



Customer: **[Building Permit Number]**  
 Street 1:  
 City:  
 Customer Ph...

Job Name: **23090042**  
 Level: **1st FLOOR**  
 Label: **FB1-2 - i84**  
 Type: **Beam**

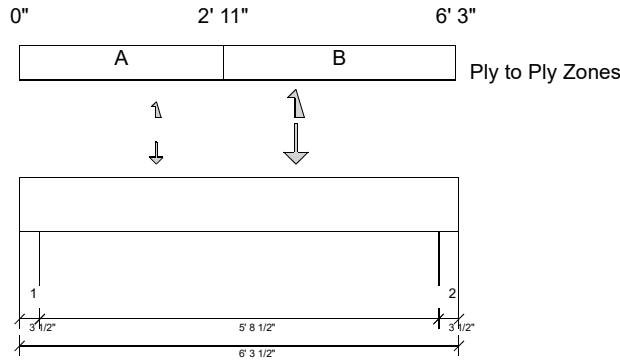
**2 Ply Member**  
**2.0 RigidLam DF LVL 1-3/4**  
**x 9-1/4**

Status:  
**Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update10.11

Report Version: 2021.03.26 11/14/2023 13:02



**DESIGN INFORMATION**

Building Code: IRC 2018  
 Design Methodology: ASD  
 Risk Category: II (General Construction) Residential  
 Service Condition: Dry  
 LL Deflection Limit: L/360, 0.75" (absolute)  
 TL Deflection Limit: L/240, 1.00" (absolute)

**Lateral Restraint Requirements:**  
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:  
 Top: 1'- 11 3/4" Bottom: 1'- 11 3/4"

**Bearing Stress of Support Material:**

- 425 psi Wall @ 0'- 2 1/2"
- 1323 psi Wall @ 6'- 1"

**ANALYSIS RESULTS**

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 11 1/2"	D + Lr	1.15	3167 lb ft	15231 lb ft	Passed - 21%
Max Neg. Moment:	3'- 11 1/2"	0.6D + 0.6W	1.60	1177 lb ft	21136 lb ft	Passed - 6%
Max Shear:	5'- 2 3/4"	D + Lr	1.15	1492 lb	7198 lb	Passed - 21%
Live Load (LL) Neg. Defl.:	3'- 3 3/16"	0.6W		0.024"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 2 13/16"	D + Lr		0.039"	L/240	Passed - L/999

**SUPPORT AND REACTION INFORMATION**

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 1/2"	D + Lr	1.15	1308 lb		9188 lb	5206 lb	Passed - 25%
1	3 1/2"	0.6D + 0.6W	1.60		-382 lb	-	-	
2	3 1/2"	D + Lr	1.15	1501 lb		9188 lb	16207 lb	Passed - 16%
2	3 1/2"	0.6D + 0.6W	1.60		-547 lb	-	-	

**LOADING**

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	6'- 3 1/2"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	1'- 11 1/2"	1'- 11 1/2"	A04(c01)	Front	415 lb	-	291 lb	420/-1 lb	126/-537 lb
Point	3'- 11 1/2"	3'- 11 1/2"	A04(c02)	Front	776 lb	-	792 lb	1144/-1 lb	344/-1788 lb

**UNFACTORED REACTIONS**

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 1/2"	E17(i4)	599 lb	-	491 lb	709/-1 lb	382 lb/ -1236 lb
2	6'	6'- 3 1/2"	2(i19)	646 lb	-	592 lb	855/-1 lb	382 lb/ -1236 lb

**DESIGN NOTES**

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 0.99

**PLY TO PLY CONNECTION**

- Zone A: Factored load = 418 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 6. Row = 2, Spacing = 12"
- Zone B: Factored load = 960 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 18. Row = 2, Spacing = 5"
- 12d (0.148"x3.25") nails properties: D = 0.148", L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25", Y1 = 0.75", Y2 = 1.5"
- Install fasteners from one face.
- X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.



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**PLY TO PLY CONNECTION**

**FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)**

