3 / 10.6	5.1 / 12.7
9	83	164	286	330	684	1120	1346	1824	1947	2387	2835
	65	127	219	251	518	970	1296	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.8	2.3 / 5.8	3.1 / 7.9	3.4 / 8.4	4.1 / 10.3	4.9 / 12.2
10	59	119	207	239	497	906	1088	1499	1661	2092	2472
	47	92	159	183	378	707	945	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.4	2.1 / 5.2	2.9 / 7.2	3.2 / 8	4 / 10	4.7 / 11.9
12		67	118	136	285	537	719	1038	1150	1571	1968
		53	92	106	219	409	547	908	1068	-	-
		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.4 / 6	2.7 / 6.6	3.6 / 9.1	4.5 / 11.3
14		40	72	83	177	335	449	751	842	1151	1483
		34	58	67	138	258	344	572	672	1102	-
		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	2 / 5.1	2.3 / 5.7	3.1 / 7.8	4 / 10
16			47	54	116	221	298	499	589	878	1132
			39	45	92	173	231	383	450	738	1102
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9	1.8 / 4.6	2.7 / 6.8	3.5 / 8.7
18					79	153	206	347	410	677	891
					65	121	162	269	316	518	774
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	3.1 / 7.8
20					56	109	148	250	295	490	718
					47	88	118	196	231	378	564
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.8	2.8 / 7
22					40	80	109	185	219	364	549
					35	66	89	147	173	284	424
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 4	2.4 / 5.9
24						59	81	140	166	277	419
						51	68	113	133	219	326
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	2 / 5
26						45	62	108	128	215	326
						40	54	89	105	172	257
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2
28							48	84	100	169	258
							43	71	84	138	206
							1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7
30								66	79	135	207
								58	68	112	167
								1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2

- Total Load values are limited by shear, moment or deflection equal to L/180. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1¼ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

1½", 1¾",
5¼", 5½"

VERSA-LAM® 1.7 2650 (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 [ft]	Width = 1½"					Width = 1¾"				Width = 5¼"		Width = 5½"
	Depth =					Depth =				Depth =		Depth =
	3½"	5½"	7¼"	9¼"	11¼"	9½"	11½"	14"	16"	5¼"	7"	3½"
3	723	1270	1867	2742	3928	3348	5122	7550		4181	6206	1765
	-	-	-	-	-	-	-	-	-	-	-	-
	1.5 / 3	1.7 / 4.2	2.5 / 6.2	3.7 / 9.2	5.2 / 13.1	3.8 / 9.6	5.9 / 14.7	8.6 / 21.6		1.6 / 4	2.4 / 5.9	1.5 / 3
4	420	881	1250	1749	2355	2122	3000	4008	5236	2912	4179	1264
	316	-	-	-	-	-	-	-	-	-	-	1160
	1.5 / 3	1.6 / 3.9	2.2 / 5.6	3.1 / 7.8	4.2 / 10.5	3.2 / 8.1	4.6 / 11.5	6.1 / 15.3	8 / 20	1.5 / 3.7	2.1 / 5.3	1.5 / 3
5	214	668	939	1284	1681	1552	2120	2726	3407	2140	3149	786
	162	629	-	-	-	-	-	-	-	1913	-	594
	1.5 / 3	1.5 / 3.7	2.1 / 5.2	2.9 / 7.2	3.7 / 9.4	3 / 7.4	4.1 / 10.1	5.2 / 13	6.5 / 16.3	1.5 / 3.4	2 / 5	1.5 / 3
6	123	463	752	1014	1306	1223	1639	2065	2523	1468	2525	453
	94	364	-	-	-	-	-	-	-	1107	-	344
	1.5 / 3	1.5 / 3.1	2 / 5	2.7 / 6.8	3.5 / 8.7	2.8 / 7	3.8 / 9.4	4.7 / 11.8	5.8 / 14.5	1.5 / 3	1.9 / 4.8	1.5 / 3
7	77	303	573	837	1068	1009	1335	1661	2003	922	1877	283
	59	229	525	-	-	-	-	-	-	697	1653	216
	1.5 / 3	1.5 / 3	1.8 / 4.5	2.6 / 6.5	3.3 / 8.3	2.7 / 6.8	3.6 / 8.9	4.4 / 11.1	5.4 / 13.4	1.5 / 3	1.7 / 4.2	1.5 / 3
8	51	202	438	695	903	853	1126	1389	1660	615	1434	188
	40	153	351	-	-	-	-	-	-	467	1107	145
	1.5 / 3	1.5 / 3	1.6 / 3.9	2.5 / 6.2	3.2 / 8.1	2.6 / 6.5	3.5 / 8.6	4.3 / 10.6	5.1 / 12.7	1.5 / 3	1.5 / 3.7	1.5 / 3
9		141	326	548	782	673	974	1194	1417	429	1026	130
		108	247	513	-	648	-	-	-	328	778	102
		1.5 / 3	1.5 / 3.3	2.2 / 5.5	3.1 / 7.9	2.3 / 5.8	3.4 / 8.4	4.1 / 10.3	4.9 / 12.2	1.5 / 3	1.5 / 3	1.5 / 3
10		102	237	443	643	544	831	1046	1236	311	745	93
		79	180	374	-	472	-	-	-	239	567	74
		1.5 / 3	1.5 / 3	2 / 5	2.9 / 7.2	2.1 / 5.2	3.2 / 8	4 / 10	4.7 / 11.9	1.5 / 3	1.5 / 3	1.5 / 3
12		58	136	284	445	360	575	786	984	177	427	52
		45	104	216	389	273	534	-	-	138	328	43
		1.5 / 3	1.5 / 3	1.5 / 3.8	2.4 / 6	1.7 / 4.2	2.7 / 6.6	3.6 / 9.1	4.5 / 11.3	1.5 / 3	1.5 / 3	1.5 / 3
14			84	178	322	225	421	575	741	108	265	
			66	136	245	172	336	551	-	87	207	
			1.5 / 3	1.5 / 3	2 / 5.1	1.5 / 3.1	2.3 / 5.7	3.1 / 7.8	4 / 10	1.5 / 3	1.5 / 3	
16			55	118	214	149	294	439	566	70	174	
			44	91	164	115	225	369	551	58	138	
			1.5 / 3	1.5 / 3	1.6 / 3.9	1.5 / 3	1.8 / 4.6	2.7 / 6.8	3.5 / 8.7	1.5 / 3	1.5 / 3	
18				81	149	103	205	339	445	47	119	
				64	115	81	158	259	387	41	97	
				1.5 / 3	1.5 / 3.1	1.5 / 3	1.5 / 3.6	2.4 / 5.9	3.1 / 7.8	1.5 / 3	1.5 / 3	
20				58	107	74	148	245	359		84	
				47	84	59	115	189	282		71	
				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.8	2.8 / 7		1.5 / 3	
22				43	79	54	109	182	274		60	
				35	63	44	87	142	212		53	
				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 4	2.4 / 5.9		1.5 / 3	
24					60	41	83	139	210		44	
					49	34	67	109	163		41	
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	2 / 5		1.5 / 3	
26					46		64	108	163			
					38		52	86	128			
					1.5 / 3		1.5 / 3	1.5 / 3	1.7 / 4.2			
28							50	85	129			
							42	69	103			
							1.5 / 3	1.5 / 3	1.5 / 3.7			
30							40	68	103			
							34	56	84			
							1.5 / 3	1.5 / 3	1.5 / 3.2			

- Total Load values are limited by shear, moment or deflection equal to L/180. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1¾ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

3½"

VERSA-LAM® 1.7 2650 (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 [ft]	Width = 3½"										
	Depth =										
	3½"	4¾"	5¼"	5½"	7"	8⅝"	9½"	11¼"	11⅞"	14"	16"
3	1834	2403	3031	3222	4498	6192	7280	9964	11136		
	1750	-	-	-	-	-	-	-	-		
	1.5 / 3	1.5 / 3.4	1.7 / 4.3	1.8 / 4.6	2.6 / 6.4	3.5 / 8.9	4.2 / 10.4	5.7 / 14.3	6.4 / 15.9		
4	981	1699	2111	2234	3029	4016	4613	5974	6523	8714	11384
	738	1442	-	-	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3.2	1.6 / 4	1.7 / 4.3	2.3 / 5.8	3.1 / 7.7	3.5 / 8.8	4.6 / 11.4	5 / 12.4	6.7 / 16.6	8.7 / 21.7
5	500	980	1552	1694	2282	2971	3375	4264	4610	5928	7407
	378	738	1276	1467	-	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3.7	1.6 / 4	2.2 / 5.5	2.8 / 7.1	3.2 / 8.1	4.1 / 10.2	4.4 / 11	5.7 / 14.1	7.1 / 17.7
6	288	565	979	1126	1830	2356	2660	3314	3564	4491	5487
	219	427	738	849	1750	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	2.1 / 5.3	2.7 / 6.8	3.1 / 7.6	3.8 / 9.5	4.1 / 10.2	5.1 / 12.9	6.3 / 15.7
7	180	354	614	707	1361	1952	2194	2709	2904	3613	4356
	138	269	465	534	1102	-	-	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.9 / 7.3	3.6 / 9.1	3.9 / 9.7	4.8 / 12.1	5.8 / 14.6
8	119	236	410	472	977	1545	1855	2290	2449	3022	3611
	92	180	311	358	738	1381	1845	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	2.4 / 5.9	2.8 / 7.1	3.5 / 8.8	3.8 / 9.4	4.6 / 11.6	5.5 / 13.8
9	83	164	286	330	684	1219	1463	1984	2117	2596	3083
	65	127	219	251	518	970	1296	-	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	2.1 / 5.3	2.5 / 6.3	3.4 / 8.6	3.7 / 9.1	4.5 / 11.2	5.3 / 13.3
10	59	119	207	239	497	934	1184	1631	1807	2275	2689
	47	92	159	183	378	707	945	1569	-	-	-
	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.5	2.3 / 5.7	3.1 / 7.8	3.5 / 8.7	4.4 / 10.9	5.2 / 12.9
12		67	118	136	285	537	719	1129	1251	1709	2141
		53	92	106	219	409	547	908	1068	-	-
		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.6 / 6.5	2.9 / 7.2	3.9 / 9.8	4.9 / 12.3
14		40	72	83	177	335	449	751	884	1252	1613
		34	58	67	138	258	344	572	672	1102	-
		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	2 / 5.1	2.4 / 6	3.4 / 8.4	4.3 / 10.9
16			47	54	116	221	298	499	589	955	1231
			39	45	92	173	231	383	450	738	1102
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9	1.8 / 4.6	3 / 7.4	3.8 / 9.5
18					79	153	206	347	410	677	970
					65	121	162	269	316	518	774
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	3.4 / 8.4
20					56	109	148	250	295	490	736
					47	88	118	196	231	378	564
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.8	2.9 / 7.2
22					40	80	109	185	219	364	549
					35	66	89	147	173	284	424
					1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 4	2.4 / 5.9
24						59	81	140	166	277	419
						51	68	113	133	219	326
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	2 / 5
26						45	62	108	128	215	326
						40	54	89	105	172	257
						1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2
28							48	84	100	169	258
							43	71	84	138	206
							1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7
30								66	79	135	207
								58	68	112	167
								1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2

- Total Load values are limited by shear, moment or deflection equal to L/180. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1½ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

1½", 1¾",
5¼", 5½"

VERSA-LAM® 1.7 2650 (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]

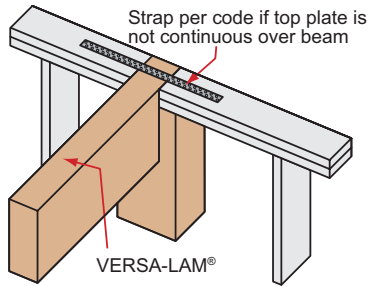
Span [ft]	Width = 1½"					Width = 1¾"				Width = 5¼"		Width = 5½"
	Depth =					Depth =				Depth =		Depth =
	3½"	5½"	7¼"	9¼"	11¼"	9½"	11½"	14"	16"	5¼"	7"	3½"
3	786	1381	2029	2980	4270	3640	5568			4546	6747	1919
	750	-	-	-	-	-	-			-	-	-
	1.5 / 3	1.8 / 4.6	2.7 / 6.8	4 / 9.9	5.7 / 14.3	4.2 / 10.4	6.4 / 15.9			1.7 / 4.3	2.6 / 6.4	1.5 / 3
4	420	957	1359	1902	2560	2306	3262	4357	5692	3166	4543	1375
	316	-	-	-	-	-	-	-	-	-	-	1160
	1.5 / 3	1.7 / 4.3	2.4 / 6.1	3.4 / 8.5	4.6 / 11.4	3.5 / 8.8	5 / 12.4	6.7 / 16.6	8.7 / 21.7	1.6 / 4	2.3 / 5.8	1.5 / 3
5	214	726	1021	1396	1827	1687	2305	2964	3704	2327	3423	786
	162	629	-	-	-	-	-	-	-	1913	-	594
	1.5 / 3	1.6 / 4	2.3 / 5.7	3.1 / 7.8	4.1 / 10.2	3.2 / 8.1	4.4 / 11	5.7 / 14.1	7.1 / 17.7	1.5 / 3.7	2.2 / 5.5	1.5 / 3
6	123	483	818	1102	1420	1330	1782	2245	2744	1468	2746	453
	94	364	-	-	-	-	-	-	-	1107	2625	344
	1.5 / 3	1.5 / 3.2	2.2 / 5.5	2.9 / 7.4	3.8 / 9.5	3.1 / 7.6	4.1 / 10.2	5.1 / 12.9	6.3 / 15.7	1.5 / 3	2.1 / 5.3	1.5 / 3
7	77	303	623	910	1161	1097	1452	1807	2178	922	2041	283
	59	229	525	-	-	-	-	-	-	697	1653	216
	1.5 / 3	1.5 / 3	1.9 / 4.9	2.8 / 7.1	3.6 / 9.1	2.9 / 7.3	3.9 / 9.7	4.8 / 12.1	5.8 / 14.6	1.5 / 3	1.8 / 4.6	1.5 / 3
8	51	202	465	756	982	927	1225	1511	1806	615	1466	188
	40	153	351	730	-	923	-	-	-	467	1107	145
	1.5 / 3	1.5 / 3	1.7 / 4.2	2.7 / 6.8	3.5 / 8.8	2.8 / 7.1	3.8 / 9.4	4.6 / 11.6	5.5 / 13.8	1.5 / 3	1.5 / 3.7	1.5 / 3
9		141	326	596	850	732	1059	1298	1541	429	1026	130
		108	247	513	-	648	-	-	-	328	778	102
		1.5 / 3	1.5 / 3.3	2.4 / 6	3.4 / 8.6	2.5 / 6.3	3.7 / 9.1	4.5 / 11.2	5.3 / 13.3	1.5 / 3	1.5 / 3	1.5 / 3
10		102	237	482	699	592	903	1138	1344	311	745	93
		79	180	374	672	472	-	-	-	239	567	74
		1.5 / 3	1.5 / 3	2.2 / 5.4	3.1 / 7.8	2.3 / 5.7	3.5 / 8.7	4.4 / 10.9	5.2 / 12.9	1.5 / 3	1.5 / 3	1.5 / 3
12		58	136	284	484	360	625	855	1070	177	427	52
		45	104	216	389	273	534	-	-	138	328	43
		1.5 / 3	1.5 / 3	1.5 / 3.8	2.6 / 6.5	1.7 / 4.2	2.9 / 7.2	3.9 / 9.8	4.9 / 12.3	1.5 / 3	1.5 / 3	1.5 / 3
14			84	178	322	225	442	626	807	108	265	
			66	136	245	172	336	551	-	87	207	
			1.5 / 3	1.5 / 3	2 / 5.1	1.5 / 3.1	2.4 / 6	3.4 / 8.4	4.3 / 10.9	1.5 / 3	1.5 / 3	
16			55	118	214	149	294	478	616	70	174	
			44	91	164	115	225	369	551	58	138	
			1.5 / 3	1.5 / 3	1.6 / 3.9	1.5 / 3	1.8 / 4.6	3 / 7.4	3.8 / 9.5	1.5 / 3	1.5 / 3	
18			81	149	103	205	339	485	47	119		
			64	115	81	158	259	387	41	97		
			1.5 / 3	1.5 / 3.1	1.5 / 3	1.5 / 3.6	2.4 / 5.9	3.4 / 8.4	1.5 / 3	1.5 / 3		
20			58	107	74	148	245	368	32	84		
			47	84	59	115	189	282	30	71		
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.8	2.9 / 7.2	1.5 / 3	1.5 / 3		
22			43	79	54	109	182	274	22	60		
			35	63	44	87	142	212	-	53		
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 4	2.4 / 5.9	1.5 / 3	1.5 / 3		
24			60	41	83	139	210	15	44			
			49	34	67	109	163	-	41			
			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	2 / 5	1.5 / 3	1.5 / 3			
26			46	64	108	163	10	32				
			38	52	86	128	-	32				
			1.5 / 3		1.5 / 3	1.5 / 3	1.7 / 4.2	1.5 / 3	1.5 / 3			
28					50	85	129	7	24			
					42	69	103	-	-			
					1.5 / 3	1.5 / 3	1.5 / 3.7	1.5 / 3	1.5 / 3			
30					40	68	103	4	17			
					34	56	84	-	-			
					1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3	1.5 / 3			

- Total Load values are limited by shear, moment or deflection equal to L/180. Total Load values are the capacity of the beam in addition to its own weight.
- Live Load values are limited by deflection equal to L/240. Check the local building code for other deflection limits that may apply.
- Where a Live Load value is not shown, the Total Load value will control.
- Table values represent the most restrictive of simple or multiple span applications. Span is measured center to center of the supports. Analyze multiple span beams with the BC CALC® software if the length of any span is less than half the length of an adjacent span.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the Total Load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- 1¼ inch members deeper than 14 inches are to be used as multiple-member beams only.
- For multiple ply 1½", 1¾" or double 3½" beams, multiply allowable total load and allowable live load values by the number of plies. Minimum required bearing lengths remain the same for any number of plies.
- 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.

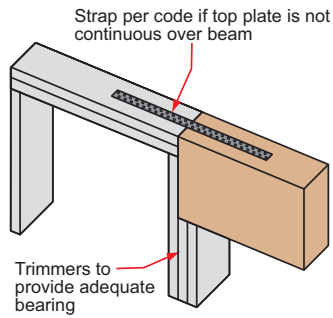
VL1

Beam Framing to Wall



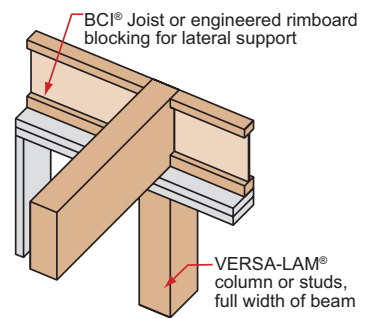
VL2

Beam Bearing for Header



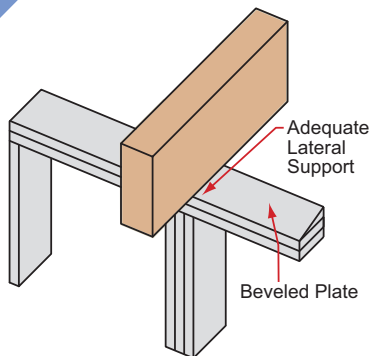
VL3

Beam to Wall with Lateral Support



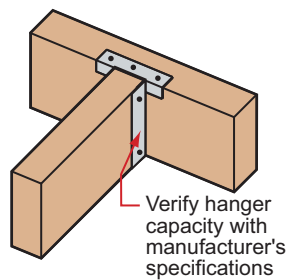
VL4

End Wall Bevel Plate



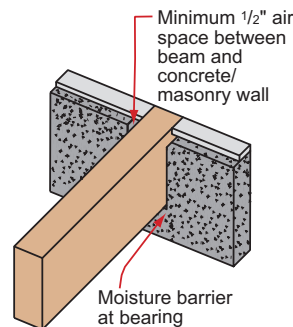
VL5

Beam to Beam Connection



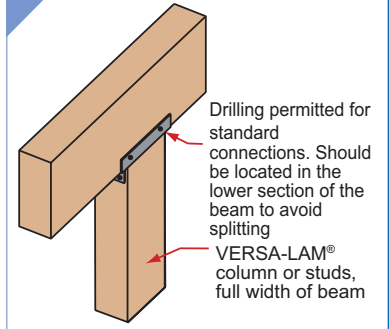
VL6

Beam to Concrete / Masonry Wall



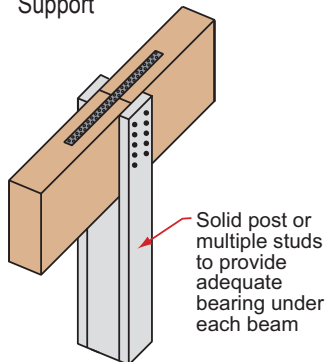
VL7

Beam to Column Connection



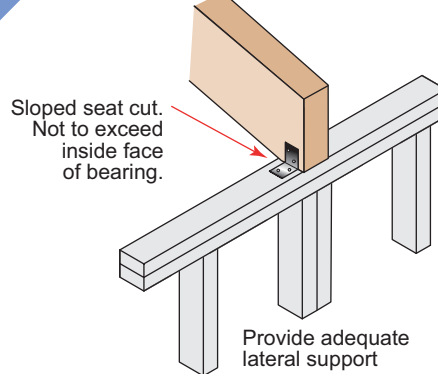
VL8

Beam Depth Change at Intermediate Support



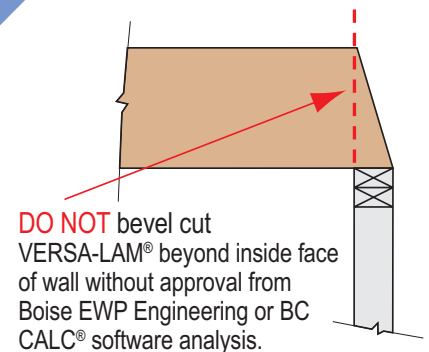
VL9

Sloped Seat Cut



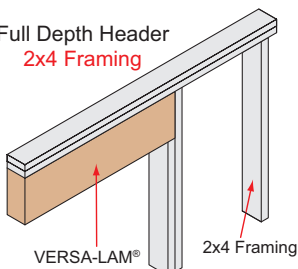
VL10

Bevel Cutting

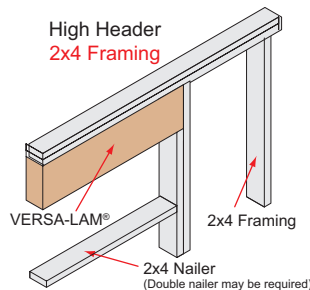


VERSA-LAM® 1.7 2650 Beam Headers

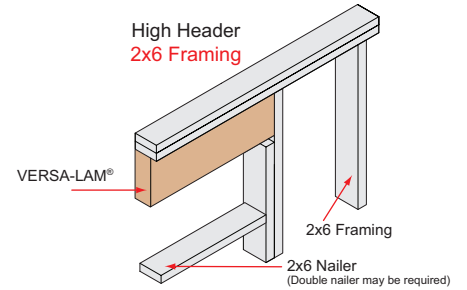
Full Depth Header 2x4 Framing



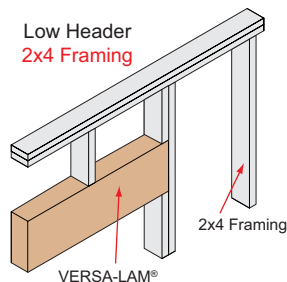
High Header 2x4 Framing



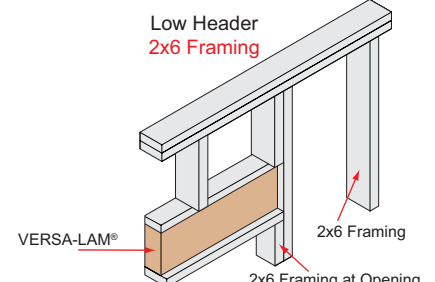
High Header 2x6 Framing



Low Header 2x4 Framing



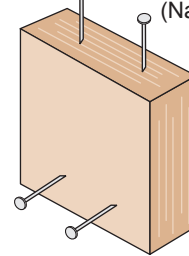
Low Header 2x6 Framing



Closest Allowable Nail Spacing

VERSA-LAM® 1.7 2650 Products								
Nail Size	Nailing Parallel to Glue Lines (Narrow Face) ⁽¹⁾						Nailing Perpendicular to Glue Lines (Wide Face)	
	VERSA-LAM® 1½"		VERSA-LAM® 1¾"		VERSA-LAM® 3½"		All Products	
	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]
8d Box	3	1½	2	1	2	½	2	½
8d Common	3	2	3	2	2	1	2	1
10d & 12d Box	3	2	3	2	2	1	2	1
16d Box	3	2	3	2	2	1	2	1
10d & 12d Common	4	3	4	3	2	2	2	2
16d Sinker	4	3	4	3	2	2	2	2
16d Common	6	4	6	3	2	2	2	2

Nailing Parallel to Glue Lines (Narrow Face)



Nailing Notes

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).

Nailing Perpendicular to Glue Lines (Wide Face)

- 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.

Multiple Member Connectors

Side-Loaded Applications								
Number of Members	Maximum Uniform Side Load [plf]							
	Nailed		½" Dia. Through Bolt ^{(1) (2)}			¾" Dia. Through Bolt ^{(1) (2)}		
	2 rows 16d Sinks @ 12" o.c.	3 rows 16d Sinks @ 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
1¾" VERSA-LAM® (Depths of 18" and less)								
2	470	705	505	1010	2020	560	1120	2245
3 ⁽³⁾	350	525	375	755	1515	420	840	1685
4 ⁽⁴⁾	use bolt schedule		335	670	1345	370	745	1495
3½" VERSA-LAM®								
2 ⁽⁴⁾	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 ½" bolts and 2½" for ¾" bolts. Bolt holes shall be the same diameter as the bolt.
- Bolting allowed for beams 7" and deeper.
- 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.

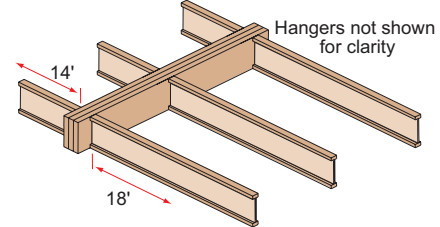
Top-Loaded Applications			
For top-loaded beams and beams with side loads with less than those shown:			
Plies	Depth	Nailing	Maximum Uniform Load From One Side
(2) 1¾" plies	Depth 11½" & less	2 rows 16d box/sinker nails @ 12" o.c.	400 plf
	Depth 14" - 18"	3 rows 16d box/sinker nails @ 12" o.c.	600 plf
(3) 1¾" plies ⁽²⁾	Depth 11½" & 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) 1¾" plies	Depth 7" - 16"	2 rows ½" bolts @ 24" o.c., staggered	335 plf
(2) 3½" plies	Depth 7" - 16"	2 rows ½" bolts @ 24" o.c., staggered	855 plf

- Beams wider than 7" must be designed by the engineer of record.
- The nail schedules shown apply to both sides of a three member beam.
- 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 2001 NDS.
- FastenMaster TrussLok, Simpson Strong-Tie 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 1¾" 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 in this guide or BC CALC® to size beam.
A Triple VERSA-LAM® 1.7 2650 1¾" x 14" is found to adequately support the design loads.
- Calculate the maximum plf load from one side (the right side in this case).
 $\text{Max. Side Load} = (18' / 2) \times (40 + 10 \text{ psf}) = 450 \text{ plf}$
- Go to the Multiple Member Connection Table, Side-Loaded Applications, 1¾" VERSA-LAM®, 3 members
- The proper connection schedule must have a capacity greater than the max. side load:
Nailed: 3 rows 16d sinks @ 12" o.c.:
525 plf is greater than 450 plf **OK**
Bolts: ½" diameter 2 rows @ 12" staggered:
755 plf is greater than 450 plf **OK**

BC FRAMER® CADD Framing Software

BC FRAMER® is an easy-to-use, stand-alone computer-aided drafting program with 3D capability designed to quickly create floor and roof framing layouts.

Draw walls, add framing areas, locate beams and rough openings, define cross-sections and on-center spacing. In minutes, BC FRAMER® frames your layout, builds a piece and price report, creates a framing drawing with schedule, all using Boise Cascade Engineered Wood Products.

Easy-to-use editing and drawing tools allow flexibility when modifying members and adding details, symbols and accessories.

Training classes for BC FRAMER® are provided at Boise Cascade's training centers located in Oregon, Louisiana and Georgia.

For questions, comments or a free demonstration CD visit our website at www.BC.com/ewp or email us at EWPSupport@BC.com. Information can also be obtained at 1-800-405-5969.

BC CALC® Sizing Software

BC CALC® is Boise Cascade's sizing software for BCI® Joists and VERSA-LAM® Beams.

BC CALC® is simple to use, yet flexible enough to analyze most joist and beam applications. Span, load and hole information entered by the user is analyzed by the program to correctly size Boise Cascade Engineered Wood Products. A comprehensive Help File menu is included in the program.

RECOMMENDED HARDWARE

- Current Pentium Processor
- 2GB RAM (min.)
- Microsoft® Intellimouse
- Windows 7, Vista or XP Professional

Improvements in capacity or speed of these components will yield better performance.

Give Us a Try!

BC CALC® is available to designers, architects and engineers on CD-ROM or by download at www.BC.com/ewp. Hardware requirements include Pentium® Processor with a recommended minimum of 1GB RAM. To order BC CALC®, call 1-800-405-5969 or email EWPSupport@BC.com.

Use the New Design toolbar to create a new design

Use the Loads toolbar to add loads

Use the Holes toolbar to add holes

Member Diagram: Same as BC CALC 2001a

Double-Click on Analysis to analyze design

Double-Click on Cautions to analyze design and display Report

Double-Click on any item to display and change design parameters

View tabs - Click or Ctrl+D, Ctrl+R, Ctrl+E to see the Design window, Report, or Engineering Data

Project Manager tab

Design V

Click Print button to print selected designs

Create sub-folders to organize your designs

Double-click on design name or icon to go to a design

Use the Hide/Show checkboxes to hide or show each design - open Window menu to hide/show all designs

Click here to enter project information

Open Window menu to hide/show all designs

Click to analyze all designs

Drag column border to resize;

Drag column heading to move;

Right-Click to add/drop columns

Right-Click in the Designs column to create new folders and designs

Columns show analysis results, double-click to go to design

To request a CD or Download of BC CALC US, <http://www.bc.com/wood/ewp/software/bccalc/order/US-calc-form.html>



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 For the closest Boise Cascade
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 ★ 1-800-232-0788 ★



Boise Cascade has a proven track record of providing quality wood products and a nationwide building materials distribution network for our customers, helping them to enhance their own businesses.

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.

Boise Cascade Engineered Wood Products throughout North America can now be ordered FSC® Chain-of-Custody (COC) certified, enabling homebuilders to achieve LEED® points under U.S. Green Building Council® residential and commercial green building programs including LEED for Homes and LEED for New Construction. Boise Cascade Engineered Wood Products are available as PEFC® Chain-of-Custody certified, SFI® Chain-of-Custody certified and SFI Fiber-Sourcing certified, as well as NAHB Research Center Green Approved, enabling homebuilders to also obtain green building points through the National Green Building Standard.

Lifetime Guaranteed Quality and Performance

Boise Cascade 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.

For information about Boise Cascade's engineered wood products,
 including sales terms and conditions, warranties and disclaimers,
 visit our website at www.BCewp.com

BOISE CASCADE, TREE-IN-A-CIRCLE, BCI, BC CALC, BC FRAMER, BC RIM BOARD, BOISE GLULAM, SIMPLE FRAMING SYSTEM, VERSA-LAM, VERSA-RIM, VERSA-STRAND, and VERSA-STUD are trademarks of Boise Cascade, L.L.C. or its affiliates

Your Dealer is:

If no dealer is listed, call 1-800-232-0788