



LIMIT STATES DESIGN
CANADA



WESTERN SPECIFIER GUIDE

VERSA-LAM®

1.8E 2400 & 2650

CCMC Report Number 12472-R VERSA-LAM® LVL

VLWSG 1.8E 2400 2650 03/12/2020

www.BC.com

High Performance Floor & Roof Systems



Makes Designing Homes Easier

Architects, engineers, and designers trust
Boise Cascade's Engineered Wood Products
to provide a better system for
framing floors, roofs and walls.

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

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

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

Better Framing Doesn't Have to Cost More

Boise Cascade EWP **SIMPLE FRAMING SYSTEM®** often costs less than conventional framing methods when the resulting reduced labor and materials waste are considered. There's less sorting and cost associated with disposing of waste because you order

only what you need. Although our longer lengths help your clients get the job done faster, they cost no more.

Environmentally Sound

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

What Makes the SIMPLE FRAMING SYSTEM® So Simple?

- **Floor and Roof Framing with Boise Cascade Joists**

Light in weight, but heavy-duty, Boise Cascade Joists have a better strength/ weight ratio than dimension lumber. Knockouts can be removed for cross-ventilation and wiring.

- **Ceilings Framed with Boise Cascade Joists**

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

- **Versa-Lam® LVL Beams for Floor and Roof Framing**

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

- **VERSA-STUD® and Versa-Lam® LVL Columns for Wall Framing**

VERSA-STUD® laminated veneer lumber wall framing is engineered for the high quality builder who wants . . .

- Stronger walls to resist wind loads.
- Stiffer walls for a solid feel.
- Straight walls for a high quality finish.

- **Boise Cascade Rimboard**

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

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An Introduction to Versa-Lam® LVL 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® LVL Architectural Specifications

Scope: This work includes the complete furnishing and installation of all Versa-Lam® LVL beams as shown on the drawings, herein special and necessary to complete the work.

Materials: Douglas Fir veneer, laminated in a press with all grain parallel with the length of the member. Glue used in lamination is phenol formaldehyde and isocyanate exterior type adhesive which comply with CSA O112 standards. All adhesives are compliant to NBCC 2015 and CCMC requirements for dry use structural applications.

Design: The Versa-Lam® LVL beams shall be sized and detailed to fit the dimensions and loads indicated on the plans. All designs are in accordance with allowable values developed with ASTM D5456 and CSA O86-14 and listed in the Canadian Construction Materials Center CCMC 12472-R report and section properties based upon standard engineering principles. Verification of design of the 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 supplier.

Fabrication: The Versa-Lam® LVL beams shall be manufactured in a plant evaluated for fabrication by the CCMC under the supervision of a third-party inspection agency listed by the CCMC.

Storage: The Versa-Lam® LVL 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.

Installation: The Versa-Lam® LVL beams are to be installed in accordance with the plans and Boise Cascade Engineered Wood Products Installation Guide. Temporary construction loads which cause stresses beyond design limits are not permitted. Erection bracing shall be provided to assure adequate lateral support for the individual beams and the entire system until the sheathing material has been applied.

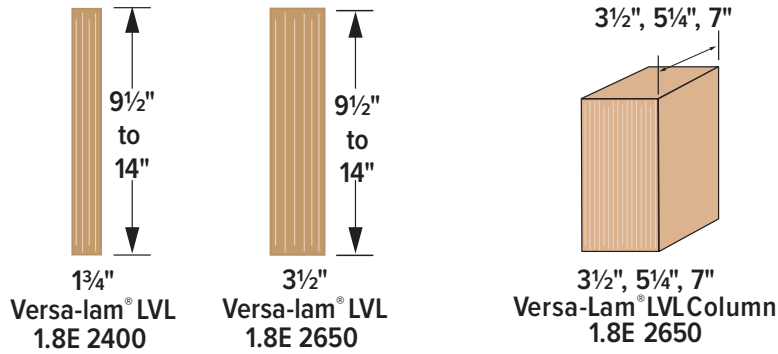
Codes: The design shall be based on CSA O86-14 and the National Building Code of Canada. The VERSA-LAM® beams shall be evaluated by the CCMC evaluation service.

Boise Cascade Chain-Of-Custody Certifications

Boise Cascade Engineered Wood Products 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-audits/> or view our green brochure at <https://p.widencdn.net/80libx>

Boise Cascade Engineered Wood Products throughout North America can now be ordered FSC® Chain-of-Custody (COC) certified, enabling homebuilders to achieve LEED® points 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 Green Building Standards.



Design Properties

Width	Depth	Size Factor	Weight	Factored Shear Resistance (Joist), V_r	Factored Bending Resistance (Joist), M_r	Moment of Inertia, I	Modulus of Elasticity, E_{true}	Modulus of Elasticity, $E_{apparent}$	Specified Bending Strength (Joist), f_b	Specified Shear Strength (Joist), f_v	Specified Compression Parallel to Grain, f_c	Specified Compression Perpendicular to Grain, f_{cp}
(in)	(in)		(lb/ft)	(lb)	(lb-ft)	(in ⁴)	(x10 ⁶ psi)	(x10 ⁶ psi)	(psi)	(psi)	(psi)	(psi)
Versa-Lam® LVL Column 1.8E 2650 Design Properties												
3½	3½	1.15	3.1	3,896	3,011	12.5	1.8	1.7	4,900	530	4,790	1,365
3½	5¼	1.10	4.7	5,843	6,477	42.2						
3½	7	1.06	6.3	7,791	11,153	100.0						
5¼	5¼	1.10	7.1	8,765	9,716	63.3						
5¼	7	1.06	9.4	11,687	16,729	150.1						
7	7	1.06	12.6	15,582	22,305	200.1						
Versa-Lam® LVL 1.8E 2400 Design Properties												
1¾	9½	1.03	4.3	5,287	8,986	125.0	1.8	1.7	4,435	530	4,790	1,365
	11⅞	1.00	5.3	6,608	13,697	244.2						
	14	0.98	6.3	7,791	18,692	400.2						
Versa-Lam® LVL 1.8E 2650 Design Properties												
3½	9½	1.03	8.5	10,574	19,856	250.1	1.8	1.7	4,900	530	4,790	1,365
	11⅞	1.00	10.7	13,217	30,265	488.4						
	14	0.98	12.6	15,582	41,304	800.3						

NOTES:

- Repetitive member factor has not been applied to the Factored Bending Resistance.
- Size factors have been applied to the Factored Bending Resistance.
- Versa-Lam® Specific Gravity for fasteners design = 0.5
- Specified compression perpendicular to grain on plank orientation (plate) is 819 psi.
- Fiber stress bending value shall be multiplied by the depth factor, $(12/d)^{1/9}$ where d = member depth [in]

Uniform Load Table

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Versa-Lam® LVL 1.8E Allowable Uniform Load (lbs/ft)

Design Span [ft]	Beam Thickness Beam Depth	Versa-Lam® LVL 1.8E 2400			Versa-Lam® LVL 1.8E 2650		
		1¾" - 1 Ply			3½" - 1 Ply		
		9½"	11⅞"	14"	9½"	11⅞"	14"
6' - 0"	Unfactored Live Load for L / 360 [plf]	1217	2126	-	2435	4252	-
	Unfactored Total Load for L / 240 [plf]	-	-	-	-	-	-
	Factored Total Load, Wf [plf]	1779	2384	3004	3559	4769	6009
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	5 / 12.5	6.75 / 16.75	8.5 / 21	5 / 12.5	6.75 / 16.75	8.5 / 21
	Bearing Lengths [End / Intermediate] - beam [in]	3 / 7	3.75 / 9.5	4.75 / 12	3 / 7	3.75 / 9.5	4.75 / 12
8' - 0"	Unfactored Live Load for L / 360 [plf]	566	1029	1570	1132	2059	3142
	Unfactored Total Load for L / 240 [plf]	844	1539	-	1689	3078	-
	Factored Total Load, Wf [plf]	1118	1639	2022	2237	3278	4044
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	4.25 / 10.5	6.25 / 15.25	7.75 / 19	4.25 / 10.5	6.25 / 15.25	7.75 / 19
	Bearing Lengths [End / Intermediate] - beam [in]	2.5 / 6	3.5 / 8.75	4.25 / 10.75	2.5 / 6	3.5 / 8.75	4.25 / 10.75
10' - 0"	Unfactored Live Load for L / 360 [plf]	304	566	882	608	1132	1765
	Unfactored Total Load for L / 240 [plf]	451	843	1317	903	1687	2635
	Factored Total Load, Wf [plf]	714	1089	1488	1428	2179	2977
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	3.5 / 8.5	5.25 / 12.75	7 / 17.5	3.5 / 8.5	5.25 / 12.75	7 / 17.5
	Bearing Lengths [End / Intermediate] - beam [in]	2 / 4.75	3 / 7.25	4 / 9.75	2 / 4.75	3 / 7.25	4 / 9.75
12' - 0"	Unfactored Live Load for L / 360 [plf]	180	341	539	361	682	1078
	Unfactored Total Load for L / 240 [plf]	267	506	802	534	1012	1605
	Factored Total Load, Wf [plf]	494	754	1031	988	1509	2062
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	3 / 7	4.25 / 10.75	6 / 14.5	3 / 7	4.25 / 10.75	6 / 14.5
	Bearing Lengths [End / Intermediate] - beam [in]	1.75 / 4	2.5 / 6	3.25 / 8.25	1.75 / 4	2.5 / 6	3.25 / 8.25
14' - 0"	Unfactored Live Load for L / 360 [plf]	115	220	351	231	440	702
	Unfactored Total Load for L / 240 [plf]	169	325	520	338	650	1041
	Factored Total Load, Wf [plf]	361	552	755	723	1105	1511
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	2.5 / 6	3.75 / 9	5 / 12.5	2.5 / 6	3.75 / 9	5 / 12.5
	Bearing Lengths [End / Intermediate] - beam [in]	1.5 / 3.5	2.25 / 5.25	3 / 7	1.5 / 3.5	2.25 / 5.25	3 / 7
16' - 0"	Unfactored Live Load for L / 360 [plf]	78	150	240	156	300	481
	Unfactored Total Load for L / 240 [plf]	113	219	354	226	439	709
	Factored Total Load, Wf [plf]	275	421	576	551	843	1153
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	2.25 / 5.25	3.25 / 8	4.5 / 10.75	2.25 / 5.25	3.25 / 8	4.5 / 10.75
	Bearing Lengths [End / Intermediate] - beam [in]	1.5 / 3.5	2 / 4.5	2.5 / 6.25	1.5 / 3.5	2 / 4.5	2.5 / 6.25
18' - 0"	Unfactored Live Load for L / 360 [plf]	55	106	171	111	213	343
	Unfactored Total Load for L / 240 [plf]	79	154	251	158	309	503
	Factored Total Load, Wf [plf]	216	331	454	433	663	908
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	2 / 4.75	3 / 7	4 / 9.5	2 / 4.75	3 / 7	4 / 9.5
	Bearing Lengths [End / Intermediate] - beam [in]	1.5 / 3.5	1.75 / 4	2.25 / 5.5	1.5 / 3.5	1.75 / 4	2.25 / 5.5
20' - 0"	Unfactored Live Load for L / 360 [plf]	40	78	126	81	156	253
	Unfactored Total Load for L / 240 [plf]	56	112	183	113	224	367
	Factored Total Load, Wf [plf]	174	267	366	348	534	732
	Bearing Lengths [End / Intermediate] - SPF Plate [in]	1.75 / 4.25	2.5 / 6.25	3.5 / 8.75	1.75 / 4.25	2.5 / 6.25	3.5 / 8.75
	Bearing Lengths [End / Intermediate] - beam [in]	1.5 / 3.5	1.5 / 3.5	2 / 5	1.5 / 3.5	1.5 / 3.5	2 / 5
22' - 0"	Unfactored Live Load for L / 360 [plf]		59	96	61	118	192
	Unfactored Total Load for L / 240 [plf]		83	137	83	167	275
	Factored Total Load, Wf [plf]		219	301	286	439	602
	Bearing Lengths [End / Intermediate] - SPF Plate [in]		2.25 / 5.75	3.25 / 7.75	1.5 / 3.75	2.25 / 5.75	3.25 / 7.75
	Bearing Lengths [End / Intermediate] - beam [in]		1.5 / 3.5	1.75 / 4.5	1.5 / 3.5	1.5 / 3.5	1.75 / 4.5
24' - 0"	Unfactored Live Load for L / 360 [plf]		45	74	47	91	148
	Unfactored Total Load for L / 240 [plf]		63	105	62	127	210
	Factored Total Load, Wf [plf]		183	251	239	367	503
	Bearing Lengths [End / Intermediate] - SPF Plate [in]		2.25 / 5.25	3 / 7.25	1.5 / 3.5	2.25 / 5.25	3 / 7.25
	Bearing Lengths [End / Intermediate] - beam [in]		1.5 / 3.5	1.75 / 4	1.5 / 3.5	1.5 / 3.5	1.75 / 4
26' - 0"	Unfactored Live Load for L / 360 [plf]			58		72	117
	Unfactored Total Load for L / 240 [plf]			82		98	164
	Factored Total Load, Wf [plf]			213		311	426
	Bearing Lengths [End / Intermediate] - SPF Plate [in]			2.75 / 6.5		2 / 4.75	2.75 / 6.5
	Bearing Lengths [End / Intermediate] - beam [in]			1.5 / 3.75		1.5 / 3.5	1.5 / 3.75
28' - 0"	Unfactored Live Load for L / 360 [plf]			47		58	94
	Unfactored Total Load for L / 240 [plf]			64		76	129
	Factored Total Load, Wf [plf]			182		266	365
	Bearing Lengths [End / Intermediate] - SPF Plate [in]			2.5 / 6		1.75 / 4.5	2.5 / 6
	Bearing Lengths [End / Intermediate] - beam [in]			1.5 / 3.5		1.5 / 3.5	1.5 / 3.5
30' - 0"	Unfactored Live Load for L / 360 [plf]					47	77
	Unfactored Total Load for L / 240 [plf]					60	103
	Factored Total Load, Wf [plf]					230	316
	Bearing Lengths [End / Intermediate] - SPF Plate [in]					1.75 / 4.25	2.25 / 5.75
	Bearing Lengths [End / Intermediate] - beam [in]					1.5 / 3.5	1.5 / 3.5

NOTES:

- Factored Total Load values are limited by shear or moment. Total Load values are given by the beam capacity in addition to its own weight.
- Unfactored Live Load values are limited by deflection equal to L / 360. For deflections limited to L / 480, multiply live load values by 0.75 (recommended for less vibration).
- All 3 loading cases must be checked. Where a Live Load value is not shown, the Factored Total Load value will control.
- Table values represent the most restrictive of simple or continuous span beams applications and assume an uniform loading. Span is measured center to center of the supports. Analyze continuous 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 Factored 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 the Factored Total Load, Unfactored Live and Total Load values. 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.

Floor Beam Span Tables (One Storey)

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Live Load of 40 psf

Dead Load of 15 psf

L / 360

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	13' - 9"	15' - 10"	17' - 6"	17' - 3"	19' - 10"	21' - 10"	20' - 4"	23' - 5"	25' - 10"
	End/Int bearing SPF Plate (in)	1.6 / 3.8	1.5 / 3.5	1.5 / 3.5	1.9 / 4.8	1.5 / 3.7	1.5 / 3.5	2.3 / 5.6	1.8 / 4.3	1.5 / 3.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	8	12' - 6"	14' - 4"	15' - 10"	15' - 7"	18' - 0"	19' - 10"	18' - 5"	21' - 2"	23' - 5"
	End/Int bearing SPF Plate (in)	1.9 / 4.6	1.5 / 3.6	1.5 / 3.5	2.3 / 5.8	1.8 / 4.4	1.5 / 3.7	2.8 / 6.8	2.1 / 5.2	1.8 / 4.3
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.9	1.5 / 3.5	1.5 / 3.5
	10	11' - 7"	13' - 4"	14' - 8"	14' - 5"	16' - 8"	18' - 4"	17' - 0"	19' - 7"	21' - 8"
	End/Int bearing SPF Plate (in)	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5	2.7 / 6.7	2.1 / 5.1	1.7 / 4.3	3.2 / 7.9	2.4 / 6	2 / 5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.8	1.5 / 3.5	1.5 / 3.5	1.8 / 4.4	1.5 / 3.5	1.5 / 3.5
	12	10' - 10"	12' - 6"	13' - 9"	13' - 7"	15' - 7"	17' - 3"	16' - 0"	18' - 5"	20' - 4"
	End/Int bearing SPF Plate (in)	2.4 / 6	1.9 / 4.6	1.6 / 3.8	3 / 7.5	2.3 / 5.8	1.9 / 4.8	3.6 / 8.8	2.8 / 6.8	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.9	1.5 / 3.5
	14	10' - 3"	11' - 10"	13' - 1"	12' - 10"	14' - 10"	16' - 4"	15' - 2"	17' - 5"	19' - 3"
	End/Int bearing SPF Plate (in)	2.7 / 6.6	2.1 / 5.1	1.7 / 4.2	3.3 / 8.3	2.6 / 6.4	2.1 / 5.3	3.9 / 9.8	3 / 7.5	2.5 / 6.2
	End/Int bearing Member (in)	1.5 / 3.8	1.5 / 3.5	1.5 / 3.5	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.2 / 5.5	1.7 / 4.3	1.5 / 3.5
	16	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	2.9 / 7.2	2.3 / 5.6	1.9 / 4.6	3.6 / 9	2.8 / 7	2.3 / 5.8	4.3 / 10.6	3.3 / 8.2	2.8 / 6.8
	End/Int bearing Member (in)	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	2.1 / 5.1	1.6 / 3.9	1.5 / 3.5	2.4 / 6	1.9 / 4.6	1.6 / 3.9
	18	9' - 4"	10' - 10"	12' - 0"	11' - 9"	13' - 7"	15' - 0"	13' - 10"	16' - 0"	17' - 8"
	End/Int bearing SPF Plate (in)	3.2 / 7.8	2.4 / 6	2 / 5	3.9 / 9.7	3 / 7.5	2.5 / 6.2	4.6 / 11.5	3.6 / 8.8	3 / 7.3
	End/Int bearing Member (in)	1.8 / 4.4	1.5 / 3.5	1.5 / 3.5	2.2 / 5.5	1.7 / 4.2	1.5 / 3.5	2.6 / 6.5	2 / 5	1.7 / 4.2
	20	9' - 0"	10' - 5"	11' - 7"	11' - 4"	13' - 1"	14' - 5"	13' - 4"	15' - 5"	17' - 0"
	End/Int bearing SPF Plate (in)	3.4 / 8.3	2.6 / 6.4	2.2 / 5.3	4.2 / 10.4	3.2 / 8	2.7 / 6.7	4.9 / 12.3	3.8 / 9.5	3.2 / 7.9
	End/Int bearing Member (in)	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.4 / 5.9	1.8 / 4.5	1.5 / 3.8	2.8 / 6.9	2.2 / 5.4	1.8 / 4.4

Live Load of 40 psf

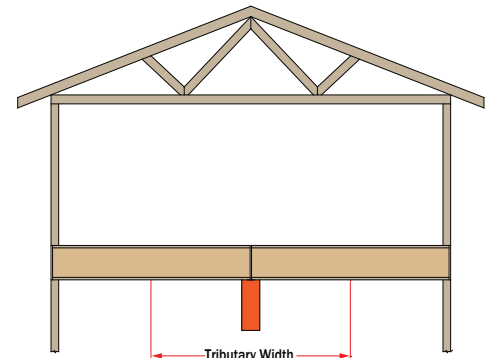
Dead Load of 25 psf

L / 360

Beam Depth		9½"			11⅞"			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	13' - 4"	15' - 3"	16' - 9"	16' - 7"	19' - 0"	20' - 11"	19' - 7"	22' - 5"	24' - 7"
	End/Int bearing SPF Plate (in)	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5	2.5 / 6.3	2 / 4.8	1.6 / 4
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5
	8	12' - 1"	13' - 10"	15' - 3"	15' - 1"	17' - 3"	19' - 0"	17' - 9"	20' - 4"	22' - 5"
	End/Int bearing SPF Plate (in)	2.1 / 5.2	1.6 / 4	1.5 / 3.5	2.6 / 6.5	2 / 4.9	1.7 / 4.1	3.1 / 7.6	2.4 / 5.8	2 / 4.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5	1.5 / 3.5	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5
	10	11' - 2"	12' - 10"	14' - 2"	14' - 0"	16' - 0"	17' - 8"	16' - 5"	18' - 11"	20' - 10"
	End/Int bearing SPF Plate (in)	2.4 / 6	1.9 / 4.6	1.6 / 3.8	3 / 7.5	2.3 / 5.7	1.9 / 4.7	3.5 / 8.8	2.7 / 6.7	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.8	1.5 / 3.5
	12	10' - 6"	12' - 1"	13' - 4"	13' - 1"	15' - 1"	16' - 7"	15' - 5"	17' - 9"	19' - 7"
	End/Int bearing SPF Plate (in)	2.7 / 6.7	2.1 / 5.2	1.7 / 4.3	3.4 / 8.4	2.6 / 6.5	2.2 / 5.3	4 / 9.9	3.1 / 7.6	2.5 / 6.3
	End/Int bearing Member (in)	1.6 / 3.8	1.5 / 3.5	1.5 / 3.5	1.9 / 4.8	1.5 / 3.7	1.5 / 3.5	2.3 / 5.6	1.7 / 4.3	1.5 / 3.6
	14	9' - 11"	11' - 5"	12' - 8"	12' - 5"	14' - 4"	15' - 9"	14' - 8"	16' - 10"	18' - 7"
	End/Int bearing SPF Plate (in)	3 / 7.4	2.3 / 5.7	1.9 / 4.8	3.7 / 9.3	2.9 / 7.1	2.4 / 5.9	4.4 / 10.9	3.4 / 8.4	2.8 / 7
	End/Int bearing Member (in)	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2.1 / 5.3	1.6 / 4	1.5 / 3.5	2.5 / 6.2	1.9 / 4.8	1.6 / 3.9
	16	9' - 6"	10' - 11"	12' - 1"	11' - 10"	13' - 8"	15' - 1"	14' - 0"	16' - 1"	17' - 9"
	End/Int bearing SPF Plate (in)	3.3 / 8.1	2.5 / 6.2	2.1 / 5.2	4.1 / 10.1	3.1 / 7.8	2.6 / 6.5	4.8 / 11.9	3.7 / 9.2	3.1 / 7.6
	End/Int bearing Member (in)	1.9 / 4.6	1.5 / 3.5	1.5 / 3.5	2.3 / 5.7	1.8 / 4.4	1.5 / 3.7	2.7 / 6.7	2.1 / 5.2	1.7 / 4.3
	18	9' - 1"	10' - 6"	11' - 7"	11' - 4"	13' - 1"	14' - 6"	13' - 5"	15' - 5"	17' - 1"
	End/Int bearing SPF Plate (in)	3.5 / 8.8	2.7 / 6.7	2.3 / 5.6	4.4 / 10.9	3.4 / 8.4	2.8 / 7	5.2 / 12.9	4 / 9.9	3.3 / 8.2
	End/Int bearing Member (in)	2 / 5	1.6 / 3.8	1.5 / 3.5	2.5 / 6.2	1.9 / 4.8	1.6 / 3.9	2.9 / 7.3	2.3 / 5.6	1.9 / 4.6
	20	8' - 9"	10' - 1"	11' - 2"	10' - 11"	12' - 8"	14' - 0"	12' - 8"	14' - 11"	16' - 5"
	End/Int bearing SPF Plate (in)	3.8 / 9.4	2.9 / 7.2	2.4 / 6	4.7 / 11.6	3.6 / 9	3 / 7.5	5.5 / 13.6	4.3 / 10.6	3.5 / 8.8
	End/Int bearing Member (in)	2.1 / 5.3	1.7 / 4.1	1.5 / 3.5	2.7 / 6.6	2.1 / 5.1	1.7 / 4.2	3.1 / 7.7	2.4 / 6	2 / 5

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes uniform loads and simple floor joists spans. When the floor joists are continuous over the Versa-Lam® LVL beam, multiply the tributary width by 1.25 and always select the value closer to the higher tributary width.
- Example :** Tributary width of 14 feet multiply by 1.25 = 17'-6".
Hence, select 18 feet for new tributary width.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Multi-ply members may be substituted with solid section beams.



Floor Beam Span Tables (One Storey) Con't

7

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Live Load of 40 psf

Dead Load of 15 psf

L / 480

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	12' - 6"	14' - 4"	15' - 10"	15' - 7"	18' - 0"	19' - 10"	18' - 5"	21' - 2"	23' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.8 / 4.3	1.5 / 3.5	1.5 / 3.5	2.1 / 5.1	1.6 / 3.9	1.5 / 3.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	8	11' - 3"	13' - 0"	14' - 4"	14' - 1"	16' - 3"	18' - 0"	16' - 8"	19' - 2"	21' - 2"
	End/Int bearing SPF Plate (in)	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.6 / 4	1.5 / 3.5	2.5 / 6.2	1.9 / 4.7	1.6 / 3.9
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	10	10' - 5"	12' - 0"	13' - 4"	13' - 1"	15' - 1"	16' - 8"	15' - 5"	17' - 9"	19' - 7"
	End/Int bearing SPF Plate (in)	2 / 4.8	1.5 / 3.7	1.5 / 3.5	2.4 / 6	1.9 / 4.7	1.6 / 3.9	2.9 / 7.1	2.2 / 5.5	1.8 / 4.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.5 / 3.5
	12	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	2.2 / 5.4	1.7 / 4.2	1.5 / 3.5	2.7 / 6.8	2.1 / 5.2	1.8 / 4.3	3.2 / 8	2.5 / 6.2	2.1 / 5.1
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.8	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.5 / 3.5	1.5 / 3.5
	14	9' - 3"	10' - 8"	11' - 10"	11' - 7"	13' - 4"	14' - 10"	13' - 8"	15' - 9"	17' - 5"
	End/Int bearing SPF Plate (in)	2.4 / 6	1.9 / 4.6	1.6 / 3.8	3 / 7.5	2.3 / 5.8	1.9 / 4.8	3.6 / 8.8	2.7 / 6.8	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.9	1.5 / 3.5
	16	8' - 10"	10' - 2"	11' - 3"	11' - 0"	12' - 9"	14' - 1"	13' - 0"	15' - 1"	16' - 8"
	End/Int bearing SPF Plate (in)	2.6 / 6.5	2 / 5	1.7 / 4.2	3.3 / 8.2	2.5 / 6.3	2.1 / 5.2	3.9 / 9.6	3 / 7.4	2.5 / 6.2
	End/Int bearing Member (in)	1.5 / 3.7	1.5 / 3.5	1.5 / 3.5	1.9 / 4.6	1.5 / 3.6	1.5 / 3.5	2.2 / 5.4	1.7 / 4.2	1.5 / 3.5
	18	8' - 5"	9' - 9"	10' - 10"	10' - 7"	12' - 3"	13' - 7"	12' - 6"	14' - 5"	16' - 0"
	End/Int bearing SPF Plate (in)	2.8 / 7	2.2 / 5.4	1.8 / 4.5	3.5 / 8.8	2.7 / 6.8	2.3 / 5.6	4.2 / 10.4	3.2 / 8	2.7 / 6.6
	End/Int bearing Member (in)	1.6 / 4	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.8	1.5 / 3.5	2.4 / 5.9	1.8 / 4.5	1.5 / 3.8
	20	8' - 2"	9' - 5"	10' - 5"	10' - 2"	11' - 9"	13' - 1"	12' - 0"	13' - 11"	15' - 5"
	End/Int bearing SPF Plate (in)	3 / 7.5	2.4 / 5.8	2 / 4.8	3.8 / 9.4	2.9 / 7.3	2.4 / 6	4.5 / 11.1	3.5 / 8.6	2.9 / 7.1
	End/Int bearing Member (in)	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5	2.5 / 6.3	2 / 4.8	1.6 / 4

Live Load of 40 psf

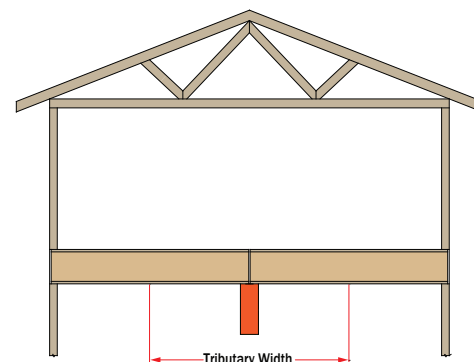
Dead Load of 25 psf

L / 480

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	12' - 6"	14' - 4"	15' - 10"	15' - 7"	18' - 0"	19' - 10"	18' - 5"	21' - 2"	23' - 5"
	End/Int bearing SPF Plate (in)	1.6 / 4	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.9	1.5 / 3.5	2.4 / 5.9	1.8 / 4.5	1.5 / 3.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	8	11' - 3"	13' - 0"	14' - 4"	14' - 1"	16' - 3"	18' - 0"	16' - 8"	19' - 2"	21' - 2"
	End/Int bearing SPF Plate (in)	2 / 4.9	1.5 / 3.7	1.5 / 3.5	2.5 / 6.1	1.9 / 4.7	1.6 / 3.9	2.9 / 7.1	2.2 / 5.5	1.8 / 4.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.5 / 3.5
	10	10' - 5"	12' - 0"	13' - 4"	13' - 1"	15' - 1"	16' - 8"	15' - 5"	17' - 9"	19' - 7"
	End/Int bearing SPF Plate (in)	2.3 / 5.6	1.8 / 4.3	1.5 / 3.6	2.8 / 7	2.2 / 5.4	1.8 / 4.5	3.3 / 8.2	2.6 / 6.3	2.1 / 5.3
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.5 / 3.5	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5
	12	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	2.5 / 6.3	2 / 4.9	1.6 / 4	3.2 / 7.9	2.5 / 6.1	2 / 5	3.7 / 9.3	2.9 / 7.1	2.4 / 5.9
	End/Int bearing Member (in)	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.8 / 4.4	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.6 / 4	1.5 / 3.5
	14	9' - 3"	10' - 8"	11' - 10"	11' - 7"	13' - 4"	14' - 10"	13' - 8"	15' - 9"	17' - 5"
	End/Int bearing SPF Plate (in)	2.8 / 6.9	2.2 / 5.4	1.8 / 4.5	3.5 / 8.7	2.7 / 6.7	2.3 / 5.6	4.1 / 10.2	3.2 / 7.9	2.6 / 6.5
	End/Int bearing Member (in)	1.6 / 3.9	1.5 / 3.5	1.5 / 3.5	2 / 4.9	1.5 / 3.8	1.5 / 3.5	2.3 / 5.8	1.8 / 4.5	1.5 / 3.7
	16	8' - 10"	10' - 2"	11' - 3"	11' - 0"	12' - 9"	14' - 1"	13' - 0"	15' - 1"	16' - 8"
	End/Int bearing SPF Plate (in)	3.1 / 7.6	2.4 / 5.8	2 / 4.9	3.8 / 9.4	2.9 / 7.3	2.5 / 6.1	4.5 / 11.1	3.5 / 8.6	2.9 / 7.1
	End/Int bearing Member (in)	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5	2.5 / 6.3	2 / 4.9	1.6 / 4
	18	8' - 5"	9' - 9"	10' - 10"	10' - 7"	12' - 3"	13' - 7"	12' - 6"	14' - 5"	16' - 0"
	End/Int bearing SPF Plate (in)	3.3 / 8.2	2.5 / 6.3	2.1 / 5.2	4.1 / 10.2	3.2 / 7.9	2.6 / 6.5	4.8 / 12	3.7 / 9.3	3.1 / 7.7
	End/Int bearing Member (in)	1.9 / 4.6	1.5 / 3.6	1.5 / 3.5	2.3 / 5.8	1.8 / 4.4	1.5 / 3.7	2.7 / 6.8	2.1 / 5.2	1.8 / 4.4
	20	8' - 2"	9' - 5"	10' - 5"	10' - 2"	11' - 9"	13' - 1"	12' - 0"	13' - 11"	15' - 5"
	End/Int bearing SPF Plate (in)	3.5 / 8.7	2.7 / 6.7	2.3 / 5.6	4.4 / 10.9	3.4 / 8.4	2.8 / 7	5.2 / 12.8	4 / 9.9	3.3 / 8.2
	End/Int bearing Member (in)	2 / 4.9	1.6 / 3.8	1.5 / 3.5	2.5 / 6.1	1.9 / 4.8	1.6 / 4	2.9 / 7.2	2.3 / 5.6	1.9 / 4.7

NOTES:

- This table has been established using a Live Load deflection equal to L / 480 and a Total Load deflection limit equal to L / 240.
- This table assumes uniform loads and simple floor joists spans. When the floor joists are continuous over the Versa-Lam® LVL beam, multiply the tributary width by 1.25 and always select the value closer to the higher tributary width.
- Example :** Tributary width of 14 feet multiply by 1.25 = 17'-6".
Hence, select 18 feet for new tributary width.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Multi-ply members may be substituted with solid section beams.



Floor Beam Span Tables (Two Storeys)

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Live Load of 40 psf

Dead Load of 15 psf

L / 360

Beam Depth	9½"			11⅞'			14"		
	3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
6	10' - 8"	12' - 3"	13' - 7"	13' - 4"	15' - 4"	16' - 11"	15' - 9"	18' - 1"	19' - 11"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
8	9' - 9"	11' - 3"	12' - 5"	12' - 2"	14' - 0"	15' - 6"	14' - 4"	16' - 7"	18' - 3"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.7 / 4.1	1.5 / 3.5
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
10	9' - 0"	10' - 5"	11' - 7"	11' - 4"	13' - 1"	14' - 5"	13' - 3"	15' - 5"	17' - 0"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.7 / 4.1	1.9 / 4.8	1.6 / 3.9
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
12	8' - 5"	9' - 9"	10' - 10"	10' - 5"	12' - 3"	13' - 7"	12' - 2"	14' - 5"	16' - 0"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.6 / 3.9	1.8 / 4.5	1.5 / 3.8	1.8 / 4.5	2.2 / 5.3	1.8 / 4.4
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
14	7' - 10"	9' - 3"	10' - 3"	9' - 8"	11' - 7"	12' - 10"	11' - 4"	13' - 8"	15' - 2"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.7 / 4.2	2 / 5	1.7 / 4.2	2 / 4.9	2.4 / 5.9	2 / 4.9
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
16	7' - 4"	8' - 10"	9' - 9"	9' - 1"	11' - 0"	12' - 3"	10' - 7"	13' - 0"	14' - 5"
End/Int bearing SPF Plate (in)	1.5 / 3.7	1.8 / 4.4	1.5 / 3.6	1.8 / 4.5	2.2 / 5.5	1.8 / 4.5	2.1 / 5.2	2.6 / 6.4	2.2 / 5.3
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5
18	6' - 11"	8' - 5"	9' - 4"	8' - 7"	10' - 7"	11' - 9"	10' - 0"	12' - 6"	13' - 10"
End/Int bearing SPF Plate (in)	1.6 / 3.9	1.9 / 4.7	1.6 / 3.9	1.9 / 4.8	2.4 / 5.9	2 / 4.9	2.3 / 5.6	2.8 / 6.9	2.3 / 5.8
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.9	1.5 / 3.5
20	6' - 5"	8' - 2"	9' - 0"	8' - 0"	10' - 2"	11' - 4"	9' - 5"	11' - 11"	13' - 4"
End/Int bearing SPF Plate (in)	1.6 / 4	2 / 5	1.7 / 4.2	2 / 5	2.5 / 6.3	2.1 / 5.2	2.4 / 5.8	3 / 7.3	2.5 / 6.2
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5

Live Load of 40 psf

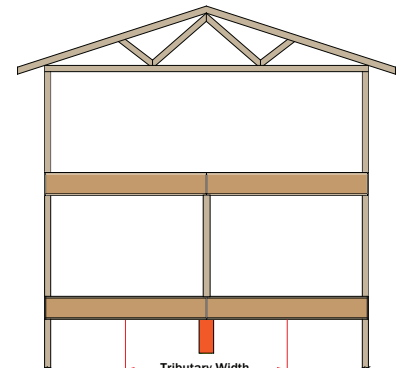
Dead Load of 25 psf

L / 360

Beam Depth	9½"			11⅞'			14"		
	3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
6	10' - 2"	11' - 8"	12' - 11"	12' - 8"	14' - 7"	16' - 1"	14' - 11"	17' - 2"	18' - 11"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
8	9' - 3"	10' - 8"	11' - 9"	11' - 6"	13' - 4"	14' - 8"	13' - 7"	15' - 8"	17' - 4"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.8	1.5 / 3.5	1.6 / 3.9	1.8 / 4.5	1.5 / 3.7
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
10	8' - 7"	9' - 11"	10' - 11"	10' - 7"	12' - 4"	13' - 8"	12' - 5"	14' - 7"	16' - 1"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.6 / 3.8	1.8 / 4.4	1.5 / 3.7	1.8 / 4.4	2.1 / 5.2	1.8 / 4.3
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
12	7' - 10"	9' - 4"	10' - 4"	9' - 9"	11' - 8"	12' - 11"	11' - 4"	13' - 9"	15' - 2"
End/Int bearing SPF Plate (in)	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.7 / 4.2	2 / 5	1.7 / 4.2	2 / 4.9	2.4 / 5.9	2 / 4.9
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
14	7' - 4"	8' - 10"	9' - 9"	9' - 0"	11' - 1"	12' - 3"	10' - 7"	13' - 0"	14' - 5"
End/Int bearing SPF Plate (in)	1.5 / 3.7	1.8 / 4.4	1.5 / 3.7	1.8 / 4.5	2.2 / 5.5	1.9 / 4.6	2.1 / 5.3	2.6 / 6.5	2.2 / 5.4
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5
16	6' - 10"	8' - 5"	9' - 4"	8' - 6"	10' - 7"	11' - 8"	9' - 11"	12' - 4"	13' - 9"
End/Int bearing SPF Plate (in)	1.6 / 3.9	2 / 4.8	1.6 / 4	2 / 4.9	2.4 / 6	2 / 5	2.3 / 5.7	2.9 / 7.1	2.4 / 5.9
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5
18	6' - 2"	8' - 1"	9' - 0"	7' - 9"	10' - 0"	11' - 3"	9' - 2"	11' - 8"	13' - 3"
End/Int bearing SPF Plate (in)	1.6 / 4	2.1 / 5.2	1.8 / 4.4	2 / 5	2.6 / 6.4	2.2 / 5.4	2.4 / 5.9	3 / 7.5	2.6 / 6.4
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.6
20	5' - 9"	7' - 8"	8' - 8"	7' - 2"	9' - 6"	10' - 10"	8' - 5"	11' - 1"	12' - 9"
End/Int bearing SPF Plate (in)	1.7 / 4.1	2.2 / 5.5	1.9 / 4.7	2.1 / 5.1	2.7 / 6.8	2.4 / 5.8	2.4 / 6	3.2 / 7.9	2.8 / 6.8
End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.8	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.6 / 3.9

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes uniform loads and simple floor joists spans. When the floor joists are continuous over the Versa-Lam® LVL beam, multiply the tributary width by 1.25 and always select the value closer to the higher tributary width.
Example: Tributary width of 14 feet multiply by 1.25 = 17'-6".
Hence, select 18 feet for new tributary width.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Table values assume an interior wall dead load of 80 plf.
- Multi-ply members may be substituted with solid section beams.



Floor Beam Span Tables (Two Storeys) Con't

9

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Live Load of 40 psf

Dead Load of 15 psf

L / 480

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	8	8' - 10"	10' - 2"	11' - 3"	11' - 0"	12' - 9"	14' - 1"	13' - 0"	15' - 1"	16' - 8"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	10	8' - 2"	9' - 5"	10' - 5"	10' - 2"	11' - 9"	13' - 1"	12' - 0"	13' - 11"	15' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5	1.5 / 3.7	1.8 / 4.3	1.5 / 3.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	12	7' - 7"	8' - 10"	9' - 9"	9' - 6"	11' - 0"	12' - 3"	11' - 3"	13' - 0"	14' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.1	1.5 / 3.5	1.7 / 4.2	2 / 4.8	1.6 / 4
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	14	7' - 2"	8' - 4"	9' - 3"	9' - 0"	10' - 5"	11' - 7"	10' - 7"	12' - 4"	13' - 8"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.6 / 3.9	1.8 / 4.5	1.5 / 3.8	1.9 / 4.6	2.2 / 5.3	1.8 / 4.4
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	16	6' - 10"	7' - 11"	8' - 10"	8' - 7"	9' - 11"	11' - 0"	10' - 1"	11' - 9"	13' - 0"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.6 / 3.9	1.5 / 3.5	1.7 / 4.2	2 / 4.9	1.7 / 4.1	2 / 5	2.3 / 5.8	2 / 4.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	18	6' - 6"	7' - 7"	8' - 5"	8' - 2"	9' - 6"	10' - 7"	9' - 8"	11' - 3"	12' - 6"
	End/Int bearing SPF Plate (in)	1.5 / 3.7	1.7 / 4.2	1.5 / 3.5	1.9 / 4.6	2.1 / 5.3	1.8 / 4.4	2.2 / 5.4	2.5 / 6.2	2.1 / 5.2
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	20	6' - 3"	7' - 4"	8' - 2"	7' - 10"	9' - 2"	10' - 2"	9' - 3"	10' - 10"	12' - 0"
	End/Int bearing SPF Plate (in)	1.6 / 3.9	1.8 / 4.5	1.5 / 3.8	2 / 4.9	2.3 / 5.7	1.9 / 4.7	2.3 / 5.7	2.7 / 6.7	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.8	1.5 / 3.5

Live Load of 40 psf

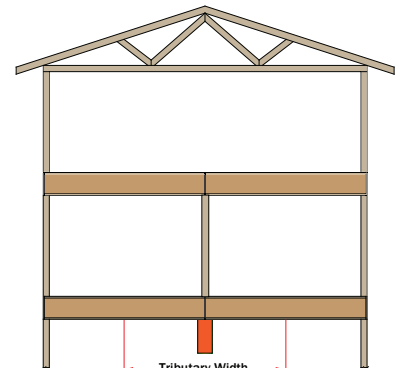
Dead Load of 25 psf

L / 480

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
Tributary Width [ft]	6	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	8	8' - 10"	10' - 2"	11' - 3"	11' - 0"	12' - 9"	14' - 1"	13' - 0"	15' - 1"	16' - 8"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5	1.5 / 3.7	1.8 / 4.3	1.5 / 3.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	10	8' - 2"	9' - 5"	10' - 5"	10' - 2"	11' - 9"	13' - 1"	12' - 0"	13' - 11"	15' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.7 / 4.2	1.5 / 3.5	1.8 / 4.3	2 / 5	1.7 / 4.1
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	12	7' - 7"	8' - 10"	9' - 9"	9' - 6"	11' - 0"	12' - 3"	11' - 3"	13' - 0"	14' - 5"
	End/Int bearing SPF Plate (in)	1.5 / 3.5	1.6 / 3.8	1.5 / 3.5	1.7 / 4.1	1.9 / 4.7	1.6 / 4	2 / 4.8	2.3 / 5.6	1.9 / 4.7
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	14	7' - 2"	8' - 4"	9' - 3"	9' - 0"	10' - 5"	11' - 7"	10' - 7"	12' - 4"	13' - 8"
	End/Int bearing SPF Plate (in)	1.5 / 3.6	1.7 / 4.2	1.5 / 3.5	1.8 / 4.5	2.1 / 5.2	1.8 / 4.4	2.1 / 5.3	2.5 / 6.2	2.1 / 5.1
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	16	6' - 10"	7' - 11"	8' - 10"	8' - 6"	9' - 11"	11' - 0"	9' - 11"	11' - 9"	13' - 0"
	End/Int bearing SPF Plate (in)	1.6 / 3.9	1.9 / 4.6	1.6 / 3.8	2 / 4.9	2.3 / 5.7	1.9 / 4.7	2.3 / 5.7	2.7 / 6.7	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.8	1.5 / 3.5
	18	6' - 2"	7' - 7"	8' - 5"	7' - 9"	9' - 6"	10' - 7"	9' - 2"	11' - 3"	12' - 6"
	End/Int bearing SPF Plate (in)	1.6 / 4	2 / 4.9	1.7 / 4.1	2 / 5	2.5 / 6.1	2.1 / 5.1	2.4 / 5.9	2.9 / 7.2	2.4 / 6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.1	1.5 / 3.5
	20	5' - 9"	7' - 4"	8' - 2"	7' - 2"	9' - 2"	10' - 2"	8' - 5"	10' - 10"	12' - 0"
	End/Int bearing SPF Plate (in)	1.7 / 4.1	2.1 / 5.2	1.8 / 4.4	2.1 / 5.1	2.6 / 6.5	2.2 / 5.5	2.4 / 6	3.1 / 7.7	2.6 / 6.4
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.7	1.5 / 3.5	1.5 / 3.5	1.8 / 4.4	1.5 / 3.6

NOTES:

- This table has been established using a Live Load deflection equal to L / 480 and a Total Load deflection limit equal to L / 240.
- This table assumes uniform loads and simple floor joists spans. When the floor joists are continuous over the Versa-Lam® LVL beam, multiply the tributary width by 1.25 and always select the value closer to the higher tributary width.
Example: Tributary width of 14 feet multiply by 1.25 = 17'-6".
Hence, select 18 feet for new tributary width.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi. Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Table values assume an interior wall dead load of 80 plf.
- Multi-ply members may be substituted with solid section beams.



Ridge Beam Span Tables

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf

Dead Load of 15 psf

L/240

House Width [ft]	Beam Depth	9½"			11⅞"			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	14' - 5"	16' - 6"	18' - 2"	18' - 0"	20' - 7"	22' - 8"	21' - 3"	24' - 3"	26' - 8"
	End/Int bearing SPF Plate (in)	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.6 / 3.9	1.5 / 3.5	2.5 / 6.1	1.9 / 4.6	1.6 / 3.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	24	13' - 7"	15' - 7"	17' - 1"	16' - 11"	19' - 5"	21' - 4"	19' - 11"	22' - 10"	25' - 1"
	End/Int bearing SPF Plate (in)	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.4 / 5.8	1.8 / 4.5	1.5 / 3.7	2.8 / 6.8	2.1 / 5.2	1.8 / 4.3
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.9	1.5 / 3.5	1.5 / 3.5
	28	12' - 10"	14' - 9"	16' - 3"	16' - 1"	18' - 5"	20' - 3"	18' - 11"	21' - 8"	23' - 10"
	End/Int bearing SPF Plate (in)	2.1 / 5.2	1.6 / 4	1.5 / 3.5	2.6 / 6.4	2 / 4.9	1.7 / 4.1	3.1 / 7.6	2.3 / 5.8	1.9 / 4.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5
	32	12' - 4"	14' - 1"	15' - 7"	15' - 4"	17' - 8"	19' - 5"	18' - 0"	20' - 9"	22' - 10"
	End/Int bearing SPF Plate (in)	2.3 / 5.6	1.8 / 4.3	1.5 / 3.6	2.8 / 7	2.2 / 5.4	1.8 / 4.5	3.3 / 8.2	2.6 / 6.3	2.1 / 5.2
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.5 / 3.5	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5
	36	11' - 9"	13' - 7"	14' - 11"	14' - 7"	16' - 11"	18' - 8"	17' - 0"	19' - 11"	22' - 0"
	End/Int bearing SPF Plate (in)	2.5 / 6.1	1.9 / 4.7	1.6 / 3.9	3 / 7.5	2.4 / 5.8	2 / 4.8	3.5 / 8.7	2.8 / 6.8	2.3 / 5.7
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 4.9	1.6 / 3.9	1.5 / 3.5
	40	11' - 2"	13' - 1"	14' - 5"	13' - 10"	16' - 4"	18' - 0"	16' - 1"	19' - 3"	21' - 3"
	End/Int bearing SPF Plate (in)	2.6 / 6.4	2 / 5	1.7 / 4.1	3.2 / 7.9	2.5 / 6.2	2.1 / 5.2	3.7 / 9.2	3 / 7.3	2.5 / 6.1
	End/Int bearing Member (in)	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.7 / 4.2	1.5 / 3.5

Snow Load of 40 psf

Dead Load of 15 psf

L/240

House Width [ft]	Beam Depth	9½"			11⅞"			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	12' - 7"	14' - 6"	15' - 11"	15' - 9"	18' - 1"	19' - 11"	18' - 5"	21' - 3"	23' - 5"
	End/Int bearing SPF Plate (in)	2.4 / 5.8	1.8 / 4.5	1.5 / 3.7	2.9 / 7.3	2.3 / 5.6	1.9 / 4.6	3.4 / 8.5	2.7 / 6.6	2.2 / 5.4
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	1.9 / 4.8	1.5 / 3.7	1.5 / 3.5
	24	11' - 8"	13' - 7"	15' - 0"	14' - 5"	17' - 0"	18' - 9"	16' - 10"	20' - 0"	22' - 1"
	End/Int bearing SPF Plate (in)	2.6 / 6.5	2 / 5	1.7 / 4.2	3.2 / 8	2.5 / 6.3	2.1 / 5.2	3.7 / 9.3	3 / 7.4	2.5 / 6.1
	End/Int bearing Member (in)	1.5 / 3.7	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.5 / 3.6	1.5 / 3.5	2.1 / 5.3	1.7 / 4.2	1.5 / 3.5
	28	10' - 10"	12' - 11"	14' - 3"	13' - 4"	16' - 2"	17' - 9"	15' - 7"	19' - 0"	20' - 11"
	End/Int bearing SPF Plate (in)	2.8 / 7	2.3 / 5.6	1.9 / 4.6	3.5 / 8.6	2.8 / 7	2.3 / 5.8	4 / 10	3.3 / 8.2	2.7 / 6.8
	End/Int bearing Member (in)	1.6 / 4	1.5 / 3.5	1.5 / 3.5	2 / 4.9	1.6 / 3.9	1.5 / 3.5	2.3 / 5.7	1.9 / 4.6	1.6 / 3.8
	32	10' - 1"	12' - 4"	13' - 7"	12' - 6"	15' - 5"	17' - 0"	14' - 7"	18' - 2"	20' - 0"
	End/Int bearing SPF Plate (in)	3 / 7.5	2.5 / 6.1	2 / 5	3.7 / 9.2	3.1 / 7.6	2.5 / 6.3	4.3 / 10.7	3.6 / 8.9	3 / 7.4
	End/Int bearing Member (in)	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.7 / 4.3	1.5 / 3.6	2.5 / 6.1	2.1 / 5.1	1.7 / 4.2
	36	9' - 6"	11' - 10"	13' - 1"	11' - 9"	14' - 8"	16' - 4"	13' - 9"	17' - 2"	19' - 3"
	End/Int bearing SPF Plate (in)	3.2 / 7.9	2.7 / 6.6	2.2 / 5.4	3.9 / 9.8	3.3 / 8.1	2.7 / 6.8	4.6 / 11.4	3.8 / 9.5	3.2 / 8
	End/Int bearing Member (in)	1.8 / 4.5	1.5 / 3.7	1.5 / 3.5	2.2 / 5.5	1.9 / 4.6	1.6 / 3.8	2.6 / 6.4	2.2 / 5.4	1.8 / 4.5
	40	9' - 1"	11' - 4"	12' - 7"	11' - 2"	13' - 11"	15' - 9"	13' - 1"	16' - 3"	18' - 7"
	End/Int bearing SPF Plate (in)	3.4 / 8.4	2.8 / 7	2.4 / 5.8	4.2 / 10.3	3.5 / 8.6	2.9 / 7.3	4.8 / 12	4 / 10	3.5 / 8.6
	End/Int bearing Member (in)	1.9 / 4.7	1.6 / 3.9	1.5 / 3.5	2.4 / 5.8	2 / 4.9	1.7 / 4.1	2.7 / 6.8	2.3 / 5.7	2 / 4.8

Snow Load of 60 psf

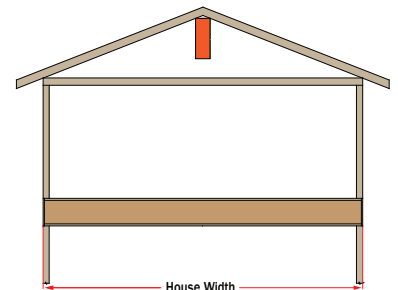
Dead Load of 15 psf

L/240

House Width [ft]	Beam Depth	9½"			11⅞"			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	11' - 0"	13' - 2"	14' - 6"	13' - 7"	16' - 5"	18' - 1"	15' - 11"	19' - 4"	21' - 4"
	End/Int bearing SPF Plate (in)	2.8 / 7	2.3 / 5.6	1.9 / 4.6	3.5 / 8.7	2.8 / 7	2.3 / 5.8	4.1 / 10.1	3.3 / 8.2	2.7 / 6.8
	End/Int bearing Member (in)	1.6 / 4	1.5 / 3.5	1.5 / 3.5	2 / 4.9	1.6 / 4	1.5 / 3.5	2.3 / 5.7	1.9 / 4.6	1.6 / 3.8
	24	10' - 1"	12' - 4"	13' - 8"	12' - 5"	15' - 5"	17' - 0"	14' - 6"	18' - 1"	20' - 1"
	End/Int bearing SPF Plate (in)	3.1 / 7.7	2.6 / 6.3	2.1 / 5.2	3.8 / 9.5	3.2 / 7.9	2.6 / 6.5	4.5 / 11.1	3.7 / 9.2	3.1 / 7.7
	End/Int bearing Member (in)	1.8 / 4.4	1.5 / 3.6	1.5 / 3.5	2.2 / 5.4	1.8 / 4.5	1.5 / 3.7	2.5 / 6.3	2.1 / 5.2	1.8 / 4.3
	28	9' - 4"	11' - 8"	12' - 11"	11' - 6"	14' - 4"	16' - 2"	13' - 5"	16' - 9"	19' - 0"
	End/Int bearing SPF Plate (in)	3.4 / 8.3	2.8 / 6.9	2.3 / 5.8	4.1 / 10.3	3.4 / 8.5	2.9 / 7.2	4.8 / 12	4 / 9.9	3.4 / 8.5
	End/Int bearing Member (in)	1.9 / 4.7	1.6 / 3.9	1.5 / 3.5	2.3 / 5.8	2 / 4.8	1.7 / 4.1	2.7 / 6.8	2.3 / 5.6	2 / 4.8
	32	8' - 9"	10' - 11"	12' - 4"	10' - 9"	13' - 5"	15' - 5"	12' - 7"	15' - 8"	18' - 1"
	End/Int bearing SPF Plate (in)	3.6 / 8.9	3 / 7.4	2.6 / 6.3	4.4 / 11	3.7 / 9.1	3.2 / 7.9	5.1 / 12.8	4.3 / 10.6	3.7 / 9.2
	End/Int bearing Member (in)	2 / 5	1.7 / 4.2	1.5 / 3.6	2.5 / 6.2	2.1 / 5.2	1.8 / 4.5	2.9 / 7.2	2.4 / 6	2.1 / 5.2
	36	8' - 3"	10' - 3"	11' - 10"	10' - 2"	12' - 8"	14' - 7"	11' - 10"	14' - 10"	17' - 1"
	End/Int bearing SPF Plate (in)	3.8 / 9.4	3.2 / 7.9	2.8 / 6.8	4.7 / 11.6	3.9 / 9.7	3.4 / 8.4	5.5 / 13.6	4.5 / 11.3	3.9 / 9.8
	End/Int bearing Member (in)	2.2 / 5.3	1.8 / 4.4	1.6 / 3.9	2.7 / 6.6	2.2 / 5.5	1.9 / 4.7	3.1 / 7.7	2.6 / 6.4	2.2 / 5.5
	40	7' - 10"	9' - 9"	11' - 3"	9' - 8"	12' - 0"	13' - 10"	11' - 3"	14' - 0"	16' - 2"
	End/Int bearing SPF Plate (in)	4 / 10	3.3 / 8.3	2.9 / 7.2	4.9 / 12.3	4.1 / 10.2	3.6 / 8.8	5.8 / 14.3	4.8 / 11.9	4.2 / 10.3
	End/Int bearing Member (in)	2.3 / 5.6	1.9 / 4.7	1.7 / 4.1	2.8 / 6.9	2.3 / 5.8	2 / 5	3.3 / 8.1	2.7 / 6.7	2.4 / 5.8

NOTES:

- This table has been established using a Live Load deflection equal to L / 240 and a Total Load deflection limit equal to L / 180.
- This table assumes a maximum roof slope of 12/12.
- This table assumes uniform loads and simple span roof joists.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Multi-ply members may be substituted with solid section beams.



Ridge Beam Span Tables Con't

11

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf

Dead Load of 15 psf

L/360

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	14' - 5"	16' - 6"	18' - 2"	18' - 0"	20' - 7"	22' - 8"	21' - 3"	24' - 3"	26' - 8"
	End/Int bearing SPF Plate (in)	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.6 / 3.9	1.5 / 3.5	2.5 / 6.1	1.9 / 4.6	1.6 / 3.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5
	24	13' - 7"	15' - 7"	17' - 1"	16' - 11"	19' - 5"	21' - 4"	19' - 11"	22' - 10"	25' - 1"
	End/Int bearing SPF Plate (in)	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.4 / 5.8	1.8 / 4.5	1.5 / 3.7	2.8 / 6.8	2.1 / 5.2	1.8 / 4.3
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 3.9	1.5 / 3.5	1.5 / 3.5
	28	12' - 10"	14' - 9"	16' - 3"	16' - 1"	18' - 5"	20' - 3"	18' - 11"	21' - 8"	23' - 10"
	End/Int bearing SPF Plate (in)	2.1 / 5.2	1.6 / 4	1.5 / 3.5	2.6 / 6.4	2 / 4.9	1.7 / 4.1	3.1 / 7.6	2.3 / 5.8	1.9 / 4.8
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.7 / 4.3	1.5 / 3.5	1.5 / 3.5
	32	12' - 4"	14' - 1"	15' - 7"	15' - 4"	17' - 8"	19' - 5"	18' - 0"	20' - 9"	22' - 10"
	End/Int bearing SPF Plate (in)	2.3 / 5.6	1.8 / 4.3	1.5 / 3.6	2.8 / 7	2.2 / 5.4	1.8 / 4.5	3.3 / 8.2	2.6 / 6.3	2.1 / 5.2
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.6 / 4	1.5 / 3.5	1.5 / 3.5	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5
	36	11' - 9"	13' - 7"	14' - 11"	14' - 7"	16' - 11"	18' - 8"	17' - 0"	19' - 11"	22' - 0"
	End/Int bearing SPF Plate (in)	2.5 / 6.1	1.9 / 4.7	1.6 / 3.9	3 / 7.5	2.4 / 5.8	2 / 4.8	3.5 / 8.7	2.8 / 6.8	2.3 / 5.7
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 4.9	1.6 / 3.9	1.5 / 3.5
	40	11' - 2"	13' - 1"	14' - 5"	13' - 10"	16' - 4"	18' - 0"	16' - 1"	19' - 3"	21' - 3"
	End/Int bearing SPF Plate (in)	2.6 / 6.4	2 / 5	1.7 / 4.1	3.2 / 7.9	2.5 / 6.2	2.1 / 5.2	3.7 / 9.2	3 / 7.3	2.5 / 6.1
	End/Int bearing Member (in)	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.5 / 3.5	1.5 / 3.5	2.1 / 5.2	1.7 / 4.2	1.5 / 3.5

Snow Load of 40 psf

Dead Load of 15 psf

L/360

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	11' - 7"	13' - 4"	14' - 8"	14' - 5"	16' - 8"	18' - 4"	17' - 0"	19' - 7"	21' - 8"
	End/Int bearing SPF Plate (in)	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5	2.7 / 6.7	2.1 / 5.1	1.7 / 4.3	3.2 / 7.9	2.4 / 6	2 / 5
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.5 / 3.8	1.5 / 3.5	1.5 / 3.5	1.8 / 4.4	1.5 / 3.5	1.5 / 3.5
	24	10' - 10"	12' - 6"	13' - 9"	13' - 7"	15' - 7"	17' - 3"	16' - 0"	18' - 5"	20' - 4"
	End/Int bearing SPF Plate (in)	2.4 / 6	1.9 / 4.6	1.6 / 3.8	3 / 7.5	2.3 / 5.8	1.9 / 4.8	3.6 / 8.8	2.8 / 6.8	2.3 / 5.6
	End/Int bearing Member (in)	1.5 / 3.5	1.5 / 3.5	1.5 / 3.5	1.7 / 4.2	1.5 / 3.5	1.5 / 3.5	2 / 5	1.6 / 3.9	1.5 / 3.5
	28	10' - 3"	11' - 10"	13' - 1"	12' - 10"	14' - 10"	16' - 4"	15' - 2"	17' - 5"	19' - 3"
	End/Int bearing SPF Plate (in)	2.7 / 6.6	2.1 / 5.1	1.7 / 4.2	3.3 / 8.3	2.6 / 6.4	2.1 / 5.3	3.9 / 9.8	3 / 7.5	2.5 / 6.2
	End/Int bearing Member (in)	1.5 / 3.8	1.5 / 3.5	1.5 / 3.5	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.2 / 5.5	1.7 / 4.3	1.5 / 3.5
	32	9' - 9"	11' - 3"	12' - 6"	12' - 3"	14' - 1"	15' - 7"	14' - 5"	16' - 8"	18' - 5"
	End/Int bearing SPF Plate (in)	2.9 / 7.2	2.3 / 5.6	1.9 / 4.6	3.6 / 9	2.8 / 7	2.3 / 5.8	4.3 / 10.6	3.3 / 8.2	2.8 / 6.8
	End/Int bearing Member (in)	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	2.1 / 5.1	1.6 / 3.9	1.5 / 3.5	2.4 / 6	1.9 / 4.6	1.6 / 3.9
	36	9' - 4"	10' - 10"	12' - 0"	11' - 9"	13' - 7"	15' - 0"	13' - 9"	16' - 0"	17' - 8"
	End/Int bearing SPF Plate (in)	3.2 / 7.8	2.4 / 6	2 / 5	3.9 / 9.7	3 / 7.5	2.5 / 6.2	4.6 / 11.4	3.6 / 8.8	3 / 7.3
	End/Int bearing Member (in)	1.8 / 4.4	1.5 / 3.5	1.5 / 3.5	2.2 / 5.5	1.7 / 4.2	1.5 / 3.5	2.6 / 6.4	2 / 5	1.7 / 4.2
	40	9' - 0"	10' - 5"	11' - 7"	11' - 2"	13' - 1"	14' - 5"	13' - 1"	15' - 5"	17' - 0"
	End/Int bearing SPF Plate (in)	3.4 / 8.3	2.6 / 6.4	2.2 / 5.3	4.2 / 10.3	3.2 / 8	2.7 / 6.7	4.8 / 12	3.8 / 9.5	3.2 / 7.9
	End/Int bearing Member (in)	1.9 / 4.7	1.5 / 3.6	1.5 / 3.5	2.4 / 5.8	1.8 / 4.5	1.5 / 3.8	2.7 / 6.8	2.2 / 5.4	1.8 / 4.4

Snow Load of 60 psf

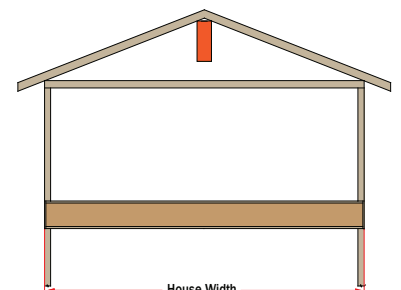
Dead Load of 15 psf

L/360

Beam Depth		9½"			11⅞'			14"		
		3½"	5¼"	7"	3½"	5¼"	7"	3½"	5¼"	7"
House Width [ft]	20	10' - 0"	11' - 7"	12' - 9"	12' - 6"	14' - 5"	16' - 0"	14' - 9"	17' - 0"	18' - 10"
	End/Int bearing SPF Plate (in)	2.6 / 6.4	2 / 4.9	1.7 / 4.1	3.2 / 8	2.5 / 6.1	2.1 / 5.1	3.8 / 9.4	2.9 / 7.2	2.4 / 6
	End/Int bearing Member (in)	1.5 / 3.6	1.5 / 3.5	1.5 / 3.5	1.8 / 4.5	1.5 / 3.5	1.5 / 3.5	2.2 / 5.3	1.7 / 4.1	1.5 / 3.5
	24	9' - 4"	10' - 10"	12' - 0"	11' - 9"	13' - 7"	15' - 0"	13' - 10"	16' - 0"	17' - 8"
	End/Int bearing SPF Plate (in)	2.9 / 7.2	2.2 / 5.5	1.9 / 4.6	3.6 / 9	2.8 / 6.9	2.3 / 5.7	4.3 / 10.6	3.3 / 8.1	2.7 / 6.8
	End/Int bearing Member (in)	1.7 / 4.1	1.5 / 3.5	1.5 / 3.5	2.1 / 5.1	1.6 / 3.9	1.5 / 3.5	2.4 / 6	1.9 / 4.6	1.6 / 3.8
	28	8' - 10"	10' - 3"	11' - 4"	11' - 1"	12' - 10"	14' - 2"	13' - 1"	15' - 2"	16' - 9"
	End/Int bearing SPF Plate (in)	3.2 / 7.9	2.5 / 6.1	2.1 / 5.1	4 / 9.9	3.1 / 7.6	2.6 / 6.3	4.7 / 11.7	3.6 / 9	3 / 7.5
	End/Int bearing Member (in)	1.8 / 4.5	1.5 / 3.5	1.5 / 3.5	2.3 / 5.6	1.8 / 4.3	1.5 / 3.6	2.7 / 6.6	2.1 / 5.1	1.7 / 4.2
	32	8' - 5"	9' - 9"	10' - 10"	10' - 7"	12' - 3"	13' - 7"	12' - 6"	14' - 5"	16' - 0"
	End/Int bearing SPF Plate (in)	3.5 / 8.6	2.7 / 6.7	2.2 / 5.5	4.3 / 10.8	3.4 / 8.3	2.8 / 6.9	5.1 / 12.7	3.9 / 9.8	3.3 / 8.1
	End/Int bearing Member (in)	2 / 4.9	1.5 / 3.8	1.5 / 3.5	2.5 / 6.1	1.9 / 4.7	1.6 / 3.9	2.9 / 7.2	2.2 / 5.5	1.9 / 4.6
	36	8' - 1"	9' - 4"	10' - 5"	10' - 2"	11' - 9"	13' - 0"	11' - 10"	13' - 10"	15' - 4"
	End/Int bearing SPF Plate (in)	3.7 / 9.3	2.9 / 7.2	2.4 / 6	4.7 / 11.6	3.6 / 9	3 / 7.5	5.5 / 13.6	4.3 / 10.6	3.5 / 8.8
	End/Int bearing Member (in)	2.1 / 5.3	1.7 / 4.1	1.5 / 3.5	2.7 / 6.6	2.1 / 5.1	1.7 / 4.2	3.1 / 7.7	2.4 / 6	2 / 5
	40	7' - 9"	9' - 0"	10' - 0"	9' - 8"	11' - 4"	12' - 6"	11' - 3"	13' - 4"	14' - 9"
	End/Int bearing SPF Plate (in)	4 / 9.9	3.1 / 7.7	2.6 / 6.4	4.9 / 12.3	3.9 / 9.6	3.2 / 8	5.8 / 14.3	4.6 / 11.3	3.8 / 9.4
	End/Int bearing Member (in)	2.3 / 5.6	1.8 / 4.4	1.5 / 3.6	2.8 / 6.9	2.2 / 5.4	1.8 / 4.5	3.3 / 8.1	2.6 / 6.4	2.2 / 5.3

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes a maximum roof slope of 12/12
- This table assumes uniform loads and simple span roof joists.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Table values represent the most restrictive of simple or continuous span beam applications. Span is measured center to center of the supports.
- Analyze continuous span beams with BC Calc® software if the length of any span is less than half the length of the adjacent span.
- Multi-ply members may be substituted with solid section beams.



Header Span Tables - Roof Only

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf

Dead Load of 15 psf

L/240

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	13' - 7"	15' - 7"	16' - 11"	19' - 5"	19' - 11"	22' - 10"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.5	2.3	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	12' - 10"	14' - 9"	16' - 1"	18' - 5"	18' - 11"	21' - 8"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.2	1.7	2.6	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	12' - 4"	14' - 1"	15' - 4"	17' - 8"	18' - 0"	20' - 9"
	End/Int bearing SPF Plate (in)	2.0	1.5	2.5	1.9	2.9	2.2
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	32	11' - 9"	13' - 7"	14' - 7"	16' - 11"	17' - 0"	19' - 11"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.1	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	36	11' - 2"	13' - 1"	13' - 10"	16' - 4"	16' - 1"	19' - 3"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.3	2.7
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5
	40	10' - 8"	12' - 8"	13' - 2"	15' - 10"	15' - 5"	18' - 8"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.0	2.4	3.5	2.9
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6

Snow Load of 40 psf

Dead Load of 15 psf

L/240

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	11' - 8"	13' - 7"	14' - 5"	17' - 0"	16' - 10"	20' - 0"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.1	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	24	10' - 10"	12' - 11"	13' - 4"	16' - 2"	15' - 7"	19' - 0"
	End/Int bearing SPF Plate (in)	2.4	1.9	3.0	2.4	3.5	2.8
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6
	28	10' - 1"	12' - 4"	12' - 6"	15' - 5"	14' - 7"	18' - 2"
	End/Int bearing SPF Plate (in)	2.7	2.2	3.3	2.7	3.8	3.2
	End/Int bearing Member (in)	1.5	1.5	1.9	1.5	2.2	1.8
	32	9' - 6"	11' - 10"	11' - 9"	14' - 8"	13' - 9"	17' - 2"
	End/Int bearing SPF Plate (in)	2.9	2.4	3.5	2.9	4.1	3.4
	End/Int bearing Member (in)	1.6	1.5	2.0	1.7	2.3	1.9
	36	9' - 1"	11' - 4"	11' - 2"	13' - 11"	13' - 1"	16' - 3"
	End/Int bearing SPF Plate (in)	3.0	2.5	3.7	3.1	4.4	3.6
	End/Int bearing Member (in)	1.7	1.5	2.1	1.8	2.5	2.1
	40	8' - 8"	10' - 9"	10' - 8"	13' - 4"	12' - 5"	15' - 6"
	End/Int bearing SPF Plate (in)	3.2	2.7	4.0	3.3	4.6	3.8
	End/Int bearing Member (in)	1.8	1.5	2.3	1.9	2.6	2.2

Snow Load of 60 psf

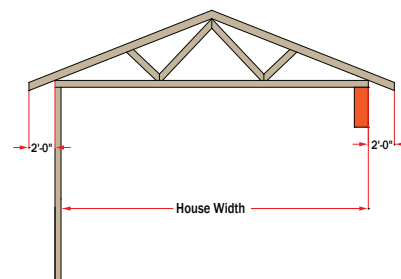
Dead Load of 15 psf

L/240

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	10' - 1"	12' - 4"	12' - 5"	15' - 5"	14' - 6"	18' - 1"
	End/Int bearing SPF Plate (in)	2.6	2.1	3.2	2.7	3.7	3.1
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.8
	24	9' - 4"	11' - 8"	11' - 6"	14' - 4"	13' - 5"	16' - 9"
	End/Int bearing SPF Plate (in)	2.9	2.4	3.5	3.0	4.1	3.4
	End/Int bearing Member (in)	1.6	1.5	2.0	1.7	2.4	2.0
	28	8' - 9"	10' - 11"	10' - 9"	13' - 5"	12' - 7"	15' - 8"
	End/Int bearing SPF Plate (in)	3.1	2.6	3.9	3.2	4.5	3.8
	End/Int bearing Member (in)	1.8	1.5	2.2	1.8	2.6	2.1
	32	8' - 3"	10' - 3"	10' - 2"	12' - 8"	11' - 10"	14' - 10"
	End/Int bearing SPF Plate (in)	3.4	2.8	4.2	3.5	4.9	4.0
	End/Int bearing Member (in)	1.9	1.6	2.4	2.0	2.8	2.3
	36	7' - 10"	9' - 9"	9' - 8"	12' - 0"	11' - 3"	14' - 0"
	End/Int bearing SPF Plate (in)	3.6	3.0	4.4	3.7	5.2	4.3
	End/Int bearing Member (in)	2.1	1.7	2.5	2.1	2.9	2.5
	40	7' - 5"	9' - 3"	9' - 2"	11' - 6"	10' - 9"	13' - 5"
	End/Int bearing SPF Plate (in)	3.8	3.2	4.7	3.9	5.5	4.6
	End/Int bearing Member (in)	2.2	1.8	2.7	2.2	3.1	2.6

NOTES:

- This table has been established using a Live Load deflection equal to L / 240 and a Total Load deflection limit equal to L / 180.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.**
- Multi-ply members may be substituted with solid section beams.



Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf

Dead Load of 15 psf

L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	13' - 7"	15' - 7"	16' - 11"	19' - 5"	19' - 11"	22' - 10"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.5	2.3	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	12' - 10"	14' - 9"	16' - 1"	18' - 5"	18' - 11"	21' - 8"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.2	1.7	2.6	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	12' - 4"	14' - 1"	15' - 4"	17' - 8"	18' - 0"	20' - 9"
	End/Int bearing SPF Plate (in)	2.0	1.5	2.5	1.9	2.9	2.2
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	32	11' - 9"	13' - 7"	14' - 7"	16' - 11"	17' - 0"	19' - 11"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.1	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	36	11' - 2"	13' - 1"	13' - 10"	16' - 4"	16' - 1"	19' - 3"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.3	2.7
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5
	40	10' - 8"	12' - 8"	13' - 2"	15' - 10"	15' - 5"	18' - 8"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.0	2.4	3.5	2.9
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6

Snow Load of 40 psf

Dead Load of 15 psf

L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	10' - 10"	12' - 6"	13' - 7"	15' - 7"	16' - 0"	18' - 5"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	2.0	3.0	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	24	10' - 3"	11' - 10"	12' - 10"	14' - 10"	15' - 2"	17' - 5"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.2	3.4	2.6
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5
	28	9' - 9"	11' - 3"	12' - 3"	14' - 1"	14' - 5"	16' - 8"
	End/Int bearing SPF Plate (in)	2.6	2.0	3.2	2.5	3.8	2.9
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.7
	32	9' - 4"	10' - 10"	11' - 9"	13' - 7"	13' - 9"	16' - 0"
	End/Int bearing SPF Plate (in)	2.8	2.2	3.5	2.7	4.1	3.2
	End/Int bearing Member (in)	1.6	1.5	2.0	1.5	2.3	1.8
	36	9' - 0"	10' - 5"	11' - 2"	13' - 1"	13' - 1"	15' - 5"
	End/Int bearing SPF Plate (in)	3.0	2.3	3.7	2.9	4.4	3.4
	End/Int bearing Member (in)	1.7	1.5	2.1	1.7	2.5	2.0
	40	8' - 8"	10' - 1"	10' - 8"	12' - 7"	12' - 5"	14' - 11"
	End/Int bearing SPF Plate (in)	3.2	2.5	4.0	3.1	4.6	3.7
	End/Int bearing Member (in)	1.8	1.5	2.3	1.8	2.6	2.1

Snow Load of 60 psf

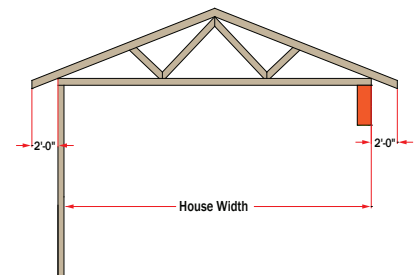
Dead Load of 15 psf

L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	9' - 4"	10' - 10"	11' - 9"	13' - 7"	13' - 10"	16' - 0"
	End/Int bearing SPF Plate (in)	2.4	1.9	3.0	2.3	3.6	2.7
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6
	24	8' - 10"	10' - 3"	11' - 1"	12' - 10"	13' - 1"	15' - 2"
	End/Int bearing SPF Plate (in)	2.8	2.1	3.4	2.7	4.0	3.1
	End/Int bearing Member (in)	1.6	1.5	2.0	1.5	2.3	1.8
	28	8' - 5"	9' - 9"	10' - 7"	12' - 3"	12' - 6"	14' - 5"
	End/Int bearing SPF Plate (in)	3.1	2.4	3.8	2.9	4.5	3.5
	End/Int bearing Member (in)	1.7	1.5	2.2	1.7	2.5	2.0
	32	8' - 1"	9' - 4"	10' - 2"	11' - 9"	11' - 10"	13' - 10"
	End/Int bearing SPF Plate (in)	3.3	2.6	4.2	3.2	4.9	3.8
	End/Int bearing Member (in)	1.9	1.5	2.4	1.8	2.8	2.2
	36	7' - 9"	9' - 0"	9' - 8"	11' - 4"	11' - 3"	13' - 4"
	End/Int bearing SPF Plate (in)	3.6	2.8	4.4	3.5	5.2	4.1
	End/Int bearing Member (in)	2.1	1.6	2.5	2.0	2.9	2.3
	40	7' - 5"	8' - 9"	9' - 2"	10' - 11"	10' - 9"	12' - 11"
	End/Int bearing SPF Plate (in)	3.8	3.0	4.7	3.7	5.5	4.4
	End/Int bearing Member (in)	2.2	1.7	2.7	2.1	3.1	2.5

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Multi-ply members may be substituted with solid section beams.



Header Span Tables Roof + One Storey (No Center Bearing)

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	9' - 2"	10' - 7"	11' - 5"	13' - 2"	13' - 6"	15' - 7"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.6	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 8"	10' - 0"	10' - 9"	12' - 6"	12' - 7"	14' - 9"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.8	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	8' - 2"	9' - 7"	10' - 1"	11' - 11"	11' - 9"	14' - 1"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.7	1.5	1.9	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	7' - 8"	9' - 2"	9' - 6"	11' - 5"	11' - 1"	13' - 6"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.8	1.5	2.1	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	7' - 3"	8' - 10"	9' - 0"	11' - 0"	10' - 6"	13' - 0"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.6	2.2	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	6' - 11"	8' - 6"	8' - 7"	10' - 8"	10' - 0"	12' - 6"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.7	2.3	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

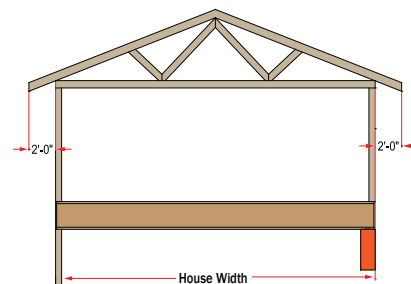
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 6"	9' - 11"	10' - 6"	12' - 4"	12' - 4"	14' - 7"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.3	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	7' - 11"	9' - 4"	9' - 9"	11' - 8"	11' - 4"	13' - 9"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.2	1.8	2.6	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 4"	8' - 11"	9' - 1"	11' - 2"	10' - 8"	13' - 2"
	End/Int bearing SPF Plate (in)	1.9	1.6	2.4	2.0	2.8	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	32	6' - 11"	8' - 7"	8' - 7"	10' - 8"	10' - 0"	12' - 6"
	End/Int bearing SPF Plate (in)	2.1	1.7	2.6	2.1	3.0	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	36	6' - 7"	8' - 3"	8' - 2"	10' - 2"	9' - 6"	11' - 10"
	End/Int bearing SPF Plate (in)	2.2	1.9	2.7	2.3	3.2	2.7
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.8	1.5
	40	6' - 3"	7' - 10"	7' - 9"	9' - 8"	9' - 1"	11' - 4"
	End/Int bearing SPF Plate (in)	2.4	2.0	2.9	2.4	3.4	2.8
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	1.9	1.6

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 10"	9' - 3"	9' - 8"	11' - 7"	11' - 4"	13' - 8"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	2.0	2.9	2.4
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	24	7' - 3"	8' - 9"	8' - 11"	10' - 11"	10' - 5"	12' - 11"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.8	2.3	3.2	2.7
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.8	1.5
	28	6' - 9"	8' - 3"	8' - 4"	10' - 4"	9' - 9"	12' - 2"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.0	2.5	3.5	2.9
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.7
	32	6' - 5"	7' - 11"	7' - 11"	9' - 10"	9' - 2"	11' - 6"
	End/Int bearing SPF Plate (in)	2.6	2.2	3.3	2.7	3.8	3.2
	End/Int bearing Member (in)	1.5	1.5	1.9	1.5	2.2	1.8
	36	6' - 1"	7' - 7"	7' - 6"	9' - 4"	8' - 9"	10' - 11"
	End/Int bearing SPF Plate (in)	2.8	2.4	3.5	2.9	4.0	3.4
	End/Int bearing Member (in)	1.6	1.5	2.0	1.7	2.3	1.9
	40	5' - 9"	7' - 2"	7' - 1"	8' - 11"	8' - 4"	10' - 5"
	End/Int bearing SPF Plate (in)	3.0	2.5	3.7	3.1	4.3	3.6
	End/Int bearing Member (in)	1.7	1.5	2.1	1.7	2.4	2.0

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.**
- Multi-ply members may be substituted with solid section beams.



Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 10"	10' - 2"	11' - 0"	12' - 9"	13' - 0"	15' - 1"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.5	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 3"	9' - 7"	10' - 4"	12' - 0"	12' - 3"	14' - 2"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.7	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 10"	9' - 1"	9' - 10"	11' - 5"	11' - 7"	13' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.6	1.5	1.9	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	7' - 6"	8' - 8"	9' - 4"	10' - 10"	11' - 1"	12' - 10"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.8	1.5	2.1	1.6
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	7' - 2"	8' - 4"	9' - 0"	10' - 5"	10' - 6"	12' - 4"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	6' - 11"	8' - 0"	8' - 7"	10' - 1"	10' - 0"	11' - 10"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.3	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

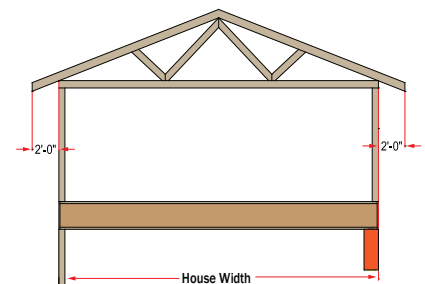
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 10"	9' - 1"	9' - 10"	11' - 5"	11' - 7"	13' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	7' - 5"	8' - 7"	9' - 3"	10' - 9"	10' - 11"	12' - 8"
	End/Int bearing SPF Plate (in)	1.7	1.5	2.1	1.6	2.5	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 0"	8' - 2"	8' - 9"	10' - 2"	10' - 4"	12' - 0"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	6' - 8"	7' - 9"	8' - 4"	9' - 9"	9' - 10"	11' - 6"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	2.0	2.9	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	36	6' - 5"	7' - 5"	8' - 0"	9' - 4"	9' - 5"	11' - 0"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.2	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	40	6' - 2"	7' - 2"	7' - 8"	9' - 0"	9' - 1"	10' - 7"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.4	2.6
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 2"	8' - 4"	9' - 0"	10' - 5"	10' - 7"	12' - 4"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	24	6' - 9"	7' - 10"	8' - 5"	9' - 10"	10' - 0"	11' - 7"
	End/Int bearing SPF Plate (in)	2.1	1.6	2.6	2.0	3.1	2.4
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	28	6' - 5"	7' - 5"	8' - 0"	9' - 4"	9' - 5"	11' - 0"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.4	2.7
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	1.9	1.5
	32	6' - 1"	7' - 1"	7' - 8"	8' - 11"	9' - 0"	10' - 6"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.2	2.5	3.7	2.9
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.7
	36	5' - 10"	6' - 10"	7' - 4"	8' - 7"	8' - 8"	10' - 1"
	End/Int bearing SPF Plate (in)	2.7	2.1	3.4	2.7	4.0	3.1
	End/Int bearing Member (in)	1.6	1.5	1.9	1.5	2.3	1.8
	40	5' - 7"	6' - 7"	7' - 0"	8' - 3"	8' - 4"	9' - 9"
	End/Int bearing SPF Plate (in)	2.9	2.3	3.6	2.8	4.3	3.3
	End/Int bearing Member (in)	1.7	1.5	2.1	1.6	2.4	1.9

NOTES:

- This table has been established using a Live Load deflection equal to $L / 480$ and a Total Load deflection limit equal to $L / 240$.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Multi-ply members may be substituted with solid section beams.



Header Span Tables Roof + One Storey (Center Bearing)

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	10' - 1"	11' - 8"	12' - 7"	14' - 6"	14' - 10"	17' - 1"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.7	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	9' - 7"	11' - 1"	12' - 0"	13' - 10"	14' - 2"	16' - 3"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.7	1.5	2.0	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	9' - 2"	10' - 7"	11' - 5"	13' - 2"	13' - 6"	15' - 7"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	8' - 10"	10' - 2"	11' - 0"	12' - 8"	12' - 11"	15' - 0"
	End/Int bearing SPF Plate (in)	1.7	1.5	2.1	1.6	2.4	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	8' - 6"	9' - 10"	10' - 6"	12' - 3"	12' - 3"	14' - 5"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.2	1.7	2.6	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	8' - 1"	9' - 6"	10' - 0"	11' - 10"	11' - 8"	14' - 0"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.2
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

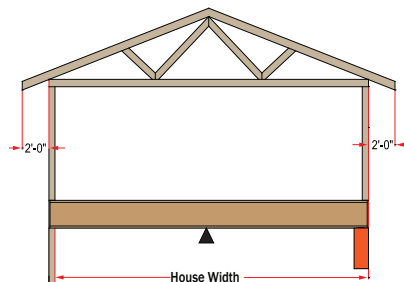
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	9' - 3"	10' - 8"	11' - 7"	13' - 4"	13' - 8"	15' - 9"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.2	1.7	2.6	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 9"	10' - 2"	10' - 11"	12' - 8"	12' - 9"	14' - 11"
	End/Int bearing SPF Plate (in)	2.0	1.5	2.5	1.9	2.9	2.2
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	28	8' - 4"	9' - 8"	10' - 3"	12' - 1"	12' - 0"	14' - 3"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.1	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	32	7' - 10"	9' - 4"	9' - 8"	11' - 8"	11' - 4"	13' - 9"
	End/Int bearing SPF Plate (in)	2.4	1.9	2.9	2.3	3.4	2.7
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	1.9	1.6
	36	7' - 5"	9' - 0"	9' - 2"	11' - 3"	10' - 9"	13' - 3"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.1	2.5	3.6	3.0
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.0	1.7
	40	7' - 1"	8' - 8"	8' - 9"	10' - 10"	10' - 3"	12' - 9"
	End/Int bearing SPF Plate (in)	2.7	2.2	3.3	2.7	3.8	3.2
	End/Int bearing Member (in)	1.5	1.5	1.9	1.5	2.2	1.8

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 7"	9' - 11"	10' - 7"	12' - 5"	12' - 5"	14' - 8"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.2	2.5
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.8	1.5
	24	8' - 0"	9' - 4"	9' - 10"	11' - 9"	11' - 6"	13' - 10"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.0	2.4	3.5	2.9
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6
	28	7' - 6"	8' - 11"	9' - 3"	11' - 2"	10' - 9"	13' - 2"
	End/Int bearing SPF Plate (in)	2.7	2.2	3.3	2.7	3.9	3.2
	End/Int bearing Member (in)	1.5	1.5	1.9	1.5	2.2	1.8
	32	7' - 1"	8' - 6"	8' - 8"	10' - 8"	10' - 2"	12' - 7"
	End/Int bearing SPF Plate (in)	2.9	2.4	3.6	2.9	4.2	3.5
	End/Int bearing Member (in)	1.7	1.5	2.0	1.7	2.4	2.0
	36	6' - 8"	8' - 2"	8' - 3"	10' - 3"	9' - 8"	12' - 1"
	End/Int bearing SPF Plate (in)	3.1	2.6	3.8	3.2	4.5	3.7
	End/Int bearing Member (in)	1.8	1.5	2.2	1.8	2.5	2.1
	40	6' - 5"	7' - 11"	7' - 11"	9' - 10"	9' - 3"	11' - 6"
	End/Int bearing SPF Plate (in)	3.3	2.7	4.1	3.4	4.7	3.9
	End/Int bearing Member (in)	1.9	1.6	2.3	1.9	2.7	2.2

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.**
- Multi-ply members may be substituted with solid section beams.



Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	10' - 1"	11' - 8"	12' - 7"	14' - 6"	14' - 10"	17' - 1"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.7	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	9' - 6"	11' - 0"	11' - 11"	13' - 9"	14' - 0"	16' - 2"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.7	1.5	2.0	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	9' - 0"	10' - 5"	11' - 4"	13' - 1"	13' - 4"	15' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.8	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	8' - 8"	10' - 0"	10' - 10"	12' - 6"	12' - 9"	14' - 9"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.4	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	8' - 3"	9' - 7"	10' - 4"	12' - 0"	12' - 3"	14' - 2"
	End/Int bearing SPF Plate (in)	1.7	1.5	2.2	1.7	2.6	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	8' - 0"	9' - 3"	10' - 0"	11' - 7"	11' - 8"	13' - 8"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

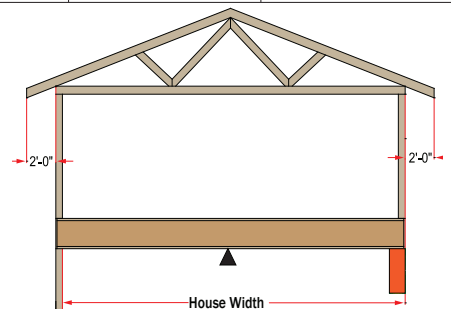
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 8"	10' - 0"	10' - 10"	12' - 6"	12' - 9"	14' - 9"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.4	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 2"	9' - 5"	10' - 2"	11' - 9"	12' - 0"	13' - 11"
	End/Int bearing SPF Plate (in)	1.8	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 9"	8' - 11"	9' - 8"	11' - 2"	11' - 5"	13' - 3"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	2.0	3.0	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	32	7' - 5"	8' - 7"	9' - 3"	10' - 9"	10' - 11"	12' - 8"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.8	2.1	3.3	2.5
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5
	36	7' - 1"	8' - 3"	8' - 10"	10' - 4"	10' - 6"	12' - 2"
	End/Int bearing SPF Plate (in)	2.4	1.9	3.0	2.3	3.5	2.7
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6
	40	6' - 10"	7' - 11"	8' - 7"	9' - 11"	10' - 1"	11' - 9"
	End/Int bearing SPF Plate (in)	2.6	2.0	3.2	2.5	3.8	2.9
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.7

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 9"	8' - 11"	9' - 8"	11' - 2"	11' - 5"	13' - 3"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	1.9	2.9	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	24	7' - 3"	8' - 5"	9' - 1"	10' - 7"	10' - 9"	12' - 6"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.8	2.2	3.3	2.6
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5
	28	6' - 11"	8' - 0"	8' - 8"	10' - 1"	10' - 2"	11' - 10"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.1	2.4	3.7	2.9
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.6
	32	6' - 7"	7' - 8"	8' - 3"	9' - 7"	9' - 9"	11' - 4"
	End/Int bearing SPF Plate (in)	2.7	2.1	3.4	2.7	4.0	3.1
	End/Int bearing Member (in)	1.6	1.5	1.9	1.5	2.3	1.8
	36	6' - 4"	7' - 5"	7' - 11"	9' - 3"	9' - 4"	10' - 11"
	End/Int bearing SPF Plate (in)	2.9	2.3	3.7	2.9	4.3	3.4
	End/Int bearing Member (in)	1.7	1.5	2.1	1.6	2.5	1.9
	40	6' - 1"	7' - 1"	7' - 8"	8' - 11"	9' - 0"	10' - 6"
	End/Int bearing SPF Plate (in)	3.2	2.5	3.9	3.1	4.6	3.6
	End/Int bearing Member (in)	1.8	1.5	2.2	1.7	2.6	2.1

NOTES:

- This table has been established using a Live Load deflection equal to $L / 480$ and a Total Load deflection limit equal to $L / 240$.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Multi-ply members may be substituted with solid section beams.



Header Span Tables Roof + Two Storey (Center Bearing)

Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 11"	10' - 3"	11' - 1"	12' - 10"	13' - 1"	15' - 2"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.5	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 5"	9' - 9"	10' - 5"	12' - 3"	12' - 2"	14' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.7	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 11"	9' - 4"	9' - 9"	11' - 8"	11' - 5"	13' - 9"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.6	1.5	1.9	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	7' - 6"	9' - 0"	9' - 3"	11' - 3"	10' - 10"	13' - 3"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.7	1.5	2.0	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	7' - 1"	8' - 8"	8' - 9"	10' - 10"	10' - 3"	12' - 9"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	6' - 10"	8' - 4"	8' - 5"	10' - 6"	9' - 10"	12' - 3"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.3	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

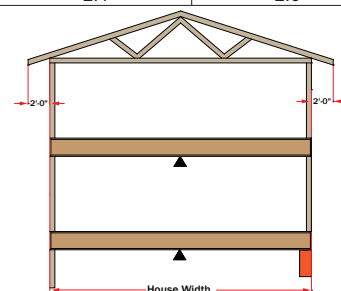
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 3"	9' - 8"	10' - 2"	12' - 1"	11' - 11"	14' - 3"
	End/Int bearing SPF Plate (in)	1.6	1.5	1.9	1.5	2.2	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	7' - 8"	9' - 2"	9' - 6"	11' - 6"	11' - 1"	13' - 6"
	End/Int bearing SPF Plate (in)	1.7	1.5	2.1	1.7	2.5	2.0
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 2"	8' - 9"	8' - 11"	10' - 11"	10' - 5"	12' - 11"
	End/Int bearing SPF Plate (in)	1.9	1.6	2.3	1.9	2.7	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	32	6' - 10"	8' - 5"	8' - 5"	10' - 6"	9' - 10"	12' - 3"
	End/Int bearing SPF Plate (in)	2.1	1.7	2.5	2.1	2.9	2.4
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	36	6' - 5"	8' - 1"	8' - 0"	10' - 0"	9' - 4"	11' - 8"
	End/Int bearing SPF Plate (in)	2.2	1.8	2.7	2.2	3.1	2.6
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	40	6' - 2"	7' - 8"	7' - 7"	9' - 6"	8' - 11"	11' - 1"
	End/Int bearing SPF Plate (in)	2.3	1.9	2.9	2.4	3.3	2.8
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.6

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/360

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 8"	9' - 2"	9' - 5"	11' - 5"	11' - 0"	13' - 6"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.4	2.0	2.8	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	24	7' - 1"	8' - 8"	8' - 9"	10' - 10"	10' - 3"	12' - 9"
	End/Int bearing SPF Plate (in)	2.2	1.8	2.7	2.3	3.2	2.6
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.8	1.5
	28	6' - 8"	8' - 3"	8' - 2"	10' - 3"	9' - 7"	12' - 0"
	End/Int bearing SPF Plate (in)	2.4	2.0	3.0	2.5	3.5	2.9
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	2.0	1.6
	32	6' - 3"	7' - 10"	7' - 9"	9' - 8"	9' - 1"	11' - 4"
	End/Int bearing SPF Plate (in)	2.6	2.2	3.2	2.7	3.7	3.1
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.8
	36	5' - 11"	7' - 5"	7' - 4"	9' - 2"	8' - 7"	10' - 9"
	End/Int bearing SPF Plate (in)	2.8	2.3	3.4	2.8	4.0	3.3
	End/Int bearing Member (in)	1.6	1.5	1.9	1.6	2.3	1.9
	40	5' - 8"	7' - 1"	7' - 0"	8' - 9"	8' - 2"	10' - 3"
	End/Int bearing SPF Plate (in)	2.9	2.5	3.6	3.0	4.2	3.5
	End/Int bearing Member (in)	1.7	1.5	2.1	1.7	2.4	2.0

NOTES:

- This table has been established using a Live Load deflection equal to L / 360 and a Total Load deflection limit equal to L / 240.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.**
- Multi-ply members may be substituted with solid section beams.



Versa-Lam® LVL 1.8E 2400 (1¾") - Versa-Lam® LVL 1.8E 2650 (3½")

Snow Load of 20 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	8' - 10"	10' - 2"	11' - 0"	12' - 9"	13' - 0"	15' - 1"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.5	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	8' - 3"	9' - 7"	10' - 4"	12' - 0"	12' - 2"	14' - 2"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.5	1.5	1.7	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 10"	9' - 1"	9' - 9"	11' - 5"	11' - 5"	13' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.6	1.5	1.9	1.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	7' - 6"	8' - 8"	9' - 3"	10' - 10"	10' - 10"	12' - 10"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.7	1.5	2.0	1.6
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	36	7' - 1"	8' - 4"	8' - 9"	10' - 5"	10' - 3"	12' - 4"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	40	6' - 10"	8' - 0"	8' - 5"	10' - 1"	9' - 10"	11' - 10"
	End/Int bearing SPF Plate (in)	1.6	1.5	2.0	1.6	2.3	1.8
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5

Snow Load of 40 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

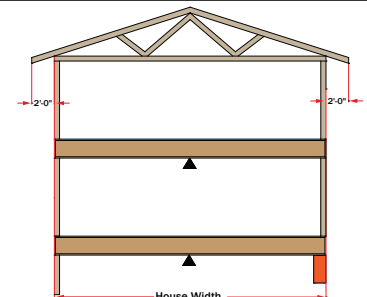
Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 10"	9' - 1"	9' - 10"	11' - 5"	11' - 7"	13' - 5"
	End/Int bearing SPF Plate (in)	1.5	1.5	1.9	1.5	2.2	1.7
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	24	7' - 5"	8' - 7"	9' - 3"	10' - 9"	10' - 11"	12' - 8"
	End/Int bearing SPF Plate (in)	1.7	1.5	2.1	1.6	2.5	1.9
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	28	7' - 0"	8' - 2"	8' - 9"	10' - 2"	10' - 4"	12' - 0"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.5	1.5
	32	6' - 8"	7' - 9"	8' - 4"	9' - 9"	9' - 10"	11' - 6"
	End/Int bearing SPF Plate (in)	2.0	1.6	2.5	2.0	2.9	2.3
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.7	1.5
	36	6' - 5"	7' - 5"	8' - 0"	9' - 4"	9' - 4"	11' - 0"
	End/Int bearing SPF Plate (in)	2.2	1.7	2.7	2.1	3.1	2.5
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	40	6' - 2"	7' - 2"	7' - 7"	9' - 0"	8' - 11"	10' - 7"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.3	2.6
	End/Int bearing Member (in)	1.5	1.5	1.6	1.5	1.9	1.5

Snow Load of 60 psf Roof Dead Load of 15 psf Floor Live Load of 40 psf Floor Dead Load of 15 psf L/480

Beam Depth		9½"		11⅞'		14"	
		3½"	5¼"	3½"	5¼"	3½"	5¼"
House Width [ft]	20	7' - 2"	8' - 4"	9' - 0"	10' - 5"	10' - 7"	12' - 4"
	End/Int bearing SPF Plate (in)	1.9	1.5	2.3	1.8	2.7	2.1
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.6	1.5
	24	6' - 9"	7' - 10"	8' - 5"	9' - 10"	10' - 0"	11' - 7"
	End/Int bearing SPF Plate (in)	2.1	1.6	2.6	2.0	3.1	2.4
	End/Int bearing Member (in)	1.5	1.5	1.5	1.5	1.8	1.5
	28	6' - 5"	7' - 5"	8' - 0"	9' - 4"	9' - 5"	11' - 0"
	End/Int bearing SPF Plate (in)	2.3	1.8	2.9	2.3	3.4	2.7
	End/Int bearing Member (in)	1.5	1.5	1.7	1.5	1.9	1.5
	32	6' - 1"	7' - 1"	7' - 8"	8' - 11"	9' - 0"	10' - 6"
	End/Int bearing SPF Plate (in)	2.5	2.0	3.2	2.5	3.7	2.9
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.7
	36	5' - 10"	6' - 10"	7' - 4"	8' - 7"	8' - 7"	10' - 1"
	End/Int bearing SPF Plate (in)	2.7	2.1	3.4	2.7	4.0	3.1
	End/Int bearing Member (in)	1.6	1.5	1.9	1.5	2.3	1.8
	40	5' - 7"	6' - 7"	7' - 0"	8' - 3"	8' - 2"	9' - 9"
	End/Int bearing SPF Plate (in)	2.9	2.3	3.6	2.8	4.2	3.3
	End/Int bearing Member (in)	1.5	1.5	1.8	1.5	2.1	1.8

NOTES:

- This table has been established using a Live Load deflection equal to $L / 480$ and a Total Load deflection limit equal to $L / 240$.
- This table assumes a maximum roof slope of 12/12 and a 24" soffit.
- This table assumes uniform loads and simple span headers.
- Table values are based on SPF specified compression strength perpendicular to grain for plate of 769 psi.
- Minimum bearing lengths required are based on a minimum bearing width equal to or greater than the width of the supported beam.
- Span is measured center to center of the supports.
- Table values assume an exterior wall dead load of 100 plf.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Multi-ply members may be substituted with solid section beams.

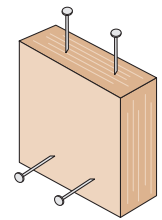


Nail Size	Nailing Parallel to Glue Lines (Narrow Face) ^{(1) (2)}						Nailing Perpendicular to Glue Lines (Wide Face)	
	Versa-Lam® LVL 1.5E 1800 ^{1 5/16"}		Versa-Lam® LVL 1 3/4"		Versa-Lam® LVL 3 3/8" & Wider		All Products	
	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]	O.C. [inches]	End [inches]
2 1/2" (8d) Box	3	1 1/2	2	1	2	1/2	2	1/2
2 1/2" (8d) Common	3	2	3	2	2	1	2	1
3" (10d) & 3 1/4" (12d) Box	3	2	3	2	2	1	2	1
3 1/2" (16d) Box	3	2	3	2	2	1	2	1
3" (10d) & 3 1/4" (12d) Common	4	3	4	3	2	2	2	2
3 1/2" (16d) Sinker	4	3	4	3	2	2	2	2
3 1/2" (16d) Common	6	4	6	3	2	2	2	2

NOTES:

- For 1 3/4" thickness and greater, 2 rows of nails (such as for a metal strap) are allowed (use 1/2" minimum offset between rows and stagger nails).
- Offset and stagger nail rows from floor sheathing and wall sole plate.

Nailing Parallel to Glue Lines (Narrow Face)



Nailing Perpendicular to Glue Lines (Wide Face)

Scarf Cut

Two-Ply 1 3/4" Versa-Lam® LVL 1.8E 2400 or 3 1/2" Versa-Lam® LVL 1.8E 2650

Maximum Factored Reaction for 3 1/2" Wood Plate										
Depth (in)	Scarf Cut Slope ($\frac{\text{in}}{12}$)	Heel Height - dh								
		4 1/2"	5"	5 1/2"	6"	6 1/2"	7"	7 1/2"	8"	10"
7 1/4	3	5,971	6,624	7,520	7,533					
	6	7,533								
9 1/4	3		6,527	7,082	7,533	7,533	7,533	7,533	7,533	
	6	7,076	7,533	7,533	7,533	7,533	7,533			
	9	7,533	7,533	7,533	7,533					
	12	7,533	7,533	7,533						
9 1/2	3		6,527	7,082	7,533	7,533	7,533	7,533	7,533	
	6	6,943	7,533	7,533	7,533	7,533	7,533	7,533		
	9	7,533	7,533	7,533	7,533					
	12	7,533	7,533	7,533						
11 1/4	3				7,533	7,533	7,533	7,533	7,533	7,533
	6		7,499	7,533	7,533	7,533	7,533	7,533	7,533	
	9	7,533	7,533	7,533	7,533	7,533	7,533	7,533	7,533	
	12	7,533	7,533	7,533	7,533	7,533	7,533	7,533		
11 1/8	3					7,533	7,533	7,533	7,533	7,533
	6			7,533	7,533	7,533	7,533	7,533	7,533	7,533
	9	7,533	7,533	7,533	7,533	7,533	7,533	7,533	7,533	
	12	7,533	7,533	7,533	7,533	7,533	7,533	7,533	7,533	
14	3								7,533	7,533
	6						7,533	7,533	7,533	7,533
	9				7,533	7,533	7,533	7,533	7,533	7,533
	12		7,533	7,533	7,533	7,533	7,533	7,533	7,533	7,533

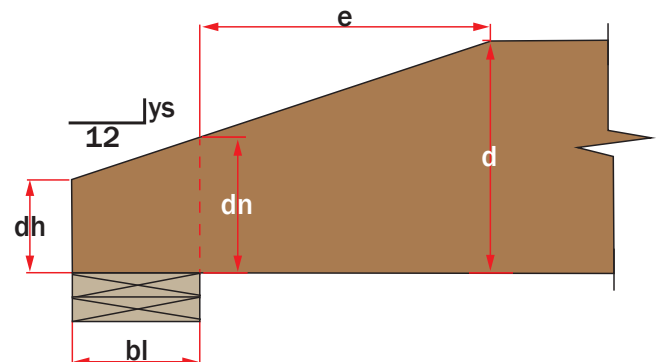
Maximum Factored Reaction for 5 1/4" Wood Plate										
Depth (in)	Scarf Cut Slope ($\frac{\text{in}}{12}$)	Heel Height - dh								
		4 1/2"	5"	5 1/2"	6"	6 1/2"	7"	7 1/2"	8"	10"
7 1/4	3	6,474	7,435	7,929						
	6									
9 1/4	3	6,457	7,013	7,568	8,123	9,100	9,806	10,179		
	6	8,868	9,506	9,930	10,175	10,272				
	9	10,160								
	12									
9 1/2	3	6,457	7,013	7,568	8,123	8,934	9,800	10,315	10,537	
	6	8,795	9,529	10,037	10,356	10,519				
	9	10,355								
	12									
11 1/4	3			7,568	8,123	8,679	9,234	9,790	10,706	
	6	7,915	8,669	9,827	10,723	11,300	11,300	11,300	11,300	
	9	11,109	11,300	11,300	11,300					
	12	11,300	11,300							
11 1/8	3				8,123	8,679	9,234	9,790	10,345	11,300
	6	7,915	8,471	9,347	10,471	11,300	11,300	11,300	11,300	
	9	11,118	11,300	11,300	11,300	11,300	11,300			
	12	11,300	11,300	11,300						
14	3							9,790	10,345	11,300
	6				9,582	10,137	11,134	11,300	11,300	11,300
	9	10,121	11,300	11,300	11,300	11,300	11,300	11,300	11,300	11,300
	12	11,300	11,300	11,300	11,300	11,300	11,300	11,300		

NOTES:

- Tabulated values based on the factored bearing resistance of 615 psi and a beam width of 3 1/2".
- Downward loading conditions only. For uplift loading contact Boise Cascade EWP representative.
- $K_D = 1.0$
- Holes or concentrated loads are not allowed within the taper cut.
- The scarf cut length should not exceed (1/3) Span, where the scarf cut length $(e + bl) = (d - dh) \cdot A$.

Scarf Cut Slope ($\frac{\text{in}}{12}$)	A
3	4.00
6	2.00
9	1.33
12	1.00

- For 1 3/4", 5 1/4", and 7" beams, multiply by 0.5, 1.5, and 2.0, respectively.



Two-Ply 1¼" Versa-Lam® LVL 1.8E 2400 or 3½" Versa-Lam® LVL 1.8E 2650

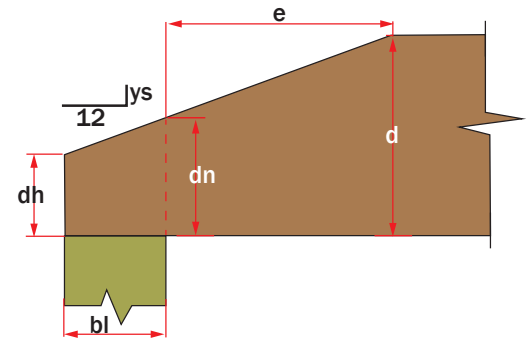
Maximum Factored Reaction for 3½" Column										
Depth (in)	Scarf Cut Slope (L/12)	Heel Height - dh								
		4½"	5"	5½"	6"	6½"	7"	7½"	8"	10"
7¼	3	5,971	6,624	7,520	7,963					
	6	7,699								
9¼	3		6,527	7,082	7,637	8,193	9,209	9,870	10,205	
	6	7,076	8,219	9,050	9,631	10,007	10,212			
	9	9,337	9,763	10,045						
	12	10,059								
9½	3		6,527	7,082	7,637	8,193	9,064	9,882	10,358	
	6	6,943	8,064	9,002	9,676	10,133	10,411	10,539		
	9	9,381	9,871	10,209	10,422					
	12	10,241	10,423							
11¼	3				7,637	8,193	8,748	9,304	9,859	12,440
	6		7,499	8,054	8,986	10,074	10,911	11,537	11,985	
	9	8,960	9,945	10,717	11,314	11,765	12,091	12,312		
	12	11,031	11,509	11,873	12,140	12,324				
11⅝	3					8,193	8,748	9,304	9,859	12,783
	6			8,054	8,609	9,653	10,712	11,537	12,163	
	9	8,501	9,683	10,628	11,378	11,964	12,413	12,744	12,974	
	12	11,107	11,703	12,172	12,532	12,801	12,992			
14	3								9,859	12,081
	6						9,720	10,276	11,437	13,377
	9				10,591	11,695	12,607	13,356	13,377	13,377
	12		11,599	12,467	13,185	13,377	13,377	13,377	13,377	13,377

NOTES:

- Tabulated values based on the factored bearing resistance of 1,092 psi and a beam width of 3½".
- Downward loading conditions only. For uplift loading contact Boise Cascade EWP representative.
- $K_D = 1.0$
- Holes or concentrated loads are not allowed within the taper cut.
- The scarf cut length should not exceed (1/3) Span, where the scarf cut length $(e + bl) = (d - dh) \cdot A$.

Scarf Cut Slope (L/12)	A
3	4.00
6	2.00
9	1.33
12	1.00

- For 1¼", 5¼", and 7" beams, multiply by 0.5, 1.5, and 2.0, respectively.



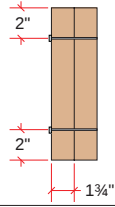
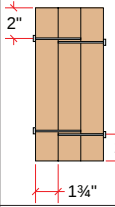
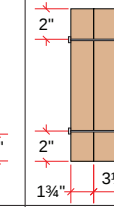
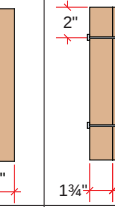
Minimum Bearing Length Per Bearing Width

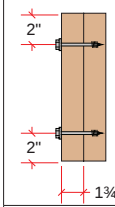
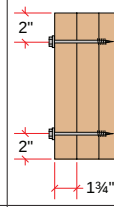
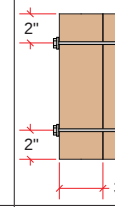
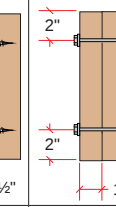
Versa-Lam® LVL Minimum End bearing length per bearing width (in)				
Total Factored Reaction (lb)	Bearing width (in)			
	1¼	3½	5¼	7
2,000	1½	1½	1½	1½
4,000	2¼	1½	1½	1½
6,000	3¼	1¾	1½	1½
8,000	4¼	2¼	1½	1½
10,000	5¼	2¾	1¾	1½
12,000	6½	3¼	2¼	1¾
14,000	7½	3¾	2½	2
16,000	8½	4¼	3	2¼
18,000		4¾	3¼	2½
20,000		5¼	3½	2¾
22,000		6	4	3
24,000		6½	4¼	3¼
26,000		7	4¾	3½
28,000		7½	5	3¾
30,000		8	5¼	4
32,000		8½	5¾	4¼
34,000			6	4½
36,000			6½	4¾
38,000			6¾	5
40,000			7	5¼

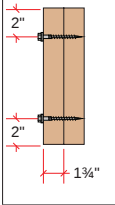
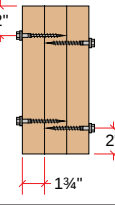
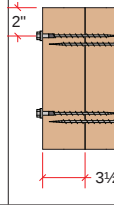
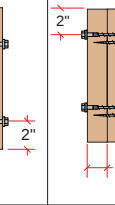
Versa-Lam® LVL Minimum Intermediate bearing length per bearing width (in)				
Total Factored Reaction (lb)	Bearing width (in)			
	1¼	3½	5¼	7
4,000	3½	3½	3½	3½
8,000	4¼	3½	3½	3½
12,000	6½	3½	3½	3½
16,000	8½	4¼	3½	3½
20,000	10½	5¼	3½	3½
24,000	12¾	6½	4¼	3½
28,000	14¾	7½	5	3¾
32,000	16¾	8½	5¾	4¼
36,000		9½	6½	4¾
40,000		10½	7	5¼
44,000		11¾	7¾	6
48,000		12¾	8½	6½
52,000		13¾	9¼	7
56,000		14¾	10	7½
60,000		15¾	10½	8
64,000		16¾	11¼	8½
68,000			12	9
72,000			12¾	9½
76,000			13½	10
80,000			14	10½

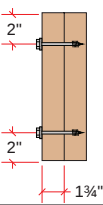
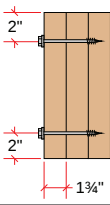
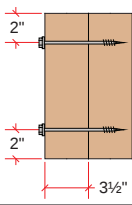
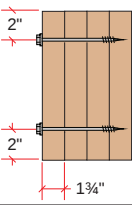
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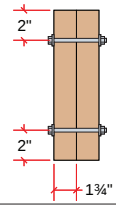
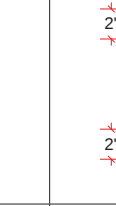
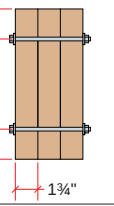
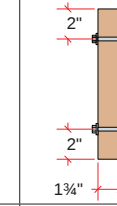
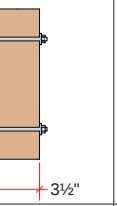
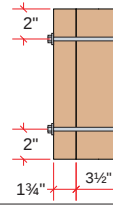
- Lateral support at bearings should be provided to prevent lateral displacement or rotation.
- Member bearing lengths are based on a Versa-Lam® LVL Factored Bearing Resistance of 1092 psi.

Rows	Depth Range	Spacing				
			3 1/2" (2 plies)	5 1/4" (3 plies)	5 1/4" (2 plies)	7" (3 plies)
			Maximum Factored Uniform Load (PLF) Applied to Either Outside Member			
			3.5" Common Wire Nails (16d)			
2	7 1/4" to 18"	24"	434	325	325	289
		12"	867	650	650	578
		6"	1734	1301	1301	1156
3	11 7/8" to 24"	24"	650	488	488	434
		12"	1301	976	976	867
		6"	2602	1951	1951	1734
4	14" to 24"	24"	867	650	650	578
		12"	1734	1301	1301	1156
		6"	3469	2602	2602	2312

Rows	Depth Range	Spacing				
			3 1/2" (2 plies)	5 1/4" (3 plies)	7" (2 plies)	7" (4 plies)
			Maximum Factored Uniform Load (PLF) Applied to Either Outside Member			
			SDW22338	SDW22500	SDW22634	SDW22634
2	7 1/4" to 18"	24"	680	623	1140	553
		12"	1360	1245	2280	1107
		6"	2720	2490	4560	2213
3	11 7/8" to 24"	24"	1020	934	1710	830
		12"	2040	1868	3420	1660
		6"	4080	3735	6840	3320
4	14" to 24"	24"	1360	1245	2280	1107
		12"	2720	2490	4560	2213
		6"	5440	4980	9120	4427

Rows	Depth Range	Spacing				
			3 1/2" (2 plies)	5 1/4" (3 plies)	7" (2 plies)	7" (4 plies)
			Maximum Factored Uniform Load (PLF) Applied to Either Outside Member			
			SDS 1/4"x3.5"	SDS 1/4"x3.5"	SDS 1/4"x6"	SDS 1/4"x6"
2	7 1/4" to 18"	24"	610	458	610	520
		12"	1220	915	1220	1040
		6"	2440	1830	2440	2080
3	11 7/8" to 24"	24"	915	686	915	780
		12"	1830	1373	1830	1560
		6"	3660	2745	3660	3120
4	14" to 24"	24"	1220	915	1220	1040
		12"	2440	1830	2440	2080
		6"	4880	3660	4880	4160

Rows	Depth Range	Spacing				
			3 1/2" (2 plies)	5 1/4" (3 plies)	7" (2 plies)	7" (4 plies)
			Maximum Factored Uniform Load (PLF) Applied to Either Outside Member			
			3 3/8" TrussLok	5" TrussLok	6 3/4" TrussLok	6 3/4" TrussLok
2	7 1/4" to 18"	24"	864	675	849	600
		12"	1,728	1,350	1,698	1,200
		6"	3,456	2,700	3,396	2,400
3	11 7/8" to 24"	24"	1,296	1,013	1,274	900
		12"	2,592	2,025	2,547	1,800
		6"	5,184	4,050	5,094	3,600
4	14" to 24"	24"	1,728	1,350	1,698	1,200
		12"	3,456	2,700	3,396	2,400
		6"	6,912	5,400	6,792	4,800

Rows	Depth Range	Spacing						
			3½" (2 plies)	5¼" (3 plies)	5¼" (2 plies)	7" (3 plies)	7" (2 plies)	7" (4 plies)
			Maximum Factored Uniform Load (PLF) Applied to Either Outside Member					
			½" Bolts					
2	7¼" to 11⅞"	12"	1560	1170	1755	1560	3120	1040
		6"	3120	2340	3510	3120	6240	2080
3	11⅞" to 24"	12"	2340	1755	2632	2340	4680	1560
		6"	4680	3510	5265	4680	9360	3120

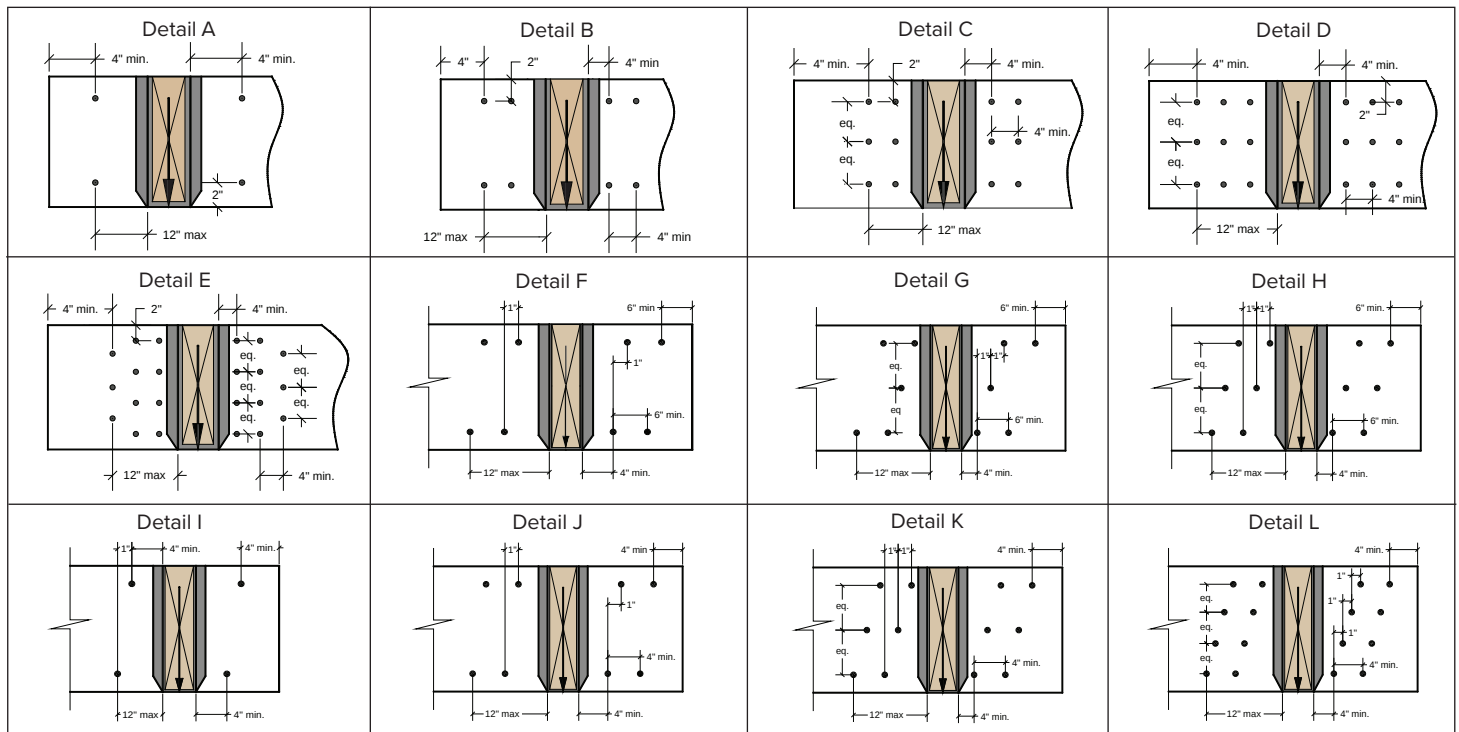
NOTES

- Design values apply to common bolts that conform to ASTM A307 Grades A&B, SAE J429 Grades 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 minimum edge distance for SDS/TrussLok screws and bolts shall be 2". The minimum end distance for SDS/TrussLok screws and bolts shall be 4", except for SDW screws where the end distance should not be less than 6". Bolt holes shall not be greater than 1/8" of the bolt diameter.
- When 3/4" sinker nails (16d) are used, multiply the maximum factored uniform load for the 3.5" common wire nails by 0.87 factor.
- When 3/4" pneumatic gun nails 0.122" diameter (10d) are used, multiply the maximum factored uniform load for the 3.5" common wire nails by 0.61 factor.
- The nail schedules shown apply to both sides of a 3-member beam.
- 4-ply beams must be loaded from both sides. Lesser side shall be no less than 25% of the opposite side.
- Beams wider than 7" must be designed by the professional engineer of record.
- An equivalent specific gravity of 0.5 may be used when designing specific connections with Versa-Lam® LVL. Connection design is based on CSA O86-14.
- Refer to current technical literature from FastenMaster TrussLok and Simpson Strong-Tie to confirm information herein has not been superseded.
- Other fasteners may also be used to connect multiple Versa-Lam® LVL Beams. Contact Boise Cascade EWP Engineering for further information.

Versa-Lam® LVL 1.8E 2400 - 1¾"							
Maximum Factored Point Load Applied to Either Outside Member (lbs)							
Connector Type	Number of Connectors	Min. Beam Depth (in)	Max. Beam Depth (in)	2-ply	3-ply	4-ply	Detail
3½" (16d) Common Wire Nail (0.160" x 3½")	4	7¼	18	1 734	1 301	-	A
	8	7¼	18	3 469	2 602	-	B
	12	9¼	18	5 203	3 902	-	C
	18	9¼	18	7 805	5 853	-	D
	22	11⅞	18	9 539	7 154	-	E
3¾" TrussLok ⁽⁴⁾	8	7¼	18	6912	-	-	F
	10	9¼	18	8640	-	-	G
	12	9¼	18	10368	-	-	H
5" TrussLok ⁽⁴⁾	8	7¼	18	-	5400	-	F
	10	9¼	18	-	6750	-	G
	12	9¼	18	-	8100	-	H
6¾" TrussLok ⁽⁴⁾	8	7¼	18	-	-	4800	F
	10	9¼	18	-	-	6000	G
	12	9¼	18	-	-	7200	H
SDW 22338	8	7¼	18	5 440	-	-	F
	10	9¼	18	8 800	-	-	G
	12	9¼	18	8 160	-	-	H
SDW 22500	8	7¼	18	-	4 980	-	F
	10	9¼	18	-	6 225	-	G
	12	9¼	18	-	7 470	-	H
SDW 22634	8	7¼	18	-	-	4 427	F
	10	9¼	18	-	-	5 533	G
	12	9¼	18	-	-	6 640	H
SDS ¼ X 6 ⁽⁵⁾	4	7¼	18	-	-	2 080	I
	8	7¼	18	-	-	4 160	J
	12	9¼	18	-	-	6 240	K
	16	11⅞	18	-	-	8 320	L

NOTES

- When 3¼" sinker nails (16d) are used, multiply the maximum factored side load for the 3.5" common wire nails by 0.87 factor.
- When 3¼" pneumatic gun nails 0.122" diameter (10d) are used, multiply the maximum factored side load for the 3.5" common wire nails by 0.61 factor.
- Nailed 3-ply members must be fastened on both sides.
- The minimum end distance for FastenMaster TrussLok screws shall be 4", rather than the 6" as shown on the details.
- SDS screws must be applied on both sides.
- An equivalent specific gravity of 0.5 may be used when designing specific connections with Versa-Lam® LVL. Connection design is based on CSA O86-14.
- USP WS screws may also be used to connect multiple Versa-Lam® LVL beams. Contact Boise Cascade EWP Engineering for further information.
- Refer to current technical literature from FastenMaster TrussLok and Simpson Strong-Tie to confirm information herein has not been superseded.



Multiple Beam Connections – Top Loads

Versa-Lam® LVL 1.8E 2400 - 1¾"				
Depth (in)	Number of plies			
	2	3	4	
5½	2 rows of 16d Common Wire Nails at 12" o.c.	2 rows of 16d Common Wire Nails at 12" o.c.	N/A	
7¼ to 11⅞	2 rows of 16d Common Wire Nails at 12" o.c.	2 rows of 16d Common Wire Nails at 12" o.c.	2 rows of ½" Bolts at 24" o.c.	2 rows of SDS ¼ x 6 screws at 24" o.c. (both sides)
14 to 18	3 rows of 16d Common Wire Nails at 12" o.c.	3 rows of 16d Common Wire Nails at 12" o.c.	3 rows of ½" Bolts at 24" o.c.	3 rows of SDS ¼ x 6 screws at 24" o.c. (both sides)
20 to 24	4 rows of 16d Common Wire Nails at 12" o.c.	4 rows of 16d Common Wire Nails at 12" o.c.	4 rows of ½" Bolts at 24" o.c.	4 rows of SDS ¼ x 6 screws at 24" o.c. (both sides)

NOTE

- Load is applied evenly across the entire member width.

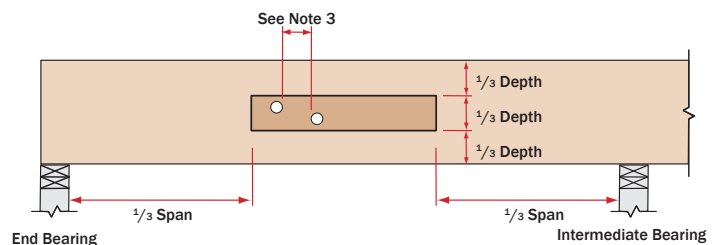
Bearing at concrete/masonry walls Provide moisture barrier at support and lateral restraint. 1/2" air space required between concrete and wood. B01	Bearing for door or window header Strap per code if top plate is not continuous over header. Trimmers. B02	Beam to beam connector Verify hanger capacity with hanger literature. B03
Bearing at column Versa-Lam® column Note: Drilling permitted for standard connectors. B04	Slope seat cut Sloped seat cut. Not to exceed inside face of bearing. Provide adequate lateral support B06	Bevel cut DO NOT bevel cut Versa-Lam® beyond inside face of wall without approval from Boise Cascade EWP Engineering or BC Calc® software analysis. B07
Beam to concrete/masonry walls Wood top plate must be flush with inside of wall. Hanger. Moisture barrier between concrete and wood. B08	Bearing framing into wall Strap per code if top plate is not continuous. B09	DO NOT drill, notch, cut or alter Versa-Lam® LVL beams B07
NOTES • Minimum of 1/2" air space between beam and wall pocket or adequate barrier must be provided between beam and concrete/masonry. • Adequate bearing shall be provided. If not shown on plans, please refer to load tables in your region's Specifier Guide. • Versa-Lam® LVL beams are intended for interior applications only and should be kept as dry as possible during construction. • Continuous lateral support of top and bottom of beam shall be provided (side or top bearing framing).		

Allowable Holes in Versa-Lam® LVL 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"
Greater than 7 1/4"	2"



6. These limitations apply to holes drilled for plumbing or wiring access only. The size and location of holes drilled for fasteners are under the regulations of the CSA O86-14 Engineering Design in Wood.
7. Beams deflect under load. Size holes to provide clearance where required.
8. This hole chart is valid for beams supporting uniform load only. For beams supporting concentrated loads or for beams with larger holes, contact Boise Cascade EWP Engineering.

Versa-Lam® LVL 1.8E 2650						
Solid Column						
Effective length of column (ft)	Column Size (inches)					
	3½ x 3½	3½ x 5¼	3½ x 7	5¼ x 5¼	5¼ x 7	7 x 7
4	22,560	33,840	45,120	59,523	79,364	111,530
4½	20,924	31,386	41,848	57,572	76,762	109,595
5	19,287	28,930	38,573	55,433	73,910	107,409
5½	17,694	26,541	35,389	53,148	70,864	104,986
6	16,179	24,269	32,359	50,760	67,680	102,350
6½	14,761	22,142	29,522	48,312	64,416	99,525
7	13,450	20,175	26,900	45,845	61,127	96,544
7½	12,247	18,371	24,494	43,395	57,860	93,437
8	11,151	16,725	22,153	40,990	54,653	90,239
8½	10,153	15,230	20,165	38,654	51,538	86,982
9	9,249	13,873	18,363	36,403	48,538	83,695
9½	8,430	12,645	16,732	34,250	45,667	80,408
10	7,688	11,531	15,255	32,202	42,936	77,146
10½	7,015	10,476	13,917	30,262	40,350	73,929
11	6,405	9,565	12,707	28,431	37,908	70,777
11½	5,853	8,739	11,609	26,708	35,610	67,702
12	5,351	7,991	10,615	25,088	33,451	64,717
14	3,771	5,632	7,482	19,561	26,081	53,799
16				15,311	20,414	44,601
18				12,040	15,996	36,996
20				9,519	12,648	30,749

Versa-Lam® LVL 1.8E 2400 - 1¾"						
Built-up Column						
Effective length of column (ft)	Column Size (inches)					
	3½ x 9½	3½ x 11½	3½ x 14	5¼ x 9½	5¼ x 11½	5¼ x 14
4	36,741	45,925	53,553	64,625	80,781	95,237
4½	34,076	42,191	49,552	62,506	78,133	92,115
5	31,409	38,825	45,566	60,185	75,231	88,693
5½	28,816	35,561	41,706	57,704	72,129	85,036
6	26,110	32,465	38,049	55,111	68,888	81,215
6½	23,800	29,575	34,639	52,453	65,566	77,299
7	21,667	26,910	31,497	49,775	62,219	73,352
7½	19,713	24,470	28,623	47,114	58,893	69,431
8	17,934	22,251	26,010	44,503	55,629	65,584
8½	16,319	20,237	23,642	41,966	52,458	61,845
9	14,856	18,415	21,500	39,523	49,404	57,735
9½	13,533	16,767	19,564	37,186	46,482	54,289
10	12,335	15,277	17,816	34,962	43,703	51,013
10½	11,251	13,930	16,235	32,856	40,763	47,914
11	10,270	12,711	14,807	30,868	38,283	44,991
11½	9,382	11,608	13,516	28,997	35,949	42,242
12	8,577	10,610	12,347	27,238	33,758	39,661
14	6,046	7,474	8,682	21,109	26,291	30,873
16				16,515	20,564	24,138
18				12,985	16,166	18,972
20				10,267	12,783	15,000

NOTES:

1. The maximum factored axial loads assume a maximum eccentricity of either ¼ of column width or ¼ of column depth, whichever is worse.
2. The effective column length is equal to the actual column length. The column is assumed to be unbraced laterally except at the column ends.
3. These values are for preliminary design only. Final design should include a complete analysis, including the bearing capacity of the foundation supporting the column. When the column is used in a wall system, review bearing resistance requirements to ensure adequacy.
4. The column is subjected to a simple axial load.
5. P - Δ effect was included in the analysis.
6. Built-up columns shall be fastened with nails, screws or bolts as shown below.
7. Slenderness ratios were calculated using the overall dimensions of the composite member.

Versa-Stud® & Versa-Lam® LVL Column Details

Multiple Ply Stud Connections

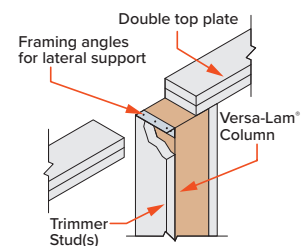
Thickness (in)	Number of plies	Fastener type	Fastener diameter (in)	Fastener length (in)	Min. end distance (in)	Min. edge distance (in)
1¾"	2	Common Nail 3½" (16d)	0.162	3½	4.0	2.0
		SDW 22338	0.220	3¾		
		3¾" TrussLok	0.228	3¾		
		SDS ¼ x 3½	0.250	3½		
	3	Common Nail 5" (40d)	0.225	5		
		5" TrussLok	0.228	5		
		SDW 22500	0.220	5		
	4	½" dia. Bolts	0.500	7		
		SDW 22634	0.220	6¾		
		6¾" TrussLok	0.228	6¾		
		SDS ¼ x 6 (on both sides)	0.250	6		

NOTE:

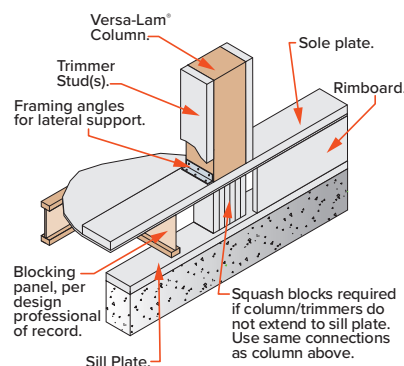
The number of rows of fasteners should be as follows:

Stud/ column depth	Rows of fasteners (staggered)
3½"	1
5½"	2
7¼"	2
9¼"	3
9½"	3
11¼"	3
11½"	3
14"	4

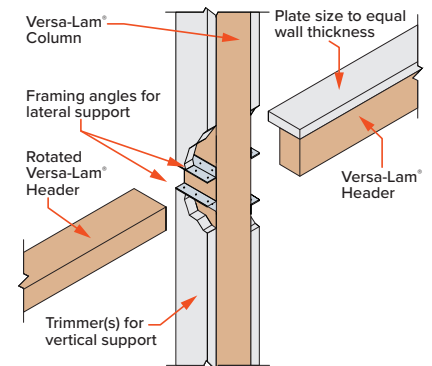
Column to Top Plate



Column to Bottom Plate



Header to Column



BC FRAMER® CADD Framing Software

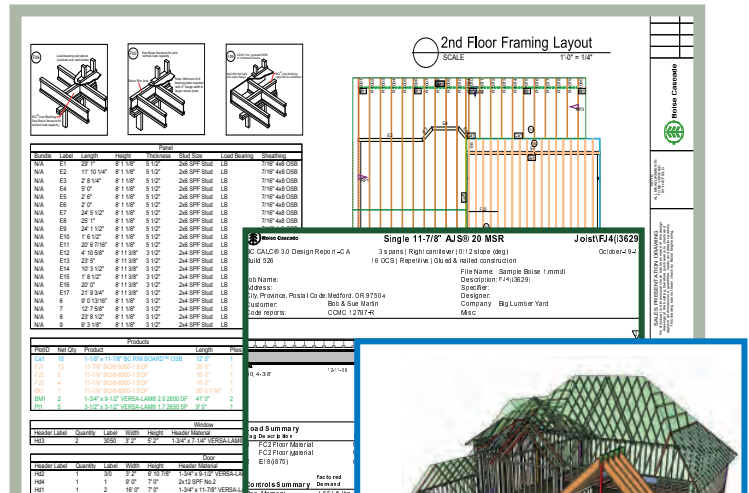
BC FRAMER® is an easy-to-use, stand-alone computer-aided drafting program with 3D capability designed to quickly create floor and roof framing layouts.

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 EWP training centers.

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 800-405-5969.



TECHNICAL SPECS

This program is designed to work on stand-alone computers.

Recommended Hardware Specifications:

CPU: Quad Core 64 bit Intel i7 Processor (4th Generation or Newer)

L2 Cache: 3MB/Core

RAM: 8GB (12.0 – 16GB highly recommended for designing large structures)

Video: Full support for DirectX 9; Single monitor 512MB;

Dual monitor 1GB (Resolution 1366×768 Minimum)

Free Storage: 80GB (average 6,000-8,000 jobs)

Operating Systems: Windows 7 (Professional Edition 64-bit), and

Windows 8 (Professional Edition 64-bit), Windows 10 (Pro or Enterprise Edition 64-bit)*

*Apple Mac or Windows Emulator not supported

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

BC Calc® Sizing Software

BC Calc® is Boise Cascade EWP sizing software for Boise Cascade Joists and Versa-Lam® LVL 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 EWP. A comprehensive Help File menu is included in the program.

BC Calc® is available to designers, architects and engineers on CD-ROM or by download at

www.bccalc.com/

Hardware requirements include Pentium® Processor with a recommended minimum of 1GB RAM. For questions or concerns regarding BC Calc®, call 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 View Window

To download of BC CALC® CANADA, www.bccalc.com/

Click to analyze all designs

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

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

Drag column border to resize

Drag column heading to move

Right-Click to add/drop column

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

Project Manager Window

Weights of Building Materials

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CEILING		Pounds Per Square Foot [PSF]
Acoustical fiber tile ⁽¹⁾		1
Suspended steel channel system ⁽¹⁾		2
Suspended wood channel system		2.5
2x8 ceiling joists @ 16" o.c., R-49 insulation, ½" gypsum board		7
1" Plaster		8
½" gypsum board		2.2
⅝" gypsum board		2.75
ROOF		Pounds Per Square Foot [PSF]
Fiberglass shingles		3
Asphalt shingles ⁽¹⁾		2
Wood shingles ⁽¹⁾		3
Spanish clay tile ⁽¹⁾		19
Concrete roof tile		12
Lightweight clay tile		6
Composition Roofing:		
Three-ply ready roofing ⁽¹⁾		1
Four-ply felt and gravel ⁽¹⁾		5.5
Five-ply felt and gravel ⁽¹⁾		6
20 gage metal deck ⁽¹⁾		2.5
18 gage metal deck ⁽¹⁾		3
0.05" thick polyvinyl chloride polymer membrane ⁽⁴⁾		0.35
1" fiberglass batt insulation		0.04
1" loose fiberglass insulation		0.04
1" loose cellulose insulation		0.14
1" rigid insulation ⁽¹⁾		1.5
Blowing wool insulation R-38 (16" deep)		0.62
⅜" slate ⁽¹⁾		7
¼" slate ⁽¹⁾		10
Single-ply (no ballast) ⁽¹⁾		0.7
Single-ply (ballasted)		11
Dry gravel ⁽¹⁾		8.7
2x8 rafters @ 16" o.c., fiberglass shingles, 15# felt, ⅝" sheathing		8
Skylight: metal frame w/ ⅜" wire glass ⁽¹⁾		8
FLOOR		Pounds Per Square Foot [PSF]
1" reinforced regular weight concrete		12.5
1" plain lightweight concrete ⁽¹⁾		8
⅞" cementitious backerboard		3
Ceramic or quarry tile (¾") on ½" mortar bed ⁽¹⁾		16
Ceramic or quarry tile (¾") on 1" mortar bed ⁽¹⁾		23
1" mortar bed		12
1" slate ⁽¹⁾		15
⅜" marble tile		6
⅜" ceramic floor tile		4.7
Hardwood flooring, 7/7-in ⁽¹⁾		4
¼" linoleum or asphalt tile ⁽¹⁾		1
BCI/AJS joists @ 16" o.c., ¾" sheathing, ½" gypsum board		10
¾" Gyp-Crete topping		6.5
Carpet & Pad		2.0
Waterproofing Membranes		
Bituminous, smooth surface ⁽¹⁾		1.5
Liquid applied ⁽¹⁾		1
MISCELLANEOUS		Pounds Per Square Foot [PSF]
1" of sand		8
1" of water		5.2
Hay: baled, dry ⁽²⁾		15 PCF
Straw: baled, dry ⁽²⁾		8 PCF
Saturated soil (garden/landscaped roof)		135 PCF
Grand piano		1000 LBS
Hot Tub (tub & water weight)		150
Acrylic soaking tub - 2 person - 80 gallon capacity (tub & water weight) ⁽⁵⁾		40

Include at least 1.5 psf in all dead load summations to account for incidentals such as plumbing, ducts, light fixtures, etc.

(1) Minimum Design Loads for Buildings and Other Structures, ASCE 7-05 Table C3.1-1a.

SHEATHING		Pounds Per Square Foot [PSF]
11/32" or ⅜" Plywood – OSB ⁽³⁾		1.0 – 1.2
15/32" or ½" Plywood – OSB ⁽³⁾		1.4 – 1.7
19/32" or ⅝" Plywood – OSB ⁽³⁾		1.8 – 2.1
23/32" or ¾" Plywood – OSB ⁽³⁾		2.2 – 2.5
7/8" Plywood – OSB ⁽³⁾		2.6 – 2.9
1⅞" Plywood – OSB ⁽³⁾		3.3 – 3.6
½" cementitious backerboard		3
1½" softwood T & G decking		4.6
FRAMING		Pounds Per Square Foot [PSF]
2x4 @ 16" o.c.		1.1
2x6 @ 16" o.c.		1.7
2x8 @ 16" o.c.		2.2
2x10 @ 16" o.c.		2.9
2x12 @ 16" o.c.		3.5
BCI® 4500s, 5000 or 5000s @ 12" o.c.		2.0 – 2.9
BCI® 4500s, 5000 or 5000s @ 16" o.c.		1.5 – 2.2
BCI® 4500s, 5000 or 5000s @ 19.2" o.c.		1.3 – 1.8
BCI® 4500s, 5000 or 5000s @ 24" o.c.		1.0 – 1.5
BCI® 6000 or 6000s @ 12" o.c.		2.2 – 3.4
BCI® 6000 or 6000s @ 16" o.c.		1.7 – 2.6
BCI® 6000 or 6000s @ 19.2" o.c.		1.4 – 2.1
BCI® 6000 or 6000s @ 24" o.c.		1.1 – 1.7
BCI® 60, 60s, 6500 or 6500s @ 12" o.c.		2.3 – 3.8
BCI® 60, 60s, 6500 or 6500s @ 16" o.c.		1.7 – 2.9
BCI® 60, 60s, 6000 or 6500s @ 19.2" o.c.		1.4 – 2.4
BCI® 60, 60s, 6500 or 6500s @ 24" o.c.		1.2 – 1.9
BCI® 90 or 90s @ 12" o.c.		3.9 – 4.9
BCI® 90 or 90s @ 16" o.c.		2.9 – 3.7
BCI® 90 or 90s @ 19.2" o.c.		2.4 – 3.1
BCI® 90 or 90s @ 24" o.c.		1.9 – 2.5
AJS® 140, 150, 190 or 20 @ 12" o.c.		2.2 – 3.3
AJS® 140, 150, 190 or 20 @ 16" o.c.		1.7 – 2.5
AJS® 140, 150, 190 or 20 @ 19.2" o.c.		1.4 – 2.1
AJS® 140, 150, 190 or 20 @ 24" o.c.		1.1 – 1.7
AJS® 24, 25 or 30 @ 12" o.c.		3.1 – 3.9
AJS® 24, 25 or 30 @ 16" o.c.		2.3 – 2.9
AJS® 24, 25 or 30 @ 19.2" o.c.		1.9 – 2.4
AJS® 24, 25 or 30 @ 24" o.c.		1.6 – 2.0
AJS® 24 FMJ @ 12" o.c.		3.4 – 4.3
AJS® 24 FMJ @ 16" o.c.		2.6 – 3.2
AJS® 24 FMJ @ 19.2" o.c.		2.1 – 2.7
AJS® 24 FMJ @ 24" o.c.		1.7 – 2.1
WALL		Pounds Per Square Foot [PSF]
5/16" x 7½" fiber cement lap siding		3
4" clay brick ⁽¹⁾		39
¼" ceramic wall tile		3.1
1¾" Cultured Stone®		12
2x4 studs @ 16" o.c., ⅝" gypsum, insulation, ⅝" siding ⁽¹⁾		11
2x6 studs @ 16" o.c., ⅝" gypsum, insulation, ⅝" siding ⁽¹⁾		12
Wood or steel studs, ½" gypsum board each side ⁽¹⁾		8
Exterior stud walls w/ brick veneer ⁽¹⁾		48
Windows: glass, frame and sash ⁽¹⁾		8
Stucco		10
Log Wall: 10" diameter		26
Glass Block:		
4" Thick - standard (hollow)		20
3" Thick - standard (hollow)		16
4" Thick - thin face		30
3" Thick - solid glass block		40

(2) National Farm Building Code (Canada) 1995. Value in pounds per cubic foot (PCF), multiply by maximum height to obtain PSF.

(3) Approximate Engineering Dead Load Weight of Wood Structural Panels, APA EWS TT-019, 1998.

(4) Duro-Last® General Specifications, Duro-Last® Roofing, Inc. 2005

(5) Kohler® Specification Sheet K-1160-GLA 02/25/2018.

Information from Tech Note GE-1 r03/2018 valid for 2 years past publish date

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