An Introduction to VERSA-LAM® Products

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

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

VERSA-LAM® Beam Architectural Specifications

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

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

Design: VERSA-LAM® beams shall be sized and detailed to fit the dimensions and loads indicated on the plans. All designs shall be in accordance with allowable values developed in accordance with ASTM D5456 and listed in the governing code evaluation service's report and section properties based upon standard engineering principles. Verification of design of the VERSA-LAM® beams by complete calculations shall be available upon request.

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

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

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

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

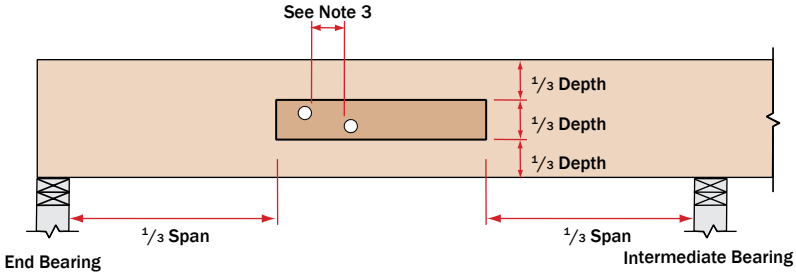
Codes: VERSA-LAM® beams shall be evaluated by a model code evaluation service.

Allowable Holes in VERSA-LAM® Beams

Notes

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

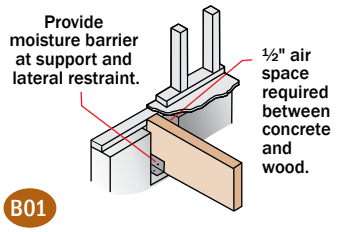
Beam Depth	Max. Hole Diameter
5 1/2"	3/4"
7 1/4"	1"
9 1/4" and greater	2"



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

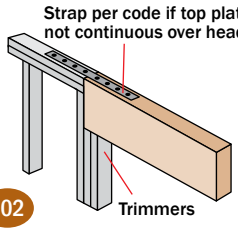
VERSA-LAM® Beam Details

Bearing at concrete/masonry walls



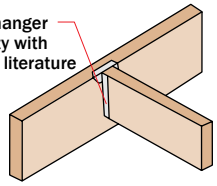
B01

Bearing for door or window header



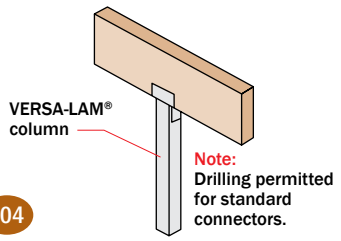
B02

Beam to beam connector



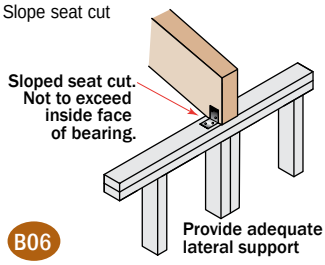
B03

Bearing at column



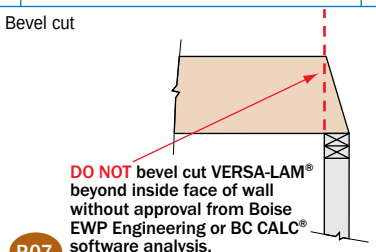
B04

Slope seat cut



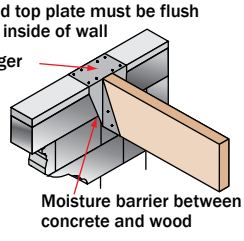
B06

Bevel cut



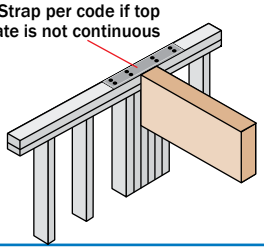
B07

Beam to concrete/masonry walls



B08

Bearing framing into wall



B09

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).

Multiple Member Connectors

Side-Loaded Applications

Number of Members	Maximum Uniform Side Load [plf]							
	Nailed		½" Dia. Through Bolt[1]			⅝" 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
1¾" 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
3½" VERSA-LAM®								
2[3]	use bolt schedule		855	1715	N/A	1125	2250	N/A
1¾" VERSA-LAM® (Depths of 24")								
Number of Members	Nailed		½" Dia. Through Bolt[1]			⅝" 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 ½" bolts and 2½" for ⅝" 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:

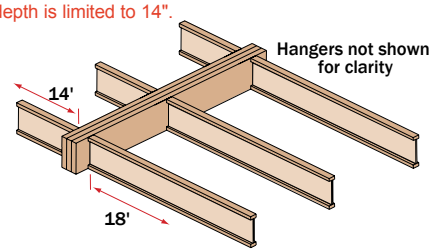
Plies	Depth	Nailing	Maximum Uniform Load From One Side
(2) 1¾" plies	Depths 11⅞" & less	2 rows 16d box/sinker nails @ 12" o.c.	400 plf
	Depths 14" - 18"	3 rows 16d box/sinker nails @ 12" o.c.	600 plf
	Depth = 24"	4 rows 16d box/sinker nails @ 12" o.c.	800 plf
(3) 1¾" plies [2]	Depths 11⅞" & less	2 rows 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) 1¾" 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) 3½" 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 2005 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 1¾" 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 page 25-27 of ASG or BC CALC® to size beam.
   A Triple VERSA-LAM® 2.0 3100 1¾" 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, 1¾" 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: ½" diameter 2 rows @ 12" staggered:
   755 plf is greater than 450 plf OK

VERSA-LAM® 2.0 3100 **(100% Load Duration)**

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

Span [ft]	1¾" VERSA-LAM® 2.0 3100				Double Ply 1¾" VERSA-LAM® 2.0 3100 or 3½" VERSA-LAM 2.0 3100							Triple Ply 1¾" VERSA-LAM® 2.0 3100 or 5¼" VERSA-LAM 2.0 3100							Quadruple Ply 1¾" VERSA-LAM® 2.0 3100 or 7" VERSA-LAM 2.0 3100					
	7¼"	9½"	11⅞"	14"	7¼"	9½"	11⅞"	14"	16"	18"	24"	9½"	11⅞"	14"	16"	18"	20"	24"	11⅞"	14"	16"	18"	20"	24"
6	763	1063	1424	1795	1525	2126	2849	3590	4387	5232	5226	3189	4273	5384	6580	7848	7845	7838	5697	7179	8773	10463	10459	10451
	762	-	-	-	1525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.8/4.4	2.4/6.1	3.3/8.2	4.1/10.3	1.8/4.4	2.4/6.1	3.3/8.2	4.1/10.3	5/12.6	6/15	6/15	2.4/6.1	3.3/8.2	4.1/10.3	5/12.6	6/15	6/15	6/15	3.3/8.2	4.1/10.3	5/12.6	6/15	6/15	6/15
8	479	746	979	1207	957	1492	1957	2414	2886	3402	3913	2237	2936	3622	4328	5103	5876	5870	3914	4829	5771	6803	7834	7826
	322	724	-	-	643	1447	-	-	-	-	-	2171	-	-	-	-	-	-	-	-	-	-	-	-
	1.5/3.7	2.3/5.7	3/7.5	3.7/9.3	1.5/3.7	2.3/5.7	3/7.5	3.7/9.3	4.4/11.1	5.2/13	6/15	2.3/5.7	3/7.5	3.7/9.3	4.4/11.1	5.2/13	6/15	6/15	3/7.5	3.7/9.3	4.4/11.1	5.2/13	6/15	6/15
10	243	551	745	909	487	1102	1489	1817	2148	2502	3126	1653	2234	2726	3222	3753	4322	4688	2978	3635	4296	5003	5763	6251
	165	370	724	-	329	741	1447	-	-	-	-	1111	2171	-	-	-	-	-	2894	-	-	-	-	-
	1.5/3	2.1/5.3	2.9/7.1	3.5/8.7	1.5/3	2.1/5.3	2.9/7.1	3.5/8.7	4.1/10.3	4.8/12	6/15	2.1/5.3	2.9/7.1	3.5/8.7	4.1/10.3	4.8/12	5.5/13.8	6/15	2.9/7.1	3.5/8.7	4.1/10.3	4.8/12	5.5/13.8	6/15
11	182	413	665	808	364	825	1330	1617	1904	2209	2839	1238	1995	2425	2856	3313	3800	4259	2659	3233	3807	4417	5067	5679
	124	278	544	-	247	557	1087	-	-	-	-	835	1631	-	-	-	-	-	2175	-	-	-	-	-
	1.5/3	1.7/4.4	2.8/7	3.4/8.5	1.5/3	1.7/4.4	2.8/7	3.4/8.5	4/10.1	4.7/11.7	6/15	1.7/4.4	2.8/7	3.4/8.5	4/10.1	4.7/11.7	5.4/13.4	6/15	2.8/7	3.4/8.5	4/10.1	4.7/11.7	5.4/13.4	6/15
12	139	317	585	728	279	634	1170	1456	1709	1977	2601	950	1755	2184	2564	2965	3390	3901	2340	2912	3418	3953	4519	5201
	95	214	419	686	191	429	837	1372	-	-	-	643	1256	2058	-	-	-	-	1675	2745	-	-	-	-
	1.5/3	1.5/3.7	2.7/6.8	3.4/8.4	1.5/3	1.5/3.7	2.7/6.8	3.4/8.4	3.9/9.9	4.6/11.4	6/15	1.5/3.7	2.7/6.8	3.4/8.4	3.9/9.9	4.6/11.4	5.2/13	6/15	2.7/6.8	3.4/8.4	3.9/9.9	4.6/11.4	5.2/13	6/15
13	109	248	488	662	217	496	976	1324	1550	1789	2399	744	1464	1986	2326	2683	3059	3598	1952	2647	3101	3577	4078	4797
	75	169	329	540	150	337	659	1079	-	-	-	506	988	1619	-	-	-	-	1317	2159	-	-	-	-
	1.5/3	1.5/3.1	2.4/6.1	3.3/8.3	1.5/3	1.5/3.1	2.4/6.1	3.3/8.3	3.9/9.7	4.5/11.2	6/15	1.5/3.1	2.4/6.1	3.3/8.3	3.9/9.7	4.5/11.2	5.1/12.7	6/15	2.4/6.1	3.3/8.3	3.9/9.7	4.5/11.2	5.1/12.7	6/15
14	86	198	390	585	173	395	779	1171	1418	1633	2226	593	1169	1756	2128	2449	2786	3338	1558	2342	2837	3265	3715	4451
	60	135	264	432	120	270	527	864	1290	-	-	405	791	1296	1935	-	-	-	1055	1728	2580	-	-	-
	1.5/3	1.5/3	2.1/5.3	3.2/7.9	1.5/3	1.5/3	2.1/5.3	3.2/7.9	3.8/9.6	4.4/11	6/15	1.5/3	2.1/5.3	3.2/7.9	3.8/9.6	4.4/11	5/12.5	6/15	2.1/5.3	3.2/7.9	3.8/9.6	4.4/11	5/12.5	6/15
15	70	160	316	509	139	320	631	1018	1307	1502	2076	479	947	1527	1960	2253	2558	3113	1262	2036	2614	3003	3410	4151
	49	110	214	351	98	220	429	703	1049	1493	-	329	643	1054	1573	2240	-	-	858	1405	2098	2987	-	-
	1.5/3	1.5/3	1.8/4.6	2.9/7.4	1.5/3	1.5/3	1.8/4.6	2.9/7.4	3.8/9.5	4.3/10.9	6/15	1.5/3	1.8/4.6	2.9/7.4	3.8/9.5	4.3/10.9	4.9/12.3	6/15	1.8/4.6	2.9/7.4	3.8/9.5	4.3/10.9	4.9/12.3	6/15
16	57	131	259	427	113	262	518	854	1151	1390	1944	393	777	1281	1727	2085	2364	2917	1036	1708	2303	2780	3151	3889
	40	90	177	289	80	181	353	579	864	1230	-	271	530	868	1296	1846	-	-	707	1158	1728	2461	-	-
	1.5/3	1.5/3	1.6/4	2.6/6.6	1.5/3	1.5/3	1.6/4	2.6/6.6	3.6/8.9	4.3/10.7	6/15	1.5/3	1.6/4	2.6/6.6	3.6/8.9	4.3/10.7	4.9/12.2	6/15	1.6/4	2.6/6.6	3.6/8.9	4.3/10.7	4.9/12.2	6/15
17		108	215	355	93	217	430	710	1018	1274	1826	325	645	1065	1527	1911	2196	2739	860	1420	2036	2547	2929	3652
		75	147	241	67	151	295	483	720	1026	-	226	442	724	1081	1539	2111	-	589	965	1441	2052	2814	-
		1.5/3	1.5/3.6	2.3/5.9	1.5/3	1.5/3	1.5/3.6	2.3/5.9	3.3/8.4	4.2/10.5	6/15	1.5/3	1.5/3.6	2.3/5.9	3.3/8.4	4.2/10.5	4.8/12	6/15	1.5/3.6	2.3/5.9	3.3/8.4	4.2/10.5	4.8/12	6/15
18		90	180	298	77	181	360	596	894	1134	1701	271	540	894	1341	1701	2051	2552	720	1191	1788	2268	2735	3402
		64	124	203	56	127	248	407	607	864	-	191	372	610	910	1296	1778	-	496	813	1214	1728	2371	-
		1.5/3	1.5/3.2	2.1/5.2	1.5/3	1.5/3	1.5/3.2	2.1/5.2	3.1/7.8	4/9.9	5.9/14.8	1.5/3	1.5/3.2	2.1/5.2	3.1/7.8	4/9.9	4.8/11.9	5.9/14.8	1.5/3.2	2.1/5.2	3.1/7.8	4/9.9	4.8/11.9	5.9/14.8
19		76	152	252	65	152	304	504	758	1016	1592	229	457	757	1137	1524	1863	2388	609	1009	1516	2032	2484	3184
		54	105	173	48	108	211	346	516	735	-	162	316	519	774	1102	1512	-	422	691	1032	1470	2016	-
		1.5/3	1.5/3	1.9/4.7	1.5/3	1.5/3	1.5/3	1.9/4.7	2.8/7	3.7/9.4	5.8/14.6	1.5/3	1.5/3	1.9/4.7	2.8/7	3.7/9.4	4.6/11.4	5.8/14.6	1.5/3	1.9/4.7	2.8/7	3.7/9.4	4.6/11.4	5.8/14.6
20		65	130	215	54	129	259	430	647	915	1496	194	389	646	971	1373	1678	2243	519	861	1295	1830	2237	2991
		46	90	148	41	93	181	296	442	630	1493	139	271	445	664	945	1296	2240	362	593	885	1260	1728	2987
		1.5/3	1.5/3	1.7/4.2	1.5/3	1.5/3	1.5/3	1.7/4.2	2.5/6.3	3.6/8.9	5.8/14.5	1.5/3	1.5/3	1.7/4.2	2.5/6.3	3.6/8.9	4.3/10.8	5.8/14.5	1.5/3	1.7/4.2	2.5/6.3	3.6/8.9	4.3/10.8	5.8/14.5
22			96	160		95	192	320	482	692	1304	142	288	480	724	1038	1382	1956	384	640	965	1383	1842	2608
			68	111		70	136	223	332	473	1122	104	204	334	499	710	974	1683	272	445	665	947	1299	2244
			1.5/3	1.5/3.5		1.5/3	1.5/3	1.5/3.5	2.1/5.2	3/7.4	5.6/13.9	1.5/3	1.5/3	1.5/3.5	2.1/5.2	3/7.4	3.9/9.9	5.6/13.9	1.5/3	1.5/3.5	2.1/5.2	3/7.4	3.9/9.9	5.6/13.9
24			72	122		71	145	243	368	529	1092	106	217	365	552	793	1095	1638	290	486	736	1057	1460	2184
			52	86		54	105	172	256	365	864	80	157	257	384	547	750	1296	209	343	512	729	1000	1728
			1.5/3	1.5/3		1.5/3	1.5/3	1.5/3	1.8/4.4	2.5/6.3	5.1/12.8	1.5/3	1.5/3	1.5/3	1.8/4.4	2.5/6.3	3.4/8.6	5.1/12.8	1.5/3	1.5/3	1.8/4.4	2.5/6.3	3.4/8.6	5.1/12.8
26			56	94		54	111	188	286	412	927	80	167	282	429	618	855	1390	223	376	572	824	1139	1853
			41	67		42	82	135	201	287	680	63	124	202	302	430	590	1020	165	270	403	574	787	1359
			1.5/3	1.5/3		1.5/3	1.5/3	1.5/3	1.5/3.7	2.1/5.3	4.7/11.8	1.5/3	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	4.7/11.8	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	4.7/11.8
28				74			87	148	226	326	792	61	130	222	338	489	678	1188	174	296	451	652	904	1584
				54			66	108	161	230	544	51	99	162	242	344	472	816	132	216	322	459	630	1088
				1.5/3			1.5/3	1.5/3	1.5/3.2	1.8/4.6	4.4/10.9	1.5/3	1.5/3	1.5/3	1.5/3.2	1.8/4.6	2.5/6.3	4.4/10.9	1.5/3	1.5/3	1.5/3.2	1.8/4.6	2.5/6.3	4.4/10.9
30				59			68	118	180	262	639		102	176	271	393	546	959	137	235	361	523	728	1279
				44			54	88	131	187	442		80	132	197	280	384	664	107	176	262	373	512	885
				1.5/3			1.5/3	1.5/3	1.5/3	1.6/4	3.8/9.5		1.5/3	1.5/3	1.5/3	1.6/4	2.2/5.5	3.8/9.5	1.5/3	1.5/3	1.5/3	1.6/4	2.2/5.5	3.8/9.5

- 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 top edge and applicable compression edges 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.
- For 2-ply, 3-ply or 4-ply beams; double, triple or quadruple Allowable Total Load and Allowable Live Load values. Minimum Required Bearing Lengths remain the same for any number of plies.
- 1¾ inch members deeper than 14 inches are to be used as multiple-member beams only.
- 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® Roof Load Tables

VERSA-LAM® 2.0 3100 **(115% Load Duration)**

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

Span [ft]	1¾" VERSA-LAM® 2.0 3100				Double Ply 1¾" VERSA-LAM® 2.0 3100 or 3½" VERSA-LAM 2.0 3100							Triple Ply 1¾" VERSA-LAM® 2.0 3100 or 5¼" VERSA-LAM 2.0 3100							Quadruple Ply 1¾" VERSA-LAM® 2.0 3100 or 7" VERSA-LAM 2.0 3100					
	7¼"	9½"	11⅞"	14"	7¼"	9½"	11⅞"	14"	16"	18"	24"	9½"	11⅞"	14"	16"	18"	20"	24"	11⅞"	14"	16"	18"	20"	24"
6	878	1223	1639	2065	1755	2446	3278	4130	5047	5232	5226	3669	4917	6195	7570	7848	7845	7838	6556	8260	10094	10463	10459	10451
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/5	2.8/7	3.8/9.4	4.7/11.8	2/5	2.8/7	3.8/9.4	4.7/11.8	5.8/14.5	6/15	6/15	2.8/7	3.8/9.4	4.7/11.8	5.8/14.5	6/15	6/15	6/15	3.8/9.4	4.7/11.8	5.8/14.5	6/15	6/15	6/15
8	598	858	1126	1389	1197	1717	2252	2779	3321	3915	3913	2575	3379	4168	4981	5872	5876	5870	4505	5558	6642	7829	7834	7826
	482	-	-	-	965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.8/4.6	2.6/6.6	3.5/8.6	4.3/10.6	1.8/4.6	2.6/6.6	3.5/8.6	4.3/10.6	5.1/12.7	6/15	6/15	2.6/6.6	3.5/8.6	4.3/10.6	5.1/12.7	6/15	6/15	6/15	3.5/8.6	4.3/10.6	5.1/12.7	6/15	6/15	6/15
10	326	637	857	1046	651	1274	1714	2092	2472	2880	3126	1912	2571	3138	3709	4320	4695	4688	3429	4184	4945	5759	6259	6251
	247	556	-	-	494	1111	-	-	-	-	-	1667	-	-	-	-	-	-	-	-	-	-	-	-
	1.5/3.1	2.4/6.1	3.3/8.2	4/10	1.5/3.1	2.4/6.1	3.3/8.2	4/10	4.7/11.9	5.5/13.8	6/15	2.4/6.1	3.3/8.2	4/10	4.7/11.9	5.5/13.8	6/15	6/15	3.3/8.2	4/10	4.7/11.9	5.5/13.8	6/15	6/15
11	244	526	765	931	487	1052	1531	1861	2192	2543	2839	1577	2296	2792	3288	3814	4265	4259	3062	3723	4383	5085	5687	5679
	186	418	-	-	371	835	-	-	-	-	-	1253	-	-	-	-	-	-	-	-	-	-	-	-
	1.5/3	2.2/5.6	3.2/8.1	3.9/9.8	1.5/3	2.2/5.6	3.2/8.1	3.9/9.8	4.6/11.6	5.4/13.4	6/15	2.2/5.6	3.2/8.1	3.9/9.8	4.6/11.6	5.4/13.4	6/15	6/15	3.2/8.1	3.9/9.8	4.6/11.6	5.4/13.4	6/15	6/15
12	187	424	674	838	374	848	1347	1676	1968	2276	2601	1272	2021	2514	2952	3414	3903	3901	2694	3353	3936	4552	5203	5201
	143	322	628	-	286	643	1256	-	-	-	-	965	1884	-	-	-	-	-	2512	-	-	-	-	-
	1.5/3	2/4.9	3.1/7.8	3.9/9.7	1.5/3	2/4.9	3.1/7.8	3.9/9.7	4.5/11.3	5.2/13.1	6/15	2/4.9	3.1/7.8	3.9/9.7	4.5/11.3	5.2/13.1	6/15	6/15	3.1/7.8	3.9/9.7	4.5/11.3	5.2/13.1	6/15	6/15
13	146	332	573	762	292	665	1146	1524	1785	2060	2399	997	1719	2287	2678	3089	3522	3598	2292	3049	3571	4119	4696	4797
	112	253	494	-	225	506	988	-	-	-	-	759	1482	-	-	-	-	-	1976	-	-	-	-	-
	1.5/3	1.7/4.2	2.9/7.2	3.8/9.5	1.5/3	1.7/4.2	2.9/7.2	3.8/9.5	4.5/11.2	5.1/12.9	6/15	1.7/4.2	2.9/7.2	3.8/9.5	4.5/11.2	5.1/12.9	5.9/14.7	6/15	2.9/7.2	3.8/9.5	4.5/11.2	5.1/12.9	5.9/14.7	6/15
14	116	265	493	674	233	530	987	1349	1634	1880	2226	796	1480	2023	2450	2821	3208	3338	1973	2697	3267	3761	4278	4451
	90	203	396	648	180	405	791	1296	-	-	-	608	1187	1944	-	-	-	-	1582	2593	-	-	-	-
	1.5/3	1.5/3.6	2.7/6.7	3.6/9.1	1.5/3	1.5/3.6	2.7/6.7	3.6/9.1	4.4/11	5.1/12.7	6/15	1.5/3.6	2.7/6.7	3.6/9.1	4.4/11	5.1/12.7	5.8/14.4	6/15	2.7/6.7	3.6/9.1	4.4/11	5.1/12.7	5.8/14.4	6/15
15	94	215	423	586	188	429	846	1173	1505	1730	2076	644	1268	1759	2258	2595	2946	3113	1691	2346	3011	3459	3928	4151
	73	165	322	527	146	329	643	1054	-	-	-	494	965	1581	-	-	-	-	1286	2108	-	-	-	-
	1.5/3	1.5/3.1	2.5/6.1	3.4/8.5	1.5/3	1.5/3.1	2.5/6.1	3.4/8.5	4.3/10.9	5/12.5	6/15	1.5/3.1	2.5/6.1	3.4/8.5	4.3/10.9	5/12.5	5.7/14.2	6/15	2.5/6.1	3.4/8.5	4.3/10.9	5/12.5	5.7/14.2	6/15
16	77	176	347	515	153	352	695	1029	1327	1601	1944	528	1042	1544	1990	2402	2723	2917	1389	2058	2653	3202	3630	3889
	60	136	265	434	121	271	530	868	1296	-	-	407	795	1303	1944	-	-	-	1060	1737	2593	-	-	-
	1.5/3	1.5/3	2.2/5.4	3.2/7.9	1.5/3	1.5/3	2.2/5.4	3.2/7.9	4.1/10.2	4.9/12.3	6/15	1.5/3	2.2/5.4	3.2/7.9	4.1/10.2	4.9/12.3	5.6/14	6/15	2.2/5.4	3.2/7.9	4.1/10.2	4.9/12.3	5.6/14	6/15
17	63	146	289	455	127	292	577	910	1173	1468	1829	438	866	1365	1760	2201	2531	2743	1154	1820	2346	2935	3374	3657
	50	113	221	362	101	226	442	724	1081	-	-	339	663	1086	1621	-	-	-	884	1448	2161	-	-	-
	1.5/3	1.5/3	1.9/4.8	3/7.5	1.5/3	1.5/3	1.9/4.8	3/7.5	3.9/9.6	4.8/12	6/15	1.5/3	1.9/4.8	3/7.5	3.9/9.6	4.8/12	5.5/13.8	6/15	1.9/4.8	3/7.5	3.9/9.6	4.8/12	5.5/13.8	6/15
18	53	122	242	399	106	244	484	799	1045	1307	1726	367	726	1198	1567	1961	2364	2588	968	1598	2089	2614	3151	3451
	42	95	186	305	85	191	372	610	910	1296	-	286	558	915	1366	1944	-	-	744	1220	1821	2593	-	-
	1.5/3	1.5/3	1.7/4.3	2.8/7	1.5/3	1.5/3	1.7/4.3	2.8/7	3.6/9.1	4.5/11.4	6/15	1.5/3	1.7/4.3	2.8/7	3.6/9.1	4.5/11.4	5.5/13.7	6/15	1.7/4.3	2.8/7	3.6/9.1	4.5/11.4	5.5/13.7	6/15
19		103	205	339	89	206	410	677	936	1171	1634	310	615	1016	1404	1757	2147	2450	820	1354	1872	2342	2862	3267
		81	158	259	72	162	316	519	774	1102	-	243	475	778	1161	1653	-	-	633	1037	1548	2204	-	-
		1.5/3	1.5/3.8	2.5/6.3	1.5/3	1.5/3	1.5/3.8	2.5/6.3	3.4/8.6	4.3/10.8	6/15	1.5/3	1.5/3.8	2.5/6.3	3.4/8.6	4.3/10.8	5.3/13.1	6/15	1.5/3.8	2.5/6.3	3.4/8.6	4.3/10.8	5.3/13.1	6/15
20		88	175	289	75	176	350	579	843	1055	1551	263	525	868	1265	1583	1934	2326	699	1157	1686	2110	2579	3101
		69	136	222	62	139	271	445	664	945	-	208	407	667	996	1418	-	-	543	889	1327	1890	-	-
		1.5/3	1.5/3.4	2.3/5.6	1.5/3	1.5/3	1.5/3.4	2.3/5.6	3.3/8.2	4.1/10.2	6/15	1.5/3	1.5/3.4	2.3/5.6	3.3/8.2	4.1/10.2	5/12.5	6/15	1.5/3.4	2.3/5.6	3.3/8.2	4.1/10.2	5/12.5	6/15
22		65	130	216	54	130	260	431	649	869	1407	194	390	647	973	1303	1593	2111	520	862	1297	1738	2124	2815
		52	102	167	46	104	204	334	499	710	-	157	306	501	748	1065	1461	-	408	668	997	1420	1948	-
		1.5/3	1.5/3	1.9/4.7	1.5/3	1.5/3	1.5/3	1.9/4.7	2.8/7	3.7/9.3	6/15	1.5/3	1.5/3	1.9/4.7	2.8/7	3.7/9.3	4.5/11.3	6/15	1.5/3	1.9/4.7	2.8/7	3.7/9.3	4.5/11.3	6/15
24			99	164		98	197	329	496	711	1259	146	296	493	744	1066	1334	1889	395	658	992	1422	1779	2518
			79	129		80	157	257	384	547	-	121	236	386	576	820	1125	-	314	515	768	1094	1500	-
			1.5/3	1.6/3.9		1.5/3	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	5.9/14.7	1.5/3	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	4.2/10.4	5.9/14.7	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	4.2/10.4	5.9/14.7
26			76	128		75	153	256	387	555	1069	112	229	383	580	833	1132	1604	305	511	773	1110	1510	2139
			62	101		63	124	202	302	430	1020	95	185	304	453	645	885	1529	247	405	604	860	1180	2039
			1.5/3	1.5/3.3		1.5/3	1.5/3	1.5/3.3	2/5	2.8/7.1	5.4/13.5	1.5/3	1.5/3	1.5/3.3	2/5	2.8/7.1	3.8/9.6	5.4/13.5	1.5/3	1.5/3.3	2/5	2.8/7.1	3.8/9.6	5.4/13.5
28			60	101		58	120	202	306	441	919	87	180	303	459	661	914	1378	240	404	612	882	1219	1837
			49	81		51	99	162	242	344	816	76	148	243	363	517	709	1224	198	324	484	689	945	1633
			1.5/3	1.5/3		1.5/3	1.5/3	1.5/3	1.7/4.3	2.4/6.1	5/12.6	1.5/3	1.5/3	1.5/3	1.7/4.3	2.4/6.1	3.4/8.4	5/12.6	1.5/3	1.5/3	1.7/4.3	2.4/6.1	3.4/8.4	5/12.6
30				81			95	161	246	355	797	68	143	242	369	533	738	1196	190	323	492	710	984	1594
				66			80	132	197	280	664	62	121	198	295	420	576	996	161	263	393	560	768	1327
				1.5/3			1.5/3	1.5/3	1.5/3.7	2.1/5.3	4.7/11.7	1.5/3	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	4.7/11.7	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	4.7/11.7

- 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 top edge and applicable compression edges 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.
- For 2-ply, 3-ply or 4-ply beams; double, triple or quadruple Allowable Total Load and Allowable Live Load values. Minimum Required Bearing Lengths remain the same for any number of plies.
- 1¾ inch members deeper than 14 inches are to be used as multiple-member beams only.
- 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® 2.0 3100 **(125% Load Duration)**

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

Span [ft]	1¾" VERSA-LAM® 2.0 3100				Double Ply 1¾" VERSA-LAM® 2.0 3100 or 3½" VERSA-LAM 2.0 3100							Triple Ply 1¾" VERSA-LAM® 2.0 3100 or 5¼" VERSA-LAM 2.0 3100							Quadruple Ply 1¾" VERSA-LAM® 2.0 3100 or 7" VERSA-LAM 2.0 3100					
	7¼"	9½"	11⅞"	14"	7¼"	9½"	11⅞"	14"	16"	18"	24"	9½"	11⅞"	14"	16"	18"	20"	24"	11⅞"	14"	16"	18"	20"	24"
6	954	1330	1782	2245	1908	2660	3564	4491	5234	5232	5226	3990	5346	6736	7851	7848	7845	7838	7128	8981	10467	10463	10459	10451
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.2/5.5	3.1/7.6	4.1/10.2	5.1/12.9	2.2/5.5	3.1/7.6	4.1/10.2	5.1/12.9	6/15	6/15	6/15	3.1/7.6	4.1/10.2	5.1/12.9	6/15	6/15	6/15	6/15	4.1/10.2	5.1/12.9	6/15	6/15	6/15	6/15
8	640	933	1225	1511	1279	1867	2449	3022	3611	3919	3913	2800	3674	4532	5417	5879	5876	5870	4899	6043	7222	7838	7834	7826
	482	-	-	-	965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/4.9	2.9/7.1	3.8/9.4	4.6/11.6	2/4.9	2.9/7.1	3.8/9.4	4.6/11.6	5.5/13.8	6/15	6/15	2.9/7.1	3.8/9.4	4.6/11.6	5.5/13.8	6/15	6/15	6/15	3.8/9.4	4.6/11.6	5.5/13.8	6/15	6/15	6/15
10	326	693	932	1138	651	1386	1864	2275	2689	3132	3126	2079	2797	3413	4033	4698	4695	4688	3729	4550	5378	6263	6259	6251
	247	556	-	-	494	1111	-	-	-	-	-	1667	-	-	-	-	-	-	-	-	-	-	-	-
	1.5/3.1	2.7/6.6	3.6/8.9	4.4/10.9	1.5/3.1	2.7/6.6	3.6/8.9	4.4/10.9	5.2/12.9	6/15	6/15	2.7/6.6	3.6/8.9	4.4/10.9	5.2/12.9	6/15	6/15	6/15	3.6/8.9	4.4/10.9	5.2/12.9	6/15	6/15	6/15
11	244	552	833	1012	487	1104	1665	2024	2384	2765	2839	1656	2498	3037	3576	4148	4265	4259	3330	4049	4767	5531	5687	5679
	186	418	815	-	371	835	1631	-	-	-	-	1253	2446	-	-	-	-	-	3262	-	-	-	-	-
	1.5/3	2.3/5.8	3.5/8.8	4.3/10.7	1.5/3	2.3/5.8	3.5/8.8	4.3/10.7	5/12.6	5.8/14.6	6/15	2.3/5.8	3.5/8.8	4.3/10.7	5/12.6	5.8/14.6	6/15	6/15	3.5/8.8	4.3/10.7	5/12.6	5.8/14.6	6/15	6/15
12	187	424	733	912	374	848	1465	1823	2141	2475	2601	1272	2198	2735	3211	3713	3907	3901	2931	3647	4281	4951	5209	5201
	143	322	628	-	286	643	1256	-	-	-	-	965	1884	-	-	-	-	-	2512	-	-	-	-	-
	1.5/3	2/4.9	3.4/8.4	4.2/10.5	1.5/3	2/4.9	3.4/8.4	4.2/10.5	4.9/12.3	5.7/14.3	6/15	2/4.9	3.4/8.4	4.2/10.5	4.9/12.3	5.7/14.3	6/15	6/15	3.4/8.4	4.2/10.5	4.9/12.3	5.7/14.3	6/15	6/15
13	146	332	623	829	292	665	1247	1658	1942	2240	2399	997	1870	2487	2913	3360	3604	3598	2494	3316	3884	4480	4806	4797
	112	253	494	810	225	506	988	1619	-	-	-	759	1482	2429	-	-	-	-	1976	3238	-	-	-	-
	1.5/3	1.7/4.2	3.1/7.8	4.1/10.4	1.5/3	1.7/4.2	3.1/7.8	4.1/10.4	4.8/12.1	5.6/14	6/15	1.7/4.2	3.1/7.8	4.1/10.4	4.8/12.1	5.6/14	6/15	6/15	3.1/7.8	4.1/10.4	4.8/12.1	5.6/14	6/15	6/15
14	116	265	521	734	233	530	1043	1467	1777	2046	2226	796	1564	2201	2666	3068	3345	3338	2085	2934	3554	4091	4459	4451
	90	203	396	648	180	405	791	1296	-	-	-	608	1187	1944	-	-	-	-	1582	2593	-	-	-	-
	1.5/3	1.5/3.6	2.8/7	4/9.9	1.5/3	1.5/3.6	2.8/7	4/9.9	4.8/12	5.5/13.8	6/15	1.5/3.6	2.8/7	4/9.9	4.8/12	5.5/13.8	6/15	6/15	2.8/7	4/9.9	4.8/12	5.5/13.8	6/15	6/15
15	94	215	423	638	188	429	846	1276	1638	1882	2076	644	1268	1914	2456	2823	3120	3113	1691	2552	3275	3763	4159	4151
	73	165	322	527	146	329	643	1054	1573	-	-	494	965	1581	2360	-	-	-	1286	2108	3146	-	-	-
	1.5/3	1.5/3.1	2.5/6.1	3.7/9.2	1.5/3	1.5/3.1	2.5/6.1	3.7/9.2	4.7/11.8	5.4/13.6	6/15	1.5/3.1	2.5/6.1	3.7/9.2	4.7/11.8	5.4/13.6	6/15	6/15	2.5/6.1	3.7/9.2	4.7/11.8	5.4/13.6	6/15	6/15
16	77	176	347	560	153	352	695	1120	1443	1742	1944	528	1042	1680	2165	2613	2923	2917	1389	2240	2887	3484	3897	3889
	60	136	265	434	121	271	530	868	1296	-	-	407	795	1303	1944	-	-	-	1060	1737	2593	-	-	-
	1.5/3	1.5/3	2.2/5.4	3.5/8.6	1.5/3	1.5/3	2.2/5.4	3.5/8.6	4.4/11.1	5.4/13.4	6/15	1.5/3	2.2/5.4	3.5/8.6	4.4/11.1	5.4/13.4	6/15	6/15	2.2/5.4	3.5/8.6	4.4/11.1	5.4/13.4	6/15	6/15
17	63	146	289	476	127	292	577	951	1277	1597	1829	438	866	1427	1915	2395	2749	2743	1154	1902	2553	3193	3665	3657
	50	113	221	362	101	226	442	724	1081	1539	-	339	663	1086	1621	2308	-	-	884	1448	2161	3078	-	-
	1.5/3	1.5/3	1.9/4.8	3.1/7.8	1.5/3	1.5/3	1.9/4.8	3.1/7.8	4.2/10.5	5.2/13.1	6/15	1.5/3	1.9/4.8	3.1/7.8	4.2/10.5	5.2/13.1	6/15	6/15	1.9/4.8	3.1/7.8	4.2/10.5	5.2/13.1	6/15	6/15
18	53	122	242	399	106	244	484	799	1137	1422	1726	367	726	1198	1705	2133	2572	2588	968	1598	2274	2845	3429	3451
	42	95	186	305	85	191	372	610	910	1296	-	286	558	915	1366	1944	-	-	744	1220	1821	2593	-	-
	1.5/3	1.5/3	1.7/4.3	2.8/7	1.5/3	1.5/3	1.7/4.3	2.8/7	4/9.9	4.9/12.3	6/15	1.5/3	1.7/4.3	2.8/7	4/9.9	4.9/12.3	5.9/14.9	6/15	1.7/4.3	2.8/7	4/9.9	4.9/12.3	5.9/14.9	6/15
19		103	205	339	89	206	410	677	1016	1275	1634	310	615	1016	1524	1912	2336	2450	820	1354	2032	2549	3115	3267
		81	158	259	72	162	316	519	774	1102	-	243	475	778	1161	1653	2268	-	633	1037	1548	2204	3024	-
		1.5/3	1.5/3.8	2.5/6.3	1.5/3	1.5/3	1.5/3.8	2.5/6.3	3.7/9.3	4.7/11.7	6/15	1.5/3	1.5/3.8	2.5/6.3	3.7/9.3	4.7/11.7	5.7/14.3	6/15	1.5/3.8	2.5/6.3	3.7/9.3	4.7/11.7	5.7/14.3	6/15
20		88	175	289	75	176	350	579	869	1149	1551	263	525	868	1303	1723	2105	2326	699	1157	1737	2297	2807	3101
		69	136	222	62	139	271	445	664	945	-	208	407	667	996	1418	1944	-	543	889	1327	1890	2593	-
		1.5/3	1.5/3.4	2.3/5.6	1.5/3	1.5/3	1.5/3.4	2.3/5.6	3.4/8.4	4.4/11.1	6/15	1.5/3	1.5/3.4	2.3/5.6	3.4/8.4	4.4/11.1	5.4/13.6	6/15	1.5/3.4	2.3/5.6	3.4/8.4	4.4/11.1	5.4/13.6	6/15
22		65	130	216	54	130	260	431	649	928	1407	194	390	647	973	1393	1735	2111	520	862	1297	1857	2313	2815
		52	102	167	46	104	204	334	499	710	-	157	306	501	748	1065	1461	-	408	668	997	1420	1948	-
		1.5/3	1.5/3	1.9/4.7	1.5/3	1.5/3	1.5/3	1.9/4.7	2.8/7	4/9.9	6/15	1.5/3	1.5/3	1.9/4.7	2.8/7	4/9.9	4.9/12.3	6/15	1.5/3	1.9/4.7	2.8/7	4/9.9	4.9/12.3	6/15
24			99	164		98	197	329	496	711	1288	146	296	493	744	1066	1453	1932	395	658	992	1422	1937	2576
			79	129		80	157	257	384	547	-	121	236	386	576	820	1125	-	314	515	768	1094	1500	-
			1.5/3	1.6/3.9		1.5/3	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	6/15	1.5/3	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	4.5/11.3	6/15	1.5/3	1.6/3.9	2.3/5.9	3.3/8.3	4.5/11.3	6/15
26			76	128		75	153	256	387	555	1164	112	229	383	580	833	1150	1747	305	511	773	1110	1533	2329
			62	101		63	124	202	302	430	1020	95	185	304	453	645	885	1529	247	405	604	860	1180	2039
			1.5/3	1.5/3.3		1.5/3	1.5/3	1.5/3.3	2/5	2.8/7.1	5.9/14.7	1.5/3	1.5/3	1.5/3.3	2/5	2.8/7.1	3.9/9.7	5.9/14.7	1.5/3	1.5/3.3	2/5	2.8/7.1	3.9/9.7	5.9/14.7
28			60	101		58	120	202	306	441	1001	87	180	303	459	661	914	1501	240	404	612	882	1219	2001
			49	81		51	99	162	242	344	816	76	148	243	363	517	709	1224	198	324	484	689	945	1633
			1.5/3	1.5/3		1.5/3	1.5/3	1.5/3	1.7/4.3	2.4/6.1	5.5/13.7	1.5/3	1.5/3	1.5/3	1.7/4.3	2.4/6.1	3.4/8.4	5.5/13.7	1.5/3	1.5/3	1.7/4.3	2.4/6.1	3.4/8.4	5.5/13.7
30				81			95	161	246	355	861	68	143	242	369	533	738	1291	190	323	492	710	984	1721
				66			80	132	197	280	664	62	121	198	295	420	576	996	161	263	393	560	768	1327
				1.5/3			1.5/3	1.5/3	1.5/3.7	2.1/5.3	5.1/12.6	1.5/3	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	5.1/12.6	1.5/3	1.5/3	1.5/3.7	2.1/5.3	2.9/7.3	5.1/12.6

- 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 top edge and applicable compression edges 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.
- For 2-ply, 3-ply or 4-ply beams; double, triple or quadruple Allowable Total Load and Allowable Live Load values. Minimum Required Bearing Lengths remain the same for any number of plies.
- 1¾ inch members deeper than 14 inches are to be used as multiple-member beams only.
- 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.

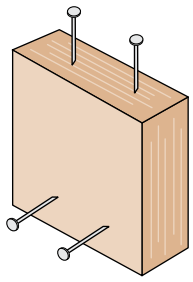
VERSA-LAM® Allowable Nailing and Design Values

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 5/16"		VERSA-LAM® 1¾"		VERSA-LAM® 3½" & 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

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).

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

VERSA-LAM® Design Values

Grade	Width [in]	Depth [in]	Weight [lb/ft]	Allowable Shear [lb]	Allowable Moment [ft-lb]	Moment of Inertia [in⁴]
VERSA-STUD® 1.7 2650	1½	3½	1.5	998	776	5.4
		5½	2.4	1568	1821	20.8
		7¼	3.2	2066	3069	47.6
VERSA-LAM® 2.0 3100	1¾	3½	1.8	1164	1058	6.3
		5½	2.8	1829	2486	24.3
		7¼	3.7	2411	4189	55.6
		9¼	4.7	3076	6636	115.4
		9½	4.8	3159	6979	125.0
		11¼	5.7	3741	9605	207.6
		11⅞	6.0	3948	10638	244.2
		14	7.1	4655	14517	400.2
		16	8.1	5320	18682	597.3
		18	9.1	5985	23337	850.5
		24	12.2	7980	40183	2016.0
	3½	5½	5.6	3658	4971	48.5
		7¼	7.4	4821	8377	111.1
		9¼	9.4	6151	13272	230.8
		9½	9.6	6318	13958	250.1
		11¼	11.4	7481	19210	415.3
		11⅞	12.1	7897	21275	488.4
		14	14.2	9310	29035	800.3
		16	16.2	10640	37364	1194.7
		18	18.3	11970	46674	1701.0
		20	20.3	13300	56952	2333.3

Grade	Width [in]	Depth [in]	Weight [lb/ft]	Allowable Shear [lb]	Allowable Moment [ft-lb]	Moment of Inertia [in⁴]
VERSA-LAM® 2.0 3100	5¼	5¼	8.0	5237	6830	63.3
		5½	8.4	5486	7457	72.8
		7¼	11.0	7232	12566	166.7
		9¼	14.1	9227	19908	346.3
		9½	14.5	9476	20937	375.1
		11¼	17.1	11222	28814	622.9
		11⅞	18.1	11845	31913	732.6
		14	21.3	13965	43552	1200.5
		16	24.4	15960	56046	1792.0
		18	27.4	17955	70011	2551.5
		20	30.4	19950	85428	3500.0
		24	36.5	23940	120549	6048.0
	7	9¼	16.6	12303	26544	461.7
		9½	17.1	12635	27916	500.1
		11¼	20.2	14963	38419	830.6
		11⅞	21.4	15794	42550	976.8
		14	25.2	18620	58069	1600.7
		16	28.8	21280	74728	2389.3
		18	32.4	23940	93348	3402.0
		20	36.0	26600	113904	4666.7
		24	43.2	31920	160732	8064.0

Design Property	Grade	Modulus of Elasticity E (x 10⁶ psi)(1)	Bending F_b (psi)(2)(3)	Horizontal Shear F_v (psi)(2)(4)	Tension Parallel to Grain F_t (psi)(2)(5)	Compression Parallel to Grain $F_{c\|\|}$ (psi)(2)	Compression Perpendicular to Grain $F_{c\perp}$ (psi)(1)(6)	Equivalent Specific Gravity for Fastener Design (SG)
VERSA-LAM® Beams	2.0 3100	2.0	3100	285	2150	3000	750	0.5
VERSA-LAM® Columns & Studs	1.7 2650	1.7	2650	285	1650	3000	750	0.5

1. This value cannot be adjusted for load duration.
2. This value is based upon a load duration of 100% and may be adjusted for other load durations.
3. Fiber stress bending value shall be multiplied by the depth factor, $(12/d)^{1/9}$ where d = member depth [in].
4. Stress applied perpendicular to the gluelines.
5. Tension value shall be multiplied by a length factor, $(4/L)^{1/8}$ where L = member length [ft]. Use L = 4 for members less than four feet long.
6. Stress applied parallel to the gluelines.

* Design properties are limited to dry conditions of use where the maximum moisture content of the material will not exceed 16%.

The same properties that make VERSA-LAM® beams great, also make them highly suitable for wood columns. In VERSA-LAM® columns, you'll find none of the deep checks, cracks or twists that can plague solid wood columns.

VERSA-LAM® 1.7 2650 Columns

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	14,700	16,090	16,930	22,070	24,165	25,430	29,450	32,240	33,920									
5	12,270	13,150	13,660	18,425	19,740	20,515	24,580	26,330	27,365									
6	10,080	10,650	10,980	15,140	15,995	16,495	20,195	21,335	22,000	33,070	36,220	38,110						
7	8,310	8,705	8,930	12,480	13,075	13,415	16,650	17,435	17,890	29,420	31,730	33,085						
8	6,930	7,205	7,370	10,405	10,825	11,070	13,880	14,440	14,760	25,875	27,570	28,565	34,525	36,790	38,115			
9	5,840	6,050	6,160	8,770	9,080	9,260	11,700	12,115	12,350	22,690	23,970	24,715	30,275	31,985	32,980			
10	4,980	5,135	5,225	7,480	7,715	7,850	9,975	10,290	10,470	19,930	20,920	21,495	26,600	27,920	28,685			
11	4,290	4,410	4,480	6,445	6,625	6,730	8,595	8,835	8,975	17,585	18,375	18,820	23,465	24,510	25,125			
12	3,730	3,825	3,880	5,600	5,745	5,830	7,475	7,665	7,775	15,590	16,220	16,585	20,805	21,650	22,130			
13	3,270	3,350	3,390	4,915	5,030	5,095	6,555	6,710	6,795	13,895	14,410	14,700	18,545	19,225	19,620			
14	2,890	2,950	2,990	4,340	4,435	4,490	5,790	5,915	5,990	12,450	12,870	13,115	16,615	17,180	17,500	33,260	34,825	35,740
15										11,210	11,560	11,760	14,960	15,425	15,695	30,325	31,645	32,395
16										10,135	10,430	10,600	13,525	13,920	14,150	27,720	28,835	29,490
17										9,205	9,455	9,600	12,285	12,620	12,810	25,415	26,375	26,920
18										8,395	8,610	8,735	11,205	11,495	11,655	23,370	24,195	24,665
19										7,685	7,870	7,975	10,260	10,505	10,645	21,550	22,270	22,670
20										7,060	7,220	7,310	9,420	9,635	9,760	19,925	20,550	20,910
21										6,505	6,645	6,725	8,680	8,870	8,980	18,475	19,020	19,330
22																17,165	17,650	17,925
23																15,990	16,420	16,660
24																14,930	15,310	15,525

Allowable Design Stresses		
	Modulus of Elasticity:	$E = 1.7 \times 10^6$ psi
Bending:	Parallel to Gluelines (Beam):	$F_b = 2650*(12/d)^{1/9}$ psi
	Perp to Gluelines (Plank):	$F_b = 2400*(12/d)^{1/9}$ psi
	Compression Parallel to Grain:	$F_{c\|\|} = 3000$ psi
Compression Perpendicular to Grain:		
	Parallel to Gluelines (Beam):	$F_c+ = 750$ psi
	Perp to Gluelines (Plank):	$F_c+ = 450$ 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 EWP Engineering for multi-piece column design.
3) Allowable loads are based on an eccentricity value equal to 0.167 multiplied by either the column thickness or width (worst case).
4) Allowable loads are based on axial loaded columns using the design provisions of the National Design Specification for Wood Construction (NDS), 2005 edition. For side or other combined bending and axial loads, see provisions of NDS, 2005 edition.
5) Load values are not shown for short lengths due to loads exceeding common connector capacities. Load values are not shown for longer lengths if the controlling slenderness ratio exceeds 50 (per NDS).
6) Lateral loads (wind loading) are not considered in this table.

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Allowable Design Values

Product	Bending F_b [psi]	Compression Parallel to Grain F_c [psi]	Modulus of Elasticity E [psi]	Horizontal Shear F_v [psi]
VERSA-STUD® 1.7 2650	2650	3000	1,700,000	285
Spruce Pine Fir (North) # 1 / 2 Grade	875	1150	1,400,000	135
Hem-Fir # 2 Grade	850	1300	1,300,000	150
Western Woods # 2 Grade	675	900	1,000,000	135

Notes:

- Design values are for loads applied to the narrow face of the studs.
- Dimension lumber values taken from 2005 Edition, *NDS Design Values for Wood Construction* (per 2006 IBC/IRC).
- Repetitive member and size factors have not been applied.
- For further design information, please see VERSA-STUD 1.7 2650 Eastern Tall Wall Guide.