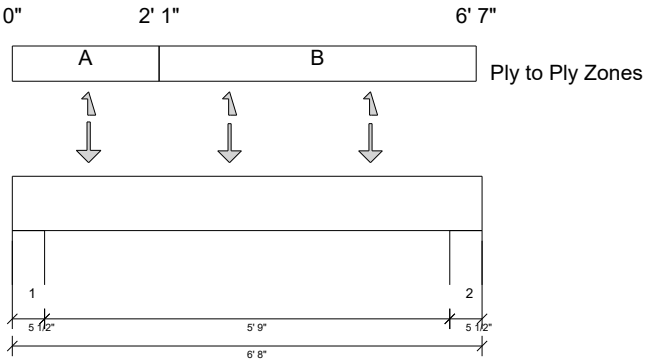
MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB1-2 - i375** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update5.FT.1

Report Version: 2020.10.28 06/08/2021 13:32



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: 0'

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 4 1/2"
- 425 psi Wall @ 6'- 3 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 1"	D + Lr	1.15	2499 lb ft	15319 lb ft	Passed - 16%
Max Neg. Moment:	3'- 1"	0.6D + 0.6W	1.60	390 lb ft	21313 lb ft	Passed - 2%
Max Shear:	1'- 2 3/4"	D + Lr	1.15	1530 lb	7198 lb	Passed - 21%
Live Load (LL) Pos. Defl.:	3'- 3 7/8"	0.75(L + Lr + 0.6W)		0.018"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 3 13/16"	D + 0.75(L + Lr + 0.6W)		0.034"	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	5 1/2"	D + Lr	1.15	1749 lb		14438 lb	8181 lb	Passed - 21%
1	5 1/2"	0.6D + 0.6W	1.60		-226 lb	-	-	
2	5 1/2"	D + Lr	1.15	1426 lb		14438 lb	8181 lb	Passed - 17%
2	5 1/2"	0.6D + 0.6W	1.60		-224 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	6'- 8"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	1'- 1"	1'- 1"	F3(c01)	Front	573 lb	-	254 lb	525/-43 lb	213/-630 lb
Point	3'- 1"	3'- 1"	F4(c02)	Front	482 lb	-	255 lb	527/-43 lb	213/-634 lb
Point	5'- 1"	5'- 1"	F4(c01)	Front	483 lb	-	255 lb	528/-43 lb	213/-635 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 5 1/2"	E4(i74)	893 lb	-	414 lb	856/-70 lb	589 lb/ -1270 lb
2	6'- 2 1/2"	6'- 8"	E29(i69)	702 lb	-	350 lb	724/-59 lb	589 lb/ -1270 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.

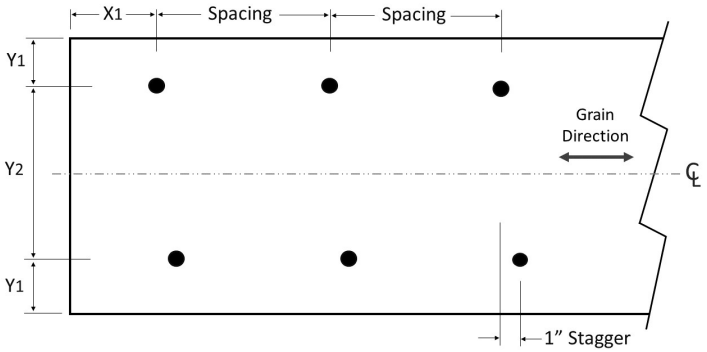
PLY TO PLY CONNECTION

- Zone A: Factored load = 695 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 8. Row = 2, Spacing = 8"
  Zone B: Factored load = 641 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 14. Row = 2, Spacing = 8"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , 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 P...	Job Name: **A** Level: **1st FLOOR** Label: **FB1-2 - i375** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)

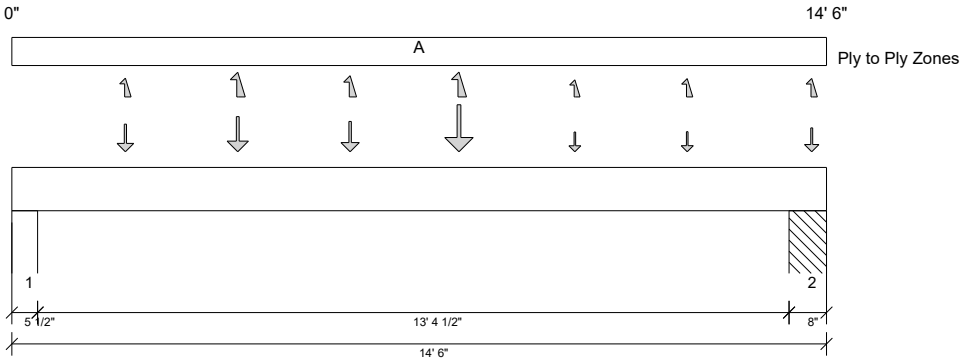


MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB2-2 - i380** Type: **Beam**	**3 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update5.FT.1

Report Version: 2020.10.28 06/08/2021 13:32



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: 2'- 1 1/2" Bottom: 0'

Bearing Stress of Support Material:

- 1265 psi Wall @ 0'- 4 1/2"
- 725 psi Column @ 13'- 11"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 11 1/2"	D + Lr	1.15	11154 lb ft	22978 lb ft	Passed - 49%
Max Neg. Moment:	6'- 1/4"	0.6D + 0.6W	1.60	1923 lb ft	31970 lb ft	Passed - 6%
Max Shear:	1'- 2 3/4"	D + Lr	1.15	2812 lb	10797 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	7'- 3/4"	Lr		0.259"	L/360	Passed - L/618
Total Load (TL) Pos. Defl.:	7'- 3/4"	D + Lr		0.521"	L/240	Passed - L/308

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	5 1/2"	D + Lr	1.15	2828 lb		21656 lb	36527 lb	Passed - 13%
1	5 1/2"	0.6D + 0.6W	1.60		-511 lb	-	-	
2	8"	D + Lr	1.15	2877 lb		31500 lb	30450 lb	Passed - 9%
2	8"	0.6D + 0.6W	1.60		-563 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	14'- 6"	Self Weight	Top	13 lb/ft	-	-	-	-
Point	2'- 1/4"	2'- 1/4"	G1(c01)	Top	370 lb	-	181 lb	358/-17 lb	143/-451 lb
Point	4'- 1/4"	4'- 1/4"	G1(c02)	Top	466 lb	-	283 lb	548/-15 lb	253/-844 lb
Point	6'- 1/4"	6'- 1/4"	G2(c01)	Top	404 lb	-	217 lb	406 lb	204/-629 lb
Point	7'- 11 1/2"	7'- 11 1/2"	G3(c01)	Top	879 lb	-	381 lb	847/-109 lb	229/-763 lb
Point	10'- 1/4"	10'- 1/4"	J04B(c01)	Top	135 lb	-	99 lb	187 lb	110/-356 lb
Point	12'- 1/4"	12'- 1/4"	J02A(c01)	Top	123 lb	-	108 lb	202 lb	119/-438 lb
Point	14'- 2 7/8"	14'- 2 7/8"	CJ08(c02)	Top	264 lb	-	133 lb	330/-81 lb	77/-366 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 5 1/2"	E7(i76)	1424 lb	-	698 lb	1392/-70 lb	755 lb/ -2273 lb
2	13'- 10"	14'- 6"	PBO9(i99)	1403 lb	-	704 lb	1486/-152 lb	755 lb/ -2273 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.

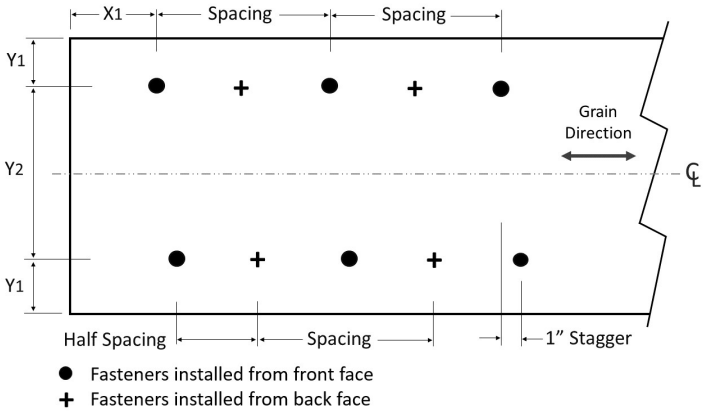
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 58. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from both faces.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB2-2 - i380** Type: **Beam**	**3 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM BOTH FACES)

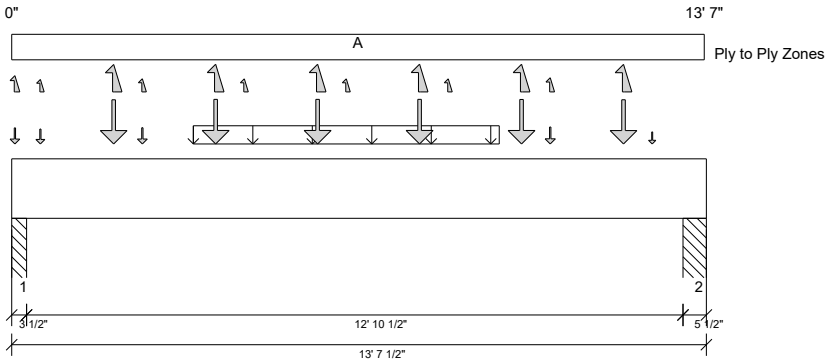


MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB3-2 - i376** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update5.FT.1

Report Version: 2020.10.28 06/08/2021 13:32



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'- 3 3/4" Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 2 1/2"
- 725 psi Column @ 13'- 3"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	6'	D + Lr	1.15	20941 lb ft	33318 lb ft	Passed - 63%
Max Neg. Moment:	6'	0.6D + 0.6W	1.60	4717 lb ft	46355 lb ft	Passed - 10%
Max Shear:	12'	D + Lr	1.15	6054 lb	10894 lb	Passed - 56%
Live Load (LL) Pos. Defl.:	6'- 8 13/16"	0.75(L + Lr + 0.6W)		0.219"	L/360	Passed - L/705
Total Load (TL) Pos. Defl.:	6'- 8 13/16"	D + 0.75(L + Lr + 0.6W)		0.414"	L/240	Passed - L/373

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 1/2"	D + 0.75(L + Lr + 0.6W)	1.60	6062 lb		9188 lb	8881 lb	Passed - 68%
1	3 1/2"	0.6D + 0.6W	1.60		-1470 lb	-	-	
2	5 1/2"	D + 0.75(L + Lr + 0.6W)	1.60	6147 lb		14437 lb	13956 lb	Passed - 44%
2	5 1/2"	0.6D + 0.6W	1.60		-1360 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	13'- 7 1/2"	Self Weight	Top	13 lb/ft	-	-	-	-
Uniform	3'- 6 3/4"	9'- 6 3/4"	Smoothed Load	Back	58 lb/ft	-	54 lb/ft	62 lb/ft	16 lb/ft
Point	0'- 6 3/4"	0'- 6 3/4"	J06(c04)	Back	102 lb	-	82 lb	83 lb	25/-103 lb
Point	2'- 6 3/4"	2'- 6 3/4"	J06(c07)	Back	118 lb	-	114 lb	128/-14 lb	34/-143 lb
Point	4'- 6 3/4"	4'- 6 3/4"	J06(c01)	Back	-	-	-	-14 lb	-137 lb
Point	6'- 6 3/4"	6'- 6 3/4"	J06(c05)	Back	-	-	-	-14 lb	-137 lb
Point	8'- 6 3/4"	8'- 6 3/4"	J06(c02)	Back	-	-	-	-14 lb	-137 lb
Point	10'- 6 3/4"	10'- 6 3/4"	J06(c06)	Back	129 lb	-	136 lb	145/-9 lb	40/-227 lb
Point	12'- 6 3/4"	12'- 6 3/4"	J06(c03)	Back	70 lb	-	-	-	-
Point	0'- 3/4"	0'- 3/4"	A10(c01)	Top	-	-	77 lb	179/-68 lb	127/-328 lb
Point	2'	2'	A1(c01)	Top	785 lb	-	569 lb	905/-42 lb	303/-1222 lb
Point	4'	4'	A1(c02)	Top	792 lb	-	577 lb	918/-43 lb	307/-1241 lb
Point	6'	6'	A1(c03)	Top	792 lb	-	577 lb	918/-43 lb	307/-1241 lb
Point	8'	8'	A1(c03)	Top	792 lb	-	578 lb	919/-43 lb	307/-1247 lb
Point	10'	10'	A2(c01)	Top	790 lb	-	576 lb	916/-43 lb	304/-1240 lb
Point	12'	12'	A2(c02)	Top	788 lb	-	573 lb	914/-43 lb	289/-1230 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"	PBO15(i374)	2802 lb	-	2100 lb	3215/-227 lb	1888 lb/ -5252 lb
2	13'- 2"	13'- 7 1/2"	PBO16(i378)	2920 lb	-	2104 lb	3197/-163 lb	1888 lb/ -5252 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.

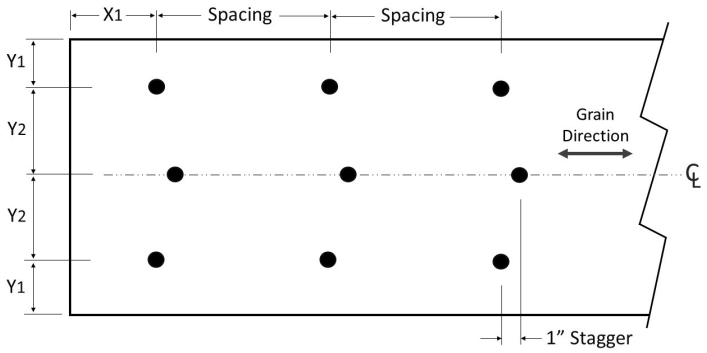
PLY TO PLY CONNECTION

MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB3-2 - i376** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

PLY TO PLY CONNECTION

- Zone A: Factored load = 239 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 42. Row = 3, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)

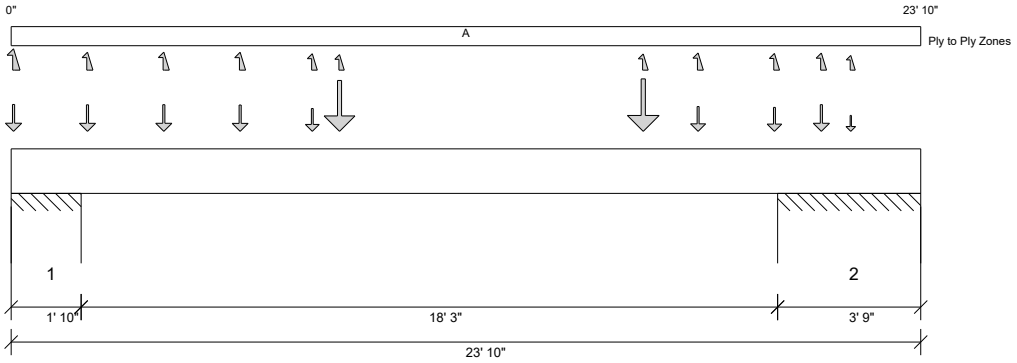


MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **GDH - i377** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update5.FT.1

Report Version: 2020.10.28 06/08/2021 13:32



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: 7'- 7" Bottom: 0'

Bearing Stress of Support Material:

- 725 psi Wall @ 1'- 8 1/2"
- 725 psi Wall @ 20'- 2 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 7 1/4"	D + 0.75(L + Lr)	1.15	17863 lb ft	33318 lb ft	Passed - 54%
Max Neg. Moment:	1'- 8 1/2"	D + 0.75(L + Lr)	1.15	29648 lb ft	33318 lb ft	Passed - 89%
Max Shear:	18'- 11"	D + 0.75(L + Lr)	1.15	8945 lb	10894 lb	Passed - 82%
Live Load (LL) Pos. Defl.:	10'- 8 3/16"	0.75(L + Lr + 0.6W)		0.255"	L/360	Passed - L/859
Total Load (TL) Pos. Defl.:	10'- 8 3/16"	D + 0.75(L + Lr + 0.6W)		0.456"	L/240	Passed - L/480

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	8 1/2"	D + 0.75(L + Lr)	1.15		-17907 lb	-	-	
1	1' 1 1/2"	D + 0.75(L + Lr)	1.15	28987 lb		35438 lb	34256 lb	Passed - 85%
2	1' 9"	D + 0.75(L + Lr)	1.15	18646 lb		55125 lb	53288 lb	Passed - 35%
2	11 1/2"	D + 0.75(L + Lr)	1.15		-6443 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	23'- 10"	Self Weight	Top	13 lb/ft	-	-	-	-
Point	0'- 3/4"	0'- 3/4"	C5(c01)	Top	773 lb	273 lb	380 lb	776/-54 lb	335/-1465 lb
Point	2'	2'	C1(c01)	Top	735 lb	547 lb	304 lb	621/-43 lb	265/-850 lb
Point	4'	4'	C1(c02)	Top	739 lb	547 lb	309 lb	629/-43 lb	270/-863 lb
Point	6'	6'	C1(c03)	Top	730 lb	532 lb	300 lb	613/-42 lb	262/-839 lb
Point	7'- 10 11/16"	7'- 10 11/16"	C1(c01)	Top	622 lb	356 lb	209 lb	425/-28 lb	184/-585 lb
Point	8'- 7 1/4"	8'- 7 1/4"	C2(c01)	Top	2517 lb	1179 lb	170 lb	2991/-13 lb	96/-434 lb
Point	16'- 6 3/4"	16'- 6 3/4"	C2A(c01)	Top	2555 lb	1278 lb	208 lb	3072/-20 lb	128/-548 lb
Point	18'	18'	C3(c02)	Top	675 lb	467 lb	253 lb	518/-37 lb	240/-714 lb
Point	20'	20'	C3(c01)	Top	645 lb	455 lb	223 lb	459/-35 lb	217/-632 lb
Point	21'- 2 3/4"	21'- 2 3/4"	C4(c01)	Top	1061 lb	184 lb	316 lb	629/-33 lb	311/-706 lb
Point	22'	22'	J07A(c01)	Top	160 lb	-	91 lb	172 lb	101/-292 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'- 10"	E20(i87)	16849/-10519 lb	9775/-6252 lb	3065/-1431 lb	18473/-12494 lb	2206 lb/ -5599 lb
==>	0'- 1 1/2"	0'- 1 1/2"	E20(i87)	-10519 lb	302/-6221 lb	-1431 lb	809/-12154 lb	-
==>	1'- 8 1/2"	1'- 8 1/2"	E20(i87)	16849 lb	9473/-31 lb	3065 lb	17664/-340 lb	-
2	20'- 1"	23'- 10"	E2(i80)	5191 lb	2355 lb	1129 lb	4956/-320 lb	2206 lb/ -5599 lb
==>	20'- 2 1/2"	20'- 2 1/2"	E2(i80)	5191 lb	2308 lb	1129 lb	4694/-184 lb	-
==>	23'- 8 1/2"	23'- 8 1/2"	E2(i80)	-	47 lb	-	262/-136 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.

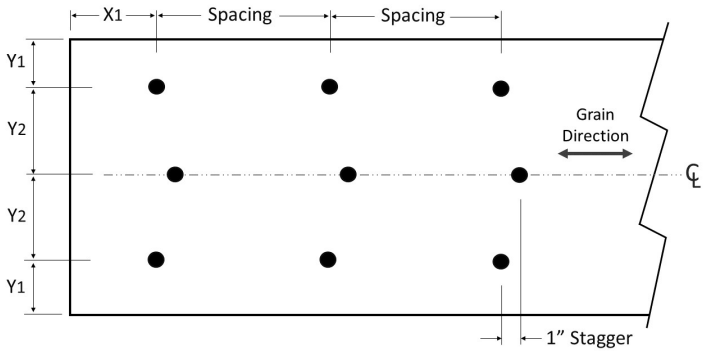
PLY TO PLY CONNECTION

MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **GDH - i377** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 72. Row = 3, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)

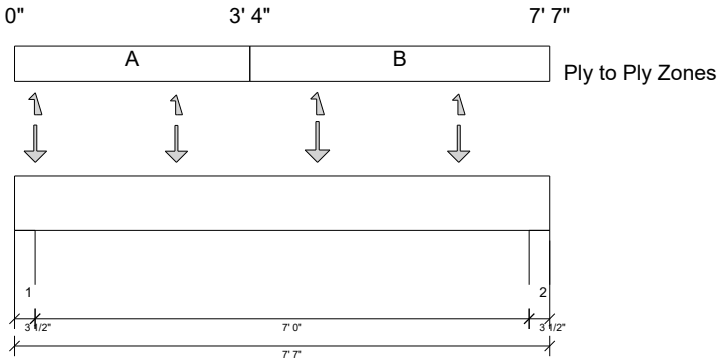


MiTek	Customer: Street 1: City: Customer P...	Job Name: **A** Level: **1st FLOOR** Label: **FB5-2 - i340** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.0.207.Update5.FT.1

Report Version: 2020.10.28 06/08/2021 13:32



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: 0'

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 2 1/2"
- 425 psi Wall @ 7'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 3 9/16"	D + Lr	1.15	5575 lb ft	15319 lb ft	Passed - 36%
Max Neg. Moment:	4'- 3 9/16"	0.6D + 0.6W	1.60	626 lb ft	21313 lb ft	Passed - 3%
Max Shear:	6'- 6 1/4"	D + Lr	1.15	2832 lb	7198 lb	Passed - 39%
Live Load (LL) Pos. Defl.:	3'- 10"	Lr		0.058"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 9 15/16"	D + Lr		0.110"	L/240	Passed - L/766

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 1/2"	D + Lr	1.15	3681 lb		9188 lb	5206 lb	Passed - 71%
1	3 1/2"	0.6D + 0.6W	1.60		-319 lb	-	-	
2	3 1/2"	D + Lr	1.15	2841 lb		9188 lb	5206 lb	Passed - 55%
2	3 1/2"	0.6D + 0.6W	1.60		-266 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	7'- 7"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	0'- 3 9/16"	0'- 3 9/16"	A8(c01)	Back	739 lb	-	458 lb	829/-54 lb	232/-928 lb
Point	2'- 3 9/16"	2'- 3 9/16"	A7(c01)	Back	736 lb	-	439 lb	822/-63 lb	231/-747 lb
Point	4'- 3 9/16"	4'- 3 9/16"	A7(c03)	Back	810 lb	-	506 lb	956/-57 lb	276/-977 lb
Point	6'- 3 9/16"	6'- 3 9/16"	A7(c02)	Back	743 lb	-	448 lb	822/-51 lb	234/-836 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"	7(i339)	1775 lb	-	1068 lb	1971/-132 lb	0 lb/ -2323 lb
2	7'- 3 1/2"	7'- 7"	6(i338)	1318 lb	-	783 lb	1458/-93 lb	0 lb/ -2323 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

- Zone A: Factored load = 1705 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 28. Row = 2, Spacing = 3"
  Zone B: Factored load = 1087 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 22. Row = 2, Spacing = 5"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , 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 P...	Job Name: **A** Level: **1st FLOOR** Label: **FB5-2 - i340** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 9-1/4**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)