

## BM1 (Floor Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

February 25, 2019 07:47:04

Build 7082

Job name: Oakland Plan

File name:

Address:

Description:

City, State, Zip:

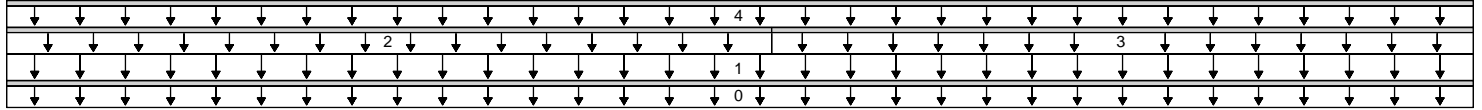
Specifier:

Builder: Ivercon Construction

Designer: Russell Culbreth

Code reports: ESR-1040

Company: Builders FirstSource



21-02-08

**B1** Total Horizontal Product Length = 21-02-08 **B2**

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	424 / 0	3925 / 0	2490 / 0		
B2, 3-1/2"	424 / 0	3752 / 0	2317 / 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	21-02-08	Top		24				00-00-00
1	Standard Load	Unf. Area (lb/ft²)	L	00-00-00	21-02-08	Top	40	15				01-00-00
2	A02	Unf. Lin. (lb/ft)	L	00-00-00	11-00-12	Top		242	242			n/a
3	A03	Unf. Lin. (lb/ft)	L	11-00-12	21-02-08	Top		210	210			n/a
4	WALL	Unf. Lin. (lb/ft)	L	00-00-00	21-02-08	Top		96				n/a

### Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	31774 ft-lbs	49.3 %	115%	2	10-05-10
End Shear	5409 lbs	29.5 %	115%	2	01-07-08
Total Load Deflection	L/363 (0.686")	99.2 %	n/a	2	10-05-10
Live Load Deflection	L/942 (0.264")	51.0 %	n/a	5	10-05-10
Max Defl.	0.686"	68.6 %	n/a	2	10-05-10
Span / Depth	15.6				

### Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 5-1/4"	6416 lbs	82.2 %	46.6 %	Spruce-Pine-Fir
B2	Wall/Plate 3-1/2" x 5-1/4"	6070 lbs	77.7 %	44.0 %	Spruce-Pine-Fir

### Notes

- Design meets User specified (L/360) Total load deflection criteria.
- Design meets User specified (L/480) 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 2015.
- Design based on Dry Service Condition.
- Nailing schedule applies to both sides of the member.
- Member has no side loads.

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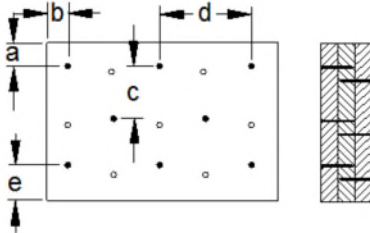
Builder: Ivercon Construction

Designer: Russell Culbreth

Code reports: ESR-1040

Company: Builders FirstSource

### Connection Diagram: Full Length of Member



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 24"

e minimum = 3"

Nailing schedule applies to both sides of the member.

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.

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

**GDH (RoofHeader)**

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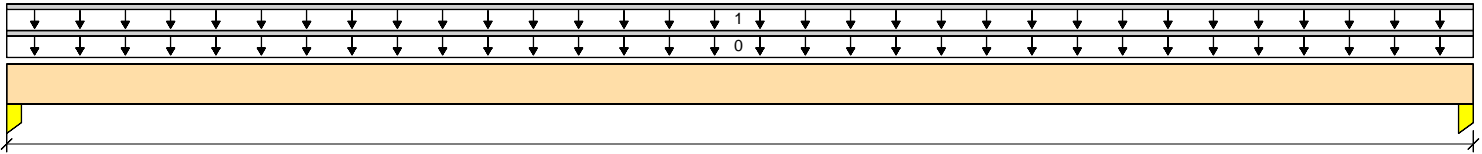
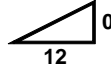
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Designer: Russell Culbreth

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Total Horizontal Product Length = 17-03-00

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

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 6"		880 / 0	345 / 0		
B2, 6"		880 / 0	345 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-03-00	Top	12					00-00-00
1	GABLE	Unf. Lin. (lb/ft)	L	00-00-00	17-03-00	Top	90	40				n/a

**Controls Summary**

	Value	% Allowable	Duration	Case	Location
Pos. Moment	4761 ft-lbs	19.5 %	115%	4	08-07-08
End Shear	1013 lbs	11.2 %	115%	4	01-05-14
Total Load Deflection	L/835 (0.235")	28.7 %	n/a	4	08-07-08
Live Load Deflection	L/999 (0.066")	n/a	n/a	5	08-07-08
Max Defl.	0.235"	23.5 %	n/a	4	08-07-08
Span / Depth	16.5				

**Bearing Supports**

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 6" x 3-1/2"	1225 lbs	8.0 %	7.8 %	Spruce-Pine-Fir
B2	Column 6" x 3-1/2"	1225 lbs	8.0 %	7.8 %	Spruce-Pine-Fir

**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 User specified (L/240) Total load deflection criteria.
- Design meets User specified (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 2015.
- Design based on Dry Service Condition.
- Member has no side loads.

## GDH (RoofHeader)

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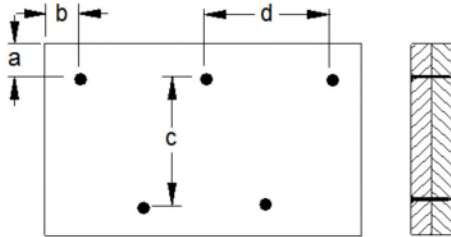
Specifier:

Builder: Ivercon Construction

Designer: Russell Culbreth

Code reports: ESR-1040

Company: Builders FirstSource

**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

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