



# Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP

**PASSED**

## Roof\Dropped Beams\GDH(i26) (Dropped Beam)

BC Design Engine Member Report

Dry | 1 span | No cant.

January 25, 2022 14:30:48

Build 8132

Job name:

File name: Plantation\_Schlieman.mmdl

Address:

Description: Roof\Dropped Beams\GDH(i26)

City, State, Zip:

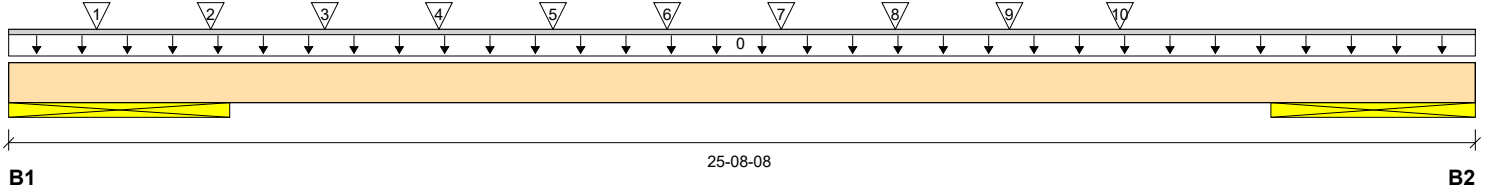
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 25-08-08

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 46-1/2"	3200 / 0	4647 / 0		1385 / 2127	3354 / 0
B2, 43"	2060 / 0	3315 / 0		985 / 2047	2328 / 0

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live		Snow	Wind	Roof Live	Tributary
							100%	90%				
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	25-08-08	Top		24				00-00-00
1	E(c1)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	Top	610	668			484	n/a
2	E(c2)	Conc. Pt. (lbs)	L	03-06-08	03-06-08	Top	480	675			530	n/a
3	E(c3)	Conc. Pt. (lbs)	L	05-06-08	05-06-08	Top	480	675			530	n/a
4	E(c4)	Conc. Pt. (lbs)	L	07-06-08	07-06-08	Top	480	675			530	n/a
5	E(c5)	Conc. Pt. (lbs)	L	09-06-08	09-06-08	Top	480	675			530	n/a
6	E(c6)	Conc. Pt. (lbs)	L	11-06-08	11-06-08	Top	480	675			530	n/a
7	E(c7)	Conc. Pt. (lbs)	L	13-06-08	13-06-08	Top	480	675			530	n/a
8	E(c8)	Conc. Pt. (lbs)	L	15-06-08	15-06-08	Top	480	675			530	n/a
9	E(c9)	Conc. Pt. (lbs)	L	17-06-08	17-06-08	Top	472	669			522	n/a
10	E2(c1)	Conc. Pt. (lbs)	L	19-05-12	19-05-12	Top	818	1274			966	n/a

### Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	25522 ft-lbs	74.2%	100%	1	13-06-08
End Shear	5255 lbs	32.9%	100%	1	20-09-08
Total Load Deflection	L/399 (0.552")	60.1%	n/a	39	13-00-08
Live Load Deflection	L/712 (0.31")	50.6%	n/a	161	13-00-08
Max Defl.	0.552"	55.2%	n/a	39	13-00-08
Span / Depth	13.8				
Conc. Load (B1)	1579 lbs	11.5%	100%		

### Bearing Supports

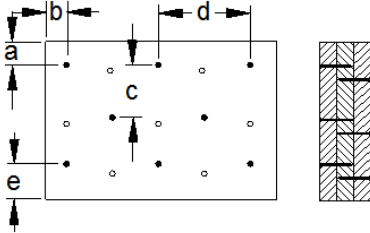
Bearing	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 46-1/2" x 5-1/4"	10185 lbs	5.8%	5.6%	Unspecified
B2	Wall/Plate 43" x 5-1/4"	7049 lbs	4.3%	4.2%	Unspecified

### 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.
- 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: 06-01-04, Bottom: 25-08-08.



**Connection Diagram: Full Length of Member**



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 24"

e minimum = 3"

Calculated Side Load = 0.0 lb/ft

Nailing applies to both sides of the member

Connectors are: 3-1/4 in. Pneumatic Gun 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.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,