

Graphical Illustration - Not To Scale  
 Member Cut Length - 18'- 2"  
 MemberPitch - 0/12

**Design Information:**

|                         |  |   |  |
|-------------------------|--|---|--|
| Building Code: IRC 2018 | Floor Dead Load: 12.0 lb/ft <sup>2</sup> | Roof Dead Load: 15.0 lb/ft <sup>2</sup> | Ground Snow Load: 0.0 lb/ft <sup>2</sup> |
| Design Methodology: ASD | Floor Live Load: 40.0 lb/ft <sup>2</sup> | Roof Live Load: 20.0 lb/ft <sup>2</sup> |  |
|                         | Unbraced Length Top: 18'- 2"             | Bottom: 18'- 2"                         |  |

**Design Results:**

|                       | Location | Design         | Control                   | Result                    | LDF          | Load Combination |       |
|-----------------------|----------|----------------|---------------------------|---------------------------|--------------|------------------|-------|
| Critical Moment (Pos) | 9'- 1"   | 15949.45 lb ft | 42377.24 lb ft            | Passed - 38%              | 1.00         | D + L            |       |
| Critical Moment (Neg) |          | 0.00 lb ft     | 0.00 lb ft                |                           |              |                  |       |
| Critical Moment (Neg) |          | 0.00 lb ft     | 0.00 lb ft                |                           |              |                  |       |
| Critical Shear        | 1'- 6"   | 3102.64 lb     | 13965.00 lb               | Passed - 22%              | 1.00         | D + L            |       |
| Live Load Deflection  | 9'- 1"   | 0'- 1/4"       | N/A (L/360)               | Passed - L/902            | -            | L                |       |
| Total Load Deflection | 9'- 1"   | 0'- 3/8"       | N/A (L/240)               | Passed - L/573            | -            | D + L            |       |
| Max. Reaction         | 0'- 3"   | 3716.35 lb     | Supported Mt  15749.76 lb | Supported Mt  15224.77 lb | Passed - 24% | 1.00             | D + L |
|                       | 17'- 11" | 3716.35 lb     | 15749.85 lb               | 15224.86 lb               | Passed - 24% | 1.00             | D + L |

**Design Notes:**

\* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

**Loading:**

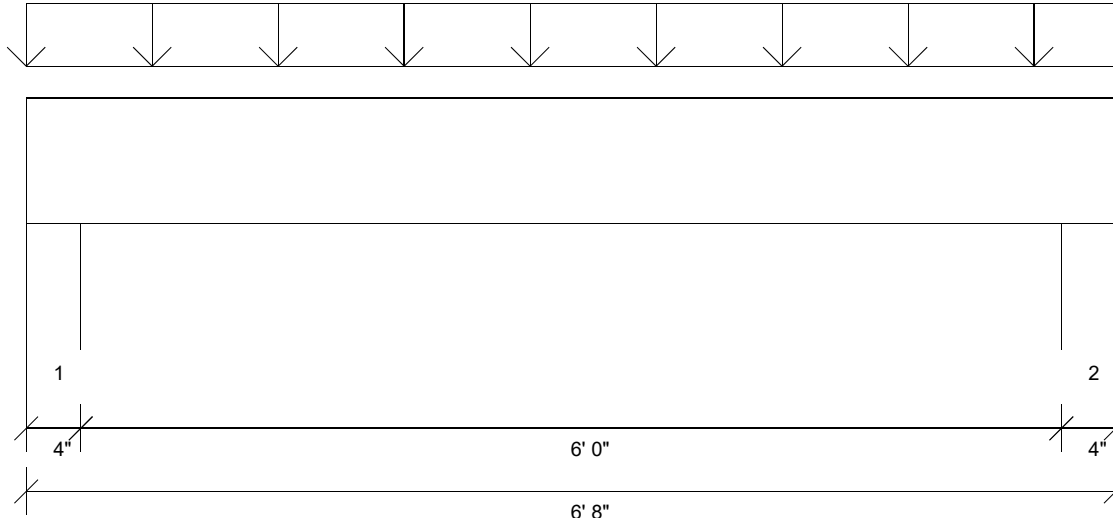
| Type        | Start | End     | Source      | Maximum Load Magnitudes |            |           |      |
|-------------|-------|---------|-------------|-------------------------|------------|-----------|------|
|             |       |         |             | Dead                    | Floor Live | Roof Live | Snow |
| Self Weight | 0'    | 18'- 2" | Self Weight | 19 lb/ft                | -          | -         | -    |
| Uniform     | -0'   | 18'- 2" | User Load   | 130 lb/ft               | 260 lb/ft  | -         | -    |

**Support Information:**

| Support | Start    | End     | Source    | Maximum Analysis Reactions |            |           |      |
|---------|----------|---------|-----------|----------------------------|------------|-----------|------|
|         |          |         |           | Dead                       | Floor Live | Roof Live | Snow |
| 1       | 0'       | 0'- 4"  | PBO6(i75) | 1355.00 lb                 | 2362.00 lb | -         | -    |
| 2       | 17'- 10" | 18'- 2" | PBO7(i76) | 1355.00 lb                 | 2362.00 lb | -         | -    |

**Errors, Warnings & Notes:**

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



Graphical Illustration - Not To Scale  
 Member Cut Length - 6'- 8"  
 MemberPitch - 0/12

**Design Information:**

|                     |          |                  |                         |                 |                         |                   |                        |
|---------------------|----------|------------------|-------------------------|-----------------|-------------------------|-------------------|------------------------|
| Building Code:      | IRC 2018 | Floor Dead Load: | 12.0 lb/ft <sup>2</sup> | Roof Dead Load: | 15.0 lb/ft <sup>2</sup> | Ground Snow Load: | 0.0 lb/ft <sup>2</sup> |
| Design Methodology: | ASD      | Floor Live Load: | 40.0 lb/ft <sup>2</sup> | Roof Live Load: | 20.0 lb/ft <sup>2</sup> |                   |                        |
|                     |          | Unbraced Length  | Top: 6'- 8"             | Bottom:         | 6'                      |                   |                        |

**Design Results:**

|                       | Location   | Design        | Control        | Result         | LDF         | Load Combination |      |       |
|-----------------------|------------|---------------|----------------|----------------|-------------|------------------|------|-------|
| Critical Moment (Pos) | 3'- 4"     | 2578.65 lb ft | 3429.65 lb ft  | Passed - 75%   | 1.00        | D + L            |      |       |
| Critical Moment (Neg) |            | 0.00 lb ft    | 0.00 lb ft     |                |             |                  |      |       |
| Critical Shear        | 1'- 1 1/4" | 1217.24 lb    | 2497.50 lb     | Passed - 49%   | 1.00        | D + L            |      |       |
| Live Load Deflection  | 3'- 4"     | 0'- 1/16"     | N/A (L/360)    | Passed - L/999 | -           | 0.75(L + Lr)     |      |       |
| Total Load Deflection | 3'- 4"     | 0'- 1/16"     | N/A (L/240)    | Passed - L/950 | -           | D + 0.75(L + Lr) |      |       |
| Max. Reaction         | 0'- 3"     | 1820.15 lb    | Supported Mt/  | 5099.98 lb     | 10499.96 lb | Passed - 36%     | 1.00 | D + L |
|                       | 6'- 5"     | 1820.15 lb    | Supporting Mt/ | 5099.98 lb     | 10499.96 lb | Passed - 36%     | 1.00 | D + L |

**Design Notes:**

\* Member design assumed proper ply to ply connection. Verify connection between plies according to code specification

**Loading:**

| Type        | Start | End    | Source      | Maximum Load Magnitudes |            |           |      |
|-------------|-------|--------|-------------|-------------------------|------------|-----------|------|
|             |       |        |             | Dead                    | Floor Live | Roof Live | Snow |
| Self Weight | 0'    | 6'- 8" | Self Weight | 6 lb/ft                 | -          | -         | -    |
| Uniform     | 0'    | 6'- 8" | User Load   | 280 lb/ft               | 260 lb/ft  | 200 lb/ft | -    |

**Support Information:**

| Support | Start  | End    | Source   | Maximum Analysis Reactions |            |           |      |
|---------|--------|--------|----------|----------------------------|------------|-----------|------|
|         |        |        |          | Dead                       | Floor Live | Roof Live | Snow |
| 1       | 0'     | 0'- 4" | E41(i60) | 953.00 lb                  | 867.00 lb  | 667.00 lb | -    |
| 2       | 6'- 4" | 6'- 8" | E40(i59) | 953.00 lb                  | 867.00 lb  | 667.00 lb | -    |

**Errors, Warnings & Notes:**

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- \* 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.