



**Double 1-3/4" x 11-7/8" VERSA-LAM® LVL 2.1E 3100 SP**  
**GARAGE DOOR HEADER (Roof Wall Header)**

**PASSED**

BC CALC® Member Report

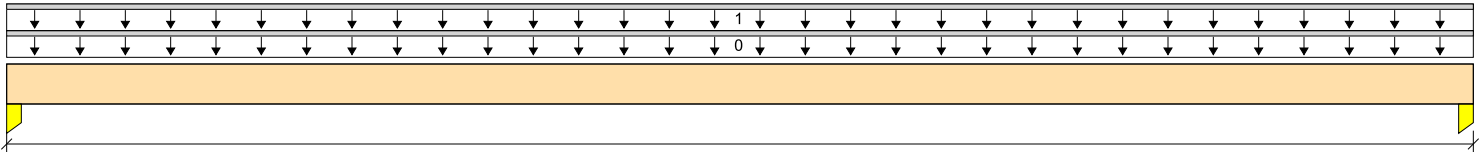
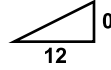
Dry | 1 span | No cant.

July 31, 2024 08:45:23

Build 8892

Job name: AUSTIN-GARAGE DOOR HEADER  
Address: 4983 RAY RD  
City, State, Zip: SPRING LAKE, NC, 28390  
Customer: CAROLINA CONSTRUCTION  
Code reports: ESR-1040

File name:  
Description:  
Specifier: JESSE MARSHALL  
Designer: Vernon Schmidt  
Company: Builders FirstSource



B1 16-09-00 B2  
**Total Horizontal Product Length = 16-09-00**

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		813 / 0	712 / 0		
B2, 3-1/2"		813 / 0	712 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-09-00	Top	12					00-00-00
1	TRUSS G01	Unf. Lin. (lb/ft)	L	00-00-00	16-09-00	Top	85		85			n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6039 ft-lbs	24.7%	115%	4	08-04-08
End Shear	1291 lbs	14.2%	115%	4	01-03-06
Total Load Deflection	L/658 (0.297")	27.4%	n/a	4	08-04-08
Live Load Deflection	L/1408 (0.139")	17.0%	n/a	5	08-04-08
Max Defl.	0.297"	29.7%	n/a	4	08-04-08
Span / Depth	16.5				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material	
B1	Column	3-1/2" x 3-1/2"	1525 lbs	15.1%	16.6%	Southern Pine
B2	Column	3-1/2" x 3-1/2"	1525 lbs	15.1%	16.6%	Southern Pine

**Cautions**

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

**Notes**

- Design meets Code minimum (L/180) Total load deflection criteria.
- Design meets Code minimum (L/240) Live load deflection criteria.
- Design meets arbitrary (1") Maximum Total load deflection criteria.
- Design based on Dry Service Condition.
- BC CALC® analysis is based on IBC 2009.
- Calculations assume member is fully braced.



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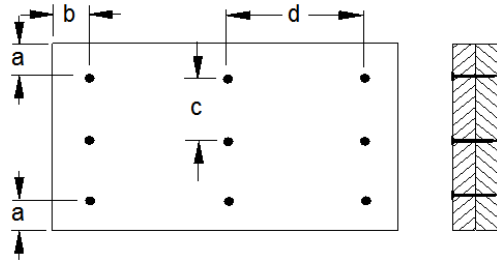
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Designer: Vernon Schmidt

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Company: Builders FirstSource

**Connection Diagram: Full Length of Member**



a minimum = 2"      c = 4"  
b minimum = 3"      d = 24"

Calculated Side Load = 0.0 lb/ft

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®,