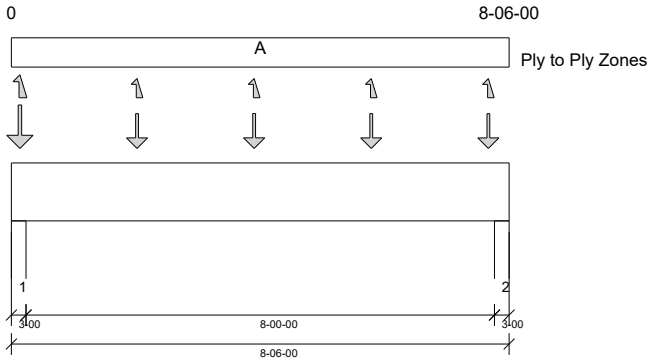
MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Singler 25-FAY-SAN-019** Level: **1st Floor** Label: **1DB3 -** Type: **Beam**	**2 Ply Member** **1 3/4" x 11 7/8" 2.0E Microllam® LVL**	Status: **Design Passed**

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 07/10/2025 09:33



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'- 10 1/2" Bottom: 8'- 6"

Bearing Stress of Support Material:

- 1323 psi Wall @ 0'- 2"
- 1323 psi Wall @ 8'- 4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 1 3/4"	D + Lr	1.15	3696 lb ft	20392 lb ft	Passed - 18%
Max Shear:	1'- 2 7/8"	D + Lr	1.15	1375 lb	9081 lb	Passed - 15%
Live Load (LL) Pos. Defl.:	4'- 3 1/16"	Lr		0.031"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 3 1/16"	D + Lr		0.063"	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	3-00	D + Lr	1.15	2544 lb		7875 lb	13891 lb	Passed - 32%
2	3-00	D + Lr	1.15	2131 lb		7875 lb	13891 lb	Passed - 27%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	8'- 6"	Self Weight	Top	12 lb/ft	-	-	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	B02(c05)	Top	515 lb	-	-	639 lb	103/-469 lb
Point	2'- 1 3/4"	2'- 1 3/4"	B02(c04)	Top	415 lb	-	-	439 lb	71/-324 lb
Point	4'- 1 3/4"	4'- 1 3/4"	B02(c03)	Top	417 lb	-	-	442 lb	71/-324 lb
Point	6'- 1 3/4"	6'- 1 3/4"	B02(c02)	Top	415 lb	-	-	439 lb	71/-322 lb
Point	8'- 1 3/4"	8'- 1 3/4"	B02(c01)	Top	414 lb	-	-	437 lb	71/-321 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3"	E10(i16)	1216 lb	-	-	1329 lb	428 lb/ -1189 lb
2	8'- 3"	8'- 6"	E9(i10)	1063 lb	-	-	1067 lb	428 lb/ -1189 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 = 0 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 18. Row = 2, Spacing = 12"
  12d (0.131"x3.25") nails properties: D = 0.131" , L = 3.25". Fastener capacity = 96 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.

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PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)