



Customer: **Hampton EI C**
 Street 1:
 City:
 Customer P...

Job Name: **A**
 Level: **1**
 Label: **BM4 - i31**
 Type: **Beam**

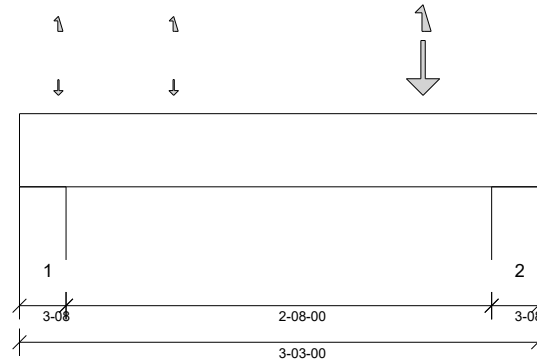
2 Ply Member
2x6 SP No.2

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update2.15

Report Version: 2020.10.28 04/20/2021 15:59



DESIGN INFORMATION

Building Code: IRC2015
 Design Methodology: ASD
 Risk Category: II (General Construction) Residential
 Service Condition: Dry
 LL Deflection Limit: L/480,
 TL Deflection Limit: L/240,

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'- 4 1/2" Bottom: 3'- 3"

Bearing Stress of Support Material:

- 875 psi Wall @ 0'- 2 1/2"
- 875 psi Wall @ 3'- 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDf	Design	Limit	Result
Max Pos. Moment:	2'- 6 5/16"	D + Lr	1.25	1047 lb ft	1576 lb ft	Passed - 66%
Max Neg. Moment:	2'- 6 5/16"	0.6D + 0.6W	1.60	47 lb ft	2017 lb ft	Passed - 2%
Max Shear:	2'- 6"	D + Lr	1.25	1887 lb	2406 lb	Passed - 78%
Live Load (LL) Pos. Defl.:	1'- 9 1/2"	Lr		0.010"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	1'- 9 1/2"	D + Lr		0.020"	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	3-08	D + Lr	1.25	647 lb		5932 lb	9187 lb	Passed - 11%
1	3-08	0.6D + 0.6W	1.60		-68 lb	-	-	
2	3-08	D + Lr	1.25	2042 lb		5932 lb	9187 lb	Passed - 34%
2	3-08	0.6D + 0.6W	1.60		-89 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	3'- 3"	Self Weight	Top	5 lb/ft	-	-	-	-
Point	0'- 2 15/16"	0'- 2 15/16"	J04(c03)	Top	47 lb	-	43 lb	61 lb	19/-120 lb
Point	0'- 11 9/16"	0'- 11 9/16"	J04(c01)	Top	61 lb	-	43 lb	62 lb	19/-105 lb
Point	2'- 6 5/16"	2'- 6 5/16"	A08(c01)	Top	1235 lb	-	791 lb	1208/-51 lb	347/-1075 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"	W5(i2)	326 lb	-	221 lb	330/-9 lb	0 lb/ -445 lb
2	2'- 11 1/2"	3'- 3"	W7(i30)	1032 lb	-	656 lb	1001/-42 lb	0 lb/ -445 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.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.