



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\FLVL2

Dry | 1 span | No cantilevers | 0/12 slope

March 14, 2018 15:23:28

BC CALC® Design Report



Build 6536

Job Name: GARY ROBINSON-GEHLKEN JOB

Address:

City, State, Zip: ,

Customer:

Code reports: ESR-1040

File Name: LVL BEAMS BC CALC Project.bcc

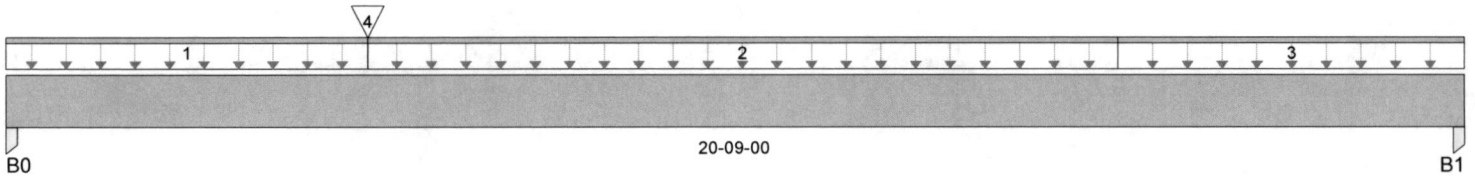
Description: Designs\FLVL2

Specifier: BUILDERS FIRST SOURCE

Designer: MICHAEL JORDAN

Company: BUILDERS FIRST SOURCE

Misc:



Total Horizontal Product Length = 20-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	1,670 / 0	752 / 0			
B1, 7-1/2"	1,719 / 0	774 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	100%	90%	115%	160%	125%	Trib.
1	F13	Unf. Lin. (lb/ft)	L	00-00-00	05-02-00	170	64				n/a
2	F15/F16	Unf. Lin. (lb/ft)	L	05-02-00	15-10-00	93	35				n/a
3	F12	Unf. Lin. (lb/ft)	L	15-10-00	20-09-00	226	85				n/a
4	F2G	Conc. Pt. (lbs)	L	05-02-00	05-02-00	408	154				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9,922 ft-lbs	46.6%	100%	1	09-04-00
End Shear	2,107 lbs	26.7%	100%	1	01-03-06
Total Load Defl.	L/318 (0.753")	75.4%	n/a	1	10-00-00
Live Load Defl.	L/465 (0.515")	77.4%	n/a	2	10-00-00
Max Defl.	0.753"	75.3%	n/a	1	10-00-00
Span / Depth	20.2	n/a	n/a	0	00-00-00

Bearing Supports

	Dim. (L x W)	Value	% Allow Support	% Allow Member	Material	
B0	Post	3-1/2" x 3-1/2"	2,422 lbs	n/a	26.4%	Unspecified
B1	Post	7-1/2" x 3-1/2"	2,493 lbs	n/a	12.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 BC CALC® analysis is based on IBC 2009.
 Design based on Dry Service Condition.



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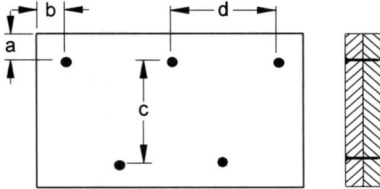
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Connection Diagram



a minimum = 2" c = 7-7/8"
b minimum = 3" d = 24"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\FLVL3

Dry | 3 spans | No cantilevers | 0/12 slope

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BC CALC® Design Report



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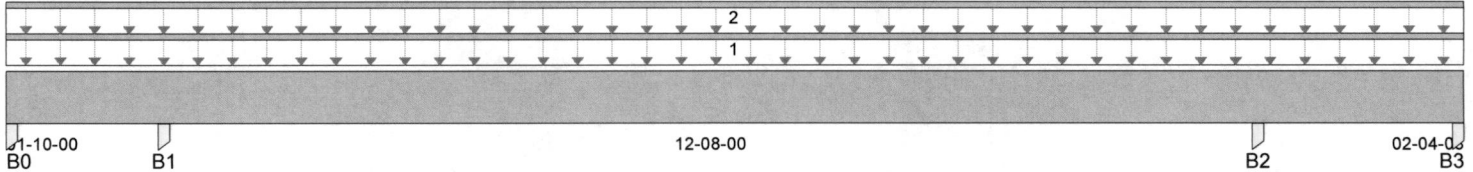
Description: Designs\FLVL3

Specifier: BUILDERS FIRST SOURCE

Designer: MICHAEL JORDAN

Company: BUILDERS FIRST SOURCE

Misc:



Total Horizontal Product Length = 16-10-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	465 / 3,536	0 / 1,845			
B1, 7-1/2"	6,797 / 0	4,074 / 0			
B2, 7-1/2"	5,813 / 0	3,490 / 0			
B3, 3-1/2"	570 / 2,474	0 / 1,145			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	100%	90%	115%	160%	125%	Trib.
1	F2	Unf. Lin. (lb/ft)	L	00-00-00	16-10-08	451	169				n/a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	16-10-08	0	90				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5,679 ft-lbs	26.7%	100%	3	08-02-00
Neg. Moment	-9,100 ft-lbs	42.8%	100%	4	01-10-00
End Shear	5,192 lbs	65.7%	100%	3	01-03-06
Cont. Shear	5,525 lbs	70%	100%	3	00-06-06
Total Load Defl.	L/999 (0.116")	n/a	n/a	3	08-02-00
Live Load Defl.	L/999 (0.073")	n/a	n/a	8	08-02-00
Total Neg. Defl.	L/999 (-0.004")	n/a	n/a	3	15-04-12
Max Defl.	0.116"	n/a	n/a	3	08-02-00
Span / Depth	12.8	n/a	n/a	0	00-00-00

Bearing Supports

	Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post 3-1/2" x 3-1/2"	0 lbs	n/a	n/a	Unspecified
B1	Post 7-1/2" x 3-1/2"	10,871 lbs	n/a	55.2%	Unspecified
B2	Post 7-1/2" x 3-1/2"	9,302 lbs	n/a	47.3%	Unspecified
B3	Post 3-1/2" x 3-1/2"	0 lbs	n/a	n/a	Unspecified

Cautions

Uplift of -5,381 lbs found at span 1 - Left.
 Uplift of -3,619 lbs found at span 3 - Right.

Notes

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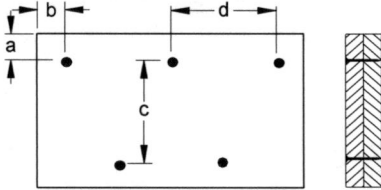
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Compression Loads for Southern Pine

Member Grade	Perp. to Grain, $P_{C\perp}$	Compression Parallel to Grain, P_C (100)					Compression Parallel to Grain, P_C (160)				
		Nominal Top-Plate Height (ft.)					Nominal Top-Plate Height (ft.)				
		8	9	10	11	12	8	9	10	11	12
#2	2,965	2,815	2,270	1,860	1,550	1,310	2,955	2,350	1,910	1,580	1,330
#2	4,945	4,690	3,785	3,105	2,585	2,180	4,920	3,920	3,185	2,635	2,220
#2	5,935	5,625	4,540	3,725	3,100	2,620	5,905	4,700	3,820	3,165	2,660
#2	6,920	6,565	5,295	4,345	3,615	3,055	6,890	5,485	4,460	3,690	3,105
#2	8,900	8,440	6,810	5,585	4,650	3,925	8,860	7,050	5,735	4,745	3,990
#2	10,875	10,260	8,295	6,810	5,675	4,790	10,800	8,600	6,995	5,795	4,875
#2	14,335	13,450	10,890	8,950	7,460	6,305	14,195	11,315	9,210	7,630	6,420
#2	18,290	17,055	13,835	11,380	9,495	8,030	18,055	14,405	11,730	9,720	8,180
#2	4,660	8,195	7,190	6,230	5,385	4,660	9,905	8,235	6,875	5,795	4,930
#2	7,770	13,655	11,980	10,385	8,975	7,765	16,510	13,725	11,460	9,655	8,220
#2	9,325	16,390	14,375	12,465	10,765	9,320	19,810	16,470	13,755	11,590	9,865
#2	10,875	19,120	16,775	14,540	12,560	10,875	23,115	19,215	16,045	13,520	11,505
#2	13,985	24,580	21,565	18,695	16,150	13,980	29,715	24,700	20,630	17,385	14,795
#1	17,090	21,495	20,270	18,835	17,260	15,655	30,025	26,820	23,595	20,610	17,975
#1	23,305	29,315	27,640	25,680	23,540	21,345	40,940	36,575	32,180	28,105	24,515