



Customer:
Job Name:
City:
Customer P...

Job Name: **Boyer**
Level: **1st Floor**
Label: **GDH - i11**
Type: **Beam**

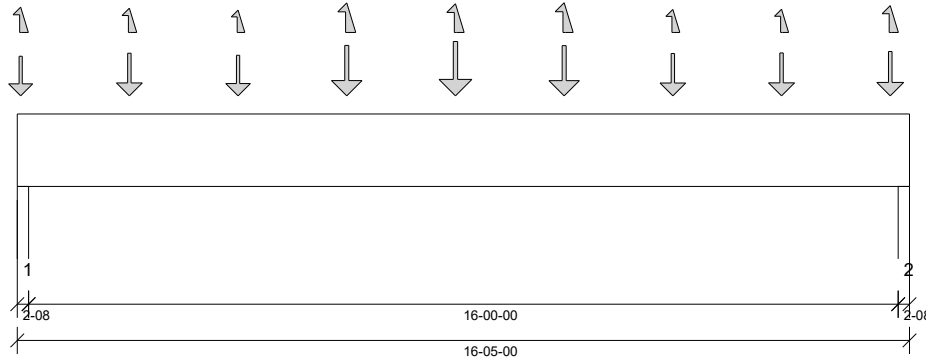
2 Ply Member
2.0 RigidLam DF LVL 1-3/4
x 16

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update18.7

Report Version: 2020.10.28 04/19/2022 16:21



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: 16'- 5"

Bearing Stress of Support Material:

- 1323 psi Wall @ 0'- 1 1/2"
- 1323 psi Wall @ 16'- 3 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 3/4"	D + Lr	1.15	24722 lb ft	42799 lb ft	Passed - 58%
Max Neg. Moment:	8'- 3/4"	0.6D + 0.6W	1.60	3496 lb ft	31153 lb ft	Passed - 11%
Max Shear:	1'- 6 1/2"	D + Lr	1.15	5091 lb	12451 lb	Passed - 41%
Live Load (LL) Pos. Defl.:	8'- 2 9/16"	Lr		0.270"	L/360	Passed - L/711
Total Load (TL) Pos. Defl.:	8'- 2 9/16"	D + Lr		0.487"	L/240	Passed - L/394

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	2-08	D + Lr	1.15	6239 lb		6562 lb	11576 lb	Passed - 95%
1	2-08	0.6D + 0.6W	1.60		-764 lb	-	-	
2	2-08	D + Lr	1.15	6267 lb		6562 lb	11576 lb	Passed - 96%
2	2-08	0.6D + 0.6W	1.60		-795 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	16'- 5"	Self Weight	Top	15 lb/ft	-	-	-	-
Point	0'- 3/4"	0'- 3/4"	A(Cond02)	Top	536 lb	-	357 lb	589 lb	168/-745 lb
Point	2'- 3/4"	2'- 3/4"	A(Cond08)	Top	574 lb	-	402 lb	675 lb	189/-679 lb
Point	4'- 3/4"	4'- 3/4"	A(Cond12)	Top	540 lb	-	362 lb	639/-25 lb	170/-530 lb
Point	6'- 3/4"	6'- 3/4"	A(Cond07)	Top	683 lb	-	531 lb	870/-20 lb	251/-994 lb
Point	8'- 3/4"	8'- 3/4"	A(Cond16)	Top	704 lb	-	558 lb	1058/-104 lb	262/-854 lb
Point	10'- 3/4"	10'- 3/4"	A(Cond09)	Top	682 lb	-	532 lb	857/-16 lb	250/-1007 lb
Point	12'- 3/4"	12'- 3/4"	A(Cond11)	Top	560 lb	-	384 lb	700/-35 lb	180/-564 lb
Point	14'- 3/4"	14'- 3/4"	A(Cond13)	Top	569 lb	-	396 lb	706/-45 lb	187/-567 lb
Point	16'- 3/4"	16'- 3/4"	A(Cond10)	Top	597 lb	-	428 lb	724 lb	202/-841 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 2 1/2"	E6(i7)	2853 lb	-	1967 lb	3371/-106 lb	0 lb/ -4124 lb
2	16'- 2 1/2"	16'- 5"	E4(i4)	2834 lb	-	1982 lb	3447/-139 lb	0 lb/ -4124 lb

DESIGN NOTES

- CAUTION: The maximum net analysis reaction exceeds the user-defined maximum uplift value at one or more supports.
- 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.