

1st Floor\Flush Beams\FB1(i163) (Flush Beam)

BC CALC® Member Report

Dry | 2 spans | L cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB1(i163)

City, State, Zip:

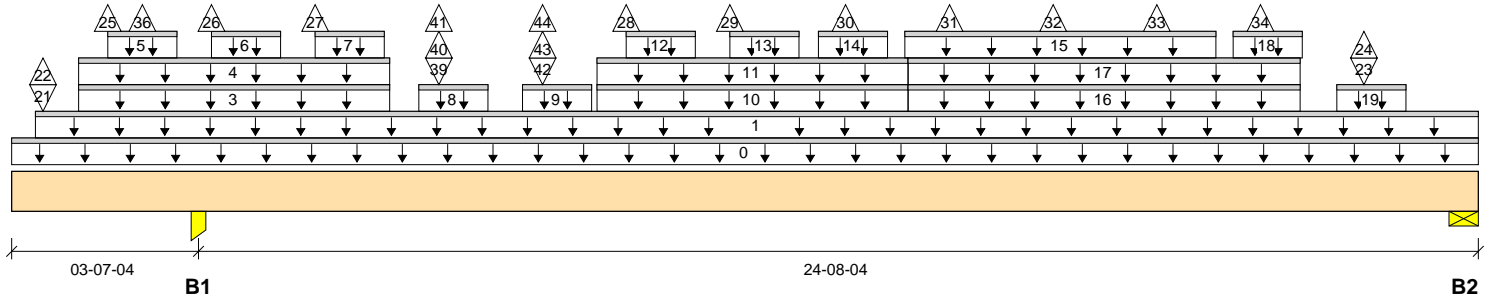
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 28-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	3827 / 11	6494 / 0		912 / 2490	3307 / 80
B2, 3-1/2"	1674 / 58	2697 / 0		503 / 1124	1403 / 223

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	28-03-08	Top		32				00-00-00
1	E54(i55)	Unf. Lin. (lb/ft)	L	00-05-08	28-03-08	Top		64				n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	01-03-08	07-03-08	Top	254	92				n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	01-03-08	07-03-08	Top		57			58	n/a
5	E54(i55)	Unf. Lin. (lb/ft)	L	01-10-04	03-02-04	Top		80			85	n/a
6	E54(i55)	Unf. Lin. (lb/ft)	L	03-10-04	05-02-04	Top		74			93	n/a
7	E54(i55)	Unf. Lin. (lb/ft)	L	05-10-04	07-02-04	Top		72			89	n/a
8	E54(i55)	Unf. Lin. (lb/ft)	L	07-10-04	09-02-04	Top		74			92	n/a
9	E54(i55)	Unf. Lin. (lb/ft)	L	09-10-04	11-02-04	Top		75			92	n/a
10	Smoothed Load	Unf. Lin. (lb/ft)	L	11-03-08	17-03-08	Top	373	136				n/a
11	Smoothed Load	Unf. Lin. (lb/ft)	L	11-03-08	17-03-08	Top		56			58	n/a
12	E54(i55)	Unf. Lin. (lb/ft)	L	11-10-04	13-02-04	Top		75			92	n/a
13	E54(i55)	Unf. Lin. (lb/ft)	L	13-10-04	15-02-04	Top		72			86	n/a
14	E54(i55)	Unf. Lin. (lb/ft)	L	15-06-12	16-10-12	Top		72			86	n/a
15	E54(i55)	Unf. Lin. (lb/ft)	L	17-02-12	23-02-12	Top		50			60	n/a
16	Smoothed Load	Unf. Lin. (lb/ft)	L	17-03-08	24-10-04	Top		60			61	n/a
17	Smoothed Load	Unf. Lin. (lb/ft)	L	17-03-08	24-10-04	Top	57					n/a
18	E54(i55)	Unf. Lin. (lb/ft)	L	23-06-12	24-10-12	Top		74			93	n/a
19	E54(i55)	Unf. Lin. (lb/ft)	L	25-06-12	26-10-12	Top		78			86	n/a
21	FB8(i170)	Conc. Pt. (lbs)	L	00-07-04	00-07-04	Top	233	1867			1355	n/a
22	FB8(i170)	Conc. Pt. (lbs)	L	00-07-04	00-07-04	Top					-30	n/a
23	-	Conc. Pt. (lbs)	L	26-01-00	26-01-00	Top	108	185			148	n/a
24	-	Conc. Pt. (lbs)	L	26-01-00	26-01-00	Top					-28	n/a
25	R1031(c1)	Conc. Pt. (lbs)	L	01-10-04	01-10-04	Top					-3	n/a
26	R1032(c1)	Conc. Pt. (lbs)	L	03-10-04	03-10-04	Top					-3	n/a
27	R1033(c1)	Conc. Pt. (lbs)	L	05-10-04	05-10-04	Top					-3	n/a
28	R1036(c1)	Conc. Pt. (lbs)	L	11-10-04	11-10-04	Top					-3	n/a
29	R1037(c1)	Conc. Pt. (lbs)	L	13-10-04	13-10-04	Top					-3	n/a
30	-	Conc. Pt. (lbs)	L	16-01-00	16-01-00	Top					-3	n/a
31	-	Conc. Pt. (lbs)	L	18-01-02	18-01-02	Top					-3	n/a
32	-	Conc. Pt. (lbs)	L	20-01-01	20-01-01	Top					-3	n/a
33	-	Conc. Pt. (lbs)	L	22-01-01	22-01-01	Top					-3	n/a
34	-	Conc. Pt. (lbs)	L	24-01-01	24-01-01	Top					-3	n/a

1st Floor\Flush Beams\FB1(i163) (Flush Beam)

BC CALC® Member Report

Dry | 2 spans | L cant.

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Build 7493

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Address:

Description: 1st Floor\Flush Beams\FB1(i163)

City, State, Zip:

Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
36	E54(i55)	Conc. Pt. (lbs)	L	02-06-04	02-06-04	Top					-21	n\A
39	-	Conc. Pt. (lbs)	L	08-02-14	08-02-14	Top	454	270			115	n\A
40	-	Conc. Pt. (lbs)	L	08-02-14	08-02-14	Top	-6					n\A
41	-	Conc. Pt. (lbs)	L	08-02-14	08-02-14	Top					-3	n\A
42	-	Conc. Pt. (lbs)	L	10-02-14	10-02-14	Top	454	269			115	n\A
43	-	Conc. Pt. (lbs)	L	10-02-14	10-02-14	Top	-8					n\A
44	-	Conc. Pt. (lbs)	L	10-02-14	10-02-14	Top					-3	n\A

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	34098 ft-lbs	45.9%	100%	4	14-03-09
Neg. Moment	-11312 ft-lbs	12.2%	125%	5	03-07-04
End Shear	4181 lbs	19.6%	100%	4	26-08-00
Cont. Shear	6289 lbs	29.6%	100%	1	05-01-00
Total Load Deflection	L/362 (0.812")	66.4%	n\A	64	15-10-03
Live Load Deflection	2xL/388 (-0.223")	92.9%	n\A	456	00-00-00
Total Neg. Defl.	2xL/244 (-0.354")	98.3%	n\A	64	00-00-00
Max Defl.	0.812"	81.2%	n\A	64	15-10-03
Cant. Max Defl.	-0.354"	35.4%	n\A	64	00-00-00
Span / Depth	18.3				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 3-1/2" x 7"	12255 lbs	69.0%	66.7%	Unspecified
B2	Wall/Plate 3-1/2" x 7"	5231 lbs	50.2%	28.5%	Spruce-Pine-Fir

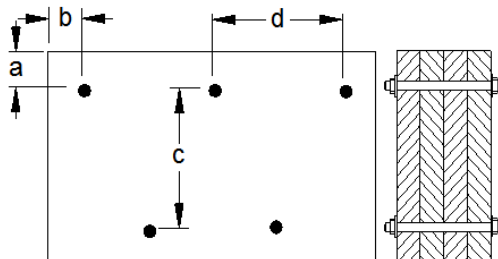
Cautions

Concentrated side load(s) 9 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets User specified (2xL/360) Live load deflection criteria.
 Design meets arbitrary (1") Maximum Total load deflection criteria.
 Design meets arbitrary (1") Cantilever Maximum Total load deflection criteria.
 Design meets arbitrary (0.75") Maximum live load deflection criteria.
 Calculations assume unbraced length of Top: 00-05-08, Bottom: 00-05-08.
 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.
 Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection Diagram: Full Length of Member



a minimum = 2" c = 12"
 b minimum = 2-1/2" d = 12"

Calculated Side Load = 512.0 lb/ft

Bolts are assumed to be Grade A307 or Grade 2 or higher.

Connectors are: 1/2 in. Staggered Through Bolt

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®, AJST™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

1st Floor\Flush Beams\FB2(i169) (Flush Beam)

BC CALC® Member Report

Dry | 3 spans | R cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB2(i169)

City, State, Zip:

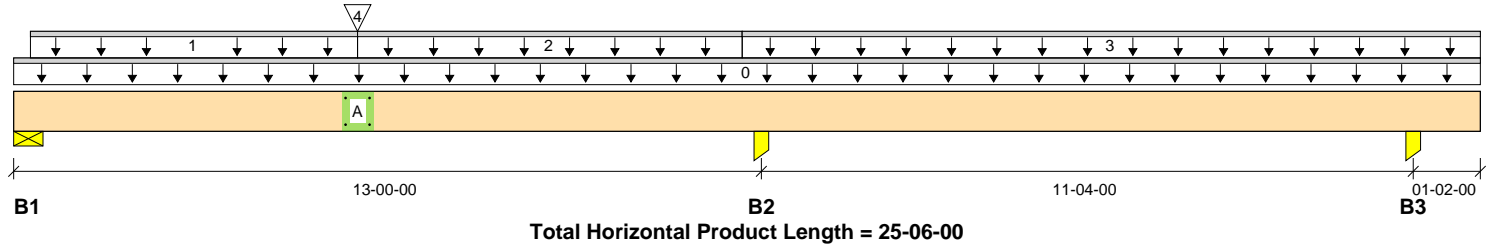
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	1041 / 31	391 / 0			
B2, 8"	1878 / 0	789 / 0			
B3, 8"	325 / 172	95 / 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	25-06-00	Top		16				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-03-08	05-11-12	Top	23	6				n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	05-11-12	12-08-00	Top	30	7				n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	12-08-00	25-06-00	Top	52	13				n/a
4	FB9(i171)	Conc. Pt. (lbs)	L	05-11-12	05-11-12	Top	1962	609				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	7386 ft-lbs	19.8%	100%	2	05-11-12
Neg. Moment	-4276 ft-lbs	11.4%	100%	4	13-00-00
End Shear	1351 lbs	12.7%	100%	2	01-07-08
Cont. Shear	1733 lbs	16.3%	100%	4	11-04-00
Total Load Deflection	L/999 (0.064")	n/a	n/a	2	06-00-12
Live Load Deflection	L/999 (0.048")	n/a	n/a	7	06-01-12
Total Neg. Defl.	L/999 (-0.019")	n/a	n/a	2	17-06-08
Max Defl.	0.064"	n/a	n/a	2	06-00-12
Cant. Max Defl.	0.005"	n/a	n/a	2	25-06-00
Span / Depth	9.6				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	1431 lbs	27.5%	15.6%	Spruce-Pine-Fir
B2	Column 8" x 3-1/2"	2668 lbs	13.1%	12.7%	Unspecified
B3	Column 8" x 3-1/2"	420 lbs	2.1%	2.0%	Unspecified
B3	Uplift	77 lbs			

Cautions

Uplift of -77 lbs found at bearing B3.

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Description: 1st Floor\Flush Beams\FB2(i169)

City, State, Zip:

Specifier:

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Designer:

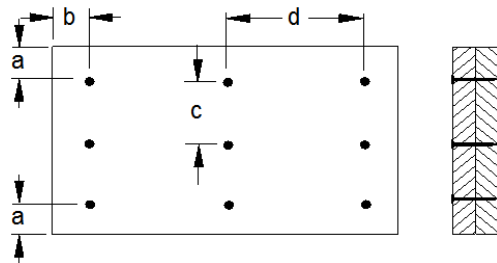
Code reports: ESR-1040

Company:

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 (1") Cantilever Maximum Total load deflection criteria.
- Design meets arbitrary (0.75") Maximum live load deflection criteria.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2012.
- Design based on Dry Service Condition.
- Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Connection Diagram: Full Length of Member

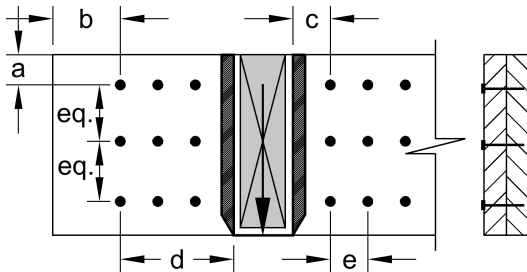


- a minimum = 2" c = 6"
- b minimum = 3" d = 24"

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

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 3



- a minimum = 2"
 - b minimum = 4"
 - c minimum = 4"
 - d maximum = 12"
 - e minimum = 4"
- Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

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

1st Floor\Flush Beams\FB3(i167) (Flush Beam)

BC CALC® Member Report

Dry | 2 spans | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB3(i167)

City, State, Zip:

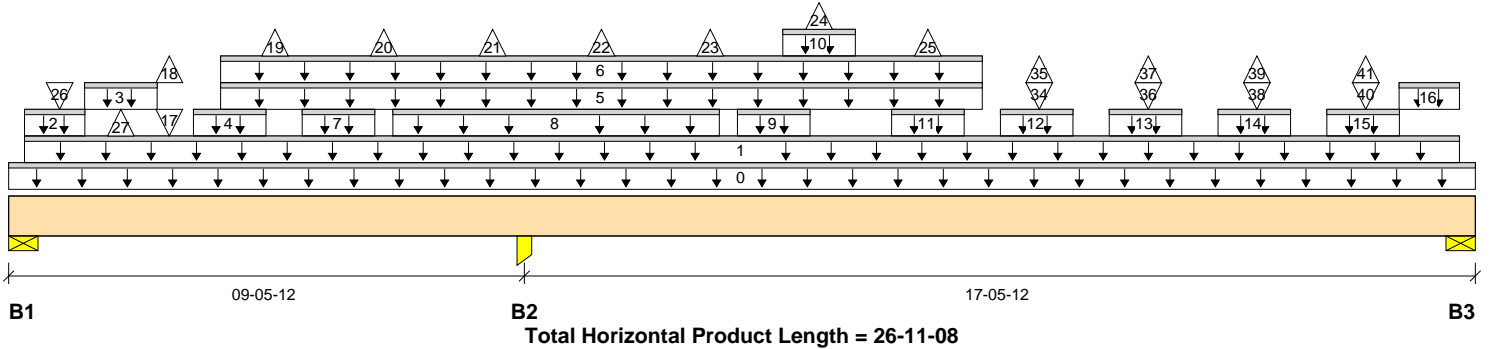
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	1285 / 826	473 / 0		25 / 140	361 / 275
B2, 3-1/2"	5672 / 0	5209 / 0		961 / 1675	1754 / 62
B3, 3-1/2"	2039 / 69	1940 / 0		263 / 568	664 / 65

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	26-11-08	Top		24				00-00-00
1	E56(i52)	Unf. Lin. (lb/ft)	L	00-03-08	26-08-00	Top		64				n/a
2	E56(i52)	Unf. Lin. (lb/ft)	L	00-03-08	01-04-13	Top					38	n/a
3	E56(i52)	Unf. Lin. (lb/ft)	L	01-04-12	02-08-12	Top		82			85	n/a
4	E56(i52)	Unf. Lin. (lb/ft)	L	03-04-12	04-08-12	Top		74			93	n/a
5	Smoothed Load	Unf. Lin. (lb/ft)	L	03-10-12	17-10-12	Top	318	116				n/a
6	Smoothed Load	Unf. Lin. (lb/ft)	L	03-10-12	17-10-12	Top		35			37	n/a
7	E56(i52)	Unf. Lin. (lb/ft)	L	05-04-12	06-08-12	Top		72			89	n/a
8	E56(i52)	Unf. Lin. (lb/ft)	L	07-00-12	13-00-12	Top		50			62	n/a
9	E56(i52)	Unf. Lin. (lb/ft)	L	13-04-12	14-08-12	Top		62			65	n/a
10	E56(i52)	Unf. Lin. (lb/ft)	L	14-02-12	15-06-12	Top		62			65	n/a
11	E56(i52)	Unf. Lin. (lb/ft)	L	16-02-12	17-06-12	Top		75			92	n/a
12	E56(i52)	Unf. Lin. (lb/ft)	L	18-02-12	19-06-12	Top		74			92	n/a
13	E56(i52)	Unf. Lin. (lb/ft)	L	20-02-12	21-06-12	Top		72			89	n/a
14	E56(i52)	Unf. Lin. (lb/ft)	L	22-02-12	23-06-12	Top		74			93	n/a
15	E56(i52)	Unf. Lin. (lb/ft)	L	24-02-12	25-06-12	Top		78			86	n/a
16	E56(i52)	Unf. Lin. (lb/ft)	L	25-06-11	26-08-00	Top					38	n/a
17	-	Conc. Pt. (lbs)	L	02-11-07	02-11-07	Top	642	313			89	n/a
18	-	Conc. Pt. (lbs)	L	02-11-07	02-11-07	Top					-7	n/a
19	R1084(c1)	Conc. Pt. (lbs)	L	04-10-12	04-10-12	Top					-6	n/a
20	R1083(c1)	Conc. Pt. (lbs)	L	06-10-12	06-10-12	Top					-6	n/a
21	R1082(c1)	Conc. Pt. (lbs)	L	08-10-12	08-10-12	Top					-6	n/a
22	R1081(c1)	Conc. Pt. (lbs)	L	10-10-12	10-10-12	Top					-6	n/a
23	R1080(c1)	Conc. Pt. (lbs)	L	12-10-12	12-10-12	Top					-6	n/a
24	-	Conc. Pt. (lbs)	L	14-10-12	14-10-12	Top					-6	n/a
25	-	Conc. Pt. (lbs)	L	16-10-12	16-10-12	Top					-6	n/a
26	-	Conc. Pt. (lbs)	L	00-11-04	00-11-04	Top	474	193				n/a
27	E56(i52)	Conc. Pt. (lbs)	L	02-00-12	02-00-12	Top					-12	n/a
34	-	Conc. Pt. (lbs)	L	18-11-05	18-11-05	Top	631	306			77	n/a
35	-	Conc. Pt. (lbs)	L	18-11-05	18-11-05	Top					-6	n/a
36	-	Conc. Pt. (lbs)	L	20-11-06	20-11-06	Top	631	231			69	n/a

1st Floor\Flush Beams\FB3(i167) (Flush Beam)

Dry | 2 spans | No cant.

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Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Roof Live	Tributary
							100%	90%	115%	160%	125%	
37	-	Conc. Pt. (lbs)	L	20-11-06	20-11-06	Top					-6	n\ a
38	-	Conc. Pt. (lbs)	L	22-11-05	22-11-05	Top	631	306			79	n\ a
39	-	Conc. Pt. (lbs)	L	22-11-05	22-11-05	Top					-6	n\ a
40	-	Conc. Pt. (lbs)	L	24-11-05	24-11-05	Top	631	302			73	n\ a
41	-	Conc. Pt. (lbs)	L	24-11-05	24-11-05	Top					-35	n\ a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	15364 ft-lbs	27.4%	100%	3	18-11-08
Neg. Moment	-16979 ft-lbs	30.3%	100%	1	09-05-12
End Shear	3790 lbs	23.7%	100%	3	25-04-00
Cont. Shear	5862 lbs	36.7%	100%	1	10-11-08
Total Load Deflection	L/1031 (0.201")	23.3%	n\ a	71	18-10-12
Live Load Deflection	L/999 (0.114")	n\ a	n\ a	478	18-10-12
Total Neg. Defl.	L/999 (-0.029")	n\ a	n\ a	71	05-10-12
Max Defl.	0.201"	20.1%	n\ a	71	18-10-12
Span / Depth	12.9				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 5-1/4"	1758 lbs	22.5%	12.8%	Spruce-Pine-Fir
B1	Uplift	416 lbs			
B2	Column 3-1/2" x 5-1/4"	11211 lbs	84.2%	81.4%	Unspecified
B3	Wall/Plate 3-1/2" x 5-1/4"	4085 lbs	52.3%	29.6%	Spruce-Pine-Fir

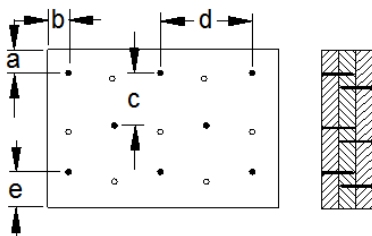
Cautions

Uplift of -416 lbs found at bearing B1.

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.
- Calculations assume member is fully braced.
- 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.

Connection Diagram: Full Length of Member



BC CALC® Member Report

Build 7493

Job name:

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Address:

Description: 1st Floor\Flush Beams\FB3(i167)

City, State, Zip:

Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:

Connection Diagram: Full Length of Member

a minimum = 2"

c = 6"

b minimum = 3"

d = 12"

e minimum = 3"

Calculated Side Load = 438.5 lb/ft

Nailing applies to both sides of the member

Connectors are: 16d Box Nails

Disclosure

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

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

PASSED

1st Floor\Flush Beams\FB4(i166) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB4(i166)

City, State, Zip:

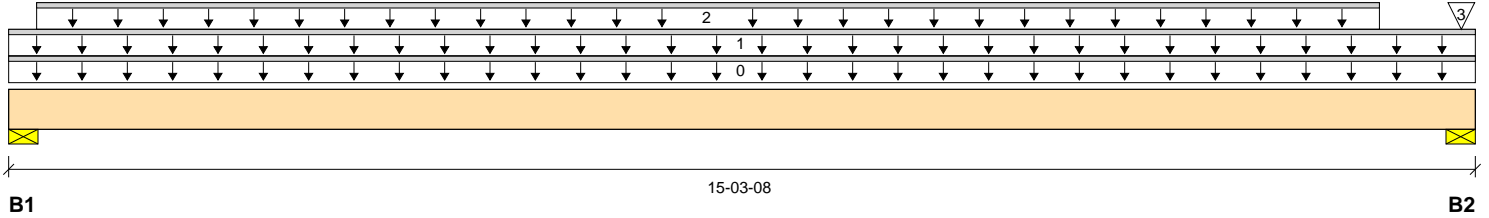
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 15-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	2276 / 0	961 / 0			
B2, 3-1/2"	2073 / 0	985 / 0		41 / 0	84 / 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	15-03-08	Top		16				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	15-03-08	Top	6	2				n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-03-08	14-03-08	Top	304	113				n/a
3	E55(i53)	Conc. Pt. (lbs)	L	15-01-12	15-01-12	Top		99			84	n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	12233 ft-lbs	32.7%	100%	1	07-03-08
End Shear	2990 lbs	28.1%	100%	1	01-07-08
Total Load Deflection	L/886 (0.201")	27.1%	n/a	1	07-08-00
Live Load Deflection	L/1258 (0.141")	28.6%	n/a	40	07-08-00
Max Defl.	0.201"	20.1%	n/a	1	07-08-00
Span / Depth	11.1				

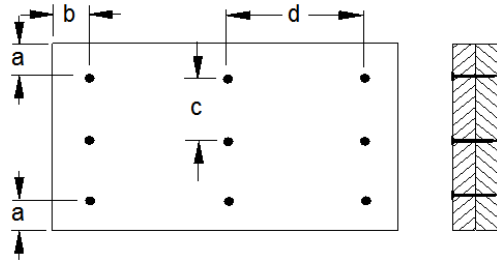
Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3237 lbs	62.2%	35.2%	Spruce-Pine-Fir
B2	Wall/Plate 3-1/2" x 3-1/2"	3058 lbs	58.7%	33.3%	Spruce-Pine-Fir

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.
- Calculations assume member is fully braced.
- 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.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 24"

Calculated Side Load = 416.5 lb/ft
 Connectors are: 16d Common Nails

Disclosure

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1st Floor\Flush Beams\FB5(i162) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB5(i162)

City, State, Zip:

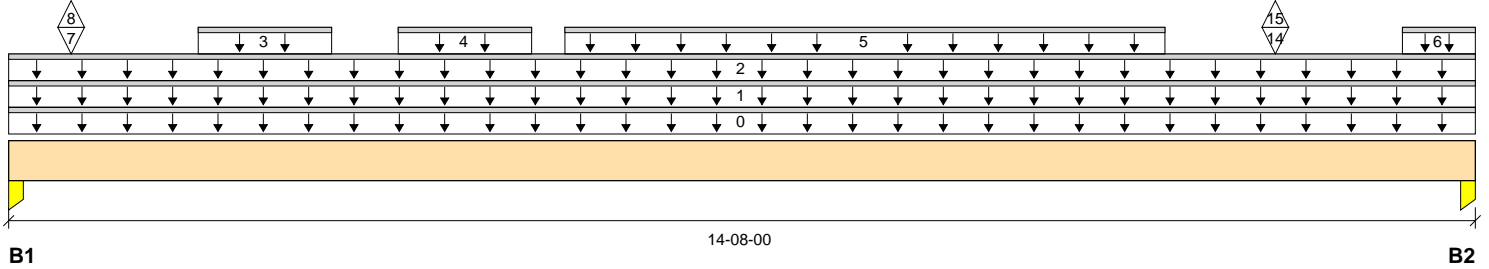
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	293 / 0	3273 / 0		715 / 1599	2587 / 43
B2, 3-1/2"	293 / 0	3160 / 0		968 / 1884	2578 / 4

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	14-08-00	Top		16				00-00-00
1	E55(i53)	Unf. Lin. (lb/ft)	L	00-00-00	14-08-00	Top		64				n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	14-08-00	Top	40	10				n/a
3	E55(i53)	Unf. Lin. (lb/ft)	L	01-10-12	03-02-12	Top		428			442	n/a
4	E55(i53)	Unf. Lin. (lb/ft)	L	03-10-12	05-02-12	Top		424			436	n/a
5	E55(i53)	Unf. Lin. (lb/ft)	L	05-06-12	11-06-12	Top		288			300	n/a
6	E55(i53)	Unf. Lin. (lb/ft)	L	13-11-04	14-08-00	Top		566			573	n/a
7	E55(i53)	Conc. Pt. (lbs)	L	00-07-08	00-07-08	Top		937			847	n/a
8	E55(i53)	Conc. Pt. (lbs)	L	00-07-08	00-07-08	Top					-44	n/a
14	E55(i53)	Conc. Pt. (lbs)	L	12-08-00	12-08-00	Top		899			928	n/a
15	E55(i53)	Conc. Pt. (lbs)	L	12-08-00	12-08-00	Top					-3	n/a

Controls Summary

Value	% Allowable	Duration	Case	Location
Pos. Moment	17599 ft-lbs	37.7%	125%	2 07-03-12
End Shear	5260 lbs	39.5%	125%	2 13-00-08
Total Load Deflection	L/633 (0.27")	37.9%	n/a	2 07-03-12
Live Load Deflection	L/1341 (0.127")	26.9%	n/a	251 07-03-12
Max Defl.	0.27"	27.0%	n/a	2 07-03-12
Span / Depth	10.7			

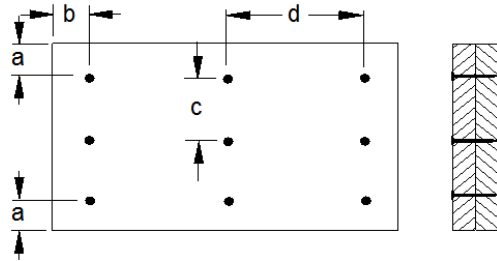
Bearing Supports

Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1 Column 3-1/2" x 3-1/2"	5860 lbs	66.0%	63.8%	Unspecified
B2 Column 3-1/2" x 3-1/2"	5750 lbs	64.7%	62.6%	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.
 Calculations assume member is fully braced.
 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.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 24"

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

Disclosure

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

1st Floor\Flush Beams\FB6(i165) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB6(i165)

City, State, Zip:

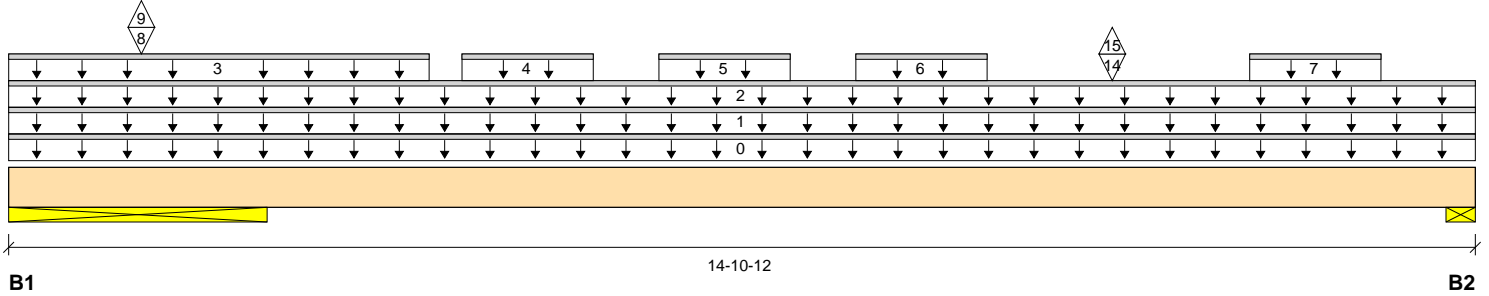
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 14-10-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 31-1/2"	333 / 0	3484 / 0		1123 / 1912	2925 / 12
B2, 10-1/4"	262 / 0	2076 / 0		410 / 1019	1492 / 32

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	14-10-12	Top		16				00-00-00
1	E55(i53)	Unf. Lin. (lb/ft)	L	00-00-00	14-10-12	Top		64				n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	14-10-12	Top	40	10				n/a
3	E55(i53)	Unf. Lin. (lb/ft)	L	00-00-00	04-03-04	Top		277			288	n/a
4	E55(i53)	Unf. Lin. (lb/ft)	L	04-07-04	05-11-04	Top		420			441	n/a
5	E55(i53)	Unf. Lin. (lb/ft)	L	06-07-04	07-11-04	Top		412			424	n/a
6	E55(i53)	Unf. Lin. (lb/ft)	L	08-07-04	09-11-04	Top		415			430	n/a
7	E55(i53)	Unf. Lin. (lb/ft)	L	12-07-04	13-11-04	Top		70			112	n/a
8	-	Conc. Pt. (lbs)	L	01-04-03	01-04-03	Top		363			492	n/a
9	-	Conc. Pt. (lbs)	L	01-04-03	01-04-03	Top					-1	n/a
14	E55(i53)	Conc. Pt. (lbs)	L	11-02-08	11-02-08	Top		917			822	n/a
15	E55(i53)	Conc. Pt. (lbs)	L	11-02-08	11-02-08	Top					-43	n/a

Controls Summary

Value	% Allowable	Duration	Case	Location	
Pos. Moment	11464 ft-lbs	24.5%	125%	2	08-09-04
End Shear	3371 lbs	25.3%	125%	2	12-08-08
Total Load Deflection	L/999 (0.116")	n/a	n/a	2	08-05-04
Live Load Deflection	L/999 (0.051")	n/a	n/a	239	08-03-04
Max Defl.	0.116"	n/a	n/a	2	08-05-04
Span / Depth	8.7				
Dist. Load (B1)	659.75 lb/ft	2.1%	100%		
Conc. Load (B1)	855 lbs	9.3%	100%		

Bearing Supports

Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1 Wall/Plate 31-1/2" x 3-1/2"	6434 lbs	13.7%	7.8%	Spruce-Pine-Fir
B2 Wall/Plate 10-1/4" x 3-1/2"	3576 lbs	23.5%	13.3%	Spruce-Pine-Fir

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB6(i165)

City, State, Zip:

Specifier:

Customer:

Designer:

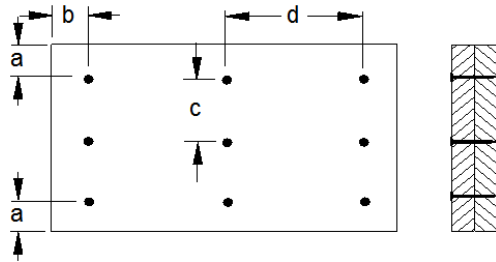
Code reports: ESR-1040

Company:

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.
 Calculations assume member is fully braced.
 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.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 24"

Calculated Side Load = 427.5 lb/ft
 Connectors are: 16d Common Nails

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1st Floor\Flush Beams\FB7(i168) (Flush Beam)

BC CALC® Member Report

Dry | 2 spans | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB7(i168)

City, State, Zip:

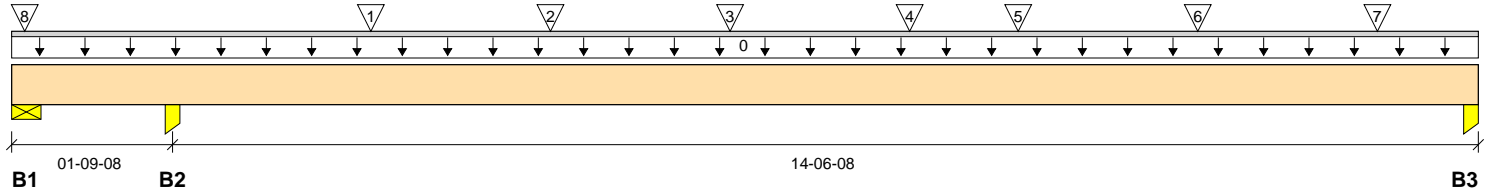
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 16-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	0 / 3824	0 / 1649		5 / 2	0 / 7
B2, 8"	5836 / 0	2596 / 0		2 / 7	10 / 0
B3, 4-1/2"	1432 / 0	644 / 0		0 / 1	2 / 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	16-04-00	Top		16				00-00-00
1	F11(c4)	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	537	198			1	n/a
2	F11(c3)	Conc. Pt. (lbs)	L	06-00-00	06-00-00	Top	537	198			1	n/a
3	F11(c2)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	537	198			1	n/a
4	F11(c1)	Conc. Pt. (lbs)	L	10-00-00	10-00-00	Top	430	174			3	n/a
5	F12(c1)	Conc. Pt. (lbs)	L	11-02-08	11-02-08	Top	430	170				n/a
6	F12(c2)	Conc. Pt. (lbs)	L	13-02-08	13-02-08	Top	536	197				n/a
7	F12(c3)	Conc. Pt. (lbs)	L	15-02-08	15-02-08	Top	438	172				n/a
8	E47(i56)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top		19				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5924 ft-lbs	15.9%	100%	1	10-00-00
Neg. Moment	-8607 ft-lbs	23.0%	100%	1	01-09-08
End Shear	5475 lbs	51.5%	100%	1	00-03-08
Cont. Shear	5516 lbs	51.8%	100%	1	01-05-08
Total Load Deflection	L/999 (0.07")	n/a	n/a	1	09-09-00
Live Load Deflection	L/999 (0.049")	n/a	n/a	112	09-09-00
Total Neg. Defl.	L/999 (-0.001")	n/a	n/a	1	01-01-09
Max Defl.	0.07"	n/a	n/a	1	09-09-00
Span / Depth	10.7				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	0 lbs	n/a	n/a	Spruce-Pine-Fir
B1	Uplift	5473 lbs			
B2	Column 8" x 3-1/2"	8433 lbs	41.5%	40.2%	Unspecified
B3	Column 4-1/2" x 3-1/2"	2076 lbs	18.2%	17.6%	Unspecified

Cautions

Uplift of -5473 lbs found at bearing B1.

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB7(i168)

City, State, Zip:

Specifier:

Customer:

Designer:

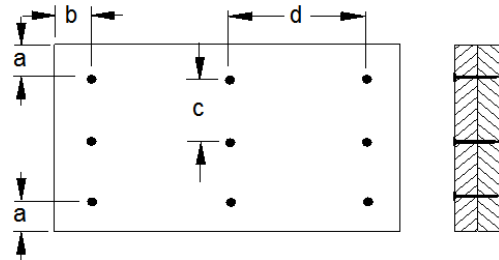
Code reports: ESR-1040

Company:

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.
 Calculations assume member is fully braced.
 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.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 12"

Calculated Side Load = 602.0 lb/ft
 Connectors are: 16d Common Nails

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

1st Floor\Flush Beams\FB8(i170) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB8(i170)

City, State, Zip:

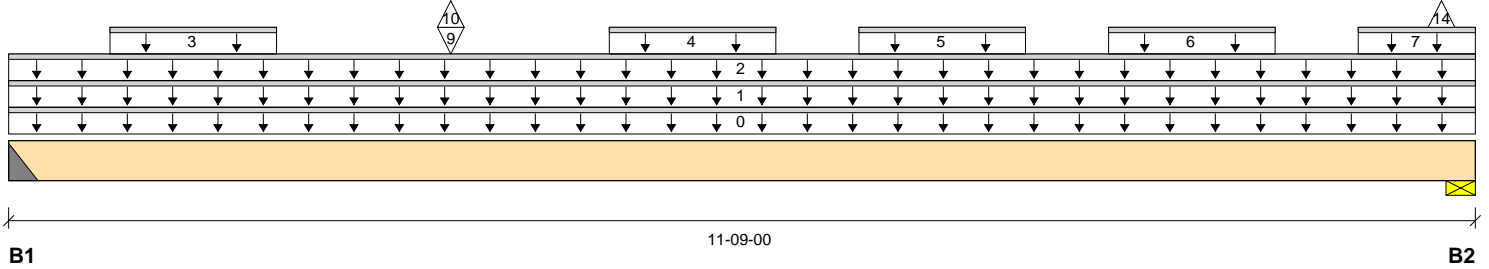
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2"	213 / 0	1875 / 0		375 / 945	1364 / 31
B2, 3-1/2"	218 / 0	2470 / 0		744 / 1287	1962 / 14

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	11-09-00	Top		16				00-00-00
1	E53(i60)	Unf. Lin. (lb/ft)	L	00-00-00	11-09-00	Top		64				n\ a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	11-09-00	Top	37	9				n\ a
3	E53(i60)	Unf. Lin. (lb/ft)	L	00-09-12	02-01-12	Top		70			112	n\ a
4	E53(i60)	Unf. Lin. (lb/ft)	L	04-09-12	06-01-12	Top		428			442	n\ a
5	E53(i60)	Unf. Lin. (lb/ft)	L	06-09-12	08-01-12	Top		424			436	n\ a
6	E53(i60)	Unf. Lin. (lb/ft)	L	08-09-12	10-01-12	Top		440			466	n\ a
7	E53(i60)	Unf. Lin. (lb/ft)	L	10-09-12	11-09-00	Top		579			573	n\ a
9	E53(i60)	Conc. Pt. (lbs)	L	03-06-08	03-06-08	Top		937			846	n\ a
10	E53(i60)	Conc. Pt. (lbs)	L	03-06-08	03-06-08	Top					-44	n\ a
14	E53(i60)	Conc. Pt. (lbs)	L	11-05-12	11-05-12	Top					-1	n\ a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11471 ft-lbs	24.6%	125%	2	05-07-12
End Shear	3950 lbs	29.7%	125%	2	10-01-08
Total Load Deflection	L/999 (0.112")	n\ a	n\ a	2	05-09-12
Live Load Deflection	L/999 (0.049")	n\ a	n\ a	167	05-09-12
Max Defl.	0.112"	n\ a	n\ a	2	05-09-12
Span / Depth	8.6				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Hanger 2" x 3-1/2"	3240 lbs	n\ a	61.7%	Hanger
B2	Wall/Plate 3-1/2" x 3-1/2"	4439 lbs	85.3%	48.3%	Spruce-Pine-Fir

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB8(i170)

City, State, Zip:

Specifier:

Customer:

Designer:

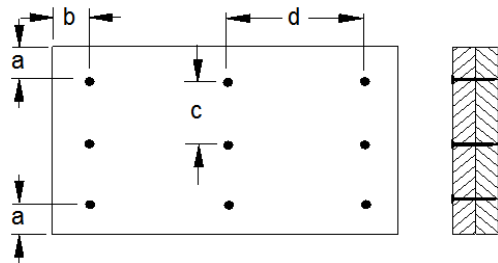
Code reports: ESR-1040

Company:

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.
 Calculations assume member is fully braced.
 Hanger Manufacturer: Unassigned
 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.

Connection Diagram: Full Length of Member



a minimum = 2" c = 6"
 b minimum = 3" d = 24"

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

Disclosure

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

1st Floor\Flush Beams\FB9(i171) (Flush Beam)

BC CALC® Member Report

Dry | 1 span | No cant.

October 6, 2020 07:11:07

Build 7493

Job name:

File name: 2000813A.mmdl

Address:

Description: 1st Floor\Flush Beams\FB9(i171)

City, State, Zip:

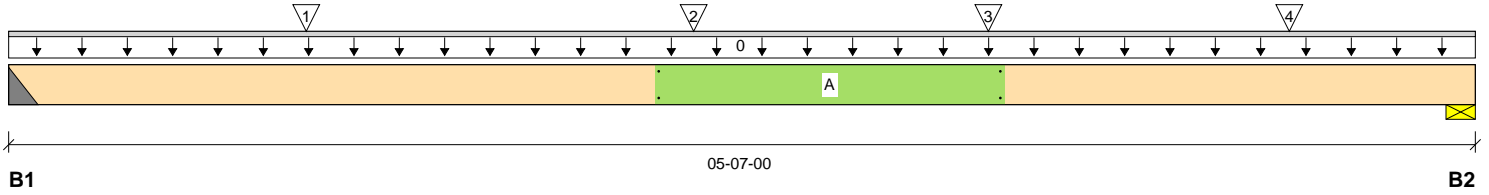
Specifier:

Customer:

Designer:

Code reports: ESR-1040

Company:



Total Horizontal Product Length = 05-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2"	1988 / 0	617 / 0			
B2, 5-3/4"	3758 / 0	1143 / 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	05-07-00	Top		16				00-00-00
1	-	Conc. Pt. (lbs)	L	01-01-10	01-01-10	Top	707	202				n\ a
2	-	Conc. Pt. (lbs)	L	02-07-05	02-07-05	Top	708	219				n\ a
3	F10(c1)	Conc. Pt. (lbs)	L	03-08-12	03-08-12	Top	3610	967				n\ a
4	F5(c1)	Conc. Pt. (lbs)	L	04-10-08	04-10-08	Top	703	261				n\ a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5888 ft-lbs	15.8%	100%	1	03-08-12
End Shear	4049 lbs	38.1%	100%	1	03-09-04
Total Load Deflection	L/999 (0.01")	n\ a	n\ a	1	02-09-07
Live Load Deflection	L/999 (0.008")	n\ a	n\ a	2	02-09-07
Max Defl.	0.01"	n\ a	n\ a	1	02-09-07
Span / Depth	3.8				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Hanger 2" x 3-1/2"	2605 lbs	n\ a	49.6%	Hanger
B2	Wall/Plate 5-3/4" x 3-1/2"	4901 lbs	57.1%	32.3%	Spruce-Pine-Fir

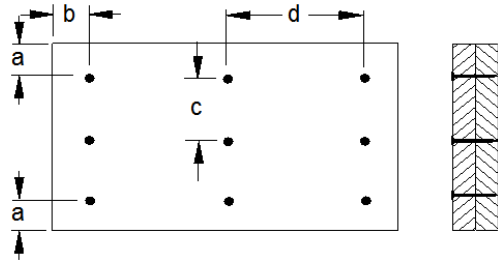
Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.
 Calculations assume member is fully braced.
 Hanger Manufacturer: Unassigned
 BC CALC® analysis is based on IBC 2012.
 Design based on Dry Service Condition.

Connection Diagram: Full Length of Member

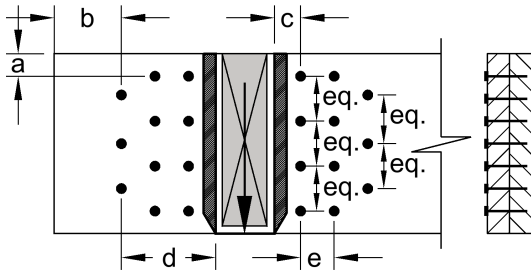


a minimum = 2" c = 6"
 b minimum = 3" d = 12"

Calculated Side Load = 482.0 lb/ft
 Connectors are: 16d Box Nails

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 3+4+5



a minimum = 2"
 b minimum = 4"
 c minimum = 4"
 d maximum = 12"
 e minimum = 4"
 Connectors are: 16d Common Nails

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