



Customer:
Street 1:
City:
Customer Ph...

Job Name: **Q2300665**
Level: **1st Floor**
Label: **DB13A - i13**
Type: **Beam**

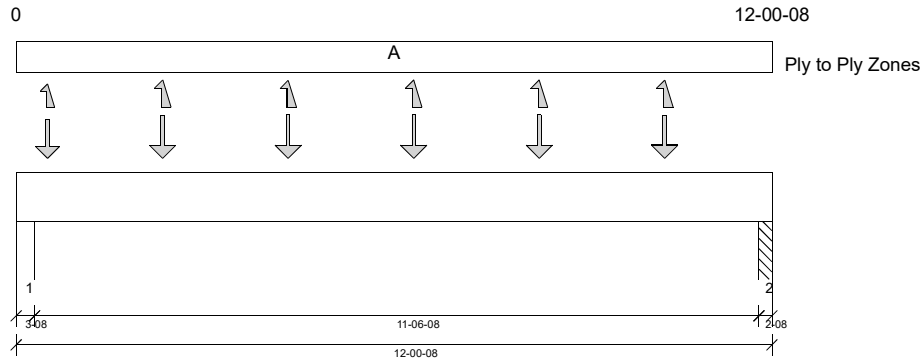
2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.2.271.Update3.S.22

Report Version: 2021.03.26 04/20/2023 14:55



DESIGN INFORMATION

Building Code: IRC2015
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: 11'- 9"

Bearing Stress of Support Material:

- 1323 psi Wall @ 0'- 2 1/2"
- 725 psi Column @ 11'- 11"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	6'- 4"	D + Lr	1.15	4873 lb ft	13843 lb ft	Passed - 35%
Max Neg. Moment:	6'- 4"	0.6D + 0.6W	1.60	494 lb ft	6267 lb ft	Passed - 8%
Max Shear:	11'- 3/4"	D + Lr	1.15	1468 lb	7074 lb	Passed - 21%
Live Load (LL) Pos. Defl.:	6'- 13/16"	Lr		0.133"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 13/16"	D + Lr		0.264"	L/240	Passed - L/525

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3-08	D + Lr	1.15	1802 lb		9187 lb	16207 lb	Passed - 20%
1	3-08	0.6D + 0.6W	1.60		-99 lb	-	-	
2	2-08	D + Lr	1.15	1477 lb		6563 lb	6344 lb	Passed - 23%
2	2-08	0.6D + 0.6W	1.60		-153 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	12'- 1/2"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	0'- 6"	0'- 6"	E03(c01)	Top	236 lb	-	-	238 lb	65/-242 lb
Point	2'- 4"	2'- 4"	E02(c03)	Top	255 lb	-	-	278 lb	80/-318 lb
Point	4'- 4"	4'- 4"	E02(c04)	Top	258 lb	-	-	284 lb	81/-310 lb
Point	6'- 4"	6'- 4"	E02(c02)	Top	258 lb	-	-	284 lb	81/-319 lb
Point	8'- 4"	8'- 4"	E02(c01)	Top	258 lb	-	-	284 lb	81/-319 lb
Point	10'- 4"	10'- 4"	E02(c05)	Top	256 lb	-	-	279 lb	80/-314 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"	E2(i4)	905 lb	-	-	910 lb	474 lb/ -1071 lb
2	11'- 10"	12'- 1/2"	PBO3(i11)	728 lb	-	-	737 lb	474 lb/ -1071 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) = 0.95

PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 26. 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.



Customer:
Street 1:
City:
Customer Ph...

Job Name: **Q2300665**
Level: **1st Floor**
Label: **DB13A - i13**
Type: **Beam**

2 Ply Member
1-3/4X9-1/4 LP-LVL
2900Fb-2.0E

Status:
Design Passed

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)

