



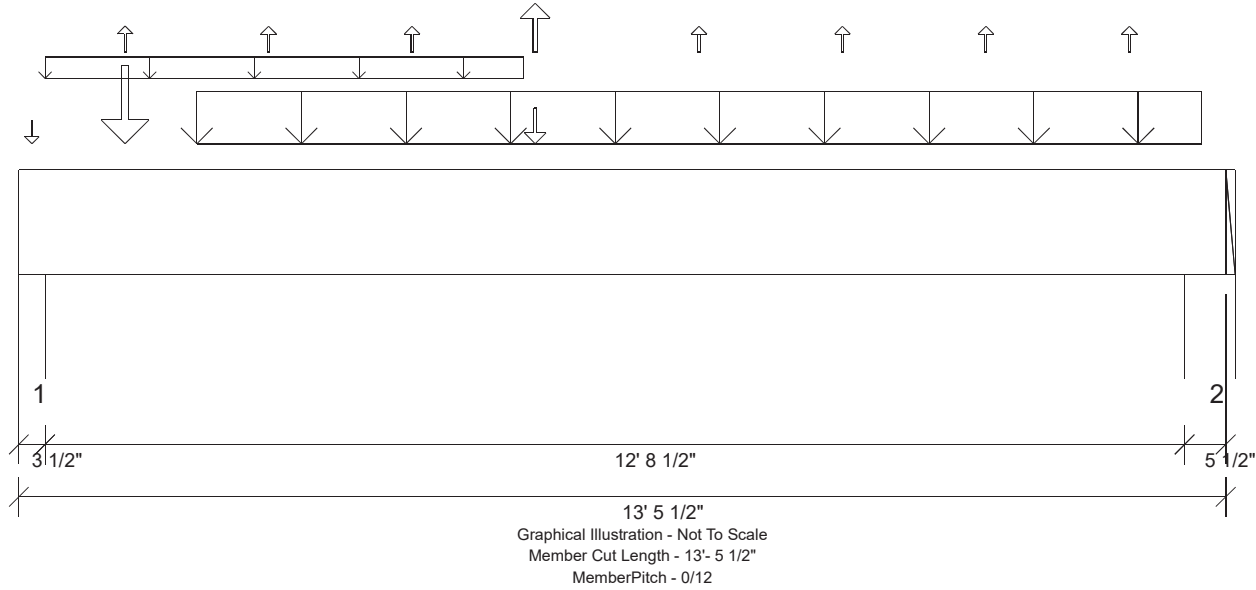
Job: 20060087
 Member Type: Beam | Level: 2F
 MiTek® Structure Version 8.4.1.207.Update5
 Designed by Single Member Design Engine

Label: FB1-2-i624

Page: 1 of 5
 Date: 09/22/2020 09:33:44

Member: 2 - 2.0 RigidLam DF LVL 1-3/4 x 14

Status: Design Passed



Design Information:

Building Code: IRC2015	Floor Dead Load: 10.0 lb/ft ²	Roof Dead Load: 10.0 lb/ft ²	Ground Snow Load: 20.0 lb/ft ²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft ²	Roof Live Load: 20.0 lb/ft ²	
	Unbraced Length Top: 0'	Bottom: 1'- 4 11/16"	

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	5'- 11 13/16"	12365.89 lb ft	28972.14 lb ft	Passed - 43%	1.00	D + L
Critical Shear	1'- 5 1/2"	3475.67 lb	9473.33 lb	Passed - 37%	1.00	D + L
Live Load Deflection	6'- 7 1/4"	0'- 3/16"	0'- 3/4" (L/360)	Passed - L/893	-	L
Total Load Deflection	6'- 7 3/8"	0'- 1/4"	0'- 1" (L/240)	Passed - L/647	-	D + L
Max. Reaction	0'- 2 1/2"	3802.65 lb	Supported Mt 9187.57 lb	Passed - 73%	1.00	D + L
	13'- 1"	3724.26 lb	Supporting Mt 8181.41 lb	Passed - 46%	1.00	D + L

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	13'- 5 1/2"	Self Weight	13 lb/ft	-	-	-
Uniform	0'- 3 1/2"	5'- 7 1/2"	FC1 Floor Material	7 lb/ft	28 lb/ft	-	-
Uniform	1'- 11 13/16"	13'- 2 3/16"	Smoothed Load	149 lb/ft	386 lb/ft	-	-
Point	5'- 9 1/16"	5'- 9 1/16"	-	-15.00 lb	240.00/-427.00 lb	-	-
Point	1'- 2 3/16"	1'- 2 3/16"	J20(i620)	231.00 lb	654.00/-101.00 lb	-	-
Point	2'- 9 7/16"	2'- 9 7/16"	J20(i623)	-	-96.00 lb	-	-
Point	4'- 4 5/8"	4'- 4 5/8"	J20(i572)	-	-96.00 lb	-	-
Point	7'- 7"	7'- 7"	J20(i559)	-	-96.00 lb	-	-
Point	9'- 2 3/16"	9'- 2 3/16"	J20(i561)	-	-96.00 lb	-	-
Point	10'- 9 7/16"	10'- 9 7/16"	J20(i574)	-	-96.00 lb	-	-
Point	12'- 4 5/8"	12'- 4 5/8"	J20(i596)	-	-96.00 lb	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	41(i69)	60.00 lb	-	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 3 1/2"	21(i91)	1092.00 lb	2711.00/-574.00 lb	-	-
2	13'	13'- 5 1/2"	29(i99)	1060.00 lb	2664.00/-530.00 lb	-	-

Errors, Warnings & Notes:

- * The dead loads used in the design of this member were applied to the structure as projected dead loads.
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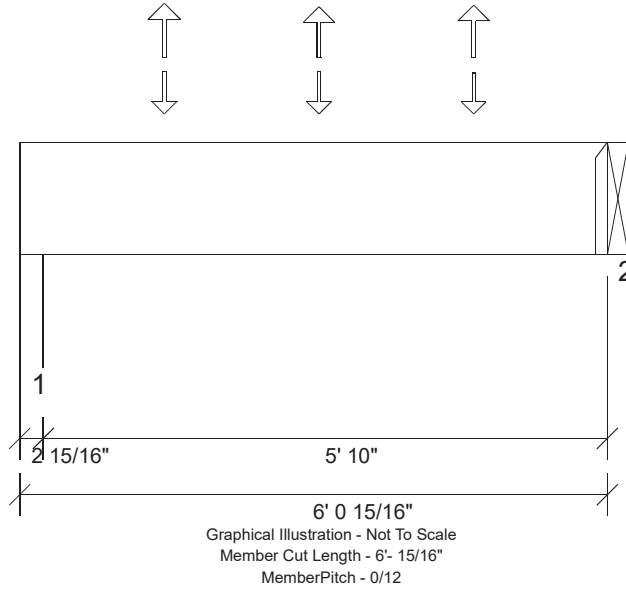
Job: 20060087
 Member Type: Beam | Level: 2F
 MiTek® Structure Version 8.4.1.207.Update5
 Designed by Single Member Design Engine

Label: FB2-i582

Page: 2 of 5
 Date: 09/22/2020 09:33:44

Member: 1 - 2.0 RigidLam DF LVL 1-3/4 x 14

Status: Design Passed



Design Information:

Building Code: IRC2015	Floor Dead Load: 10.0 lb/ft²	Roof Dead Load: 10.0 lb/ft²	Ground Snow Load: 20.0 lb/ft²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft²	Roof Live Load: 20.0 lb/ft²	
	Unbraced Length Top: 0'	Bottom: 1'- 4 11/16"	

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	3'- 1 1/8"	425.41 lb ft	14486.07 lb ft	Passed - 3%	1.00	D + L
Critical Moment (Neg)	3'- 1 1/8"	-663.40 lb ft	14486.07 lb ft	Passed - 5%	1.00	D + L
Critical Shear	1'- 5 15/16"	368.05 lb	4736.67 lb	Passed - 8%	1.00	D + L
Live Load Deflection	3'- 1 1/2"	0'	0'- 3/4" (L/360)	Passed - L/999	-	L
Total Load Deflection	3'- 1 5/16"	0'	0'- 1" (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mt/ Supporting Mt/			
	0'- 1 15/16"	222.06 lb	3855.48 lb 2184.77 lb	Passed - 10%	1.00	D + L
	0'- 1 15/16"	-358.37 lb	3855.48 lb -	Passed - 16%	1.00	D + L
	6'- 15/16"	225.25 lb	1968.75 lb 0.00 lb	Passed - 11%	1.00	D + L
	6'- 15/16"	-345.31 lb	1968.75 lb -	Passed - 18%	1.00	D + L

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	6'- 15/16"	Self Weight	6 lb/ft	-	-	-
Point	1'- 5 15/16"	1'- 5 15/16"	J20(i580)	-46.00 lb	168.00/-216.00 lb	-	-
Point	3'- 1 1/8"	3'- 1 1/8"	J20(i570)	-18.00 lb	168.00/-216.00 lb	-	-
Point	4'- 8 3/8"	4'- 8 3/8"	J20(i571)	-19.00 lb	155.00/-228.00 lb	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 2 15/16"	24(i94)	-29.00 lb	251.00/-329.00 lb	-	-
2	6'- 15/16"	6'- 15/16"	FB1-2(i624)	-15.00 lb	240.00/-331.00 lb	-	-

Connector Information:

Support	Manufacturer	Model	Nailing Requirements			Min Seal Length	Other Information
			Top	Face	Member		
2	USP	HD17112	-	22- 16d	6- 10d x 1-1/2	N/A	-

Errors, Warnings & Notes:

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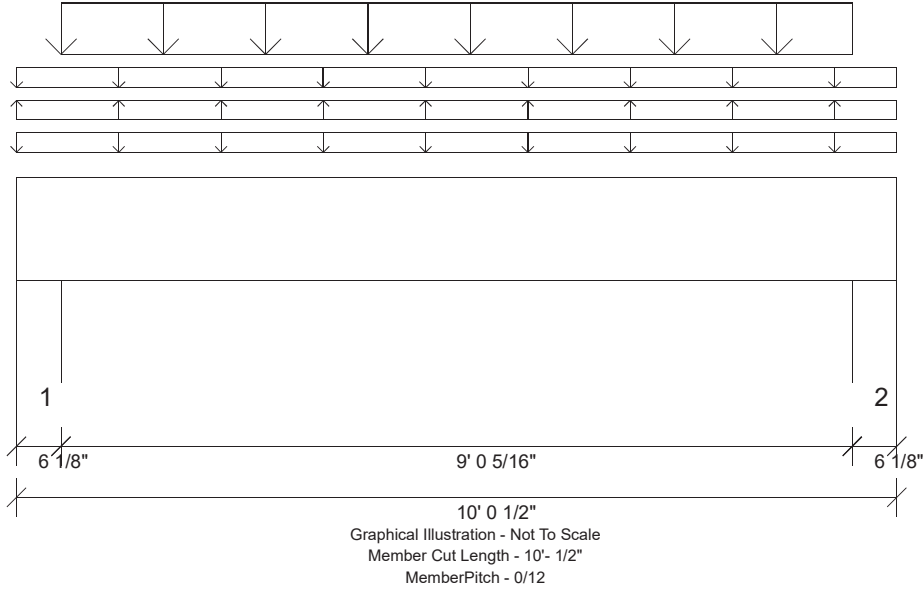
Job: 20060087
 Member Type: Beam | Level: 2F
 MiTek® Structure Version 8.4.1.207.Update5
 Designed by Single Member Design Engine

Label: FB3-2-i543

Page: 3 of 5
 Date: 09/22/2020 09:33:44

Member: 2 - 2.0 RigidLam DF LVL 1-3/4 x 14

Status: Design Passed



Design Information:

Building Code: IRC2015	Floor Dead Load: 10.0 lb/ft²	Roof Dead Load: 10.0 lb/ft²	Ground Snow Load: 20.0 lb/ft²
Design Methodology: ASD	Floor Live Load: 40.0 lb/ft²	Roof Live Load: 20.0 lb/ft²	
	Unbraced Length Top: 0'	Bottom: 9'- 1 3/4"	

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	5'- 1/4"	18793.94 lb ft	33317.95 lb ft	Passed - 56%	1.15	D + S
Critical Moment (Neg)	0'- 5 1/8"	-11.46 lb ft	28972.14 lb ft	Passed - 0%	1.00	D + L
Critical Shear	1'- 8 1/8"	5958.62 lb	10894.33 lb	Passed - 55%	1.15	D + S
Live Load Deflection	5'- 1/4"	0'- 1/16"	0'- 3/4" (L/360)	Passed - L/999	-	S
Total Load Deflection	5'- 1/4"	0'- 3/16"	0'- 1" (L/240)	Passed - L/588	-	D + S
Max. Reaction			Supported Mt Supporting Mt			
	0'- 5 1/8"	8087.29 lb	16001.54 lb 9067.54 lb	Passed - 89%	1.15	D + S
	9'- 7 3/8"	8087.30 lb	16002.01 lb 9067.81 lb	Passed - 89%	1.15	D + S

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	10'- 1/2"	Self Weight	13 lb/ft	-	-	-
Uniform	0'	10'- 1/2"	E28(i269)	81 lb/ft	-	-	-
Uniform	0'	10'- 1/2"	FC1 Floor Material	-	26/-3 lb/ft	-	-
Uniform	0'- 6 1/8"	9'- 6 3/8"	User Load	1000 lb/ft	-	-	680 lb/ft

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 6 1/8"	-	5019.00 lb	133.00/-14.00 lb	-	3069.00 lb
+++	0'- 3/8"	0'- 3/8"	E13(i16)	597.00 lb	16.00/-2.00 lb	-	365.00 lb
+++	0'- 2 11/16"	0'- 2 11/16"	E14(i20)	4422.00 lb	117.00/-12.00 lb	-	2704.00 lb
2	9'- 6 3/8"	10'- 1/2"	-	5019.00 lb	132.00/-14.00 lb	-	3069.00 lb
+++	9'- 9 13/16"	9'- 9 13/16"	E16(i21)	4435.00 lb	117.00/-12.00 lb	-	2712.00 lb
+++	10'- 1/8"	10'- 1/8"	E8(i8)	584.00 lb	15.00/-2.00 lb	-	357.00 lb

Errors, Warnings & Notes:

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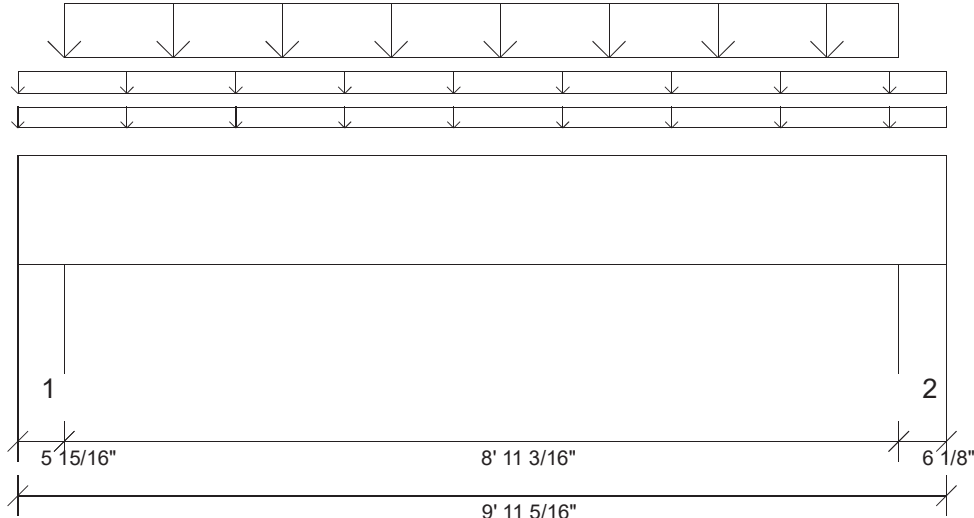
Job: 20060087
 Member Type: Beam | Level: 2F
 MiTek® Structure Version 8.4.1.207.Update5
 Designed by Single Member Design Engine

Label: FB4-2-i597

Page: 4 of 5
 Date: 09/22/2020 09:33:44

Member: 2 - 2.0 RigidLam DF LVL 1-3/4 x 14

Status: Design Passed



Graphical Illustration - Not To Scale
 Member Cut Length - 9' 11 5/16"
 Member Pitch - 0/12

Design Information:

Building Code:	IRC2015	Floor Dead Load:	10.0 lb/ft ²	Roof Dead Load:	10.0 lb/ft ²	Ground Snow Load:	20.0 lb/ft ²
Design Methodology:	ASD	Floor Live Load:	40.0 lb/ft ²	Roof Live Load:	20.0 lb/ft ²		
		Unbraced Length Top:	0'	Bottom:	8' - 11 15/16"		

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	4'- 11 9/16"	18420.79 lb ft	33317.95 lb ft	Passed - 55%	1.15	D + S
Critical Moment (Neg)	9'- 6 3/16"	-11.56 lb ft	28972.14 lb ft	Passed - 0%	1.00	D + L
Critical Shear	8'- 3 3/16"	5877.04 lb	10894.33 lb	Passed - 54%	1.15	D + S
Live Load Deflection	4'- 11 9/16"	0'- 1/16"	0'- 3/4" (L/360)	Passed - L/999	-	S
Total Load Deflection	4'- 11 9/16"	0'- 3/16"	0'- 1" (L/240)	Passed - L/606	-	D + S
Max. Reaction	0'- 4 15/16"	8004.51 lb	<u>Supported Mt</u> 15660.80 lb	Passed - 90%	1.15	D + S
	9'- 6 3/16"	8005.91 lb	<u>Supporting Mt</u> 9101.99 lb	Passed - 88%	1.15	D + S

Design Notes:

* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	9'- 11 5/16"	Self Weight	13 lb/ft	-	-	-
Uniform	0'	9'- 11 5/16"	E20(i56)	81 lb/ft	-	-	-
Uniform	0'	9'- 11 5/16"	FC1 Floor Material	-	26 lb/ft	-	-
Uniform	0'- 5 15/16"	9'- 5 3/16"	User Load	1000 lb/ft	-	-	680 lb/ft

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	0'- 5 15/16"	-	4967.00 lb	131.00 lb	-	3038.00 lb
+++	0'- 3/8"	0'- 3/8"	E9(i9)	616.00 lb	16.00 lb	-	377.00 lb
+++	0'- 2 5/8"	0'- 2 5/8"	E10(i13)	4351.00 lb	115.00 lb	-	2661.00 lb
2	9'- 5 3/16"	9'- 11 5/16"	E12(i15)	4968.00 lb	131.00 lb	-	3038.00 lb

Errors, Warnings & Notes:

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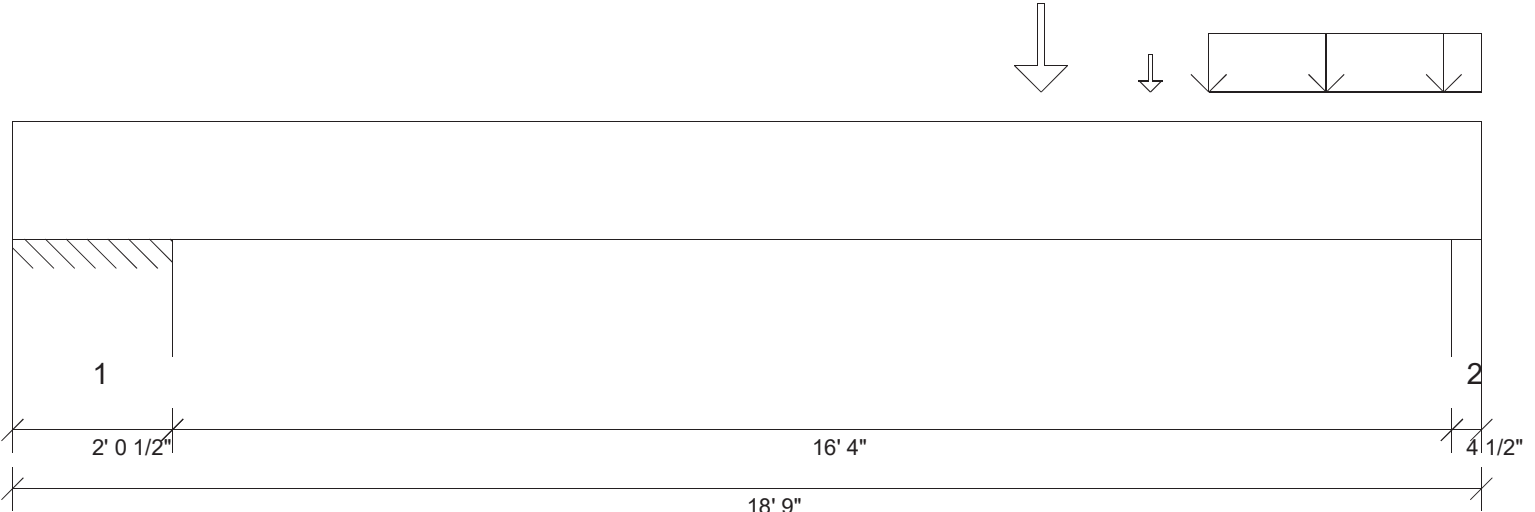
Job: 20060087
 Member Type: Beam | Level: 2F
 MiTek® Structure Version 8.4.1.207.Update5
 Designed by Single Member Design Engine

Label: GDH-3-i652

Page: 5 of 5
 Date: 09/22/2020 09:33:44

Member: 3 - 2.0 RigidLam DF LVL 1-3/4 x 18

Status: Design Passed



Graphical Illustration - Not To Scale
 Member Cut Length - 18'- 9"
 MemberPitch - 0/12

Design Information:

Building Code:	IRC2015	Floor Dead Load:	10.0 lb/ft ²	Roof Dead Load:	10.0 lb/ft ²	Ground Snow Load:	20.0 lb/ft ²
Design Methodology:	ASD	Floor Live Load:	40.0 lb/ft ²	Roof Live Load:	20.0 lb/ft ²		
		Unbraced Length	Top: 12'- 7 1/16"	Bottom:	18'- 3 1/2"		

Design Results:

	Location	Design	Control	Result	LDF	Load Combination
Critical Moment (Pos)	13'- 1 9/16"	15649.62 lb ft	69619.98 lb ft	Passed - 22%	1.00	D + L
Critical Moment (Neg)	1'- 11"	-770.41 lb ft	62021.21 lb ft	Passed - 1%	0.90	D
Critical Shear	16'- 10 1/2"	3945.27 lb	18270.00 lb	Passed - 22%	1.00	D + L
Live Load Deflection	11'- 1/2"	0'- 1/8"	0'- 3/4" (L/360)	Passed - L/999	-	L
Total Load Deflection	11'- 9/16"	0'- 1/8"	0'- 1" (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mt Supporting Mt			
	0'- 1 1/2"	-404.42 lb	27562.50 lb -	Passed - 2%	0.90	D
	1'- 11"	2056.41 lb	27562.50 lb 26643.75 lb	Passed - 8%	1.00	D + L
	18'- 5 1/2"	4904.79 lb	17718.57 lb 29885.32 lb	Passed - 28%	1.00	D + L

Design Notes:

- * Design of member is based on a released bearing condition at Support 1. Ensure that the member is allowed to deflect upward at these supports.
- * Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

Loading:

Type	Start	End	Source	Maximum Load Magnitudes			
				Dead	Floor Live	Roof Live	Snow
Self Weight	0'	18'- 9"	Self Weight	25 lb/ft	-	-	-
Uniform	15'- 3 1/4"	18'- 9"	Smoothed Load	126 lb/ft	503 lb/ft	-	-
Point	13'- 1 9/16"	13'- 1 9/16"	J22(i636)	628.00 lb	2512.00 lb	-	-
Point	14'- 6 5/16"	14'- 6 5/16"	J22(i634)	152.00 lb	610.00 lb	-	-

Support Information:

Support	Start	End	Source	Maximum Analysis Reactions			
				Dead	Floor Live	Roof Live	Snow
1	0'	2'- 1/2"	-	528.00 lb	1086.00 lb	-	-
++	0'	0'- 5 1/2"	E6(i6)	-	-	-	-
++	1'- 11"	1'- 11"	E29(i651)	528.00 lb	1086.00 lb	-	-
2	18'- 4 1/2"	18'- 9"	E5(i7)	1156.00 lb	3786.00 lb	-	-

Errors, Warnings & Notes:

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