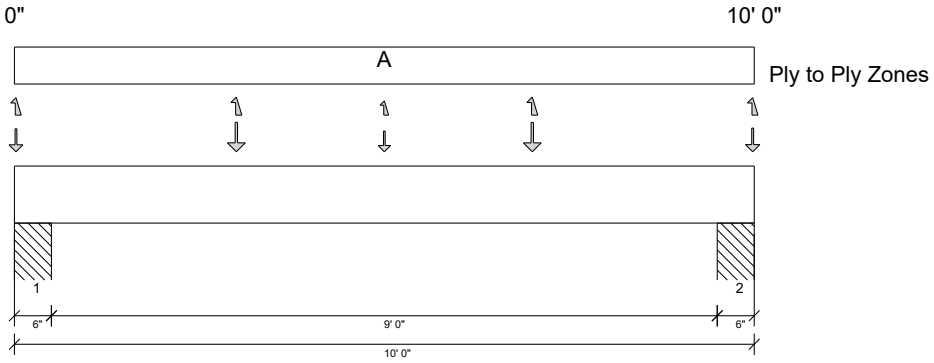
MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Olaniyi 2024-SAN-071** Level: **1st Floor** Label: **1DB2 -** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update13.8

Report Version: 2021.03.26 02/20/2025 14:45



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: 9'- 5" Bottom: 9'- 5"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 5"
- 725 psi Column @ 9'- 7"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	5'	D + Lr	1.15	1033 lb ft	15045 lb ft	Passed - 7%
Max Shear:	8'- 8 3/4"	D + Lr	1.15	366 lb	7198 lb	Passed - 5%
Live Load (LL) Pos. Defl.:	5'	Lr		0.019"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'	D + Lr		0.037"	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	6"	D + Lr	1.15	544 lb		15750 lb	15225 lb	Passed - 4%
1	6"	0.6D + 0.6W	1.60		-15 lb	-	-	
2	6"	D + Lr	1.15	553 lb		15750 lb	15225 lb	Passed - 4%
2	6"	0.6D + 0.6W	1.60		-14 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	10'	Self Weight	Top	9 lb/ft	-	-	-	-
Point	0'- 1/4"	0'- 1/4"	SP01(c01)	Top	72 lb	-	-	95 lb	26/-106 lb
Point	3'	3'	SP01(c01)	Top	124 lb	-	-	136 lb	34/-116 lb
Point	5'	5'	SP01(c01)	Top	52 lb	-	-	97 lb	9/-56 lb
Point	7'	7'	SP01(c01)	Top	123 lb	-	-	136 lb	33/-116 lb
Point	9'- 11 3/4"	9'- 11 3/4"	SP01(c01)	Top	75 lb	-	-	101 lb	28/-106 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	PBO1(i24)	264 lb	-	-	279 lb	94 lb/ -289 lb
2	9'- 6"	10'	PBO2(i25)	267 lb	-	-	286 lb	94 lb/ -289 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) = 0.93

PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 20. Row = 2, Spacing = 12"
  12d (0.131"x3.25") nails properties: D = 0.131" , L = 3.25". Fastener capacity = 105 lbs. X1 = 2" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Olaniyi 2024-SAN-071** Level: **1st Floor** Label: **1DB2 -** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)