

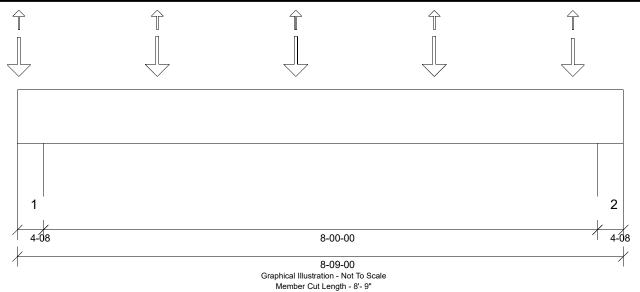
Job: 19110027

Member Type: Beam | Level: 1st Floor MiTek SAPPHIRE™ Structure Version 8.3.2.221.Update4 Designed by Single Member Design Engine Label: WH1-i49

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Status: Design Passed

Member: 2 - 2.0 RigidLam LVL 1-3/4 x 9-1/4



MemberPitch - 0/12

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

Design Results:

	<u>Location</u>	<u>Design</u>	<u>Control</u>		<u>Result</u>	LDF	Load Combination
Critical Moment (Pos)	4'- 1/4"	7746.10 lb ft	15318.75 lb ft		Passed - 51%	1.15	D + 0.75(L + Lr)
Critical Moment (Neg)	0'- 3 1/2"	-490.84 lb ft	15318.75 lb ft		Passed - 3%	1.15	D + 0.75(L + Lr)
Critical Shear	1'- 1 3/4"	3216.16 lb	7198.04 lb		Passed - 45%	1.15	D + 0.75(L + Lr)
Live Load Deflection	4'- 4 11/16"	0'- 1/8"	0'- 3/4" (L/360)		Passed - L/848	-	0.75(L + Lr + 0.6W)
Total Load Deflection	4'- 4 11/16"	0'- 3/16"	0'- 1" (L/240)		Passed - L/446	-	D + 0.75(L + Lr + 0.6W)
Max. Reaction			Supported Mtl	Supporting Mtl			
	0'- 3 1/2"	5036.95 lb	11812.55 lb	20837.34 lb	Passed - 43%	1.15	D + 0.75(L + Lr)
	0'- 3 1/2"	-141.68 lb	16434.85 lb	-	Passed - 1%	1.60	0.6D + 0.6W
	8'- 5 1/2"	4172.83 lb	11812.53 lb	20837.30 lb	Passed - 35%	1.15	D + 0.75(L + Lr)
	8'- 5 1/2"	-84.65 lb	16434.82 lb	-	Passed - 1%	1.60	0.6D + 0.6W

Bottom: 8'

Design Notes:

Unbraced Length Top: 1'- 8 1/2"

Loading:

				Maximum Load Magnitudes				
<u>Type</u>	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	<u>Floor Live</u>	Roof Live	<u>Snow</u>	
Self Weight	0'	8'- 9"	Self Weight	9 lb/ft	-	-	-	
Point	0'- 1/4"	0'- 1/4"	F06(c01)	911.00 lb	637.00 lb	563.00 lb	282.00 lb	
Point	2'- 1/4"	2'- 1/4"	F06(c02)	939.00 lb	637.00 lb	594.00 lb	298.00 lb	
Point	4'- 1/4"	4'- 1/4"	F06(c03)	939.00 lb	637.00 lb	594.00 lb	298.00 lb	
Point	6'- 1/4"	6'- 1/4"	F06(c05)	939.00 lb	636.00 lb	594.00 lb	298.00 lb	
Point	8'- 1/4"	8'- 1/4"	F04(c02)	892.00 lb	535.00/-32.00 lb	593.00 lb	297.00 lb	

Support Information:

			_	Maximum Analysis Reactions				
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow	
1	0'	0'- 4 1/2"	E2(i4)	2559.00 lb	1726.00/-2.00 lb	1583.00 lb	794.00 lb	
2	8'- 4 1/2"	8'- 9"	E3(i48)	2135.00 lb	1356.00/-30.00 lb	1355.00 lb	679.00 lb	

Errors, Warnings & Notes:

- * The dead loads used in the design of this member were applied to the structure as projected dead loads.
- * The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- * Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

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