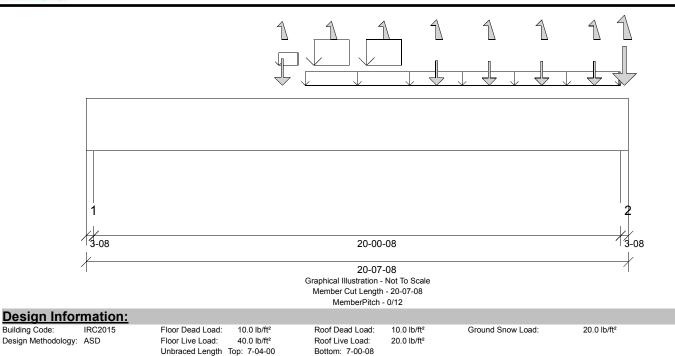
Member Type: Beam | Level: 2nd Floor

Label: 1BM1-3-i26

Page: 1 of 9 Date: 08/16/2021 14:30:37

Member: 3 - 1 3/4" x 23 7/8" LVL





Design Notes:

* Member was not designed due to missing strength properties. If possible select a new material or change the orientation of the member.

Loading:

| <u>Louanng.</u> | | | | | | | | | | |
|-----------------|--------------|----------|---------------|-------------------------|------------|--------------------|-----------|--|--|--|
| | | | | Maximum Load Magnitudes | | | | | | |
| Type | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | | |
| Self Weight | 0-00 | 20-07-08 | Self Weight | 37 lb/ft | - | - | - | | | |
| Uniform | 7-04-00 | 8-00-12 | W38(i153) | - | - | 147 lb/ft | 58 lb/ft | | | |
| Uniform | 8-04-00 | 20-04-00 | Smoothed Load | 66 lb/ft | 266 lb/ft | - | - | | | |
| Uniform | 8-08-00 | 10-00-00 | W38(i153) | 527 lb/ft | - | 576 lb/ft | 215 lb/ft | | | |
| Uniform | 10-08-00 | 12-00-00 | W38(i153) | 532 lb/ft | - | 588 lb/ft | 218 lb/ft | | | |
| Point | 7-05-10 | 7-05-10 | - | 888.00 lb | 310.00 lb | 738.00/-17.00 lb | 368.00 lb | | | |
| Point | 9-04-00 | 9-04-00 | - | - | -14.00 lb | -76.00 lb | - | | | |
| Point | 11-04-00 | 11-04-00 | - | - | -14.00 lb | -77.00 lb | - | | | |
| Point | 13-04-00 | 13-04-00 | - | 752.00 lb | -14.00 lb | 871.00/-77.00 lb | 327.00 lb | | | |
| Point | 15-04-00 | 15-04-00 | - | 745.00 lb | -14.00 lb | 857.00/-77.00 lb | 321.00 lb | | | |
| Point | 17-04-00 | 17-04-00 | - | 745.00 lb | -14.00 lb | 857.00/-77.00 lb | 321.00 lb | | | |
| Point | 19-04-00 | 19-04-00 | - | 746.00 lb | -14.00 lb | 859.00/-77.00 lb | 322.00 lb | | | |
| Point | 20-05-12 | 20-05-12 | W37(i157) | 1565.00 lb | - | 1754.00/-271.00 lb | 600.00 lb | | | |

Support Information:

| | | | _ | Maximum Analysis Reactions | | | | | | | |
|---------|----------|----------|-----------|----------------------------|-------------------|--------------------|-------------|--|--|--|--|
| Support | Start | End | Source | <u>Dead</u> | Floor Live | Roof Live | <u>Snow</u> | | | | |
| 1 | 0-00 | 3-08 | W28(i150) | 2539.00 lb | 1160.00/-25.00 lb | 2016.00/-154.00 lb | 813.00 lb | | | | |
| 2 | 20-04-00 | 20-07-08 | - | 5920.00 lb | 2339.00/-59.00 lb | 5578.00/-602.00 lb | 2064.00 lb | | | | |
| ++> | 20-06-05 | 20-06-05 | W16(i16) | 3947.00 lb | 1559.00/-39.00 lb | 3719.00/-401.00 lb | 1376.00 lb | | | | |
| ++> | 20-06-15 | 20-06-15 | W20(i20) | 1973.00 lb | 780.00/-20.00 lb | 1859.00/-201.00 lb | 688.00 lb | | | | |

Errors, Warnings & 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.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

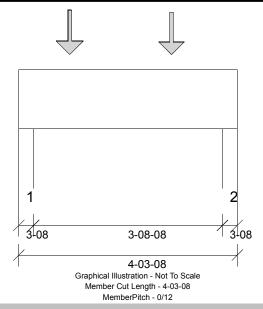
* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL



Design Information:

| Boolginmonn | | | | | | | |
|------------------------|-----------|--|--------------------------|-------------------------|-------------------|-------------------------|--|
| J | | Floor Dead Load: 10.0 lb/ft ² | | | Ground Snow Load: | 20.0 lb/ft ² | |
| Design Methodology: AS | | Floor Live Load: 40.0 lb/ft ² | | 20.0 lb/ft ² | | | |
| | I | Unbraced Length Top: 0-00 | Bottom: 1-09-08 | | | | |
| Design Results | <u>s:</u> | | | | | | |
| | Location | <u>Design</u> | <u>Control</u> | Resu | t <u>LDF</u> | Load Combination | |
| Critical Moment (Pos) | 3-00-00 | 1410.12 lb ft | 28945.56 lb ft | Passed - | 5% 1.00 | D + L | |
| Critical Shear | 1-05-08 | 1551.85 lb | 9310.00 lb | Passed - 7 | 1.00 | D + L | |
| Live Load Deflection | 2-01-13 | 0-00 | 0-12 (L/360) | Passed - L | /999 - | L | |
| Total Load Deflection | 2-01-13 | 0-00 | 1-00 (L/240) | Passed - L | /999 - | D + L | |
| Max. Reaction | | | Supported Mtl Supporting | g Mtl | | | |
| | 2-08 | 1572.69 lb | 9187.50 lb 10718.75 | 5 lb Passed - 7 | 1.00 | D + L | |
| | 4-01-00 | 1312.64 lb | 9187.52 lb 10718.78 | B lb Passed - 7 | 1.00 | D + L | |
| | | | | | | | |

Design Notes:

* 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.

| Loading: | | | | | | | | | | | | |
|--------------|--------------|---------|-------------|-------------------------|--------------|----------------|-------------|--|--|--|--|--|
| | | | | Maximum Load Magnitudes | | | | | | | | |
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | | | | |
| Self Weight | 0-00 | 4-03-08 | Self Weight | 14 lb/ft | - | - | - | | | | | |
| Point | 1-00-00 | 1-00-00 | - | 292.00 lb | 1166.00 lb | - | - | | | | | |
| Point | 3-00-00 | 3-00-00 | - | 273.00 lb | 1093.00 lb | - | - | | | | | |
| Support Info | rmation: | | | | | | | | | | | |
| | | | | | Maximum Anal | vsis Reactions | | | | | | |
| Support | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | | | |
| 1 | 0-00 | 3-08 | W21(i21) | 339.00 lb | 1233.00 lb | - | - | | | | | |
| 2 | 4-00-00 | 4-03-08 | W24(i24) | 287.00 lb | 1026.00 lb | - | - | | | | | |
| | | | | | | | | | | | | |

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

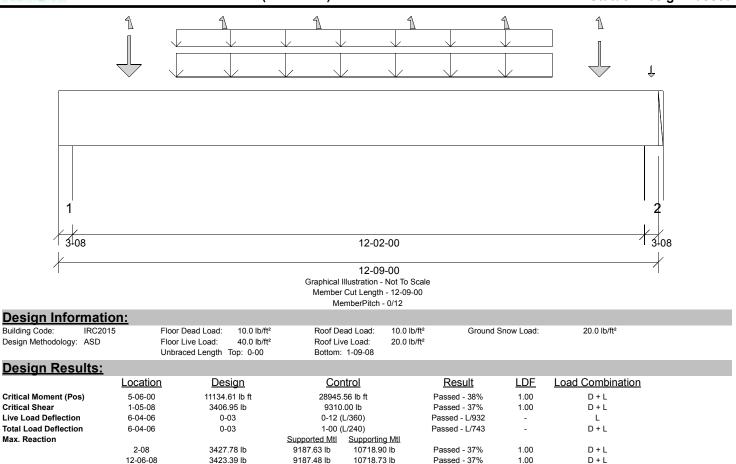
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Page: 3 of 9 Date: 08/16/2021 14:30:40 Status: Design Passed



Design Notes:

* 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.

Loading:

| | | | | Maximum Load Magnitudes | | | | | |
|-------------|--------------|----------|---------------|-------------------------|------------------|-----------|---------|--|--|
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | |
| Self Weight | 0-00 | 12-09-00 | Self Weight | 14 lb/ft | - | - | - | | |
| Uniform | 2-06-00 | 10-06-00 | Smoothed Load | 78 lb/ft | 312 lb/ft | - | - | | |
| Uniform | 2-06-00 | 10-06-00 | Smoothed Load | 28 lb/ft | 158 lb/ft | - | - | | |
| Point | 1-06-00 | 1-06-00 | - | 205.00 lb | 917.00/-98.00 lb | - | - | | |
| Point | 3-06-00 | 3-06-00 | FJ22(i894) | - | -98.00 lb | - | - | | |
| Point | 5-06-00 | 5-06-00 | FJ22(i896) | - | -98.00 lb | - | - | | |
| Point | 7-06-00 | 7-06-00 | FJ22(i997) | - | -98.00 lb | - | - | | |
| Point | 9-06-00 | 9-06-00 | FJ22(i979) | - | -98.00 lb | - | - | | |
| Point | 11-06-00 | 11-06-00 | - | 171.00 lb | 763.00/-80.00 lb | - | - | | |
| Point | 12-07-04 | 12-07-04 | W39(i232) | 13.00 lb | - | 11.00 lb | 4.00 lb | | |

Support Information:

| | | | | Maximum Analysis Reactions | | | | | | |
|---------|--------------|------------|----------|----------------------------|--------------------|-----------|-------------|--|--|--|
| Support | <u>Start</u> | <u>End</u> | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | |
| 1 | 0-00 | 3-08 | W24(i24) | 703.00 lb | 2725.00/-287.00 lb | - | - | | | |
| 2 | 12-05-08 | 12-09-00 | W15(i18) | 713.00 lb | 2711.00/-283.00 lb | 11.00 lb | 4.00 lb | | | |

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

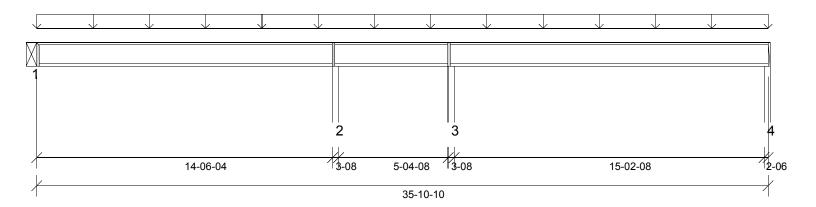
* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: FloorJoist | Level: 2nd Floor Designed by Single Member Design Engine

Member: 1 - 14" NI-40x



Graphical Illustration - Not To Scale Member Cut Length - 35-10-10 MemberPitch - 0/12

| Design Infor | mation: | | | | | | | | | |
|-----------------------------|-------------|------------------|-------------------------|---------------|------------|-------------------------|----------------|------------|-------------------------|--|
| Building Code: | IRC2015 | Floor Dead Load: | 10.0 lb/ft ² | Roof D | ead Load: | 10.0 lb/ft ² | Ground | Snow Load: | 20.0 lb/ft ² | |
| Design Methodology: | ASD | Floor Live Load: | 40.0 lb/ft ² | Roof Li | ve Load: | 20.0 lb/ft ² | | | | |
| | | Unbraced Length | Top: 0-00 | Bottom | : 15-02-08 | | | | | |
| Design Resu | <u>lts:</u> | | | | | | | | | |
| | Locatio | on <u>De</u> | <u>sign</u> | <u>Co</u> | ntrol | | <u>Result</u> | LDF | Load Combination | |
| Critical Moment (Pos |) 29-03-1 | 5 2072 | .91 lb ft | 4530 | .03 lb ft | | Passed - 46% | 1.00 | D + L | |
| Critical Moment (Neg |) 20-04-0 | 0 -2261 | .44 lb ft | 4530 | .03 lb ft | | Passed - 50% | 1.00 | D + L | |
| Critical Shear | 20-05-1 | 3 903 | 15 lb | 1730 | 0.00 lb | | Passed - 52% | 1.00 | D + L | |
| Live Load Deflection | 28-08-0 | 1 C | -02 | 0-12 | (L/480) | | Passed - L/999 | - | L | |
| Total Load Deflection | 28-08-0 | 2 0 | -02 | 1-00 | (L/240) | | Passed - L/999 | - | D + L | |
| Max. Reaction | | | | Supported Mtl | Supporting | a Mtl | | | | |
| | 0-00 | 662 | 2.06 lb | 1325.00 lb | 0.00 lb |) | Passed - 50% | 1.00 | D + L | |
| | 14-08-0 | 0 108 | 7.07 lb | 3130.00 lb | 7656.23 | lb | Passed - 35% | 1.00 | D + L | |
| | 20-04-0 | 0 156 | 8.08 lb | 3130.00 lb | 7656.28 | lb | Passed - 50% | 1.00 | D + L | |
| | 35-09-0 | 4 664 | .98 lb | 1387.50 lb | 5195.35 | lb | Passed - 48% | 1.00 | D + L | |

Design Notes:

* The required bearing length for this member is the same for both with and without web stiffeners (112)

Loading:

| 1 | | ITS2.56/14 | - | - | - | N/A | Connector manually specified by the user. |
|-------------|----------------|------------|-------------------|---------------------|--------------------|----------------|--|
| Support | Manufacturer | Model | <u>Top</u> | Face | <u>Member</u> | l ength | Other Information |
| | | | | Nailing Requirement | S | | |
| onnecto | r Information: | 1 | | | | | |
| 4 | 35-08-04 | 35-10-10 | W14(i14) | 132.00 lb | 533.00/-5.00 lb | - | - |
| 3 | 20-02-04 | 20-05-12 | W21(i21) | 248.00 lb | 1186.00/-99.00 lb | - | - |
| 2 | 14-06-04 | 14-09-12 | W19(i19) | 217.00 lb | 1244.00 lb | - | - |
| 1 | 0-00 | 0-00 | 1BM1-3(i26) | 131.00 lb | 531.00/-14.00 lb | - | - |
| Support | Start | End | Source | Dead | Floor Live | Roof Live | Snow |
| | | | | | Maximum Anal | vsis Reactions | |
| upport Ir | nformation: | | | | | | |
| Uniform | 0-00 | 35-10-10 | FC1 Floor Decking | 20 lb/ft | 80 lb/ft | - | - |
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow |
| | | | | | <u>Maximum Loa</u> | | |

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

* A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.

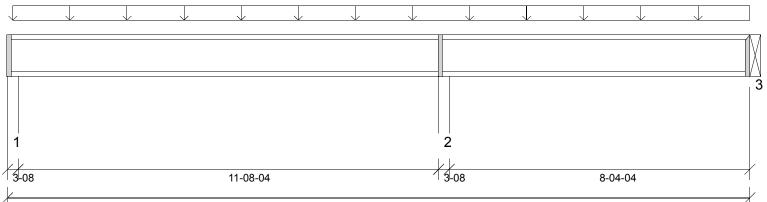
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: FloorJoist | Level: 2nd Floor Designed by Single Member Design Engine

Member: 1 - 14" NI-40x

Page: 5 of 9 Date: 08/16/2021 14:30:40 Status: Design Passed



20-07-08

Graphical Illustration - Not To Scale Member Cut Length - 20-07-08 MemberPitch - 0/12

| Design Infor | mation: | | | | | | | | |
|-----------------------------|-------------|------------------|---------------------------|---------------|-----------|-------------------------|----------------|------------|-------------------------|
| Building Code: | IRC2015 | Floor Dead Load | : 10.0 lb/ft ² | Roof De | ead Load: | 10.0 lb/ft ² | Ground | Snow Load: | 20.0 lb/ft ² |
| Design Methodology: | ASD | Floor Live Load: | 40.0 lb/ft ² | Roof Li | ve Load: | 20.0 lb/ft ² | | | |
| | | Unbraced Length | Top: 0-00 | Bottom | 11-08-04 | | | | |
| Design Resu | <u>lts:</u> | | | | | | | | |
| | Locati | on <u>D</u> e | <u>esign</u> | <u>Co</u> | ntrol | | <u>Result</u> | LDF | Load Combination |
| Critical Moment (Pos |) 5-02-1 | 3 1262 | 2.85 lb ft | 4530. | 03 lb ft | | Passed - 28% | 1.00 | D + L |
| Critical Moment (Neg |) 12-01- | 08 -141 | 2.02 lb ft | 4530. | 03 lb ft | | Passed - 31% | 1.00 | D + L |
| Critical Shear | 11-11- | 11 69 | 9.20 lb | 1730 | 0.00 lb | | Passed - 40% | 1.00 | D + L |
| Live Load Deflection | 5-09-0 | 02 | 0-01 | 0-12 | (L/480) | | Passed - L/999 | - | L |
| Total Load Deflection | 5-08-1 | 0 | 0-01 | 1-00 | (L/240) | | Passed - L/999 | - | D + L |
| Max. Reaction | | | | Supported Mtl | Supportin | <u>g Mtl</u> | | | |
| | 2-08 | 50 | 8.85 lb | 1500.00 lb | 7656.30 |) lb | Passed - 34% | 1.00 | D + L |
| | 12-01- | 08 130 |)5.42 lb | 3130.00 lb | 7656.18 | 3 lb | Passed - 42% | 1.00 | D + L |
| | 20-07- | 08 37 | 0.97 lb | 1325.00 lb | 0.00 1 | b | Passed - 28% | 1.00 | D + L |
| | 20-07- | 08 -42 | 2.81 lb | 0.00 lb | - | | | 1.00 | D + L |
| | | | | | | | | | |

Design Notes:

* The required bearing length for this member is the same for both with and without web stiffeners (112)

Loading:

| | | | | Maximum Load Magnitudes | | | | | | |
|--------------|--------------|----------|-------------------|-------------------------|------------------|---------------|-------------|--|--|--|
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | |
| Uniform | 1-12 | 20-07-08 | FC1 Floor Decking | 20 lb/ft | 80 lb/ft | - | - | | | |
| Support Info | ormation: | | | | | | | | | |
| | | | | | Maximum Anal | sis Reactions | | | | |
| Support | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | |
| 1 | 0-00 | 3-08 | W16(i16) | 96.00 lb | 409.00/-25.00 lb | - | - | | | |
| 2 | 11-11-12 | 12-03-04 | W25(i25) | 262.00 lb | 1048.00 lb | - | - | | | |
| 3 | 20-07-08 | 20-07-08 | 1BM3-2(i1007) | 55.00 lb | 316.00/-98.00 lb | - | - | | | |
| Connector In | nformation: | | | | | | | | | |
| | | | N I | ailing Requireme | | | | | | |

| | | | | Raining Requirement | 110 | | |
|----------------|--------------|------------|------------|---------------------|--------|---------|---|
| <u>Support</u> | Manufacturer | Model | <u>Top</u> | Face | Member | I enath | Other Information |
| 3 | | ITS2.56/14 | - | - | - | N/A | Connector manually specified by the user. |

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: FloorJoist | Level: 2nd Floor Designed by Single Member Design Engine

Member: 1 - 14" NI-40x

Page: 6 of 9 Date: 08/16/2021 14:30:40 Status: Design Passed

| Λ | | | | | | | |
|-----------|------|------|---|----------|------|------|----|
| \ | | | | | | | |
| 1 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | 1 | 5-02-08 | | | 12 |
| 1 | | | | 15-04-14 | | | |

15-04-14

Graphical Illustration - Not To Scale . Member Cut Length - 15-04-14 MemberPitch - 0/12

| Design Infor | esign Information: | | | | | | | | |
|-----------------------|--------------------|----------------------|--------------------------|-------------------|-------------------------|----------------|------------|-------------------------|--|
| Building Code: | IRC2015 | Floor Dead Load: 1 | 0.0 lb/ft ² F | Roof Dead Load: | 10.0 lb/ft ² | Ground S | now Load: | 20.0 lb/ft ² | |
| Design Methodology: | ASD | Floor Live Load: 4 | 0.0 lb/ft ² F | Roof Live Load: | 20.0 lb/ft ² | | | | |
| | | Unbraced Length Top: | 0-00 E | Bottom: 15-02-08 | | | | | |
| Design Resu | <u>ilts:</u> | | | | | | | | |
| | Locatio | on <u>Design</u> | <u>l</u> | <u>Control</u> | | <u>Result</u> | <u>LDF</u> | Load Combination | |
| Critical Moment (Pos | s) 7-07-12 | 2922.09 lb | ft | 4530.03 lb ft | | Passed - 65% | 1.00 | D + L | |
| Critical Shear | 0-01 | 763.95 lb |) | 1730.00 lb | | Passed - 44% | 1.00 | D + L | |
| Live Load Deflection | 7-07-12 | 0-03 | | 0-12 (L/480) | | Passed - L/999 | - | L | |
| Total Load Deflection | n 7-07-12 | 0-03 | | 1-00 (L/240) | | Passed - L/840 | - | D + L | |
| Max. Reaction | | | Supporte | ed Mtl Supporting | <u>g Mtl</u> | | | | |
| | 0-00 | 779.05 lb | 1325.0 | 0 lb 0.00 lb |) | Passed - 59% | 1.00 | D + L | |
| | 15-03-0 | 8 785.53 lb | 1387.5 | 0 lb 5195.30 | lb | Passed - 57% | 1.00 | D + L | |

Design Notes:

The required bearing length for this member is the same for both with and without web stiffeners (112)

| heo I | ina | |
|-------------|------------|--|
| <u>Load</u> | <u>my.</u> | |

| | | | | | Maximum Lo | ad Magnitudes | | | | |
|----------------------|----------------|------------|-------------------|----------------------|---------------|------------------|--|--|--|--|
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | |
| Uniform | 0-00 | 15-04-14 | FC1 Floor Decking | 20 lb/ft | 80 lb/ft | - | - | | | |
| Support Information: | | | | | | | | | | |
| | | | | | Maximum Ana | alysis Reactions | | | | |
| Support | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | <u>Snow</u> | | | |
| 1 | 0-00 | 0-00 | 1BM3-2(i1007) | 156.00 lb | 623.00 lb | - | - | | | |
| 2 | 15-02-08 | 15-04-14 | W14(i14) | 157.00 lb | 628.00 lb | - | - | | | |
| Connector | r Information: | <u>.</u> | | | | | | | | |
| | | | | Nailing Requirements | | | | | | |
| Support | Manufacturer | Model | <u>Top</u> | <u>Face</u> | <u>Member</u> | Length | Other Information | | | |
| 1 | | ITS2.56/14 | - | - | - | N/A | Connector manually specified by the user. | | | |
| | | | | | | | specified by the user. | | | |

Errors, Warnings & Notes:

The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

* A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.

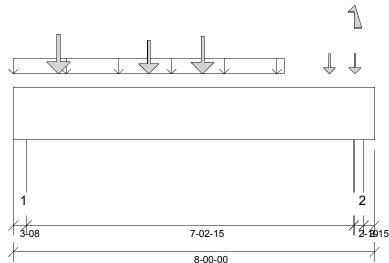
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Status: Design Passed



8-00-00 Graphical Illustration - Not To Scale Member Cut Length - 8-00-00 MemberPitch - 0/12

Design Information:

| Design informa | | | | | | | | |
|-------------------------|-----------|--------------------------------------|-------------------------|-------------------------|----------------|------------|-------------------------|--|
| Building Code: IRC | 2015 Floo | r Dead Load: 10.0 lb/ft ² | Roof Dead Load: | 10.0 lb/ft ² | Ground S | Snow Load: | 20.0 lb/ft ² | |
| Design Methodology: ASI | D Floo | r Live Load: 40.0 lb/ft ² | Roof Live Load: | 20.0 lb/ft ² | | | | |
| | Unb | raced Length Top: 0-00 | Bottom: 1-09-08 | | | | | |
| Design Results | <u>s:</u> | | | | | | | |
| | Location | <u>Design</u> | <u>Control</u> | | <u>Result</u> | <u>LDF</u> | Load Combination | |
| Critical Moment (Pos) | 3-07-04 | 3431.14 lb ft | 28945.56 lb ft | | Passed - 12% | 1.00 | D + L | |
| Critical Shear | 1-05-08 | 1974.68 lb | 9310.00 lb | | Passed - 21% | 1.00 | D + L | |
| Live Load Deflection | 3-10-01 | 0-00 | 0-12 (L/360) | | Passed - L/999 | - | L | |
| Total Load Deflection | 3-10-01 | 0-00 | 1-00 (L/240) | | Passed - L/999 | - | D + L | |
| Max. Reaction | | | Supported Mtl Supportin | ng Mtl | | | | |
| | 2-08 | 1995.51 lb | 9187.42 lb 10718.6 | 6 lb | Passed - 22% | 1.00 | D + L | |
| | 7-07-12 | 1304.79 lb | 6890.59 lb 8039.03 | 3 lb | Passed - 19% | 1.00 | D + L | |
| | | | | | | | | |

Design Notes:

* The deflection at the cantilever for either live and/or total loads is less than 3/8" and therefore has been excluded from the deflection ratio considerations.

* 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.

Loading:

| | | | | Maximum Load Magnitudes | | | | | |
|-------------|--------------|---------|---------------|-------------------------|------------|------------------|-----------|--|--|
| Type | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | |
| Self Weight | 0-00 | 8-00-00 | Self Weight | 14 lb/ft | - | - | - | | |
| Uniform | 0-00 | 6-00-00 | Smoothed Load | 36 lb/ft | 144 lb/ft | - | - | | |
| Point | 7-00-00 | 7-00-00 | FJ8(i980) | 46.00 lb | 184.00 lb | - | - | | |
| Point | 7-06-12 | 7-06-12 | FJ8(i866) | -91.00 lb | 103.00 lb | 13.00/-127.00 lb | -39.00 lb | | |
| Point | 1-00-00 | 1-00-00 | FJ14(i1004) | 136.00 lb | 543.00 lb | - | - | | |
| Point | 3-00-00 | 3-00-00 | FJ14(i986) | 109.00 lb | 436.00 lb | - | - | | |
| Point | 4-02-04 | 4-02-04 | FJ12(i999) | 128.00 lb | 512.00 lb | - | - | | |

Support Information: Maximum Analysis Reactions Support Start 5 End Dead Floor Live Roof Live <u>Snow</u> Source 1 2 0-00 3-08 W20(i20) 444.00 lb 1551.00 lb 13.00/-127.00 lb -39.00 lb 7-06-07 7-09-01 W26(i142) 214.00 lb 1091.00 lb

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.

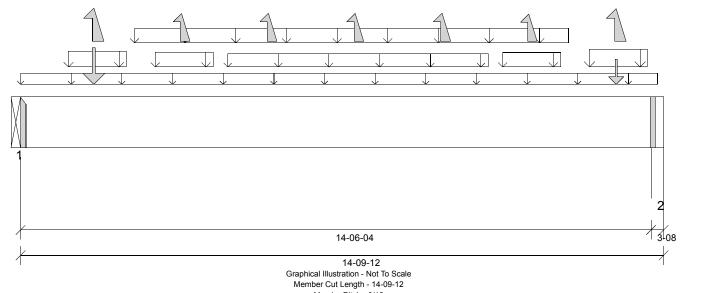


Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Label: 1BM5-2-i877

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MemberPitch - 0/12

| | | | Wichtb | | | | | |
|-----------------------|----------|-----------------------------|------------------|-------------------------------|----------------|------------|-------------------------|--|
| Design Infor | mation: | | | | | | | |
| Building Code: | IRC2015 | Floor Dead Load: 10.0 lb/ft | 2 Roof Dead | Load: 10.0 lb/ft ² | Ground S | now Load: | 20.0 lb/ft ² | |
| Design Methodology: | ASD | Floor Live Load: 40.0 lb/ft | 2 Roof Live L | .oad: 20.0 lb/ft ² | | | | |
| | | Unbraced Length Top: 0-00 | Bottom: 1- | 10-08 | | | | |
| Design Resu | lts: | | | | | | | |
| | Locati | on <u>Design</u> | Contro | <u>ol</u> | <u>Result</u> | <u>LDF</u> | Load Combination | |
| Critical Moment (Pos |) 7-07-0 | 8 6266.58 lb ft | 33287.39 | lb ft | Passed - 19% | 1.15 | D + 0.75(L + Lr) | |
| Critical Moment (Neg |) 7-09-0 | 4 -702.18 lb ft | 46312.89 | lb ft | Passed - 2% | 1.60 | 0.6D + 0.6W | |
| Critical Shear | 1-02-0 | 0 1585.69 lb | 10706.50 |) lb | Passed - 15% | 1.15 | D + 0.75(L + Lr) | |
| Live Load Deflection | 7-03-0 | 8 0-01 | 0-12 (L/36 | 60) | Passed - L/999 | - | 0.75(L + Lr + 0.6W) | |
| Total Load Deflection | 7-03-0 | 8 0-03 | 1-00 (L/24 | 40) | Passed - L/999 | - | D + 0.75(L + Lr + 0.6W) | |
| Max. Reaction | | | Supported Mtl Si | upporting Mtl | | | | |
| | 0-00 | 1674.52 lb | 1674.52 lb | 0.00 lb | Passed - 100% | 1.15 | D + 0.75(L + Lr) | |
| | 0-00 | -170.46 lb | 0.00 lb | - | | 1.60 | 0.6D + 0.6W | |
| | 14-07-0 | 04 1754.93 lb | 9187.51 lb | 10718.76 lb | Passed - 19% | 1.15 | D + 0.75(L + Lr) | |
| | 14-07-0 | -200.47 lb | 0.00 lb | - | | 1.60 | 0.6D + 0.6W | |

Design Notes:

* 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.

Loading:

| | | | | Maximum Load Magnitudes | | | | | |
|-------------|--------------|----------|-------------------|-------------------------|------------|-----------------|-----------|--|--|
| <u>Type</u> | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | |
| Self Weight | 0-00 | 14-09-12 | Self Weight | 14 lb/ft | - | - | - | | |
| Uniform | 0-00 | 14-08-00 | FC1 Floor Decking | 10 lb/ft | 40 lb/ft | - | - | | |
| Uniform | 1-01-04 | 2-05-04 | W31(i155) | 68 lb/ft | - | 79 lb/ft | 28 lb/ft | | |
| Uniform | 2-07-08 | 12-07-08 | Smoothed Load | 63 lb/ft | - | 56 lb/ft | 34 lb/ft | | |
| Uniform | 3-01-04 | 4-05-04 | W31(i155) | 56 lb/ft | - | 69 lb/ft | 23 lb/ft | | |
| Uniform | 4-09-04 | 10-09-04 | W31(i155) | 39 lb/ft | - | 44 lb/ft | 16 lb/ft | | |
| Uniform | 11-01-04 | 12-05-04 | W31(i155) | 56 lb/ft | - | 66 lb/ft | 23 lb/ft | | |
| Uniform | 13-01-04 | 14-05-04 | W31(i155) | 66 lb/ft | - | 134 lb/ft | 32 lb/ft | | |
| Point | 1-08-04 | 1-08-04 | - | 154.00 lb | - | 171.00/-5.00 lb | 103.00 lb | | |
| Point | 3-08-08 | 3-08-08 | - | - | - | -3.00 lb | - | | |
| Point | 5-08-08 | 5-08-08 | - | - | - | -3.00 lb | - | | |
| Point | 7-08-08 | 7-08-08 | - | - | - | -3.00 lb | - | | |
| Point | 9-08-08 | 9-08-08 | - | - | - | -3.00 lb | - | | |
| Point | 11-08-08 | 11-08-08 | - | - | - | -7.00 lb | - | | |
| Point | 13-08-10 | 13-08-10 | - | 113.00 lb | - | 87.00/-65.00 lb | 53.00 lb | | |

Support Information:

| | | | | Maximum Analysis Reactions | | | | | |
|----------|---------------|------------|-------------|----------------------------|---------------|------------------|--|--|--|
| Support | <u>Start</u> | End | Source | Dead | Floor Live | Roof Live | Snow | | |
| 1 | 0-00 | 0-00 | 1BM1-3(i26) | 888.00 lb | 310.00 lb | 738.00/-17.00 lb | 368.00 lb | | |
| 2 | 14-06-04 | 14-09-12 | W12(i15) | 927.00 lb | 295.00 lb | 810.00/-72.00 lb | 368.00 lb | | |
| Connecto | r Information | <u>:</u> | | | | | | | |
| | | | | Nailing Requirement | S | | | | |
| Support | Manufacturer | Model | <u>Top</u> | <u>Face</u> | <u>Member</u> | | Other Information | | |
| 1 | | MIU3.56/14 | - | - | - | N/A | Connector manually specified by the user. | | |

Errors, Warnings & Notes:

* The dead loads used in the design of this member were applied to the structure as projected dead loads.

- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL Label: 1BM5-2-i877 Page: 9 of 9 Date: 08/16/2021 14:30:41 Status: Design Passed

* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.

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- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.