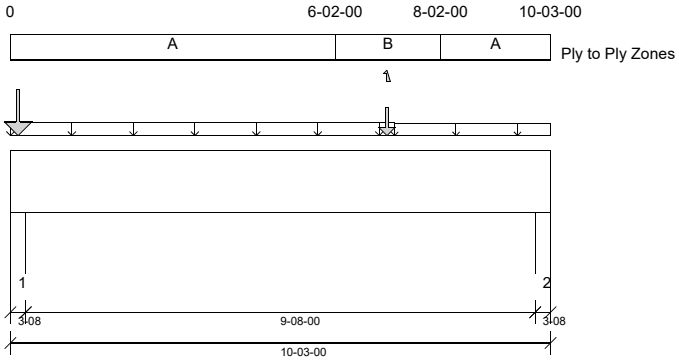
MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB11 - i83** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:30



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

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 2 1/2"
- 425 psi Wall @ 10'- 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	6'- 1 1/2"	D + L	1.00	1109 lb ft	24252 lb ft	Passed - 5%
Max Shear:	8'- 9 1/2"	D + L	1.00	377 lb	9310 lb	Passed - 4%
Live Load (LL) Pos. Defl.:	5'- 3 1/8"	L		0.010"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 3 5/16"	D + L		0.016"	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 + 0.75(L + Lr)	1.15	770 lb		9188 lb	5206 lb	Passed - 15%
2	3-08	D + L	1.00	416 lb		9188 lb	5206 lb	Passed - 8%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	10'- 3"	Self Weight	Top	14 lb/ft	-	-	-	-
Uniform	-0'	7'- 3 1/2"	FC1 Floor Decking (Plan View Fill)	Top	10 lb/ft	40 lb/ft	-	-	-
Uniform	7'- 3 1/2"	10'- 3"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	10 lb/ft	-	-	-
Point	7'- 1 3/4"	7'- 1 3/4"	2FB4A(i84)	Back	95 lb	167 lb	-	3 lb	1/-3 lb
Point	0'- 1 3/4"	0'- 1 3/4"	E16(i42)	Top	247 lb	-	-	250 lb	60 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"	E8(i10)	400 lb	240 lb	-	256 lb	80 lb/ -1 lb
2	9'- 11 1/2"	10'- 3"	6(i19)	168 lb	248 lb	-	-3 lb	80 lb/ -1 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) = 1.00

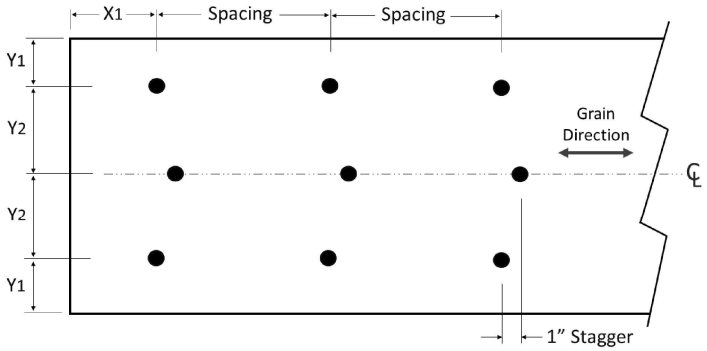
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 30. Row = 3, Spacing = 12"
  Zone B: Factored load = 131 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 6. Row = 3, 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.

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB11 - i83** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

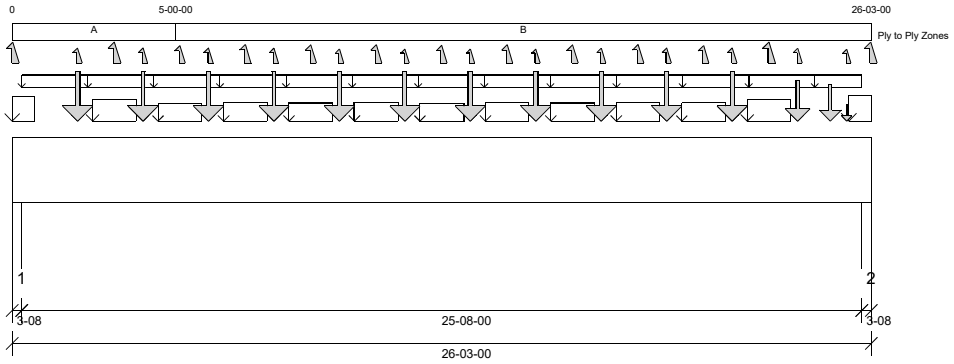
PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)



MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB28 - i21** Type: **Beam**	**2 Ply Member** **1 3/4" x 24" 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.Update10.S.13 Report Version: 2021.03.26 05/03/2024 16:30



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: 0' Bottom: 25'- 8"

Bearing Stress of Support Material:

- 1323 psi Wall @ 0'- 2 1/2"
- 1323 psi Wall @ 26'- 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	13'- 9 1/8"	D + L	1.00	38879 lb ft	66248 lb ft	Passed - 59%
Max Shear:	23'- 11 1/2"	D + L	1.00	5816 lb	15960 lb	Passed - 36%
Live Load (LL) Pos. Defl.:	13'- 1 1/2"	0.75(L + Lr + 0.6W)		0.396"	L/360	Passed - L/777
Total Load (TL) Pos. Defl.:	13'- 1 1/2"	D + 0.75(L + Lr + 0.6W)		0.684"	L/240	Passed - L/450

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 + L	1.00	5752 lb		9187 lb	16207 lb	Passed - 63%
2	3-08	D + L	1.00	6001 lb		9187 lb	16207 lb	Passed - 65%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	26'- 3"	Self Weight	Top	25 lb/ft	-	-	-	-
Uniform	-0'	0'- 8 1/4"	E18(i39)	Top	112 lb/ft	-	-	154 lb/ft	36 lb/ft
Uniform	0'- 3 1/2"	25'- 11 1/2"	LG2(i76)	Front	2 lb/ft	-	-	-	-
Uniform	2'- 5 1/2"	3'- 9 1/2"	E18(i39)	Top	94 lb/ft	-	-	107 lb/ft	23 lb/ft
Uniform	4'- 5 1/2"	5'- 9 1/2"	E18(i39)	Top	49 lb/ft	-	-	77 lb/ft	13 lb/ft
Uniform	6'- 5 1/2"	7'- 9 1/2"	E18(i39)	Top	64 lb/ft	-	-	76 lb/ft	17 lb/ft
Uniform	8'- 5 1/2"	9'- 9 1/2"	E18(i39)	Top	60 lb/ft	-	-	71 lb/ft	16 lb/ft
Uniform	10'- 5 1/2"	11'- 9 1/2"	E18(i39)	Top	61 lb/ft	-	-	71 lb/ft	17 lb/ft
Uniform	12'- 5 1/2"	13'- 9 1/2"	E18(i39)	Top	58 lb/ft	-	-	65 lb/ft	14 lb/ft
Uniform	14'- 5 1/2"	15'- 9 1/2"	E18(i39)	Top	61 lb/ft	-	-	71 lb/ft	17 lb/ft
Uniform	16'- 5 1/2"	17'- 9 1/2"	E18(i39)	Top	60 lb/ft	-	-	71 lb/ft	16 lb/ft
Uniform	18'- 5 1/2"	19'- 9 1/2"	E18(i39)	Top	64 lb/ft	-	-	75 lb/ft	17 lb/ft
Uniform	20'- 5 1/2"	21'- 9 1/2"	E18(i39)	Top	50 lb/ft	-	-	77 lb/ft	14 lb/ft
Uniform	22'- 5 1/2"	23'- 9 1/2"	E18(i39)	Top	92 lb/ft	-	-	107 lb/ft	23 lb/ft
Uniform	25'- 6 3/4"	26'- 3"	E18(i39)	Top	116 lb/ft	-	-	164 lb/ft	39 lb/ft
Point	2'	2'	C02(c05)	Front	60 lb	-	-	63/-7 lb	19/-52 lb
Point	4'	4'	C02(c03)	Front	60 lb	-	-	64/-7 lb	19/-53 lb
Point	6'	6'	C02(c06)	Front	60 lb	-	-	64/-7 lb	19/-53 lb
Point	8'	8'	C02(c10)	Front	60 lb	-	-	64/-7 lb	19/-49 lb
Point	10'	10'	C02(c01)	Front	60 lb	-	-	64/-7 lb	19/-31 lb
Point	12'	12'	C02(c11)	Front	60 lb	-	-	64/-7 lb	19/-30 lb
Point	14'	14'	C02(c02)	Front	60 lb	-	-	64/-7 lb	19/-30 lb
Point	16'	16'	C02(c09)	Front	60 lb	-	-	64/-7 lb	19/-30 lb
Point	18'	18'	C02(c04)	Front	60 lb	-	-	64/-7 lb	19/-47 lb
Point	20'	20'	C02(c13)	Front	60 lb	-	-	64/-7 lb	19/-53 lb
Point	22'	22'	C02(c12)	Front	60 lb	-	-	64/-7 lb	19/-53 lb
Point	24'	24'	C02(c07)	Front	57 lb	-	-	56/-6 lb	17/-47 lb
Point	25'- 6"	25'- 6"	C02(c08)	Front	47 lb	-	-	35/-4 lb	10/-29 lb
Point	2'	2'	2F11(c10)	Back	199 lb	542 lb	-	-	-
Point	4'	4'	2F11(c03)	Back	199 lb	542 lb	-	-	-
Point	6'	6'	2F11(c05)	Back	199 lb	542 lb	-	-	-
Point	8'	8'	2F11(c08)	Back	199 lb	542 lb	-	-	-
Point	10'	10'	2F11(c04)	Back	199 lb	542 lb	-	-	-
Point	12'	12'	2F11(c07)	Back	199 lb	542 lb	-	-	-
Point	14'	14'	2F11(c09)	Back	199 lb	542 lb	-	-	-
Point	16'	16'	2F11(c12)	Back	199 lb	542 lb	-	-	-
Point	18'	18'	2F11(c11)	Back	199 lb	542 lb	-	-	-
Point	20'	20'	2F11(c01)	Back	199 lb	542 lb	-	-	-
Point	22'	22'	2F11(c06)	Back	199 lb	542 lb	-	-	-
Point	24'	24'	2F11(c13)	Back	166 lb	406 lb	-	-	-
Point	25'	25'	2F11(c02)	Back	147 lb	332 lb	-	-	-
Point	0'- 1/4"	0'- 1/4"	E18(i39)	Top	-	-	-	-	-172 lb

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB28 - i21** Type: **Beam**	**2 Ply Member** **1 3/4" x 24" 2.0E Microllam® LVL**	Status: **Design Passed**

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Point	3'- 1 1/2"	3'- 1 1/2"	E18(i39)	Top	-	-	-	-	-179 lb
Point	5'- 1 1/2"	5'- 1 1/2"	E18(i39)	Top	-	-	-	-	-105 lb
Point	7'- 1 1/2"	7'- 1 1/2"	E18(i39)	Top	-	-	-	-	-129 lb
Point	9'- 1 1/2"	9'- 1 1/2"	E18(i39)	Top	-	-	-	-	-123 lb
Point	11'- 1 1/2"	11'- 1 1/2"	E18(i39)	Top	-	-	-	-	-124 lb
Point	13'- 1 1/2"	13'- 1 1/2"	E18(i39)	Top	-	-	-	-	-113 lb
Point	15'- 1 1/2"	15'- 1 1/2"	E18(i39)	Top	-	-	-	-	-124 lb
Point	17'- 1 1/2"	17'- 1 1/2"	E18(i39)	Top	-	-	-	-	-123 lb
Point	19'- 1 1/2"	19'- 1 1/2"	E18(i39)	Top	-	-	-	-	-129 lb
Point	21'- 1 1/2"	21'- 1 1/2"	E18(i39)	Top	-	-	-	-	-106 lb
Point	23'- 1 1/2"	23'- 1 1/2"	E18(i39)	Top	-	-	-	-	-178 lb
Point	26'- 2 3/4"	26'- 2 3/4"	E18(i39)	Top	-	-	-	-	-175 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"	E1(i6)	2462 lb	3286 lb	-	1068/-42 lb	89 lb/ -1280 lb
2	25'- 11 1/2"	26'- 3"	E9(i2)	2591 lb	3414 lb	-	1100/-45 lb	89 lb/ -1280 lb

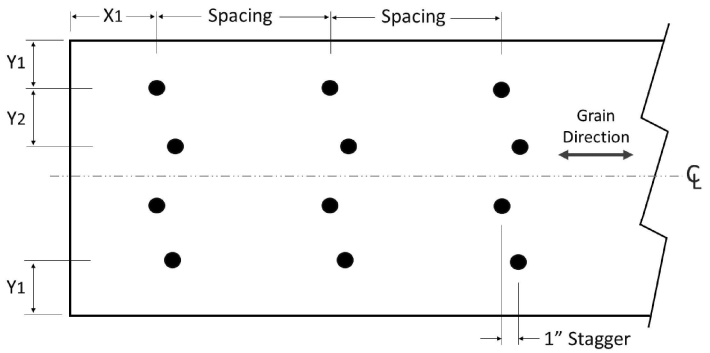
DESIGN NOTES

- 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) = 1.00

PLY TO PLY CONNECTION

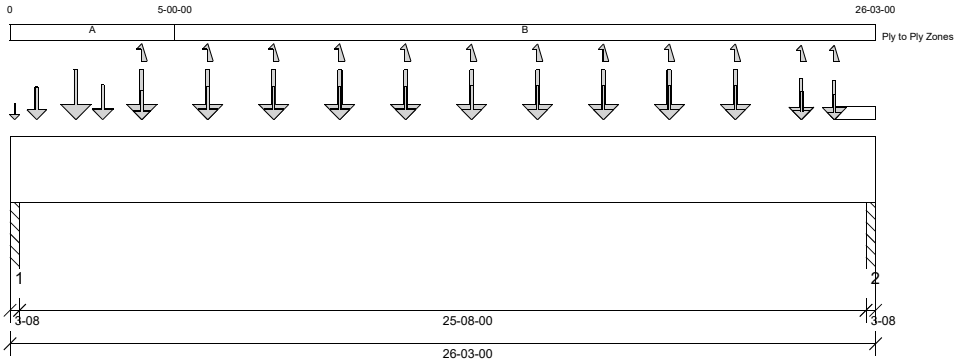
- Zone A: Factored load = 371 plf. Use 12d (0.131"x3.25") nails. LDF = .90. Qty = 24. Row = 4, Spacing = 12"
  Zone B: Factored load = 752 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 88. Row = 4, Spacing = 12"
  12d (0.131"x3.25") nails properties: D = 0.131" , L = 3.25". Fastener capacity = 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.

FASTENER INSTALLATION – 4 ROWS (FROM ONE FACE)



MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB28A - i81** Type: **Beam**	**3 Ply Member** **1 3/4" x 24" 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.Update10.S.13 — Report Version: 2021.03.26 05/03/2024 16:30



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: 0' Bottom: 26'- 3"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 2 1/2"
- 725 psi Column @ 26'- 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	14'	D + L	1.00	51191 lb ft	99373 lb ft	Passed - 52%
Max Shear:	2'- 3 1/2"	D + L	1.00	7696 lb	23940 lb	Passed - 32%
Live Load (LL) Pos. Defl.:	13'- 1 7/16"	L		0.421"	L/360	Passed - L/731
Total Load (TL) Pos. Defl.:	13'- 1 1/2"	D + L		0.601"	L/240	Passed - L/512

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 + L	1.00	7808 lb		13781 lb	13322 lb	Passed - 59%
2	3-08	D + L	1.00	7853 lb		13781 lb	13322 lb	Passed - 59%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	26'- 3"	Self Weight	Top	37 lb/ft	-	-	-	-
Uniform	25'	26'- 3"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	9 lb/ft	-	-	-
Point	2'	2'	2F11(c10)	Front	199 lb	539 lb	-	-	-
Point	4'	4'	2F11(c03)	Front	199 lb	539 lb	-	-	-
Point	6'	6'	2F11(c05)	Front	199 lb	539 lb	-	-	-
Point	8'	8'	2F11(c08)	Front	199 lb	539 lb	-	-	-
Point	10'	10'	2F11(c04)	Front	199 lb	539 lb	-	-	-
Point	12'	12'	2F11(c07)	Front	199 lb	539 lb	-	-	-
Point	14'	14'	2F11(c09)	Front	199 lb	539 lb	-	-	-
Point	16'	16'	2F11(c12)	Front	199 lb	539 lb	-	-	-
Point	18'	18'	2F11(c11)	Front	199 lb	539 lb	-	-	-
Point	20'	20'	2F11(c01)	Front	199 lb	539 lb	-	-	-
Point	22'	22'	2F11(c06)	Front	199 lb	539 lb	-	-	-
Point	24'	24'	2F11(c13)	Front	165 lb	404 lb	-	-	-
Point	25'	25'	2F11(c02)	Front	158 lb	375 lb	-	-	-
Point	0'- 9 3/4"	0'- 9 3/4"	2F02(c01)	Back	114 lb	275 lb	-	-	-
Point	2'- 9 3/4"	2'- 9 3/4"	2F02(c02)	Back	123 lb	311 lb	-	-	-
Point	4'	4'	2F03(c05)	Back	72 lb	257/-102 lb	-	-1 lb	1/0 lb
Point	6'	6'	2F03(c03)	Back	90 lb	322/-102 lb	-	-1 lb	1/0 lb
Point	8'	8'	2F03(c02)	Back	90 lb	322/-102 lb	-	-1 lb	1/0 lb
Point	10'	10'	2F03(c04)	Back	90 lb	322/-102 lb	-	-1 lb	1/0 lb
Point	12'	12'	2F03(c01)	Back	90 lb	322/-102 lb	-	-1 lb	1/0 lb
Point	14'	14'	2F04(c06)	Back	93 lb	322/-97 lb	-	-	-
Point	16'	16'	2F04(c03)	Back	93 lb	322/-97 lb	-	-	-
Point	18'	18'	2F04(c01)	Back	93 lb	322/-97 lb	-	-	-
Point	20'	20'	2F04(c04)	Back	93 lb	322/-97 lb	-	-	-
Point	22'	22'	2F04(c07)	Back	93 lb	322/-97 lb	-	-	-
Point	24'	24'	2F04(c05)	Back	77 lb	241/-73 lb	-	-	-
Point	25'	25'	2F04(c02)	Back	61 lb	181/-71 lb	-	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	E19(i37)	Top	28 lb	-	-	32 lb	7 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"	PBO8(i77)	2394 lb	5415/-516 lb	-	32/-3 lb	12 lb/ 0 lb
2	25'- 11 1/2"	26'- 3"	PBO9(i86)	2385 lb	5467/-623 lb	-	-2 lb	12 lb/ 0 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.

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB28A - i81** Type: **Beam**	**3 Ply Member** **1 3/4" x 24" 2.0E Microllam® LVL**	Status: **Design Passed**

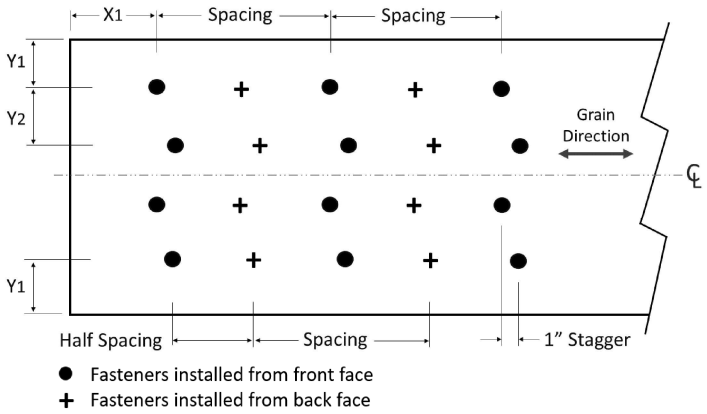
DESIGN NOTES

- 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) = 1.00

PLY TO PLY CONNECTION

- Zone A: Factored load = 379 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 44. Row = 4, Spacing = 12"
  Zone B: Factored load = 748 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 228. Row = 4, Spacing = 9"
  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 both faces.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 4 ROWS (FROM BOTH FACES)

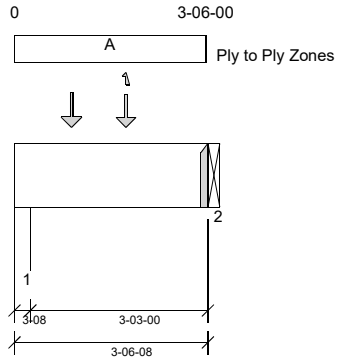


MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB4A - i84** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:31



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: 0' Bottom: 1'- 4 1/4"

Bearing Stress of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	2'- 1/2"	D + L	1.00	377 lb ft	24252 lb ft	Passed - 2%
Max Shear:	2'- 4 1/2"	D + L	1.00	246 lb	9310 lb	Passed - 3%

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 + L	1.00	395 lb		9188 lb	5206 lb	Passed - 8%
2	1-08	D + L	1.00	262 lb		3937 lb	-	Passed - 7%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	HUS410	Simpson	-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	3'- 6 1/2"	Self Weight	Top	14 lb/ft	-	-	-	-
Point	1'- 1/2"	1'- 1/2"	2F12(c02)	Front	91 lb	227 lb	-	1 lb	0 lb
Point	2'- 1/2"	2'- 1/2"	2F12(c01)	Front	88 lb	201 lb	-	5 lb	1/-6 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"	8(i87)	135 lb	261 lb	-	3 lb	1 lb/ -4 lb
2	3'- 6 1/2"	3'- 6 1/2"	2FB11(i83)	95 lb	167 lb	-	3 lb	1 lb/ -4 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) = 1.00

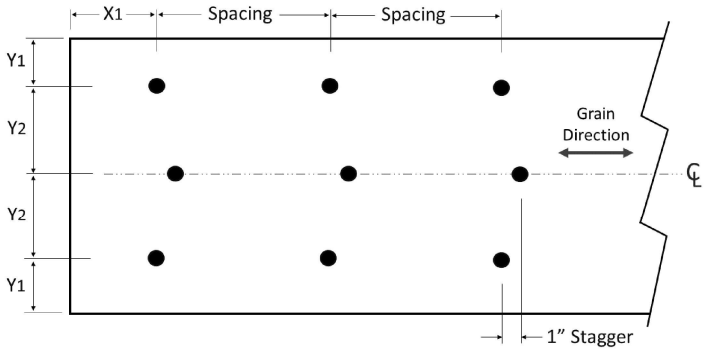
PLY TO PLY CONNECTION

- Zone A: Factored load = 212 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 12. Row = 3, 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.

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB4A - i84** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)

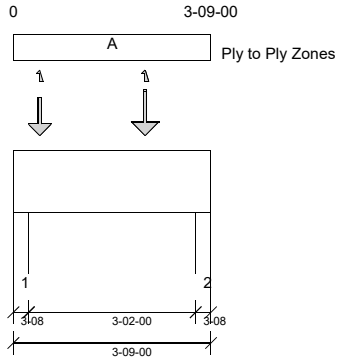


MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB4 - i82** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:31



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: 0' Bottom: 1'- 8 1/2"

Bearing Stress of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	2'- 6"	D + L	1.00	1318 lb ft	24252 lb ft	Passed - 5%
Max Shear:	2'- 3 1/2"	D + L	1.00	958 lb	9310 lb	Passed - 10%

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 + L	1.00	1661 lb		9188 lb	5206 lb	Passed - 32%
2	3-08	D + L	1.00	1276 lb		9188 lb	5206 lb	Passed - 25%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	3'- 9"	Self Weight	Top	14 lb/ft	-	-	-	-
Point	0'- 6"	0'- 6"	2F13(c01)	Front	174 lb	388 lb	-	2 lb	0/-3 lb
Point	2'- 6"	2'- 6"	2F13(c02)	Front	235 lb	628 lb	-	3 lb	1/-3 lb
Point	0'- 6"	0'- 6"	2F06(c01)	Back	187 lb	473 lb	-	-	-
Point	2'- 6"	2'- 6"	2F07(c01)	Back	218 lb	580 lb	-	3 lb	1/-3 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"	6(i19)	529 lb	1239 lb	-	4 lb	1 lb/ -6 lb
2	3'- 5 1/2"	3'- 9"	3(i16)	338 lb	830 lb	-	4 lb	1 lb/ -6 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) = 1.00

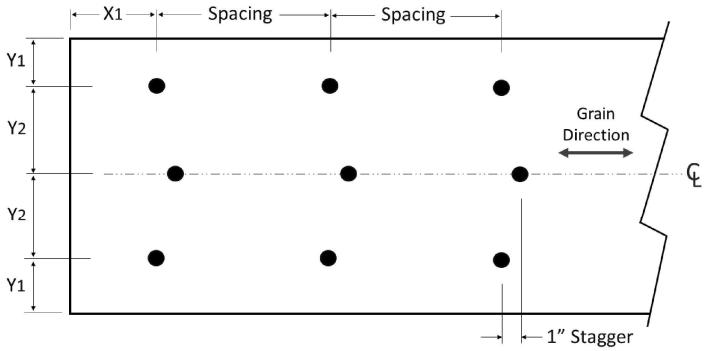
PLY TO PLY CONNECTION

- Zone A: Factored load = 839 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 18. Row = 3, Spacing = 8"
  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.

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB4 - i82** Type: **Beam**	**2 Ply Member** **1 3/4" x 14" 2.0E Microllam® LVL**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)

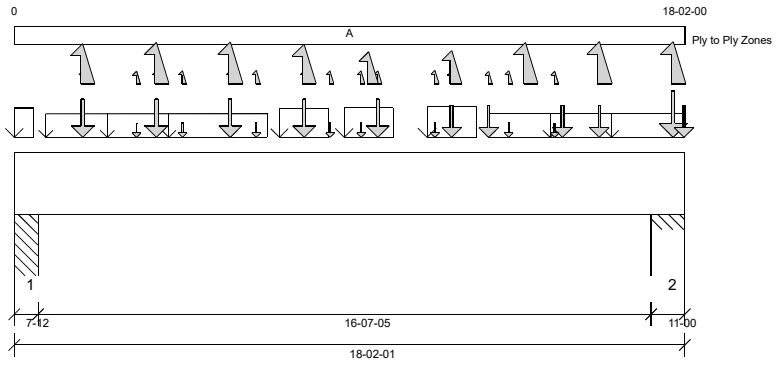


MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB20 - i79** Type: **Beam**	**2 Ply Member** **1 3/4" x 20" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:31



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: 0' Bottom: 16'- 4 9/16"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 6 3/4"
- 725 psi Column @ 17'- 4 1/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	9'- 1"	D + 0.75(L + Lr)	1.15	29861 lb ft	54244 lb ft	Passed - 55%
Max Neg. Moment:	17'- 4 1/16"	D + 0.75(L + Lr + 0.6W)	1.60	868 lb ft	36676 lb ft	Passed - 2%
Max Shear:	15'- 7 1/16"	D + 0.75(L + Lr)	1.15	5990 lb	15295 lb	Passed - 39%
Live Load (LL) Pos. Defl.:	8'- 11 1/2"	0.75(L + Lr + 0.6W)		0.234"	L/360	Passed - L/850
Total Load (TL) Pos. Defl.:	8'- 11 3/8"	D + 0.75(L + Lr + 0.6W)		0.445"	L/240	Passed - L/447

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	7-12	D + 0.75(L + Lr)	1.15	7287 lb		20304 lb	19627 lb	Passed - 37%
2	11-00	D + 0.75(L + Lr)	1.15	8511 lb		28809 lb	27848 lb	Passed - 31%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	18'- 2 1/16"	Self Weight	Top	20 lb/ft	-	-	-	-
Uniform	0'	0'- 6 1/4"	E14(i40)	Top	461 lb/ft	-	-	476 lb/ft	114 lb/ft
Uniform	7'- 2 1/4"	8'- 6 1/4"	E14(i40)	Top	452 lb/ft	-	-	457 lb/ft	110 lb/ft
Uniform	8'- 11 1/4"	10'- 3 1/4"	E14(i40)	Top	462 lb/ft	-	-	479 lb/ft	115 lb/ft
Uniform	11'- 2 1/4"	12'- 6 1/4"	E14(i40)	Top	492 lb/ft	-	-	511 lb/ft	122 lb/ft
Tapered	0'- 10 1/4"	6'- 10 1/4"	E14(i40)	Top	308 To 311 lb/ft	-	-	318 To 326 lb/ft	76 To 78 lb/ft
Tapered	12'- 10 1/4"	18'- 2 1/16"	E14(i40)	Top	308 To 307 lb/ft	-	-	320 To 318 lb/ft	77 To 76 lb/ft
Point	1'- 10 1/4"	1'- 10 1/4"	2F04(c06)	Front	160 lb	438/-26 lb	-	-	-
Point	3'- 10 1/4"	3'- 10 1/4"	2F04(c03)	Front	160 lb	438/-26 lb	-	-	-
Point	5'- 10 1/4"	5'- 10 1/4"	2F04(c01)	Front	160 lb	438/-26 lb	-	-	-
Point	7'- 10 1/4"	7'- 10 1/4"	2F04(c04)	Front	160 lb	438/-26 lb	-	-	-
Point	9'- 10 1/4"	9'- 10 1/4"	2F04(c07)	Front	160 lb	438/-26 lb	-	-	-
Point	11'- 10 1/4"	11'- 10 1/4"	2F04(c05)	Front	133 lb	329/-20 lb	-	-	-
Point	12'- 10 1/4"	12'- 10 1/4"	2F04(c02)	Front	134 lb	332/-15 lb	-	-	-
Point	14'- 10 1/4"	14'- 10 1/4"	2F05(c01)	Front	134 lb	331 lb	-	-	-
Point	15'- 10 1/4"	15'- 10 1/4"	2F05(c02)	Front	134 lb	331 lb	-	-	-
Point	17'- 10 1/4"	17'- 10 1/4"	2F06(c01)	Front	210 lb	567 lb	-	-	-
Point	3'- 3 3/4"	3'- 3 3/4"	J01(c02)	Back	15 lb	-	-	8/-10 lb	9/-1 lb
Point	4'- 6 11/16"	4'- 6 11/16"	J02(c06)	Back	32 lb	-	-	34/-9 lb	8/-23 lb
Point	6'- 6 11/16"	6'- 6 11/16"	J02(c04)	Back	36 lb	-	-	41/-9 lb	10/-29 lb
Point	8'- 6 11/16"	8'- 6 11/16"	J02(c03)	Back	31 lb	-	-	29/-6 lb	7/-21 lb
Point	9'- 4 13/16"	9'- 4 13/16"	J02(c01)	Back	31 lb	-	-	29/-6 lb	7/-21 lb
Point	11'- 4 13/16"	11'- 4 13/16"	J02(c05)	Back	36 lb	-	-	41/-9 lb	10/-29 lb
Point	13'- 4 13/16"	13'- 4 13/16"	J02(c02)	Back	32 lb	-	-	34/-9 lb	8/-23 lb
Point	14'- 7 3/4"	14'- 7 3/4"	J01(c01)	Back	15 lb	-	-	8/-10 lb	9/-1 lb
Point	1'- 10 1/4"	1'- 10 1/4"	E14(i40)	Top	-	-	-	-	-639 lb
Point	3'- 3 3/4"	3'- 3 3/4"	E14(i40)	Top	14 lb	-	-	34/-8 lb	8/-10 lb
Point	3'- 10 1/4"	3'- 10 1/4"	E14(i40)	Top	-	-	-	-	-666 lb
Point	5'- 10 1/4"	5'- 10 1/4"	E14(i40)	Top	-	-	-	-1 lb	-673 lb
Point	7'- 10 1/4"	7'- 10 1/4"	E14(i40)	Top	-	-	-	-	-627 lb
Point	9'- 7 1/4"	9'- 7 1/4"	E14(i40)	Top	-	-	-	-1 lb	-456 lb
Point	11'- 10 1/4"	11'- 10 1/4"	E14(i40)	Top	-	-	-	-	-480 lb
Point	13'- 10 1/4"	13'- 10 1/4"	E14(i40)	Top	-	-	-	-	-667 lb
Point	14'- 7 3/4"	14'- 7 3/4"	E14(i40)	Top	14 lb	-	-	34/-8 lb	8/-10 lb
Point	15'- 10 1/4"	15'- 10 1/4"	E14(i40)	Top	-	-	-	-	-683 lb
Point	17'- 10 1/4"	17'- 10 1/4"	E14(i40)	Top	-	-	-	-	-682 lb
Point	18'- 1 13/16"	18'- 1 13/16"	E14(i40)	Top	204 lb	-	-	211 lb	50 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 7 3/4"	-	3714 lb	1774/-99 lb	-	3006/-43 lb	-

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2FB20 - i79** Type: **Beam**	**2 Ply Member** **1 3/4" x 20" 2.0E Microllam® LVL**	Status: **Design Passed**

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
++>	0'- 3"	0'- 3"	PBO10(i88)	2881 lb	1376/-77 lb	-	2332/-33 lb	-
++>	0'- 8 7/16"	0'- 8 7/16"	E3(i3)	833 lb	398/-22 lb	-	674/-10 lb	-
2	17'- 3 1/16"	18'- 2 1/16"	-	4269 lb	2323/-66 lb	-	3313/-44 lb	-
++>	17'- 3 1/16"	17'- 3 1/16"	E5(i5)	963 lb	524/-15 lb	-	747/-10 lb	-
++>	17'- 8 9/16"	17'- 8 9/16"	PBO11(i89)	2334 lb	1270/-36 lb	-	1811/-24 lb	-
++>	18'- 13/16"	18'- 13/16"	E6(i7)	972 lb	529/-15 lb	-	755/-10 lb	-

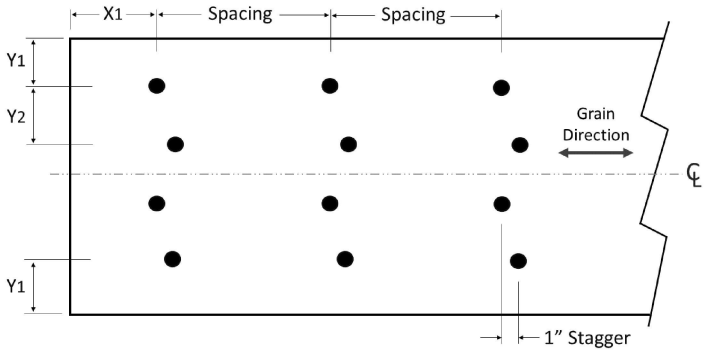
DESIGN NOTES

- CAUTION: One or more plies are not supported properly at 8-07. At least 75% of every ply must be contacting support.
- 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) = 1.00

PLY TO PLY CONNECTION

- Zone A: Factored load = 592 plf. Use 12d (0.131"x3.25") nails. LDF = 1.00. Qty = 76. Row = 4, 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.

FASTENER INSTALLATION – 4 ROWS (FROM ONE FACE)

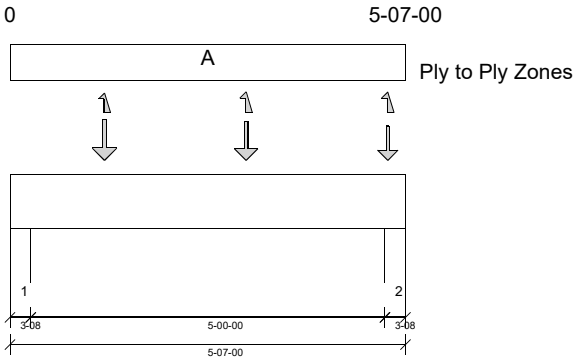


MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **H4 - i90** Type: **Beam**	**2 Ply Member** **1 3/4" x 9 1/4" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:31



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'- 8 1/2" Bottom: 5'- 7"

Bearing Stress of Support Material:

- 1323 psi Wall @ 0'- 2 1/2"
- 1323 psi Wall @ 5'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 4"	D + 0.75(L + Lr)	1.15	2831 lb ft	12830 lb ft	Passed - 22%
Max Shear:	1'- 3/4"	D + 0.75(L + Lr)	1.15	2023 lb	7074 lb	Passed - 29%
Live Load (LL) Pos. Defl.:	2'- 9 1/4"	0.75(L + Lr + 0.6W)		0.025"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 9 1/4"	D + 0.75(L + Lr + 0.6W)		0.046"	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 + 0.75(L + Lr)	1.15	2033 lb		9187 lb	16207 lb	Passed - 22%
2	3-08	D + 0.75(L + Lr)	1.15	2710 lb		9188 lb	16207 lb	Passed - 29%
2	3-08	0.6D + 0.6W	1.60		-101 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	5'- 7"	Self Weight	Top	9 lb/ft	-	-	-	-
Point	1'- 4"	1'- 4"	2F07(c01)	Top	829 lb	568 lb	-	639/0 lb	152/-676 lb
Point	3'- 4"	3'- 4"	2F08(c02)	Top	769 lb	497/-85 lb	-	633/-1 lb	151/-673 lb
Point	5'- 4"	5'- 4"	2F08(c01)	Top	650 lb	373/-85 lb	-	546/-1 lb	130/-662 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"	E6(i7)	979 lb	641/-34 lb	-	750 lb	298 lb/ -973 lb
2	5'- 3 1/2"	5'- 7"	E11(i26)	1322 lb	797/-136 lb	-	1068/-1 lb	298 lb/ -973 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

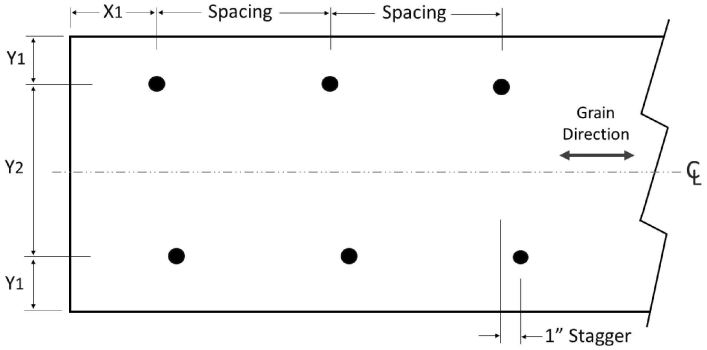
PLY TO PLY CONNECTION

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

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **H4 - i90** Type: **Beam**	**2 Ply Member** **1 3/4" x 9 1/4" 2.0E Microllam® LVL**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)

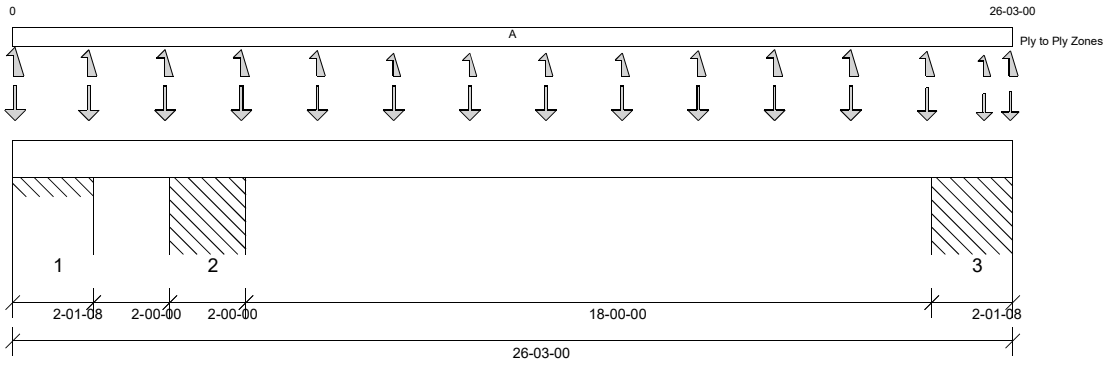


Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2DB28 - i36** Type: **Beam**	**2 Ply Member** **1 3/4" x 11 7/8" 2.0E Microllam® LVL**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.2.270.Update10.S.13

Report Version: 2021.03.26 05/03/2024 16:31



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: 26'- 3"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 1 1/2"
- 725 psi Wall @ 2'
- 725 psi Wall @ 4'- 3"
- 725 psi Wall @ 6'
- 725 psi Wall @ 24'- 3"
- 725 psi Wall @ 26'- 1 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	16'	D + Lr	1.15	1731 lb ft	20392 lb ft	Passed - 8%
Max Neg. Moment:	6'	D + Lr	1.15	2941 lb ft	13572 lb ft	Passed - 22%
Max Shear:	7'- 1 3/8"	D + Lr	1.15	914 lb	9081 lb	Passed - 10%
Live Load (LL) Pos. Defl.:	15'- 2"	Lr		0.048"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	15'- 1 15/16"	D + Lr		0.095"	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	4-12	D + Lr	1.15	167 lb		12469 lb	12053 lb	Passed - 1%
1	4-12	0.6D + 0.6W	1.60		-56 lb	-	-	
1	1-06-00	D + Lr	1.15	737 lb		47250 lb	45675 lb	Passed - 2%
1	1-06-00	0.6D + 0.6W	1.60		-40 lb	-	-	
2	10-00	0.6D + 0.6W	1.60	97 lb		36522 lb	25375 lb	Passed - 0%
2	10-00	D + Lr	1.15		-2249 lb	-	-	
2	1-02-00	D + Lr	1.15	3202 lb		36750 lb	35525 lb	Passed - 9%
2	1-02-00	0.6D + 0.6W	1.60		-109 lb	-	-	
3	1-04-12	D + Lr	1.15	2653 lb		43969 lb	42503 lb	Passed - 6%
3	1-04-12	0.6D + 0.6W	1.60		-216 lb	-	-	
3	8-12	0.6D + 0.6W	1.60	63 lb		31957 lb	22203 lb	Passed - 0%
3	8-12	D + Lr	1.15		-1403 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	26'- 3"	Self Weight	Top	12 lb/ft	-	-	-	-
Point	0'- 3/4"	0'- 3/4"	C01(c02)	Top	89 lb	-	-	112 lb	37/-168 lb
Point	2'	2'	C02(c05)	Top	87 lb	-	-	111 lb	37/-138 lb
Point	4'	4'	C02(c03)	Top	88 lb	-	-	112 lb	37/-140 lb
Point	6'	6'	C02(c06)	Top	88 lb	-	-	112 lb	37/-140 lb
Point	8'	8'	C02(c10)	Top	88 lb	-	-	112 lb	37/-131 lb
Point	10'	10'	C02(c01)	Top	88 lb	-	-	112 lb	37/-100 lb
Point	12'	12'	C02(c11)	Top	88 lb	-	-	112 lb	37/-100 lb
Point	14'	14'	C02(c02)	Top	88 lb	-	-	112 lb	37/-100 lb
Point	16'	16'	C02(c09)	Top	88 lb	-	-	112 lb	37/-100 lb
Point	18'	18'	C02(c04)	Top	88 lb	-	-	112 lb	37/-128 lb
Point	20'	20'	C02(c13)	Top	88 lb	-	-	112 lb	37/-140 lb
Point	22'	22'	C02(c12)	Top	88 lb	-	-	112 lb	37/-140 lb
Point	24'	24'	C02(c07)	Top	81 lb	-	-	98 lb	33/-122 lb
Point	25'- 6"	25'- 6"	C02(c08)	Top	62 lb	-	-	61 lb	20/-76 lb
Point	26'- 2 1/4"	26'- 2 1/4"	C01(c01)	Top	72 lb	-	-	78 lb	26/-126 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	2'- 1 1/2"	-	319/-489 lb	-	-	360/-690 lb	-
++>	0'- 1 1/2"	0'- 1 1/2"	E12(i29)	319 lb	-	-	360 lb	-
++>	2'	2'	PBO4(i32)	-489 lb	-	-	-690 lb	-
2	4'- 1 1/2"	6'- 1 1/2"	-	1054 lb	-	-	1167/-1 lb	-
++>	4'- 3"	4'- 3"	PBO5(i33)	-	-	-	113 lb	-
++>	4'- 5"	5'- 10"	E13(i30)	-	-	-	-	3 lb/ -13 lb
++>	6'	6'	PBO7(i35)	1054 lb	-	-	1054/-1 lb	-
3	24'- 1 1/2"	26'- 3"	-	1371/-665 lb	-	-	1472/-788 lb	-
++>	24'- 3"	24'- 3"	PBO6(i34)	1371 lb	-	-	1354 lb	-
++>	26'- 1 1/2"	26'- 1 1/2"	E10(i1)	-665 lb	-	-	118/-788 lb	-

MiTek	Customer: Street 1: City: Customer Ph...	Job Name: **Q2400926-27** Level: **1st Floor** Label: **2DB28 - i36** Type: **Beam**	**2 Ply Member** **1 3/4" x 11 7/8" 2.0E Microllam® LVL**	Status: **Design Passed**

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.
- 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 = 54. 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.

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)