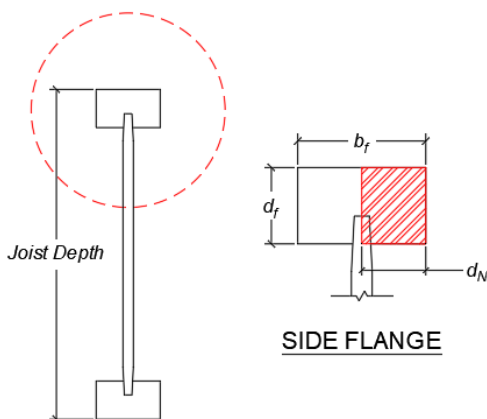


TJI® Joists with a Side Flange Notch in the Top (Compression) Flange

The flange of a TJI® joist should never be deliberately cut or notched and TJI® joists subject to damage prior to installation should be discarded and replaced. However, it is recognized that inadvertent notches to the flange of a TJI® joist may occur during the construction process, after the member has been installed. This technical bulletin provides contingency guidelines for TJI® joists with one (1) inadvertent *Side Flange Notch* in the top (compression) flange.

Definitions

- **Side Flange Notch** – notch type that encompasses the full flange depth and up to half the flange width



TJI® JOIST FLANGE DIMENSIONS

| TJI® Series | b_f | d_f |
|-------------|---------|-----------------|
| TJI® 110 | 1 3/4" | 1 1/4" - 1 3/8" |
| TJI® 210 | 2 1/16" | 1 1/4" - 1 3/8" |
| TJI® 230 | 2 5/16" | 1 1/4" - 1 3/8" |
| TJI® 360 | 2 5/16" | 1 3/8" |
| TJI® 560 | 3 1/2" | 1 3/8" |

Figure 1: Diagram of an inadvertent *Side Flange Notch* in top (compression) flange of a TJI® joist.

Conditions and Limitations

- Span tables are valid for flange notch contingency only.
- Original, undamaged TJI® joists are properly designed.
- Adjacent TJI® joists on both sides remain undamaged.
- Uniform distributed loads only.
- One (1) inadvertent *Side Flange Notch* per TJI® joist (single-ply joist members only).
- *Side Flange Notch* permitted in location zones of top (compression) flange (see Figure 4 and Figure 5).
- Notch depth (d_N) \leq half the flange width (b_f).
- Length (parallel to span) of *Side Flange Notch* \leq 4".
- Centerline of *Side Flange Notch* \geq 6" from nearest edge of rectangular or slotted holes.
- *Side Flange Notch* due to saw-cuts or drilling only.
 - Excludes flange damage due to rough handling, drops, forklift stabs, etc.
- Joist member slope \leq 0.25/12.

Should your situation conflict with any of the conditions and limitations, please consider an alternative option:

1. "Header-Off" the damaged TJI® joist around the location of the notch.
 - Reference *TJI® Joists Header-Off Span Table* ([TB-860](#)).
2. Remove/replace the damaged TJI® joist or install an additional matched, undamaged TJI® joist within 3" on-center of the damaged member.
 - For joists spaced at 24" on-center (or greater), a matched, undamaged TJI® joist may be required on each side of the damaged member due to sheathing span limits.
 - Reference *TJI® Joists Specifier's Guide* ([TJ-4500](#)) or [ForteWEB®](#) software to verify the allowable span when installing an additional simple span member beside a damaged continuous span member.
3. Contact your Weyerhaeuser representative for detailed notch analysis.

Should you have any questions, or your situation does not meet the conditions and limitations, please contact your Weyerhaeuser representative.

Phone: (888) 453-8358

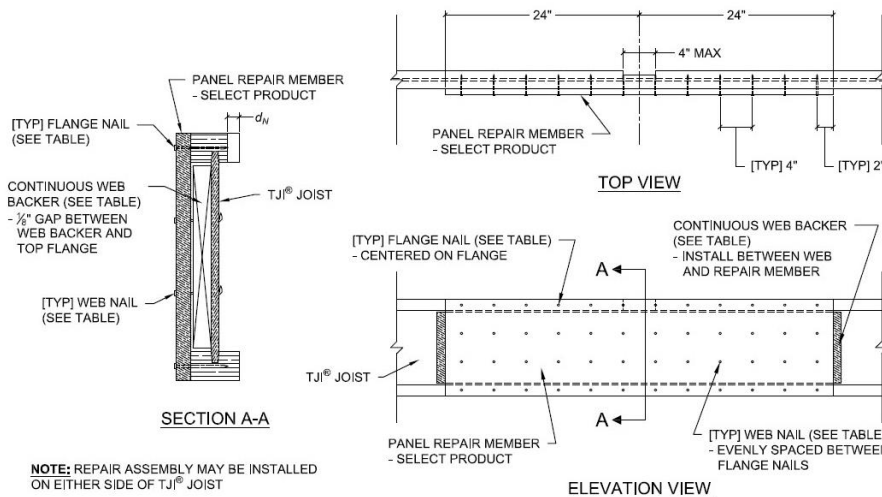
Email: techsupport@weyerhaeuser.com

TB-859

July 2023 (Expires 7/2025)

Approved Nailed-Repair Assemblies

The layout of the span tables in this technical bulletin is similar to the span tables found in *TJI® Joists Specifier's Guide* (TJ-4500). The primary difference is an additional column included under each joist spacing. The "No Repair" column provides the maximum joist span without an approved nailed-repair assembly installed on the damaged TJI® joist. The "Repair" column provides the maximum joist span with one of the approved nailed-repair assemblies installed on the damaged TJI® joist. Figure 2 provides construction details for the approved Panel Nailed-Repair. Figure 3 provides construction details for the approved 2x4 Nailed-Repair. Either repair assembly may be installed along the side of a TJI® joist, centered on the location of the *Side Flange Notch*.



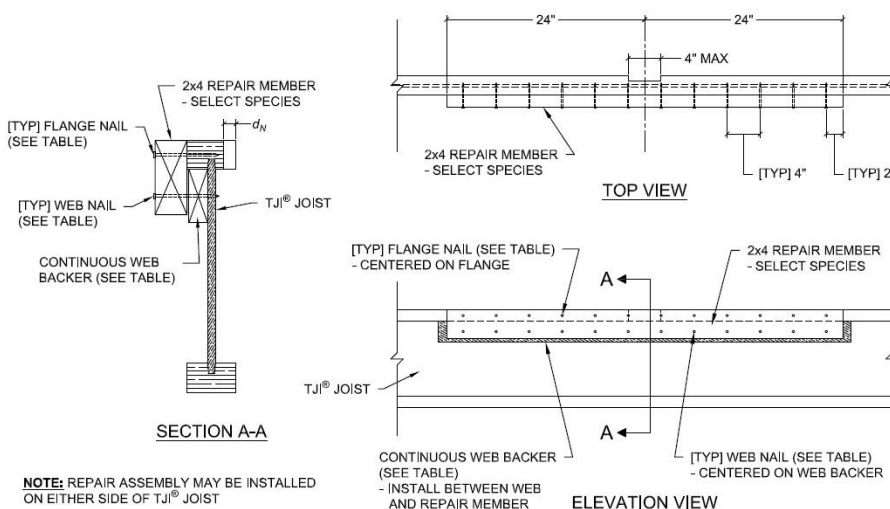
PANEL NAILED-REPAIR COMPONENTS^{[1][2]}

| TJI® Series | Web Backer Thickness | Panel Product & Nail Size | |
|---------------------|----------------------|--|---|
| | | 23/32" OSB or 23/32" Plywood Panel | 1 1/8" TJI® Rim Board or 1 1/4" TimberStrand® LSL |
| TJI® 110 | 5/8" or 3/4" | 8d (0.113" x 2 1/2") | 8d (0.113" x 2 1/2") |
| TJI® 210 | 3/4" or 7/8" | 8d (0.113" x 2 1/2") | 8d (0.113" x 2 1/2") |
| TJI® 230 / TJI® 360 | 7/8" or 1" (net) | 8d (0.113" x 2 1/2") | 10d (0.128" x 3") |
| TJI® 560 | 1 1/2" (2x_) | FLANGE: 8d (0.113" x 2 1/2") WEB: 10d (0.128" x 3") | FLANGE: 10d (0.128" x 3") WEB: 16d (0.162" x 3 1/2") |

[1] Apply construction adhesive at all contact surfaces.

[2] Repair assembly may be installed on either side of joist.

Figure 2: Detail of Panel Nailed-Repair for TJI® joists with an inadvertent *Side Flange Notch* in top (compression) flange.



2x4 NAILED-REPAIR COMPONENTS^{[1][2]}

| TJI® Series | Web Backer Thickness | 2x4 Species & Nail Size |
|---------------------|----------------------|---|
| | | TimberStrand® LSL or DF-L Standard or SPF No. 2 |
| TJI® 110 | 5/8" or 3/4" | 10d (0.128" x 3") |
| TJI® 210 | 3/4" or 7/8" | 10d (0.128" x 3") |
| TJI® 230 / TJI® 360 | 7/8" or 1" (net) | 10d (0.128" x 3") |
| TJI® 560 | 1 1/2" (2x_) | FLANGE: 10d (0.128" x 3") WEB: 16d (0.162" x 3 1/2") |

[1] Apply construction adhesive at all contact surfaces.

[2] Repair assembly may be installed on either side of joist.

Figure 3: Detail of 2x4 Nailed-Repair for TJI® joists with an inadvertent *Side Flange Notch* in top (compression) flange.

TJI® Joists with a Side Flange Notch Located between End Bearing and Quarter-Span

INDEX OF FLOOR SPAN TABLES

| TJI® Series | Joist Depths | Page |
|-----------------|-------------------------------|------|
| TJI® 110 | 9½", 11⅞", 14" | 4 |
| TJI® 210 | 9½", 11⅞", 14", 16" | 4 |
| TJI® 230 | 9½", 11⅞", 14", 16" | 5 |
| TJI® 360 | 9½", 11⅞", 14", 16", 18", 20" | 5 |
| TJI® 560 | 9½", 11⅞", 14", 16", 18", 20" | 6 |

Location Zones (End Bearing to Quarter-Span)

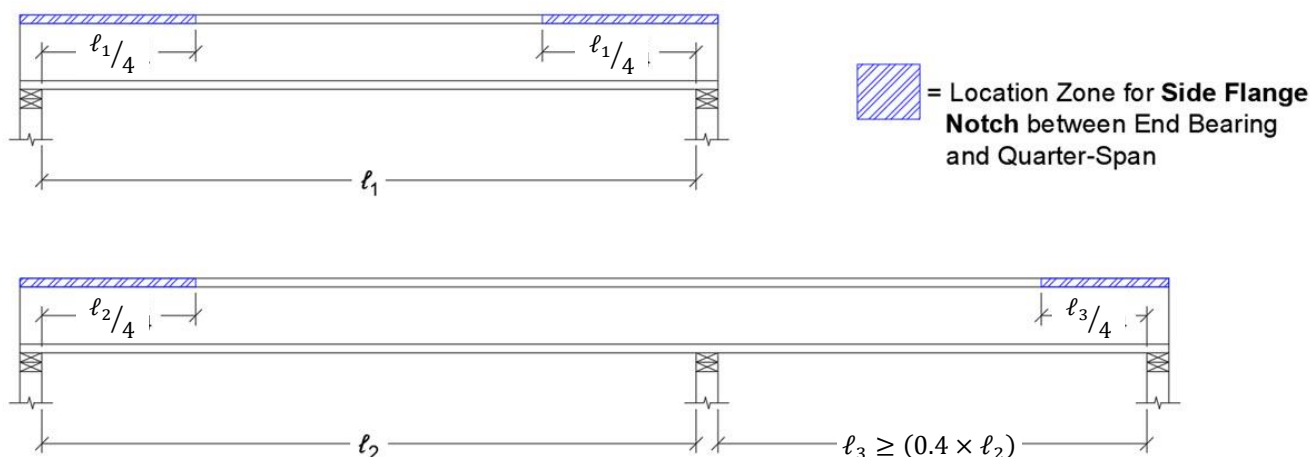


Figure 4: Location zones for a *Side Flange Notch* in simple and continuous TJI® joists (end bearing to quarter-span).

How to Use These Tables

- Confirm the damaged TJI® joist complies with Conditions and Limitations on page 1.
 - Tables assume that the original, undamaged TJI® joist was properly designed as per [TJ-4500](#) or [ForteWEB®](#) software.
- Determine the distance of the inadvertent *Side Flange Notch* from inside face of nearest support relative to the as-built span length (ℓ_i).
 - See Figure 4 above.
- Select the appropriate table per the location of the *Side Flange Notch* and the TJI® joist series.
- Identify the design live load and dead load.
- Look up the maximum allowable span for the notch location, joist depth, notch depth (d_N), design loads, joist spacing, and repair option.
- Compare the table span to the as-built span length (ℓ_i).
 - If the table span is less than the as-built span length (ℓ_i), consider one of the alternative options listed on page 1.

General Table Notes

- Tables are based on:
 - Clear distance between supports.
 - Minimum bearing length of 1¾" end (no web stiffeners) and 3½" intermediate (no web stiffeners).
 - Limit States Design per CSA O86.
 - Uniform loads.
 - Assumed composite action with a single layer of 24" on-center span-rated, glue-nailed floor panels for deflection only.
- Long term deflection under dead load, which includes the effect of creep, has not been considered.
 - Deflection criteria = $L/480$ live load (LL); $L/240$ total load (TL).
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Floor Span Tables – Side Flange Notch Located between End Bearing and Quarter-Span

TJI® 110 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (END BEARING TO QUARTER-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|--------|-----------|---------|------------|---------|-----------|--------|-------------------------------------|--------|-----------|---------|------------|--------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 7/16" | 16'-6" | - | 15'-6" | - | 14'-7" | - | 13'-7" | - | 16'-6" | - | 15'-4" | 15'-6" | 14'-0" | 14'-6" | 12'-5" | - |
| | ≤ 7/8" | 16'-6" | - | 14'-5" | 15'-5" | 13'-1" | 14'-1" | 11'-9" | 12'-7" | 14'-11" | 16'-0" | 12'-11" | 13'-10" | 11'-9" | 12'-8" | 10'-6" | 11'-4" |
| 11 7/8" | ≤ 7/16" | 18'-8" | - | 17'-6" | - | 16'-10" | - | 15'-4" | - | 18'-8" | - | 17'-3" | 17'-6" | 15'-6" | - | 12'-5" | - |
| | ≤ 7/8" | 18'-8" | - | 16'-2" | 17'-4" | 14'-9" | 15'-10" | 13'-2" | 14'-2" | 16'-10" | 18'-0" | 14'-6" | 15'-7" | 13'-3" | 14'-3" | 11'-10" | 12'-5" |
| 14" | ≤ 7/16" | 20'-9" | - | 19'-4" | - | 18'-6" | - | 15'-4" | - | 20'-9" | - | 18'-8" | - | 15'-6" | - | 12'-5" | - |
| | ≤ 7/8" | 20'-5" | 20'-9" | 17'-8" | 18'-11" | 16'-1" | 17'-3" | 14'-4" | 15'-4" | 18'-4" | 19'-8" | 15'-10" | 17'-0" | 14'-5" | 15'-6" | 12'-5" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 4, How to Use These Tables, and General Table Notes on Page 3.

[2] Table applicable to TJI® joists with one (1) inadvertent Side Flange Notch located between nearest end bearing and quarter-point of the joist clear span.

TJI® 210 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (END BEARING TO QUARTER-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|-------|-------------------------------------|--------|-----------|---------|------------|---------|-----------|---------|-------------------------------------|---------|-----------|---------|------------|---------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ ½" | 16'-11" | - | 16'-0" | - | 15'-4" | - | 14'-3" | - | 16'-11" | - | 16'-0" | - | 15'-4" | - | 13'-8" | 13'-9" |
| | ≤ 1" | 16'-11" | - | 15'-9" | 16'-0" | 14'-5" | 15'-4" | 12'-10" | 13'-10" | 16'-5" | 16'-11" | 14'-2" | 15'-2" | 12'-11" | 13'-10" | 11'-6" | 12'-5" |
| 11 7/8" | ≤ ½" | 19'-3" | - | 17'-11" | - | 17'-3" | - | 16'-7" | - | 19'-3" | - | 17'-11" | - | 17'-3" | - | 13'-9" | - |
| | ≤ 1" | 19'-3" | - | 17'-9" | 17'-11" | 16'-2" | 17'-3" | 14'-6" | 15'-6" | 18'-5" | 19'-3" | 15'-11" | 17'-1" | 14'-7" | 15'-7" | 13'-0" | 13'-9" |
| 14" | ≤ ½" | 21'-5" | - | 19'-11" | - | 19'-0" | - | 17'-1" | - | 21'-5" | - | 19'-11" | - | 17'-3" | - | 13'-9" | - |
| | ≤ 1" | 21'-5" | - | 19'-4" | 19'-11" | 17'-8" | 18'-11" | 15'-9" | 16'-11" | 20'-1" | 21'-5" | 17'-4" | 18'-8" | 15'-10" | 17'-0" | 13'-9" | - |
| 16" | ≤ ½" | 23'-4" | - | 21'-8" | - | 20'-9" | - | 17'-1" | - | 23'-4" | - | 20'-8" | - | 17'-3" | - | 13'-9" | - |
| | ≤ 1" | 23'-4" | - | 20'-8" | 21'-8" | 18'-11" | 20'-3" | 16'-10" | 17'-1" | 21'-6" | 23'-1" | 18'-7" | 19'-11" | 16'-11" | 17'-3" | 13'-9" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 4, How to Use These Tables, and General Table Notes on Page 3.

[2] Table applicable to TJI® joists with one (1) inadvertent Side Flange Notch located between nearest end bearing and quarter-point of the joist clear span.

TJI® 230 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (END BEARING TO QUARTER-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|---------|-------------------------------------|---------|-----------|--------|------------|---------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 9/16" | 17'-2" | - | 16'-3" | - | 15'-8" | - | 14'-8" | - | 17'-2" | - | 16'-3" | - | 15'-8" | - | 14'-5" | 14'-8" |
| | ≤ 1½" | 17'-2" | - | 16'-3" | - | 15'-2" | 15'-8" | 13'-7" | 14'-7" | 17'-2" | - | 14'-11" | 16'-0" | 13'-7" | 14'-7" | 12'-2" | 13'-1" |
| 11⅞" | ≤ 9/16" | 19'-7" | - | 18'-3" | - | 17'-6" | - | 16'-9" | - | 19'-7" | - | 18'-3" | - | 17'-6" | - | 15'-5" | - |
| | ≤ 1½" | 19'-7" | - | 18'-3" | - | 17'-1" | 17'-6" | 15'-3" | 16'-5" | 19'-5" | 19'-7" | 16'-10" | 18'-0" | 15'-4" | 16'-5" | 13'-8" | 14'-8" |
| 14" | ≤ 9/16" | 21'-10" | - | 20'-3" | - | 19'-4" | - | 18'-4" | - | 21'-10" | - | 20'-3" | - | 19'-4" | - | 15'-5" | - |
| | ≤ 1½" | 21'-10" | - | 20'-3" | - | 18'-7" | 19'-4" | 16'-7" | 17'-10" | 21'-2" | 21'-10" | 18'-4" | 19'-8" | 16'-8" | 17'-11" | 14'-11" | 15'-5" |
| 16" | ≤ 9/16" | 23'-9" | - | 22'-1" | - | 21'-1" | - | 19'-2" | - | 23'-9" | - | 22'-1" | - | 19'-4" | - | 15'-5" | - |
| | ≤ 1½" | 23'-9" | - | 21'-10" | 22'-1" | 19'-11" | 21'-1" | 17'-9" | 19'-1" | 22'-8" | 23'-9" | 19'-7" | 21'-0" | 17'-10" | 19'-2" | 15'-5" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 4, How to Use These Tables, and General Table Notes on Page 3.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between nearest end bearing and quarter-point of the joist clear span.

TJI® 360 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (END BEARING TO QUARTER-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 9/16" | 17'-8" | - | 16'-8" | - | 16'-1" | - | 15'-5" | - | 17'-8" | - | 16'-8" | - | 16'-1" | - | 15'-5" | - |
| | ≤ 1½" | 17'-8" | - | 16'-8" | - | 16'-1" | - | 15'-5" | - | 17'-8" | - | 16'-8" | - | 16'-1" | - | 14'-7" | 15'-5" |
| 11⅞" | ≤ 9/16" | 20'-4" | - | 18'-11" | - | 18'-0" | - | 17'-3" | - | 20'-4" | - | 18'-11" | - | 18'-0" | - | 15'-10" | - |
| | ≤ 1½" | 20'-4" | - | 18'-11" | - | 18'-0" | - | 17'-3" | - | 20'-4" | - | 18'-11" | - | 18'-0" | - | 15'-10" | - |
| 14" | ≤ 9/16" | 22'-7" | - | 21'-0" | - | 20'-0" | - | 18'-11" | - | 22'-7" | - | 21'-0" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 22'-7" | - | 21'-0" | - | 20'-0" | - | 18'-11" | - | 22'-7" | - | 21'-0" | - | 19'-9" | - | 15'-10" | - |
| 16" | ≤ 9/16" | 24'-7" | - | 22'-10" | - | 21'-9" | - | 19'-7" | - | 24'-7" | - | 22'-10" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 24'-7" | - | 22'-10" | - | 21'-9" | - | 19'-7" | - | 24'-7" | - | 22'-10" | - | 19'-9" | - | 15'-10" | - |
| 18" | ≤ 9/16" | 26'-6" | - | 24'-8" | - | 23'-6" | - | 19'-7" | - | 26'-6" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 26'-6" | - | 24'-8" | - | 23'-6" | - | 19'-7" | - | 26'-6" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |
| 20" | ≤ 9/16" | 28'-4" | - | 26'-4" | - | 24'-6" | - | 19'-7" | - | 28'-4" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 28'-4" | - | 26'-4" | - | 24'-6" | - | 19'-7" | - | 28'-4" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 4, How to Use These Tables, and General Table Notes on Page 3.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between nearest end bearing and quarter-point of the joist clear span.

TJI® 560 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (END BEARING TO QUARTER-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|--------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 7/8" | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - |
| | ≤ 1¾" | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - |
| 11⅞" | ≤ 7/8" | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - |
| | ≤ 1¾" | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - |
| 14" | ≤ 7/8" | 24'-9" | - | 22'-11" | - | 21'-9" | - | 20'-7" | - | 24'-9" | - | 22'-11" | - | 21'-9" | - | 19'-3" | - |
| | ≤ 1¾" | 24'-9" | - | 22'-11" | - | 21'-9" | - | 20'-7" | - | 24'-9" | - | 22'-11" | - | 21'-9" | - | 19'-3" | - |
| 16" | ≤ 7/8" | 26'-11" | - | 24'-11" | - | 23'-9" | - | 22'-5" | - | 26'-11" | - | 24'-11" | - | 23'-9" | - | 19'-3" | - |
| | ≤ 1¾" | 26'-11" | - | 24'-11" | - | 23'-9" | - | 22'-5" | - | 26'-11" | - | 24'-11" | - | 23'-9" | - | 19'-3" | - |
| 18" | ≤ 7/8" | 29'-0" | - | 26'-10" | - | 25'-7" | - | 23'-11" | - | 29'-0" | - | 26'-10" | - | 24'-2" | - | 19'-3" | - |
| | ≤ 1¾" | 29'-0" | - | 26'-10" | - | 25'-7" | - | 23'-11" | - | 29'-0" | - | 26'-10" | - | 24'-2" | - | 19'-3" | - |
| 20" | ≤ 7/8" | 31'-0" | - | 28'-8" | - | 27'-4" | - | 23'-11" | - | 31'-0" | - | 28'-8" | - | 24'-2" | - | 19'-3" | - |
| | ≤ 1¾" | 31'-0" | - | 28'-8" | - | 27'-4" | - | 23'-11" | - | 31'-0" | - | 28'-8" | - | 24'-2" | - | 19'-3" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 4, How to Use These Tables, and General Table Notes on Page 3.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between nearest end bearing and quarter-point of the joist clear span.

TJI® Joists with a Side Flange Notch Located between Quarter-Span and Mid-Span

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| TJI® 230 | 9½", 11⅞", 14", 16" | 9 |
| TJI® 360 | 9½", 11⅞", 14", 16", 18", 20" | 9 |
| TJI® 560 | 9½", 11⅞", 14", 16", 18", 20" | 10 |

Location Zones (Quarter-Span to Mid-Span)

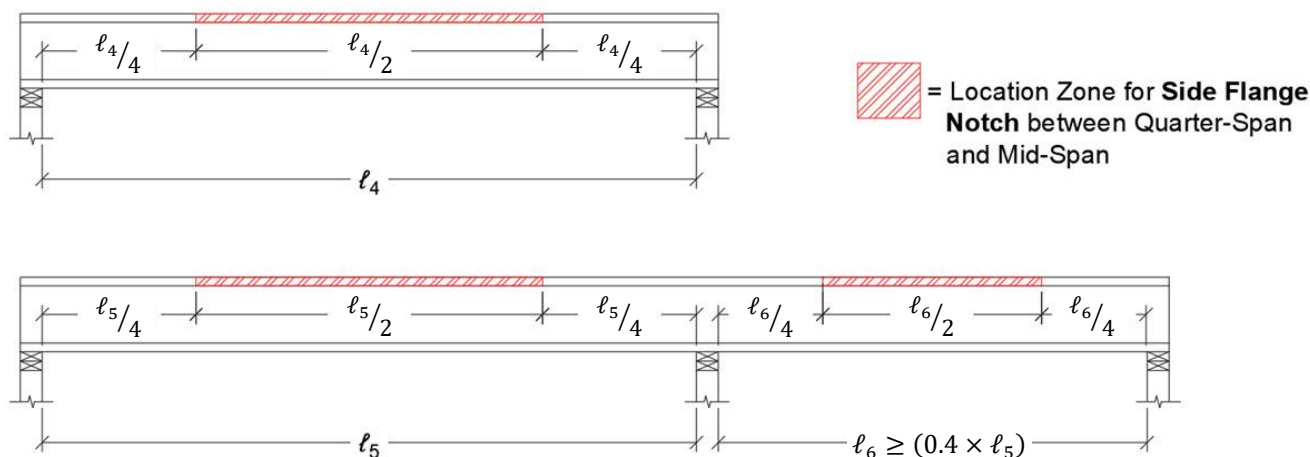


Figure 5: Location zones for a Side Flange Notch in simple and continuous TJI® joists (quarter-span to mid-span).

How to Use These Tables

- Confirm the damaged TJI® joist complies with Conditions and Limitations on page 1.
 - Tables assume that the original, undamaged TJI® joist was properly designed as per [TJ-4500](#) or [ForteWEB®](#) software.
- Determine the distance of the inadvertent Side Flange Notch from inside face of nearest support, relative to the as-built span length (ℓ_i).
 - See Figure 5 above.
- Select the appropriate table per the location of the Side Flange Notch and the TJI® joist series.
- Identify the design live load and dead load.
- Look up the maximum allowable span for the notch location, joist depth, notch depth (d_N), design loads, joist spacing, and repair option.
- Compare the table span to the as-built span length (ℓ_i).
 - If the table span is less than the as-built span length (ℓ_i), consider one of the alternative options listed on page 1.

General Table Notes

- Tables are based on:
 - Clear distance between supports.
 - Minimum bearing length of 1¾" end (no web stiffeners) and 3½" intermediate (no web stiffeners).
 - Limit States Design per CSA O86.
 - Uniform loads.
 - Assumed composite action with a single layer of 24" on-center span-rated, glue-nailed floor panels for deflection only.
- Long term deflection under dead load, which includes the effect of creep, has not been considered.
 - Deflection criteria = $L/480$ live load (LL); $L/240$ total load (TL).
- For continuous spans, ratio of short span to long span should be 0.4 or greater to prevent uplift.

Floor Span Tables – Side Flange Notch Located between Quarter-Span and Mid-Span

TJI® 110 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (QUARTER-SPAN TO MID-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|---------|-----------|--------|------------|---------|-----------|---------|-------------------------------------|---------|-----------|--------|------------|---------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 7/16" | 16'-6" | - | 14'-9" | 15'-6" | 13'-5" | 14'-2" | 12'-0" | 12'-8" | 15'-4" | 16'-2" | 13'-3" | 14'-0" | 12'-1" | 12'-9" | 10'-9" | 11'-5" |
| | ≤ 7/8" | 14'-5" | 15'-5" | 12'-5" | 13'-4" | 11'-4" | 12'-2" | 10'-2" | 10'-11" | 12'-11" | 13'-10" | 11'-2" | 12'-0" | 10'-2" | 10'-11" | 9'-1" | 9'-9" |
| 11⅞" | ≤ 7/16" | 18'-8" | - | 16'-7" | 17'-6" | 15'-2" | 16'-0" | 13'-6" | 14'-3" | 17'-3" | 18'-2" | 14'-11" | 15'-9" | 13'-7" | 14'-4" | 12'-2" | 12'-5" |
| | ≤ 7/8" | 16'-2" | 17'-4" | 14'-0" | 15'-0" | 12'-9" | 13'-8" | 11'-5" | 12'-3" | 14'-6" | 15'-7" | 12'-7" | 13'-6" | 11'-6" | 12'-4" | 10'-3" | 11'-0" |
| 14" | ≤ 7/16" | 20'-9" | - | 18'-1" | 19'-1" | 16'-6" | 17'-5" | 14'-9" | 15'-4" | 18'-9" | 19'-9" | 16'-3" | 17'-1" | 14'-10" | 15'-6" | 12'-5" | - |
| | ≤ 7/8" | 17'-8" | 18'-11" | 15'-3" | 16'-4" | 13'-11" | 14'-11" | 12'-5" | 13'-4" | 15'-10" | 17'-0" | 13'-8" | 14'-8" | 12'-6" | 13'-5" | 11'-2" | 12'-0" |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 5, How to Use These Tables, and General Table Notes on Page 7.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between quarter-point and mid-point of the joist clear span.

TJI® 210 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (QUARTER-SPAN TO MID-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|-------|-------------------------------------|---------|-----------|---------|------------|--------|-----------|---------|-------------------------------------|---------|-----------|---------|------------|--------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ ½" | 16'-11" | - | 16'-0" | - | 14'-9" | 15'-4" | 13'-2" | 13'-11" | 16'-9" | 16'-11" | 14'-6" | 15'-4" | 13'-3" | 14'-0" | 11'-10" | 12'-6" |
| | ≤ 1" | 15'-9" | 16'-11" | 13'-8" | 14'-8" | 12'-5" | 13'-4" | 11'-1" | 11'-11" | 14'-2" | 15'-2" | 12'-3" | 13'-2" | 11'-2" | 12'-0" | 10'-0" | 10'-8" |
| 11⅞" | ≤ ½" | 19'-3" | - | 17'-11" | - | 16'-7" | 17'-3" | 14'-10" | 15'-8" | 18'-11" | 19'-3" | 16'-4" | 17'-3" | 14'-11" | 15'-9" | 13'-4" | 13'-9" |
| | ≤ 1" | 17'-9" | 19'-1" | 15'-4" | 16'-6" | 14'-0" | 15'-0" | 12'-6" | 13'-5" | 15'-11" | 17'-1" | 13'-9" | 14'-10" | 12'-7" | 13'-6" | 11'-3" | 12'-1" |
| 14" | ≤ ½" | 21'-5" | - | 19'-10" | 19'-11" | 18'-1" | 19'-0" | 16'-2" | 17'-0" | 20'-7" | 21'-5" | 17'-10" | 18'-9" | 16'-3" | 17'-1" | 13'-9" | - |
| | ≤ 1" | 19'-4" | 20'-9" | 16'-9" | 17'-11" | 15'-3" | 16'-4" | 13'-8" | 14'-7" | 17'-4" | 18'-8" | 15'-0" | 16'-1" | 13'-8" | 14'-8" | 12'-3" | 13'-2" |
| 16" | ≤ ½" | 23'-4" | - | 21'-2" | 21'-8" | 19'-4" | 20'-5" | 17'-1" | - | 22'-0" | 23'-3" | 19'-1" | 20'-1" | 17'-3" | - | 13'-9" | - |
| | ≤ 1" | 20'-8" | 22'-2" | 17'-11" | 19'-2" | 16'-4" | 17'-6" | 14'-7" | 15'-8" | 18'-7" | 19'-11" | 16'-1" | 17'-3" | 14'-8" | 15'-9" | 13'-1" | 13'-9" |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 5, How to Use These Tables, and General Table Notes on Page 7.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between quarter-point and mid-point of the joist clear span.

TJI® 230 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (QUARTER-SPAN TO MID-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|---------|-----------|---------|------------|---------|-----------|--------|-------------------------------------|---------|-----------|---------|------------|--------|-----------|---------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 9/16" | 17'-2" | - | 16'-3" | - | 15'-7" | 15'-8" | 13'-11" | 14'-8" | 17'-2" | - | 15'-4" | 16'-2" | 13'-11" | 14'-9" | 12'-6" | 13'-2" |
| | ≤ 1½" | 16'-8" | 17'-2" | 14'-5" | 15'-5" | 13'-1" | 14'-1" | 11'-9" | 12'-7" | 14'-11" | 16'-0" | 12'-11" | 13'-10" | 11'-9" | 12'-8" | 10'-6" | 11'-3" |
| 11⅞" | ≤ 9/16" | 19'-7" | - | 18'-3" | - | 17'-6" | - | 15'-8" | 16'-6" | 19'-7" | - | 17'-3" | 18'-2" | 15'-9" | 16'-7" | 14'-1" | 14'-10" |
| | ≤ 1½" | 18'-9" | 19'-7" | 16'-2" | 17'-5" | 14'-9" | 15'-10" | 13'-2" | 14'-2" | 16'-10" | 18'-0" | 14'-6" | 15'-7" | 13'-3" | 14'-3" | 11'-10" | 12'-9" |
| 14" | ≤ 9/16" | 21'-10" | - | 20'-3" | - | 19'-1" | 19'-4" | 17'-0" | 18'-0" | 21'-8" | 21'-10" | 18'-9" | 19'-9" | 17'-1" | 18'-1" | 15'-4" | 15'-5" |
| | ≤ 1½" | 20'-5" | 21'-10" | 17'-8" | 18'-11" | 16'-1" | 17'-3" | 14'-4" | 15'-5" | 18'-4" | 19'-8" | 15'-10" | 17'-0" | 14'-5" | 15'-6" | 12'-11" | 13'-10" |
| 16" | ≤ 9/16" | 23'-9" | - | 22'-1" | - | 20'-5" | 21'-1" | 18'-3" | 19'-2" | 23'-2" | 23'-9" | 20'-1" | 21'-2" | 18'-4" | 19'-4" | 15'-5" | - |
| | ≤ 1½" | 21'-10" | 23'-5" | 18'-10" | 20'-3" | 17'-3" | 18'-6" | 15'-5" | 16'-6" | 19'-7" | 21'-0" | 16'-11" | 18'-2" | 15'-5" | 16'-7" | 13'-10" | 14'-10" |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 5, How to Use These Tables, and General Table Notes on Page 7.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between quarter-point and mid-point of the joist clear span.

TJI® 360 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (QUARTER-SPAN TO MID-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|---------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|-------------------------------------|--------|-----------|---------|------------|---------|-----------|---------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 9/16" | 17'-8" | - | 16'-8" | - | 16'-1" | - | 15'-5" | - | 17'-8" | - | 16'-8" | - | 16'-1" | - | 15'-0" | 15'-5" |
| | ≤ 1½" | 17'-8" | - | 16'-8" | - | 15'-9" | 16'-1" | 14'-1" | 15'-1" | 17'-8" | - | 15'-6" | 16'-8" | 14'-2" | 15'-2" | 12'-8" | 13'-7" |
| 11⅞" | ≤ 9/16" | 20'-4" | - | 18'-11" | - | 18'-0" | - | 17'-3" | - | 20'-4" | - | 18'-11" | - | 18'-0" | - | 15'-10" | - |
| | ≤ 1½" | 20'-4" | - | 18'-11" | - | 17'-11" | 18'-0" | 16'-0" | 17'-2" | 20'-4" | - | 17'-8" | 18'-11" | 16'-1" | 17'-3" | 14'-5" | 15'-5" |
| 14" | ≤ 9/16" | 22'-7" | - | 21'-0" | - | 20'-0" | - | 18'-11" | - | 22'-7" | - | 21'-0" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 22'-7" | - | 21'-0" | - | 19'-6" | 20'-0" | 17'-5" | 18'-9" | 22'-3" | 22'-7" | 19'-3" | 20'-8" | 17'-6" | 18'-10" | 15'-8" | 15'-10" |
| 16" | ≤ 9/16" | 24'-7" | - | 22'-10" | - | 21'-9" | - | 19'-7" | - | 24'-7" | - | 22'-10" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 24'-7" | - | 22'-10" | - | 20'-11" | 21'-9" | 18'-8" | 19'-7" | 23'-10" | 24'-7" | 20'-7" | 22'-1" | 18'-9" | 19'-9" | 15'-10" | - |
| 18" | ≤ 9/16" | 26'-6" | - | 24'-8" | - | 23'-6" | - | 19'-7" | - | 26'-6" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 26'-6" | - | 24'-4" | 24'-8" | 22'-3" | 23'-6" | 19'-7" | - | 25'-3" | 26'-6" | 21'-10" | 23'-5" | 19'-9" | - | 15'-10" | - |
| 20" | ≤ 9/16" | 28'-4" | - | 26'-4" | - | 24'-6" | - | 19'-7" | - | 28'-4" | - | 23'-9" | - | 19'-9" | - | 15'-10" | - |
| | ≤ 1½" | 28'-4" | - | 25'-8" | 26'-4" | 23'-5" | 24'-6" | 19'-7" | - | 26'-8" | 28'-4" | 23'-1" | 23'-9" | 19'-9" | - | 15'-10" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 5, How to Use These Tables, and General Table Notes on Page 7.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between quarter-point and mid-point of the joist clear span.

TJI® 560 - MAXIMUM JOIST SPAN WITH SIDE FLANGE NOTCH IN TOP FLANGE (QUARTER-SPAN TO MID-SPAN)^{[1][2]}

| Joist Depth | d_N | 40 PSF Live Load / 15 PSF Dead Load | | | | | | | | 40 PSF Live Load / 30 PSF Dead Load | | | | | | | |
|-------------|--------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|-------------------------------------|--------|-----------|--------|------------|--------|-----------|--------|
| | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | | 12" o.c. | | 16" o.c. | | 19.2" o.c. | | 24" o.c. | |
| | | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair | No Repair | Repair |
| 9½" | ≤ 7/8" | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - |
| | ≤ 1¾" | 19'-3" | - | 17'-10" | - | 17'-2" | - | 16'-5" | - | 19'-3" | - | 17'-10" | - | 17'-2" | - | 15'-8" | 16'-5" |
| 11⅞" | ≤ 7/8" | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - |
| | ≤ 1¾" | 22'-3" | - | 20'-7" | - | 19'-7" | - | 18'-7" | - | 22'-3" | - | 20'-7" | - | 19'-7" | - | 17'-10" | 18'-7" |
| 14" | ≤ 7/8" | 24'-9" | - | 22'-11" | - | 21'-9" | - | 20'-7" | - | 24'-9" | - | 22'-11" | - | 21'-9" | - | 19'-3" | - |
| | ≤ 1¾" | 24'-9" | - | 22'-11" | - | 21'-9" | - | 20'-7" | - | 24'-9" | - | 22'-11" | - | 21'-9" | - | 19'-3" | - |
| 16" | ≤ 7/8" | 26'-11" | - | 24'-11" | - | 23'-9" | - | 22'-5" | - | 26'-11" | - | 24'-11" | - | 23'-9" | - | 19'-3" | - |
| | ≤ 1¾" | 26'-11" | - | 24'-11" | - | 23'-9" | - | 22'-5" | - | 26'-11" | - | 24'-11" | - | 23'-4" | 23'-9" | 19'-3" | - |
| 18" | ≤ 7/8" | 29'-0" | - | 26'-10" | - | 25'-7" | - | 23'-11" | - | 29'-0" | - | 26'-10" | - | 24'-2" | - | 19'-3" | - |
| | ≤ 1¾" | 29'-0" | - | 26'-10" | - | 25'-7" | - | 23'-11" | - | 29'-0" | - | 26'-10" | - | 24'-2" | - | 19'-3" | - |
| 20" | ≤ 7/8" | 31'-0" | - | 28'-8" | - | 27'-4" | - | 23'-11" | - | 31'-0" | - | 28'-8" | - | 24'-2" | - | 19'-3" | - |
| | ≤ 1¾" | 31'-0" | - | 28'-8" | - | 27'-4" | - | 23'-11" | - | 31'-0" | - | 28'-7" | 28'-8" | 24'-2" | - | 19'-3" | - |

[1] Confirm accordance with Conditions and Limitations on Page 1 and reference Figure 5, How to Use These Tables, and General Table Notes on Page 7.

[2] Table applicable to TJI® joists with one (1) inadvertent *Side Flange Notch* located between quarter-point and mid-point of the joist clear span.