

FLOOR SPAN TABLES AND MATERIAL WEIGHTS

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'-3"	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"	560	26'-1"	23'-8"	22'-4"	20'-9"	26'-1"	23'-8"	22'-4"	20'-9" ⁽¹⁾
	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⁾
16"	360	26'-0"	23'-8"	22'-4"	20'-9" ⁽¹⁾	26'-0"	23'-8"	22'-4" ⁽¹⁾	17'-10" ⁽¹⁾
	560	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⁾
16"	360	28'-9"	26'-3"	24'-8" ⁽¹⁾	21'-5" ⁽¹⁾	28'-9"	26'-3" ⁽¹⁾	22'-4" ⁽¹⁾	17'-10" ⁽¹⁾
	560	32'-8"	29'-8"	28'-0"	25'-2" ⁽¹⁾	32'-8"	29'-8"	26'-3" ⁽¹⁾	20'-11" ⁽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"	560	28'-10"	26'-3"	24'-9"	23'-0"	28'-10"	26'-3"	24'-9"	20'-11" ⁽¹⁾
	110	24'-4"	21'-0"	19'-2"	17'-2" ⁽¹⁾	22'-2"	19'-2"	17'-6" ⁽¹⁾	15'-0" ⁽¹⁾
	210	26'-6"	23'-1"	21'-1"	18'-10" ⁽¹⁾	24'-4"	21'-1"	19'-2" ⁽¹⁾	16'-7" ⁽¹⁾
	230	27'-3"	24'-4"	22'-2"	19'-10" ⁽¹⁾	25'-8"	22'-2"	20'-3" ⁽¹⁾	17'-6" ⁽¹⁾
16"	360	28'-9"	26'-3"	24'-9" ⁽¹⁾	21'-5" ⁽¹⁾	28'-9"	26'-3"⁽¹⁾	22'-4" ⁽¹⁾	17'-10" ⁽¹⁾
	560	32'-8"	29'-9"	28'-0"	25'-2" ⁽¹⁾	32'-8"	29'-9"	26'-3"⁽¹⁾	20'-11" ⁽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⁾
16"	360	31'-10"	29'-0"	26'-10" ⁽¹⁾	21'-5" ⁽¹⁾	31'-10"	26'-10"⁽¹⁾	22'-4" ⁽¹⁾	17'-10" ⁽¹⁾
	560	36'-1"	32'-11"	31'-0" ⁽¹⁾	25'-2" ⁽¹⁾	36'-1"	31'-6"⁽¹⁾	26'-3" ⁽¹⁾	20'-11" ⁽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	N.A.	N.A.	N.A.	15'-4"	N.A.	N.A.	16'-0"	12'-9"
210	N.A.	N.A.	21'-4"	17'-0"	N.A.	21'-4"	17'-9"	14'-2"
230	N.A.	N.A.	N.A.	19'-2"	N.A.	N.A.	19'-11"	15'-11"
360	N.A.	N.A.	24'-5"	19'-6"	N.A.	24'-5"	20'-4"	16'-3"
560	N.A.	N.A.	29'-10"	23'-10"	N.A.	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 (1¼" minimum end bearing).
- 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
⅝" plywood	2.0 psf
¾" plywood	2.5 psf
1⅛" plywood	3.8 psf
½" OSB	1.8 psf
⅝" OSB	2.2 psf
¾" OSB	2.7 psf
⅞" OSB	3.1 psf
1⅛" 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 (⅝" 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
⅝" gypsum board	2.8 psf
Plaster (1" thick)	8.0 psf