Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP — Floor Beam\FB01

Boise Cascade

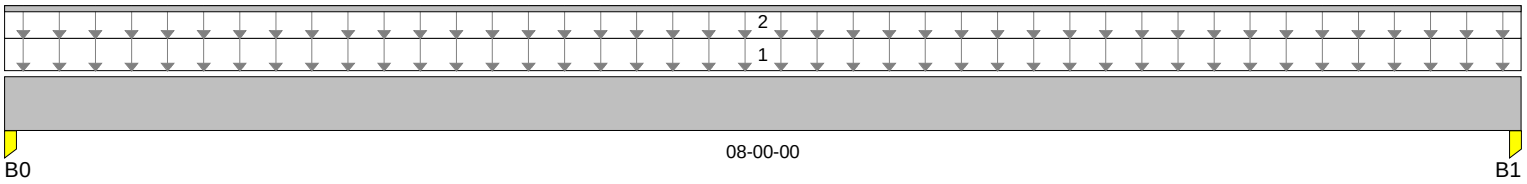
Dry | 1 span | No cantilevers | 0/12 slope

September 13, 2018 09:30:48

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: BEAM FB01
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 08-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	2,080 / 0	1,218 / 0			
B1, 3-1/2"	2,080 / 0	1,218 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	Standard Load	Unf. Area (lb/ft^2)	L	00-00-00	08-00-00	40	15				13-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	08-00-00	0	100				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5,861 ft-lbs	44.2%	100%	1	04-00-00
End Shear	2,422 lbs	39.4%	100%	1	01-00-12
Total Load Defl.	L/696 (0.13")	51.7%	n/a	1	04-00-00
Live Load Defl.	L/999 (0.082")	n/a	n/a	2	04-00-00
Max Defl.	0.13"	13%	n/a	1	04-00-00
Span / Depth	9.8	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	3,298 lbs	n/a	35.9%	Unspecified
B1	Post	3-1/2" x 3-1/2"	3,298 lbs	n/a	35.9%	Unspecified

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 2009.
Design based on Dry Service Condition.

User Notes

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP Floor Beam\FB01

Dry | 1 span | No cantilevers | 0/12 slope September 13, 2018 09:30:48

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: BEAM FB01
Specifier:
Designer:
Company:
Misc:

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Disclosure

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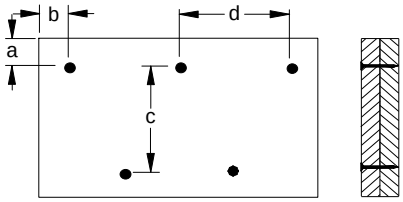
Connection Diagram



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Member has no side loads.
Connectors are: 16d Sinker Nails

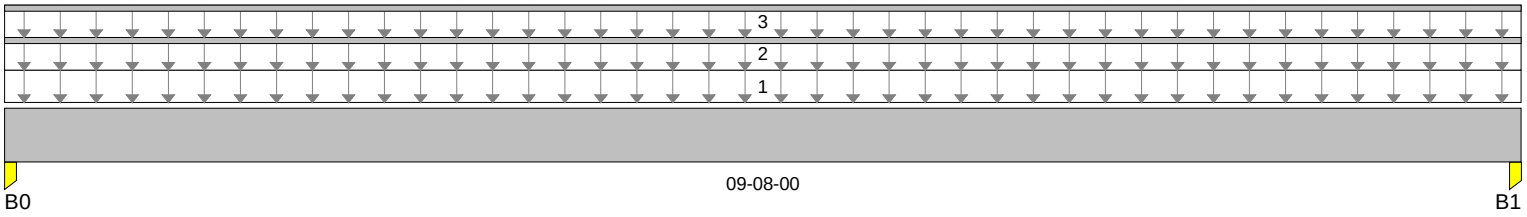
Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\FB02

Dry | 1 span | No cantilevers | 0/12 slope September 13, 2018 09:30:44

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: FB02 BEAM
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 09-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	1,547 / 0	2,958 / 0	1,353 / 0		
B1, 3-1/2"	1,547 / 0	2,958 / 0	1,353 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	Standard Load	Unf. Area (lb/ft^2)	L	00-00-00	09-08-00	40	15				08-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-08-00		280	280			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	09-08-00	0	200				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9,879 ft-lbs	46.4%	100%	1	04-10-00
End Shear	3,311 lbs	41.9%	100%	1	01-03-06
Total Load Defl.	L/628 (0.176")	57.3%	n/a	3	04-10-00
Live Load Defl.	L/999 (0.075")	n/a	n/a	6	04-10-00
Max Defl.	0.176"	17.6%	n/a	3	04-10-00
Span / Depth	9.3	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	5,133 lbs	n/a	55.9%	Unspecified
B1	Post	3-1/2" x 3-1/2"	5,133 lbs	n/a	55.9%	Unspecified

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 2009.
Design based on Dry Service Condition.

User Notes

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\FB02

Dry | 1 span | No cantilevers | 0/12 slope September 13, 2018 09:30:44

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: FB02 BEAM
Specifier:
Designer:
Company:
Misc:

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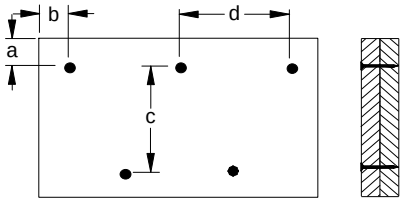
Connection Diagram



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

Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

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Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP — Roof Beam\RB01

Boise Cascade

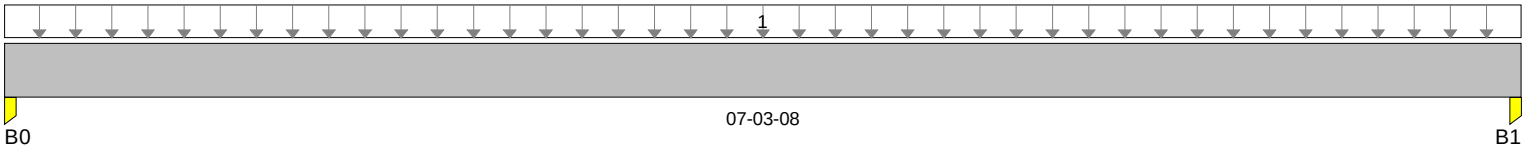
Dry | 1 span | No cantilevers | 0/12 slope

September 13, 2018 09:30:40

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: BEAM RB01
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 07-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"		982 / 0	948 / 0		
B1, 3-1/2"		982 / 0	948 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	Standard Load	Unf. Area (lb/ft^2)	L	00-00-00	07-03-08		20	20			13-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	3,090 ft-lbs	20.2%	115%	4	03-07-12
End Shear	1,368 lbs	19.3%	115%	4	01-00-12
Total Load Defl.	L/999 (0.056")	n/a	n/a	4	03-07-12
Live Load Defl.	L/999 (0.028")	n/a	n/a	5	03-07-12
Max Defl.	0.056"	n/a	n/a	4	03-07-12
Span / Depth	8.9	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	1,930 lbs	n/a	21%	Unspecified
B1	Post	3-1/2" x 3-1/2"	1,930 lbs	n/a	21%	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.
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Design based on Dry Service Condition.

User Notes

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP Roof Beam\RB01

Dry | 1 span | No cantilevers | 0/12 slope September 13, 2018 09:30:40

BC CALC® Design Report

Build 6536
Job Name: 2018-039 JOB
Address:
City, State, Zip: ,
Customer: VALUE BUILD
Code reports: ESR-1040

File Name: P18-09006.bcc
Description: BEAM RB01
Specifier:
Designer:
Company:
Misc:

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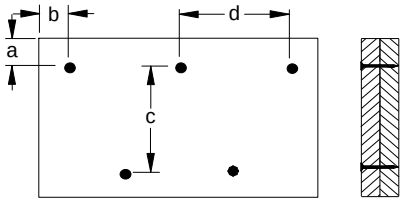

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