

RB01 (Roof Beam)

Dry | 1 span | No cant.

April 2, 2019 10:49:23

BC CALC® Member Report

Build 7133

Job name: JOB# 2019-0015

File name: P19-03030

Address:

Description: BEAM RB01

City, State, Zip:

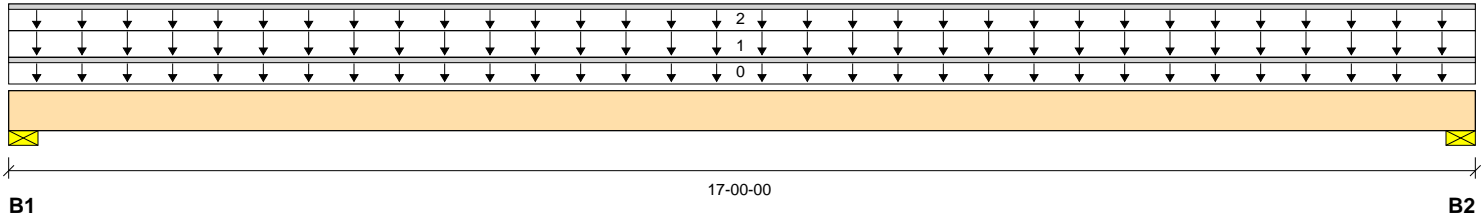
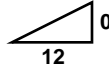
Specifier:

Builder: VALUE BUILD CONST.

Designer: Mark Lovelace

Code reports: ESR-1040

Company: LongLeaf



Total Horizontal Product Length = 17'-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		1632 / 0	680 / 0		
B2, 3-1/2"		1632 / 0	680 / 0		

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	17-00-00	Top	12					00-00-00
1	Standard Load	Unf. Area (lb/ft²)	L	00-00-00	17-00-00	Top		20	20			04-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	17-00-00	Top	100					n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9305 ft-lbs	38.0%	115%	4	08-06-00
End Shear	1964 lbs	21.6%	115%	4	01-03-06
Total Load Deflection	L/423 (0.469")	42.5%	n/a	4	08-06-00
Live Load Deflection	L/1439 (0.138")	16.7%	n/a	5	08-06-00
Max Defl.	0.469"	46.9%	n/a	4	08-06-00
Span / Depth	16.7				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	2312 lbs	n/a	25.2%	Unspecified
B2	Wall/Plate 3-1/2" x 3-1/2"	2312 lbs	n/a	25.2%	Unspecified

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.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2018.
- Design based on Dry Service Condition.
- Member has no side loads.

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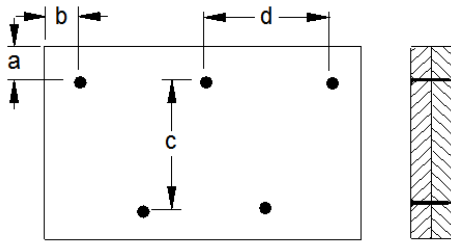
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User Notes

This design is provided as a courtesy to the builder and does NOT guarantee a complete structural review of this project. Neither lateral nor seismic analysis has been considered. All bearing conditions, connections, spans, o.c. spacing, loading and product usages shall be verified by the builder and engineer of record. This design shall be reviewed, verified and approved by the builder, project engineer and local building department prior to ordering materials.

Connection Diagram: Full Length of Member



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

Member has no side loads.
 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.

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