

Member Type: FloorJoist | Level: 2nd Floor

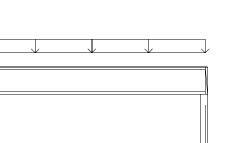
Designed by Single Member Design Engine

15-06-04

Member: 1 - 14" NI-40x

Label: FJ32-i582

Page: 1 of 5 Date: 08/16/2021 16:50:52 **Status: Design Passed**



15-06-04

Graphical Illustration - Not To Scale Member Cut Length - 31-08-12 MemberPitch - 0/12

31-08-12

2

3-08

| Design Inforr | 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 Load: | 20.0 lb/ft ² | | | | |
| | | Unbraced Length | Top: 0-00 | Bottom: 15-06-04 | | | | | |
| Design Resul | <u>lts:</u> | | | | | | | | |
| | Locatio | <u>n</u> <u>Des</u> | <u>sign</u> | <u>Control</u> | | Result | <u>LDF</u> | Load Combination | |
| Critical Moment (Pos) | 6-09-11 | 1790.4 | 48 lb ft | 4530.03 lb ft | | Passed - 40% | 1.00 | D + L | |

| | <u>Location</u> | <u>Design</u> | <u>Control</u> | <u>Result</u> | <u>LDF</u> | Load Combination |
|-----------------------|-----------------|----------------|------------------------------|----------------|------------|------------------|
| Critical Moment (Pos) | 6-09-11 | 1790.48 lb ft | 4530.03 lb ft | Passed - 40% | 1.00 | D + L |
| Critical Moment (Neg) | 15-10-06 | -2478.33 lb ft | 4530.03 lb ft | Passed - 55% | 1.00 | D + L |
| Critical Shear | 15-08-09 | 774.78 lb | 1730.00 lb | Passed - 45% | 1.00 | D + L |
| Live Load Deflection | 7-06-11 | 0-02 | 0-12 (L/480) | Passed - L/999 | - | L |
| Total Load Deflection | 7-05-03 | 0-02 | 1-00 (L/240) | Passed - L/999 | - | D + L |
| Max. Reaction | | | Supported Mtl Supporting Mtl | | | |
| | 1-06 | 551.92 lb | 1387.50 lb 5195.31 lb | Passed - 40% | 1.00 | D + L |
| | 15-10-06 | 1573.71 lb | 3130.00 lb 7656.26 lb | Passed - 50% | 1.00 | D + L |
| | 31-07-06 | 551 92 lb | 1387 51 lb 5195 45 lb | Passed - 40% | 1 00 | D + I |

Design Notes:

| Loading: | | | | | | | |
|--------------|--------------|------------|-------------------|-------------|------------------|---------------|------|
| | | | | | Maximum Loa | d Magnitudes | |
| <u>Type</u> | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | Snow |
| Uniform | 0-00 | 31-08-12 | FC1 Floor Decking | 16 lb/ft | 64 lb/ft | - | - |
| Support Info | rmation: | | | | | | |
| | | | | | Maximum Analy | sis Reactions | |
| Support | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | Snow |
| 1 | 0-00 | 2-06 | W18(i13) | 98.00 lb | 454.00/-63.00 lb | - | - |
| 2 | 15-08-10 | 16-00-02 | W19(i19) | 315.00 lb | 1259.00 lb | - | - |
| 3 | 31-06-06 | 31-08-12 | W13(i15) | 98.00 lb | 454.00/-63.00 lb | - | - |

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- * 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.

⁻ 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.



Member Type: FloorJoist | Level: 2nd Floor

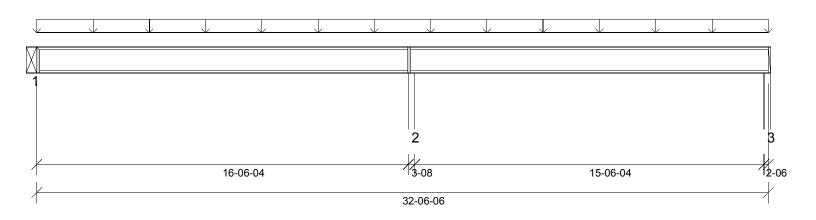
Designed by Single Member Design Engine

Member: 1 - 14" NI-40x

Label: FJ34-i659

Page: 2 of 5 Date: 08/16/2021 16:50:55

Status: Design Passed



Graphical Illustration - Not To Scale Member Cut Length - 32-06-06 MemberPitch - 0/12

| Design Infor | mation: | | | | | | | | |
|-----------------------|---------|-----------|----------------------|---------------|--------------|-------------------------|----------------|------------|------------------|
| Building Code: | IRC2015 | Floor De | ad Load: 10.0 lb/ft² | Roof De | ead Load: | 10.0 lb/ft ² | Ground S | Snow Load: | 20.0 lb/ft² |
| Design Methodology: | ASD | Floor Liv | e Load: 40.0 lb/ft² | Roof Li | ve Load: | 20.0 lb/ft ² | | | |
| | | Unbrace | d Length Top: 0-00 | Bottom | 16-06-04 | | | | |
| Design Resu | ults: | | | | | | | | |
| | Loc | ation_ | <u>Design</u> | <u>Co</u> | <u>ntrol</u> | | <u>Result</u> | <u>LDF</u> | Load Combination |
| Critical Moment (Pos | s) 7-0 | 1-00 | 2004.59 lb ft | 4530. | 03 lb ft | | Passed - 44% | 1.00 | D + L |
| Critical Moment (Neg | g) 16-0 | 08-00 | -2631.36 lb ft | 4530. | 03 lb ft | | Passed - 58% | 1.00 | D + L |
| Critical Shear | 16-0 | 06-03 | 812.04 lb | 1730 | 0.00 lb | | Passed - 47% | 1.00 | D + L |
| Live Load Deflection | 7-1 | 0-04 | 0-02 | 0-12 | (L/480) | | Passed - L/999 | - | L |
| Total Load Deflection | n 7-0 | 8-15 | 0-03 | 1-00 | (L/240) | | Passed - L/999 | - | D + L |
| Max. Reaction | | | | Supported Mtl | Supporting | <u> Mtl</u> | | | |
| | 0- | -00 | 577.81 lb | 1325.00 lb | 0.00 lb |) | Passed - 44% | 1.00 | D + L |
| | 16-0 | 08-00 | 1620.68 lb | 3130.00 lb | 7656.18 | lb | Passed - 52% | 1.00 | D + L |
| | 32-0 | 05-00 | 551.76 lb | 1387.50 lb | 5195.35 | lb | Passed - 40% | 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 | d Magnitudes | |
| <u>Type</u> | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | <u>Snow</u> |
| Uniform | 0-00 | 32-06-06 | FC1 Floor Decking | 16 lb/ft | 64 lb/ft | - | - |
| Support In | nformation: | | | | | | |
| | | | | | Maximum Analy | sis Reactions | |
| Support | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | <u>Snow</u> |
| 1 | 0-00 | 0-00 | 1BM1-2(i76) | 104.00 lb | 474.00/-58.00 lb | - | - |
| 2 | 16-06-04 | 16-09-12 | W19(i19) | 324.00 lb | 1297.00 lb | - | - |
| 3 | 32-04-00 | 32-06-06 | W13(i15) | 96.00 lb | 456.00/-72.00 lb | - | - |
| Connecto | r Information | _ | | | | | |
| | | | | Nailing Requirement | <u>nts</u> | | |
| Support | <u>Manufacturer</u> | Model | <u>Top</u> | <u>Face</u> | <u>Member</u> | l ength | Other Information |
| 1 | | ITS2.56/14 | - | - | - | N/A | Connector manually specified by the user. |

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Member Type: FloorJoist | Level: 2nd Floor

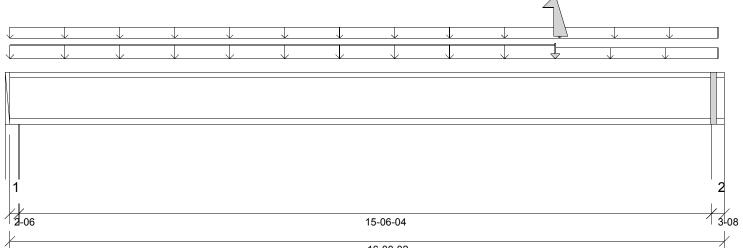
Designed by Single Member Design Engine

Member: 2 - 14" NI-40x

Label: FJ18-i630

Page: 3 of 5 Date: 08/16/2021 16:50:55

Status: Design Passed



16-00-02

Graphical Illustration - Not To Scale Member Cut Length - 16-00-02 MemberPitch - 0/12

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|-------|-------|------|------|----|
| Desig | ın In | torm | 2110 | ο. |
| | | | | |
| | | | | |

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft² Roof Dead Load: 10.0 lb/ft² Ground Snow Load: 20.0 lb/ft² Design Methodology: ASD 40.0 lb/ft² Roof Live Load: 20.0 lb/ft² Floor Live Load:

Unbraced Length Top: 0-00 Bottom: 11-11-00

Design Results:

| | Location | <u>Design</u> | <u>Control</u> | Result | <u>LDF</u> | Load Combination |
|-----------------------|----------|----------------|------------------------------|----------------|------------|------------------|
| Critical Moment (Pos) | 7-08-04 | 3435.79 lb ft | 9060.05 lb ft | Passed - 38% | 1.00 | D + L |
| Critical Moment (Neg) | 12-02-10 | -1502.86 lb ft | 9060.05 lb ft | Passed - 17% | 1.00 | D + L |
| Critical Shear | 2-07 | 897.43 lb | 3460.00 lb | Passed - 26% | 1.00 | D + L |
| Live Load Deflection | 7-11-07 | 0-02 | 0-12 (L/480) | Passed - L/999 | - | L |
| Total Load Deflection | 7-10-07 | 0-02 | 1-00 (L/240) | Passed - L/999 | - | D + L |
| Max. Reaction | | | Supported Mtl Supporting Mtl | | | |
| | 1-06 | 933.03 lb | 2775.00 lb 10390.63 lb | Passed - 34% | 1.00 | D + L |
| | 15-09-10 | 689.25 lb | 3000.00 lb 15312.57 lb | Passed - 23% | 1.00 | D + L |
| | 15-09-10 | -404 57 lb | 0.00 lb - | | 1 00 | D + I |

Design Notes:

Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

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|---|---|---|---|---|---|---|---|---|
| | = | _ | | - | - | | J | - |

| | | | | | <u>Maximum Load</u> | <u>i Magnitudes</u> | | |
|-------------|--------------|------------|-------------------|-------------|---------------------|---------------------|-------------|--|
| <u>Type</u> | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | <u>Snow</u> | |
| Uniform | 0-00 | 15-10-06 | FC1 Floor Decking | 5 lb/ft | 19 lb/ft | - | - | |
| Uniform | 0-00 | 12-02-10 | FC1 Floor Decking | 19 lb/ft | 77 lb/ft | - | - | |
| Uniform | 12-02-10 | 15-10-06 | FC1 Floor Decking | 3 lb/ft | 13 lb/ft | - | - | |
| Point | 12-02-10 | 12-02-10 | FJ4(i646) | -117.00 lb | 117.00/-586.00 lb | - | - | |

Support Information:

| | | | <u>Maximum Analysis Reactions</u> | | | | |
|---------|--------------|------------|-----------------------------------|-------------|-------------------|-----------|------|
| Support | <u>Start</u> | <u>End</u> | Source | <u>Dead</u> | Floor Live | Roof Live | Snow |
| 1 | 0-00 | 2-06 | W18(i13) | 160.00 lb | 773.00/-134.00 lb | - | - |
| 2 | 15-08-10 | 16-00-02 | W19(i19) | 48.00 lb | 641.00/-452.00 lb | - | - |

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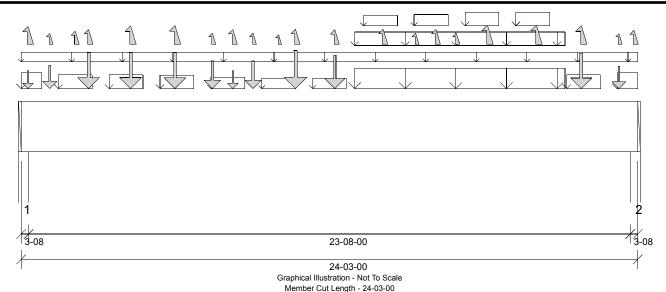


Member Type: Beam | Level: 2nd Floor

Label: 1BM1-2-i76

Page: 4 of 5 Date: 08/16/2021 16:50:56

Member: 2 - 1 3/4" x 23 7/8" LVL Status: Load Distribution Complete



MemberPitch - 0/12

Design Information:

Support Information:

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft² Roof Dead Load: 10.0 lb/ft² Ground Snow Load: 20.0 lb/ft² 20.0 lb/ft²

 Design Methodology:
 ASD
 Floor Live Load:
 40.0 lb/ft²
 Roof Live Load:
 20.0 lb/ft²

 Unbraced Length
 Top: 0-00
 Bottom: 1-04-11
 1-04-11

UI

Design Notes:

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

| | | | | | Maximum Loa | d Magnitudes | |
|-------------|--------------|------------|-------------------|-----------|------------------|----------------|----------|
| <u>Type</u> | <u>Start</u> | <u>End</u> | Source | Dead | Floor Live | Roof Live | Snow |
| Self Weight | 0-00 | 24-03-00 | Self Weight | 24 lb/ft | - | - | - |
| Uniform | -0-00 | 24-03-00 | FC1 Floor Decking | 2 lb/ft | 8 lb/ft | - | _ |
| Uniform | -0-00 | 9-12 | W29(i246) | 60 lb/ft | - | 78 lb/ft | 28 lb/ft |
| Uniform | 1-05-08 | 2-09-08 | W29(i246) | 52 lb/ft | - | 50 lb/ft | 15 lb/ft |
| Uniform | 3-05-08 | 4-09-08 | W29(i246) | 50 lb/ft | - | 49 lb/ft | 17 lb/ft |
| Uniform | 5-05-08 | 6-09-08 | W29(i246) | 51 lb/ft | - | 45 lb/ft | 16 lb/ft |
| Uniform | 7-05-08 | 8-09-08 | W29(i246) | 37 lb/ft | - | 19 lb/ft | - |
| Uniform | 9-05-08 | 10-09-08 | W29(i246) | 29 lb/ft | - | - | - |
| Uniform | 11-05-08 | 12-09-08 | W29(i246) | 30 lb/ft | - | - | - |
| Uniform | 13-01-07 | 21-04-12 | Smoothed Load | 63 lb/ft | 286 lb/ft | - | _ |
| Uniform | 13-01-07 | 21-04-12 | Smoothed Load | 45 lb/ft | - | 46 lb/ft | 27 lb/ft |
| Uniform | 13-05-08 | 14-09-08 | W29(i246) | 29 lb/ft | - | - | - |
| Uniform | 15-05-08 | 16-09-08 | W29(i246) | 37 lb/ft | - | 19 lb/ft | - |
| Uniform | 17-05-08 | 18-09-08 | W29(i246) | 51 lb/ft | - | 45 lb/ft | 17 lb/ft |
| Uniform | 19-05-08 | 20-09-08 | W29(i246) | 50 lb/ft | - | 49 lb/ft | 17 lb/ft |
| Uniform | 21-05-08 | 22-09-08 | W29(i246) | 52 lb/ft | - | 50 lb/ft | 14 lb/ft |
| Uniform | 23-05-04 | 24-03-00 | W29(i246) | 60 lb/ft | - | 78 lb/ft | 28 lb/ft |
| Point | 3-04 | 3-04 | - 1 | 93.00 lb | - | 95.00/-5.00 lb | 55.00 lb |
| Point | 2-07-13 | 2-07-13 | - | 198.00 lb | 474.00/-54.00 lb | 95.00/-5.00 lb | 55.00 lb |
| Point | 8-03-14 | 8-03-14 | - | 93.00 lb | - | 95.00/-8.00 lb | 55.00 lb |
| Point | 12-04-01 | 12-04-01 | - | 184.00 lb | 417.00/-51.00 lb | 95.00/-5.00 lb | 55.00 lb |
| Point | 16-03-12 | 16-03-12 | - | - | - | -8.00 lb | - |
| Point | 1-01-08 | 1-01-08 | FJ34(i671) | 85.00 lb | 363.00/-48.00 lb | - | - |
| Point | 7-06-04 | 7-06-04 | FJ34(i590) | 104.00 lb | 474.00/-58.00 lb | - | - |
| Point | 9-01-07 | 9-01-07 | FJ34(i591) | 104.00 lb | 474.00/-58.00 lb | - | - |
| Point | 10-09-08 | 10-09-08 | <u>-</u> | 210.00 lb | 531.00/-65.00 lb | 95.00/-5.00 lb | 55.00 lb |
| Point | 15-06-03 | 15-06-03 | FJ34(i647) | - | -58.00 lb | - | - |
| Point | 17-01-06 | 17-01-06 | FJ34(i665) | - | -58.00 lb | - | - |
| Point | 23-06-02 | 23-06-02 | FJ34(i657) | 76.00 lb | 346.00/-42.00 lb | - | - |
| Point | 2-01-09 | 2-01-09 | W29(i246) | - | - | - | - |
| Point | 4-03-10 | 4-03-10 | - 1 | 203.00 lb | 474.00/-33.00 lb | 95.00/-5.00 lb | 55.00 lb |
| Point | 6-00-09 | 6-00-09 | - | 197.00 lb | 474.00/-58.00 lb | 95.00/-5.00 lb | 55.00 lb |
| Point | 10-01-09 | 10-01-09 | W29(i246) | - | - | -3.00 lb | -1.00 lb |
| Point | 14-02-14 | 14-02-14 | - , | - | -58.00 lb | -8.00 lb | -1.00 lb |
| Point | 18-04-01 | 18-04-01 | - | - | -58.00 lb | -5.00 lb | - |
| Point | 20-03-03 | 20-03-03 | - | - | -58.00 lb | -5.00 lb | - |
| Point | 22-00-06 | 22-00-06 | - | 195.00 lb | 474.00/-58.00 lb | 90.00/-4.00 lb | 52.00 lb |
| Point | 24-01-04 | 24-01-04 | W29(i246) | | _ | _ | _ |

Maximum Analysis Reactions Support Start End Dead Floor Live Roof Live Snow Source 0-00 3-08 W17(i14) 2035.00 lb 3516.00/-394.00 lb 886.00/-38.00 lb 444.00 lb

⁻ 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.



1966.00 lb

Member Type: Beam | Level: 2nd Floor

Label: 1BM1-2-i76

399.00 lb

Page: 5 of 5 Date: 08/16/2021 16:50:56

Status: Load Distribution Complete 811.00/-33.00 lb

3576.00/-421.00 lb

Member: 2 - 1 3/4" x 23 7/8" LVL 23-11-08 24-03-00 W15(i16)

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