



# Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

**PASSED**

## Roof\Flush Beams\RFB1(i20) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

September 29, 2021 08:39:47

Build 7968

Job name:

File name: 2100795A.mmdl

Address:

Description: Roof\Flush Beams\RFB1(i20)

City, State, Zip:

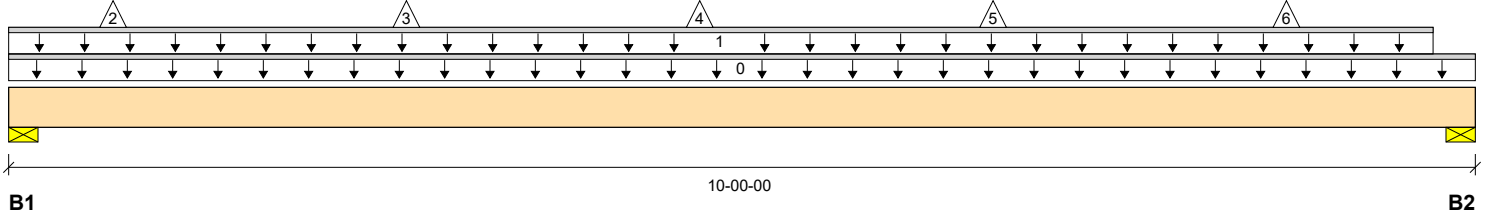
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 10-00-00

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-3/16"		1513 / 0		689 / 1046	1548 / 98
B2, 3-5/8"		1356 / 0		616 / 934	1382 / 87

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	Top		9				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	09-08-09	Top		286			302	n/a
2	A3(c3)	Conc. Pt. (lbs)	L	00-08-09	00-08-09	Top					-37	n/a
3	A3(c3)	Conc. Pt. (lbs)	L	02-08-09	02-08-09	Top					-37	n/a
4	A3(c3)	Conc. Pt. (lbs)	L	04-08-09	04-08-09	Top					-37	n/a
5	A3(c3)	Conc. Pt. (lbs)	L	06-08-09	06-08-09	Top					-37	n/a
6	A3(c3)	Conc. Pt. (lbs)	L	08-08-09	08-08-09	Top					-37	n/a

### Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6847 ft-lbs	42.0%	125%	1	04-08-09
End Shear	2728 lbs	35.5%	125%	1	08-11-02
Total Load Deflection	L/481 (0.238")	49.9%	n/a	1	04-11-09
Live Load Deflection	L/999 (0.12")	n/a	n/a	131	04-11-09
Max Defl.	0.238"	23.8%	n/a	1	04-11-09
Span / Depth	12.4				

### Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-3/16" x 3-1/2"	3061 lbs	64.3%	36.4%	Spruce-Pine-Fir
B2	Wall/Plate 3-5/8" x 3-1/2"	2738 lbs	50.9%	28.9%	Spruce-Pine-Fir

### 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.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- BC CALC® analysis is based on IBC 2012.
- Wind loads determined from building geometry were used in selected product's verification.
- Design based on Dry Service Condition.
- Calculations assume unbraced length of Top: 01-10-08, Bottom: 01-10-08.

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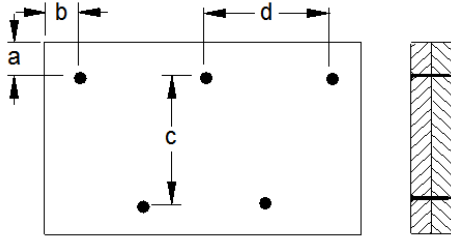
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**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 5-1/4"  
b minimum = 3"      d = 12"

Calculated Side Load = 570.5 lb/ft  
Connectors are: 16d Common Nails

**Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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.

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