

L/480 Live Load Deflection

| Depth | TJI® | 40 PSF Live Load / 10 PSF Dead Load | | | | 40 PSF Live Load / 20 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. |
| 9½" | 110 | 16'-11" | 15'-6" | 14'-7" | 13'-7" | 16'-11" | 15'-6" | 14'-3" | 12'-9" |
| | 210 | 17'-9" | 16'-3" | 15'-4" | 14'-5" | 17'-9" | 16'-3" | 15'-4" | 14'-0" |
| | 230 | 18'-3" | 16'-8" | 15'-9" | 14'-8" | 18'-3" | 16'-8" | 15'-9" | 14'-8" |
| 11½" | 110 | 20'-2" | 18'-5" | 17'-4" | 15'-9" ⁽¹⁾ | 20'-2" | 17'-8" | 16'-1" ⁽¹⁾ | 14'-4" ⁽¹⁾ |
| | 210 | 21'-1" | 19'-3" | 18'-2" | 16'-11" | 21'-1" | 19'-3" | 17'-8" | 15'-9" ⁽¹⁾ |
| | 230 | 21'-8" | 19'-10" | 18'-8" | 17'-5" | 21'-8" | 19'-10" | 18'-7" | 16'-7" ⁽¹⁾ |
| | 360 | 22'-11" | 20'-11" | 19'-8" | 18'-4" | 22'-11" | 20'-11" | 19'-8" | 17'-10" ⁽¹⁾ |
| 14" | 110 | 22'-10" | 20'-11" | 19'-2" | 17'-2" ⁽¹⁾ | 22'-2" | 19'-2" | 17'-6" ⁽¹⁾ | 15'-0" ⁽¹⁾ |
| | 210 | 23'-11" | 21'-10" | 20'-8" | 18'-10" ⁽¹⁾ | 23'-11" | 21'-1" | 19'-2" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 230 | 24'-8" | 22'-6" | 21'-2" | 19'-9" ⁽¹⁾ | 24'-8" | 22'-2" | 20'-3" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| | 360 | 26'-0" | 23'-8" | 22'-4" | 20'-9" ⁽¹⁾ | 26'-0" | 23'-8" | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |
| 16" | 110 | 29'-6" | 26'-10" | 25'-4" | 23'-6" | 29'-6" | 26'-10" | 25'-4"⁽¹⁾ | 20'-11"⁽¹⁾ |
| | 210 | 26'-6" | 24'-3" | 22'-6" ⁽¹⁾ | 19'-11" ⁽¹⁾ | 26'-0" | 22'-6" ⁽¹⁾ | 20'-7" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 230 | 27'-3" | 24'-10" | 23'-6" | 21'-1" ⁽¹⁾ | 27'-3" | 23'-9" | 21'-8" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| | 360 | 28'-9" | 26'-3" | 24'-8" ⁽¹⁾ | 21'-5" ⁽¹⁾ | 28'-9" | 26'-3" ⁽¹⁾ | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |
| 16" | 110 | 32'-8" | 29'-8" | 28'-0" | 25'-2" ⁽¹⁾ | 32'-8" | 29'-8" | 26'-3" ⁽¹⁾ | 20'-11" ⁽¹⁾ |
| | 210 | 26'-6" | 24'-3" | 22'-6" ⁽¹⁾ | 19'-11" ⁽¹⁾ | 26'-0" | 22'-6" ⁽¹⁾ | 20'-7" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 230 | 27'-3" | 24'-10" | 23'-6" | 21'-1" ⁽¹⁾ | 27'-3" | 23'-9" | 21'-8" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| | 360 | 28'-9" | 26'-3" | 24'-8" ⁽¹⁾ | 21'-5" ⁽¹⁾ | 28'-9" | 26'-3" ⁽¹⁾ | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |

L/360 Live Load Deflection (Minimum Criteria per Code)

| Depth | TJI® | 40 PSF Live Load / 10 PSF Dead Load | | | | 40 PSF Live Load / 20 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. |
| 9½" | 110 | 18'-9" | 17'-2" | 15'-8" | 14'-0" | 18'-1" | 15'-8" | 14'-3" | 12'-9" |
| | 210 | 19'-8" | 18'-0" | 17'-0" | 15'-4" | 19'-8" | 17'-2" | 15'-8" | 14'-0" |
| | 230 | 20'-3" | 18'-6" | 17'-5" | 16'-2" | 20'-3" | 18'-1" | 16'-6" | 14'-9" |
| 11½" | 110 | 22'-3" | 19'-4" | 17'-8" | 15'-9" ⁽¹⁾ | 20'-5" | 17'-8" | 16'-1" ⁽¹⁾ | 14'-4" ⁽¹⁾ |
| | 210 | 23'-4" | 21'-2" | 19'-4" | 17'-3" ⁽¹⁾ | 22'-4" | 19'-4" | 17'-8" | 15'-9" ⁽¹⁾ |
| | 230 | 24'-0" | 21'-11" | 20'-5" | 18'-3" | 23'-7" | 20'-5" | 18'-7" | 16'-7" ⁽¹⁾ |
| | 360 | 25'-4" | 23'-2" | 21'-10" | 20'-4" ⁽¹⁾ | 25'-4" | 23'-2" | 21'-10"⁽¹⁾ | 17'-10" ⁽¹⁾ |
| 14" | 110 | 28'-10" | 26'-3" | 24'-9" | 23'-0" | 28'-10" | 26'-3" | 24'-9" | 20'-11" ⁽¹⁾ |
| | 210 | 24'-4" | 21'-0" | 19'-2" | 17'-2" ⁽¹⁾ | 22'-2" | 19'-2" | 17'-6" ⁽¹⁾ | 15'-0" ⁽¹⁾ |
| | 230 | 26'-6" | 23'-1" | 21'-1" | 18'-10" ⁽¹⁾ | 24'-4" | 21'-1" | 19'-2" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 360 | 27'-3" | 24'-4" | 22'-2" | 19'-10" ⁽¹⁾ | 25'-8" | 22'-2" | 20'-3" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| 16" | 110 | 28'-9" | 26'-3" | 24'-9" ⁽¹⁾ | 21'-5" ⁽¹⁾ | 28'-9" | 26'-3"⁽¹⁾ | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |
| | 210 | 28'-6" | 24'-8" | 22'-6" ⁽¹⁾ | 19'-11" ⁽¹⁾ | 26'-0" | 22'-6" ⁽¹⁾ | 20'-7" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 230 | 30'-1" | 26'-0" | 23'-9" | 21'-1" ⁽¹⁾ | 27'-5" | 23'-9" | 21'-8" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| | 360 | 31'-10" | 29'-0" | 26'-10" ⁽¹⁾ | 21'-5" ⁽¹⁾ | 31'-10" | 26'-10"⁽¹⁾ | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |
| 16" | 110 | 36'-1" | 32'-11" | 31'-0" ⁽¹⁾ | 25'-2" ⁽¹⁾ | 36'-1" | 31'-6"⁽¹⁾ | 26'-3" ⁽¹⁾ | 20'-11" ⁽¹⁾ |
| | 210 | 26'-6" | 24'-3" | 22'-6" ⁽¹⁾ | 19'-11" ⁽¹⁾ | 26'-0" | 22'-6" ⁽¹⁾ | 20'-7" ⁽¹⁾ | 16'-7" ⁽¹⁾ |
| | 230 | 27'-3" | 24'-10" | 23'-6" | 21'-1" ⁽¹⁾ | 27'-3" | 23'-9" | 21'-8" ⁽¹⁾ | 17'-6" ⁽¹⁾ |
| | 360 | 28'-9" | 26'-3" | 24'-8" ⁽¹⁾ | 21'-5" ⁽¹⁾ | 28'-9" | 26'-3" ⁽¹⁾ | 22'-4" ⁽¹⁾ | 17'-10" ⁽¹⁾ |

(1) Web stiffeners are required at intermediate supports of continuous-span joists when the intermediate bearing length is *less* than 5¼" and the span on either side of the intermediate bearing is greater than the following spans:

| TJI® | 40 PSF Live Load / 10 PSF Dead Load | | | | 40 PSF Live Load / 20 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. | |
| 110 | Not Req. | Not Req. | Not Req. | 15'-4" | Not Req. | Not Req. | Not Req. | 12'-9" | |
| 210 | | | 21'-4" | 17'-0" | | | 21'-4" | 14'-2" | |
| 230 | | | Not Req. | 19'-2" | | | Not Req. | 19'-11" | 15'-11" |
| 360 | | | 24'-5" | 19'-6" | | | 24'-5" | 20'-4" | 16'-3" |
| 560 | | | 29'-10" | 23'-10" | | | 29'-10" | 24'-10" | 19'-10" |

• Long-term deflection under dead load, which includes the effect of creep, has not been considered. ***Bold italic*** spans reflect initial dead load deflection exceeding 0.33".

How to Use These Tables

1. Determine the appropriate live load deflection criteria.
2. Identify the live and dead load condition.
3. Select on-center spacing.
4. Scan down the column until you meet or exceed the span of your application.
5. Select TJI® joist and depth.

Live load deflection is not the only factor that affects how a floor will perform. To more accurately predict floor performance, use our TJI-Pro™ Ratings.

General Notes

- Tables are based on:
 - Uniform loads.
 - More restrictive of simple or continuous span.
 - Clear distance between supports
 - Minimum bearing length of 1¼" end (no web stiffeners) and 3½" intermediate.
- Assumed composite action with a single layer of 24" on-center span-rated, glue-nailed floor panels for deflection only. **Spans shall be reduced 6" when floor panels are nailed only.**
- Spans generated from Weyerhaeuser software may exceed the spans shown in these tables because software reflects actual design conditions.
- For multi-family applications and other loading conditions not shown, refer to Weyerhaeuser software or to the load table on page 5.

Material Weights

(Include TJI® weights in dead load calculations— see **Design Properties** table on page 3 for joist weights)

Floor Panels

Southern Pine

- ½" plywood 1.7 psf
- 5/8" plywood 2.0 psf
- ¾" plywood 2.5 psf
- 1½" plywood 3.8 psf
- ½" OSB 1.8 psf
- 5/8" OSB 2.2 psf
- ¾" OSB 2.7 psf
- 7/8" OSB 3.1 psf
- 1½" OSB 4.1 psf

Based on: Southern pine – 40 pcf for plywood, 44 pcf for OSB

Roofing

- Asphalt shingles 2.5 psf
- Wood shingles 2.0 psf
- Clay tile 9.0 to 14.0 psf
- Slate (¾" thick) 15.0 psf

Roll or Batt Insulation (1" thick):

- Rock wool 0.2 psf
- Glass wool 0.1 psf

Floor Finishes

- Hardwood (nominal 1") 4.0 psf
- Sheet vinyl 0.5 psf
- Carpet and pad 1.0 psf
- ¾" ceramic or quarry tile 10.0 psf

Concrete:

- Regular (1") 12.0 psf
- Lightweight (1") 8.0 to 10.0 psf
- Gypsum concrete (¾") 6.5 psf

Ceilings

- Acoustical fiber tile 1.0 psf
- ½" gypsum board 2.2 psf
- 5/8" gypsum board 2.8 psf
- Plaster (1" thick) 8.0 psf