Trus Joist™
ENGINEERED WOOD PRODUCTS

TJI® 110 • TJI® 210
TJI® 230 • TJI® 360
TJI® 560 JOISTS

Featuring Trus Joist® TJI® Joists for Floor and Roof Applications

- Uniform and Predictable
- Lightweight for Fast Installation
- Resource Efficient
- Resists Bowing, Twisting, and Shrinking
- Significantly Reduces Callbacks
- Available in Long Lengths
- Limited Product Warranty

The products in this guide are readily available through our nationwide network of distributors and dealers. For more information on other applications or other Trus Joist® products, contact your Weyerhaeuser representative.

Code Evaluations:
ICC ES ESR-1153; ESR-1387

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SUSTAINABLE FORESTRY INITIATIVE
Certified Sourcing
www.sfiprogram.org
SFI-00008

Why Choose Trus Joist® TJI® Joists?

- Engineered for strength and consistency
- Efficient installation saves time and labor
- Longer lengths allow more versatile floor plans
- Less jobsite waste
- Fewer red tags and callbacks

This guide features TJI® joists in the following sizes:

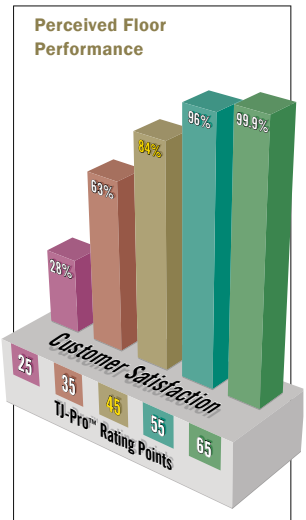
Flange Widths: 1¾", 2$^{1}/_{16}$", 2$^{5}/_{16}$", and 3½"
Depths: 9½", 11⅞", 14", and 16"

Some TJI® joist series may not be available in your region.

For deeper depth TJI® joists, see the Weyerhaeuser Deep Depth TJI®Joist Specifier's guide, TJ-4005, or contact your Weyerhaeuser representative.

TJ-PRO™ RATINGS TAKE THE GUESSWORK OUT OF FLOOR PERFORMANCE

Trus Joist® TJ-Pro™ Ratings are generated by a sophisticated computer model designed to predict floor performance and evaluate the relationship between the cost and the "feel" of any given floor system. The methodology is based on extensive laboratory research, more than one million installations, and the combined expertise of some of the best engineers in the field. TJ-Pro™ Ratings go beyond deflection criteria to consider job-specific needs and expectations. In many cases, using TJ-Pro™ Ratings will offer a system that improves performance while actually reducing costs!

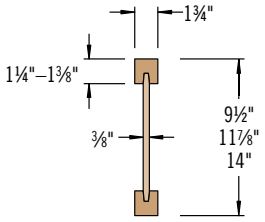


How do most people perceive a floor assembly with a TJ-Pro™ Rating of 45 points? 84% find it good to excellent.

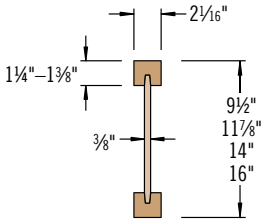
TJ-PRO™ RATING ADVANTAGES

- Works as part of Forte® and Javelin® software
- Provides a method for predicting floor performance
- Takes perceptions of the homeowner into account
- Provides cost comparison

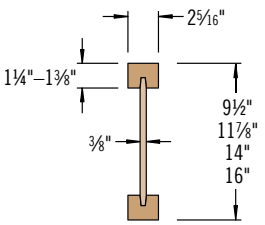
DESIGN PROPERTIES



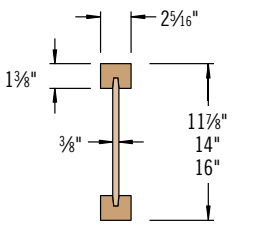
TJI® 110 Joists



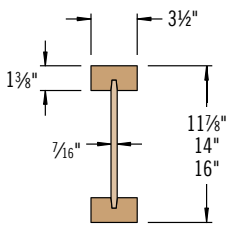
TJI® 210 Joists



TJI® 230 Joists



TJI® 360 Joists



TJI® 560 Joists

Design Properties (100% Load Duration)

Depth	TJI®	Basic Properties				Reaction Properties					
		Joist Weight (lbs/ft)	Maximum Resistive Moment(1) (ft-lbs)	Joist Only EI x 10^6 ($in.^2$-lbs)	Maximum Vertical Shear (lbs)	1¾" End Reaction (lbs)	3½" End Reaction (lbs)	3½" Intermediate Reaction (lbs)		5¼" Intermediate Reaction (lbs)	
								No Web Stiffeners	With Web Stiffeners(2)	No Web Stiffeners	With Web Stiffeners(2)
9½"	110	2.3	2,500	157	1,220	910	1,220	1,935	N.A.	2,350	N.A.
	210	2.6	3,000	186	1,330	1,005	1,330	2,145	N.A.	2,565	N.A.
	230	2.7	3,330	206	1,330	1,060	1,330	2,410	N.A.	2,790	N.A.
11⅞"	110	2.5	3,160	267	1,560	910	1,375	1,935	2,295	2,350	2,705
	210	2.8	3,795	315	1,655	1,005	1,460	2,145	2,505	2,565	2,925
	230	3.0	4,215	347	1,655	1,060	1,485	2,410	2,765	2,790	3,150
	360	3.0	6,180	419	1,705	1,080	1,505	2,460	2,815	3,000	3,360
	560	4.0	9,500	636	2,050	1,265	1,725	3,000	3,475	3,455	3,930
14"	110	2.8	3,740	392	1,860	910	1,375	1,935	2,295	2,350	2,705
	210	3.1	4,490	462	1,945	1,005	1,460	2,145	2,505	2,565	2,925
	230	3.3	4,990	509	1,945	1,060	1,485	2,410	2,765	2,790	3,150
	360	3.3	7,335	612	1,955	1,080	1,505	2,460	2,815	3,000	3,360
	560	4.2	11,275	926	2,390	1,265	1,725	3,000	3,475	3,455	3,930
16"	210	3.3	5,140	629	2,190	1,005	1,460	2,145	2,505	2,565	2,925
	230	3.5	5,710	691	2,190	1,060	1,485	2,410	2,765	2,790	3,150
	360	3.5	8,405	830	2,190	1,080	1,505	2,460	2,815	3,000	3,360
	560	4.5	12,925	1,252	2,710	1,265	1,725	3,000	3,475	3,455	3,930

(1) **Caution: Do not** increase joist moment design properties by a repetitive member use factor.
(2) See detail W on page 6 for web stiffener requirements and nailing information.

General Notes

- Design reaction includes all loads on the joist. Design shear is computed at the inside face of supports and includes all loads on the span(s). Allowable shear may sometimes be increased at interior supports in accordance with ICC ES ESR-1153, and these increases are reflected in span tables.
- The following formulas approximate the uniform load deflection of Δ (inches):

For TJI® 110, 210, 230, and 360 Joists

$$\Delta = \frac{22.5\ wL^4}{EI} + \frac{2.67\ wL^2}{d \times 10^5}$$

For TJI® 560 Joists

$$\Delta = \frac{22.5\ wL^4}{EI} + \frac{2.29\ wL^2}{d \times 10^5}$$

w = uniform load in pounds per linear foot
L = span in feet
d = out-to-out depth of the joist in inches
EI = value from table above

PRODUCT STORAGE

TJI® joists are intended for dry-use applications

Protect product from sun and water

CAUTION:
Wrap is slippery when wet or icy

Align stickers (2x3 or larger) directly over support blocks

Use support blocks (6x6 or larger) at 10' on-center to keep bundles out of mud and water

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"
11⅞"	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)
	560	26'-1"	23'-8"	22'-4"	20'-9"	26'-1"	23'-8"	22'-4"	20'-9"(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)
	560	29'-6"	26'-10"	25'-4"	23'-6"	***29'-6"***	***26'-10"***	25'-4"(1)	20'-11"(1)
16"	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)
	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"
11⅞"	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)
	560	28'-10"	26'-3"	24'-9"	23'-0"	***28'-10"***	***26'-3"***	***24'-9"***	20'-11"(1)
14"	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)
	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)
16"	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)
	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	Not Req.	Not Req.	Not Req.	15'-4"	Not Req.	Not Req.	16'-0"	12'-9"
210			21'-4"	17'-0"		21'-4"	17'-9"	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".

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 (⅜" 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

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 TJ-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 1¾" 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.

FLOOR LOAD TABLE

Floor—100% (PLF)

Depth	TJI®	Joist Clear Span																	
		8'		10'		12'		14'		16'		18'		20'		22'		24'	
		Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load	Live Load L/480	Total Load
9½"	110	*	190	140	152	85	127	56	99	38	76								
	210	*	210	161	169	99	141	65	119	45	90								
	230	*	236	175	190	108	158	71	133	49	99								
11⅞"	110	*	190	*	152	*	127	92	109	63	95	45	76						
	210	*	210	*	169	*	141	106	121	74	106	53	92						
	230	*	236	*	190	*	158	116	136	80	119	58	102	43	83				
	360	*	241	*	193	*	162	136	139	95	121	69	108	51	97	39	78		
	560	*	294	*	236	*	197	*	169	138	148	101	132	76	119	58	108	45	91
14"	110	*	190	*	152	*	127	*	109	91	95	66	85						
	210	*	210	*	169	*	141	*	121	*	106	76	94	57	85				
	230	*	236	*	190	*	158	*	136	115	119	83	106	62	95	47	81		
	360	*	241	*	193	*	162	*	139	*	121	98	108	73	97	56	88	44	81
	560	*	294	*	236	*	197	*	169	*	148	*	132	107	119	83	108	65	99
16"	210	*	210	*	169	*	141	*	121	*	106	*	94	76	85	58	77		
	230	*	236	*	190	*	158	*	136	*	119	*	106	83	95	64	87	50	78
	360	*	241	*	193	*	162	*	139	*	121	*	108	*	97	75	88	59	81
	560	*	294	*	236	*	197	*	169	*	148	*	132	*	119	*	108	86	99

* Indicates that **Total Load** value controls.

How to Use This Table

1. Calculate actual total and live load in pounds per linear foot (plf).
2. Select appropriate **Joist Clear Span**.
3. Scan down the column to find a TJI® joist that meets or exceeds actual total and live loads.

PSF to PLF Conversions

O.C. Spacing	Load in Pounds Per Square Foot (PSF)								
	20	25	30	35	40	45	50	55	60
	Load in Pounds Per Linear Foot (PLF)								
12"	20	25	30	35	40	45	50	55	60
16"	27	34	40	47	54	60	67	74	80
19.2"	32	40	48	56	64	72	80	88	96
24"	40	50	60	70	80	90	100	110	120

General Notes

- Table is based on:
  - Minimum bearing length of 1¾" end and 3½" intermediate, without web stiffeners
  - Uniform loads.
  - More restrictive of simple or continuous span
  - No composite action provided by sheathing.
- **Total Load** values are limited to deflection of L/240.
- **Live Load** is based on joist deflection of L/480.
- If a live load deflection limit of L/360 is desired, multiply value in **Live Load** column by 1.33. The resulting live load must not exceed the **Total Load** shown.
- Table does not account for concentrated loads. Use Weyerhaeuser software when this condition applies.

DO NOT walk on joists until braced. INJURY MAY RESULT.

DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

DO NOT walk on joists that are lying flat.

WARNING

Joists are unstable until braced laterally

Bracing Includes:

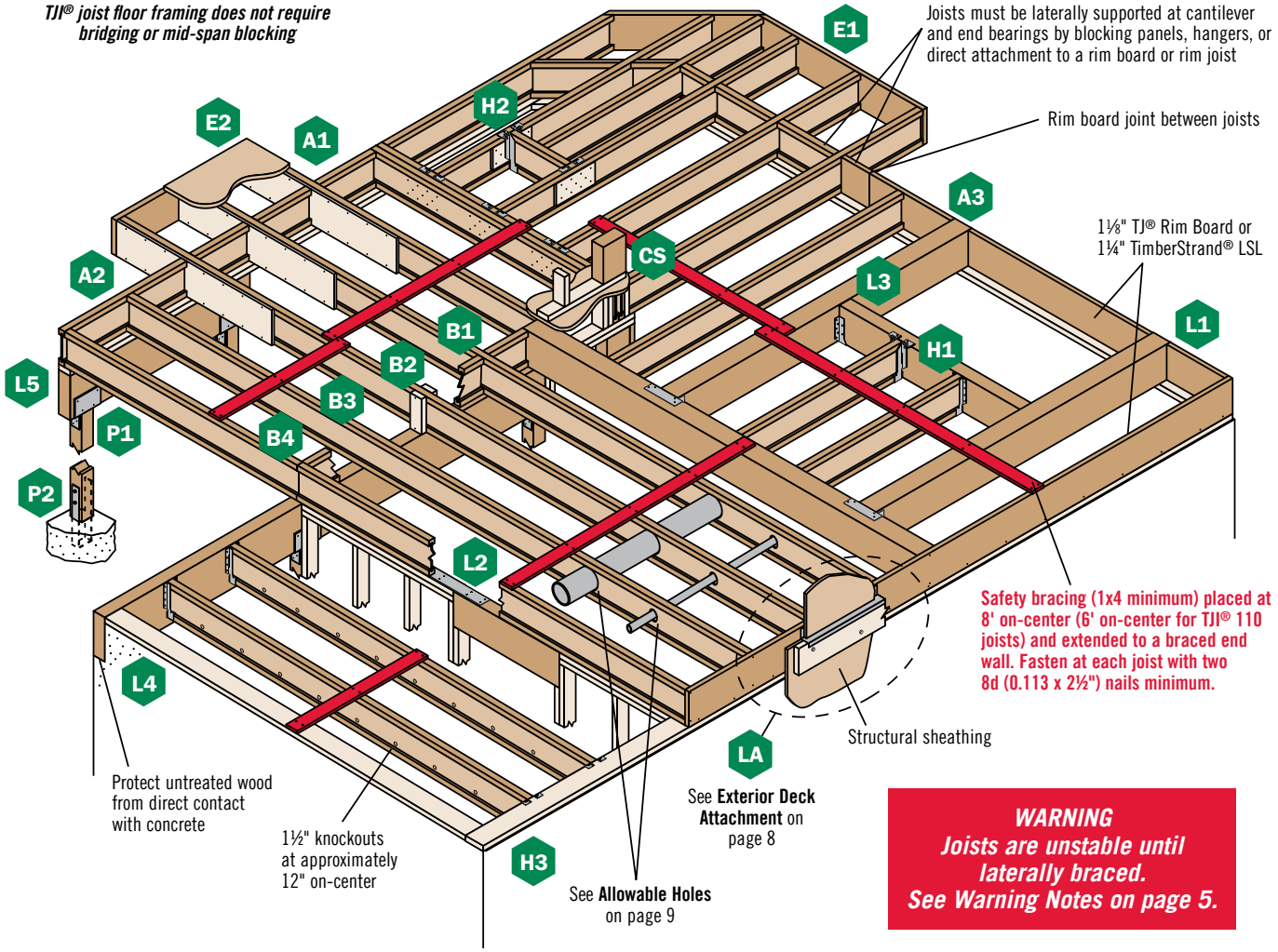
- Blocking
- Hangers
- Rim Board
- Sheathing
- Rim Joist
- Strut Lines

WARNING NOTES:

Lack of proper bracing during construction can result in serious accidents. Observe the following guidelines:

1. All blocking, hangers, rim boards, and rim joists at the end supports of the TJI® joists must be completely installed and properly nailed.
2. Lateral strength, like a braced end wall or an existing deck, must be established at the ends of the bay. This can also be accomplished by a temporary or permanent deck (sheathing) fastened to the first 4 feet of joists at the end of the bay.
3. Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area (as in note 2) and to each joist. Without this bracing, buckling sideways or rollover is highly probable under light construction loads—such as a worker or one layer of unnailed sheathing.
4. Sheathing must be completely attached to each TJI® joist before additional loads can be placed on the system.
5. Ends of cantilevers require safety bracing on both the top and bottom flanges.
6. The flanges must remain straight within a tolerance of ½" from true alignment.

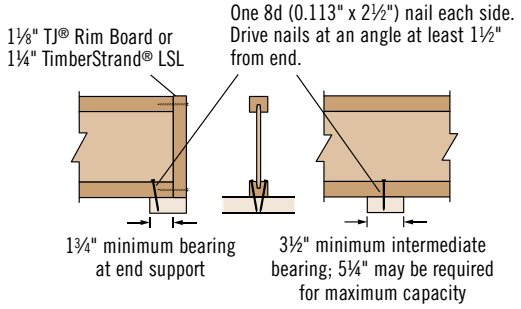
TJI® JOIST FLOOR FRAMING



WARNING
Joists are unstable until laterally braced.
See Warning Notes on page 5.

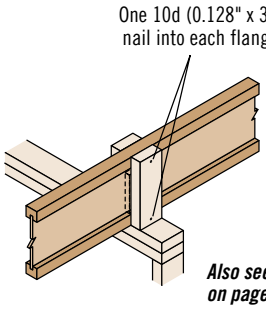
TJI® Joist Nailing Requirements at Bearing

TJI® Joist to Bearing Plate



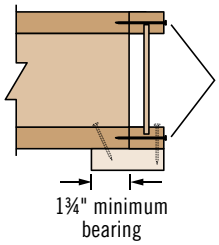
Shear transfer nailing: Use connections equivalent to floor panel nailing schedule

Squash Blocks to TJI® Joist (Load bearing wall above)



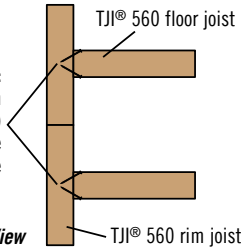
Also see detail B2 on page 7

Rim to TJI® Joist



1⅛" TJ® Rim Board, 1¼" TimberStrand® LSL, or TJI® 110 rim joist:
One 10d (0.131" x 3") nail into each flange

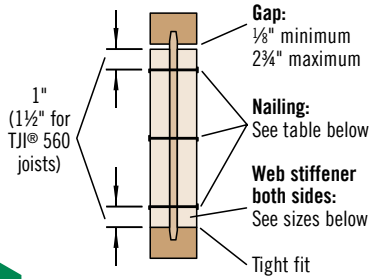
TJI® 210, 230, and 360 rim joist:
One 16d (0.135" x 3½") nail into each flange



TJI® 560 rim joist:
Toenail with 10d (0.128" x 3") nails, one each side of TJI® joist flange

Locate rim board joint between joists

Web Stiffener Attachment



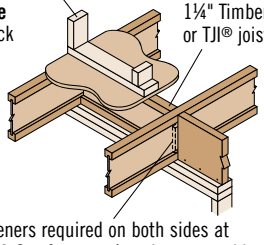
W

Web Stiffener Requirements

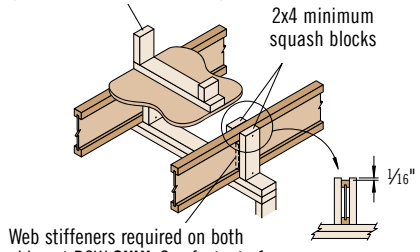
TJI®	Min. Web Stiffener Size	Nailing Requirements	
		Type	Quantity
110	5/8" x 2 5/16"(1)	8d (0.113" x 2½")	3
210	¾" x 2 5/16"(1)		
230, 360	7/8" x 2 5/16"(1)		
560	2x4(2)	16d (0.135" x 3½")	3

(1) PS1 or PS2 sheathing, face grain vertical
(2) Construction grade or better

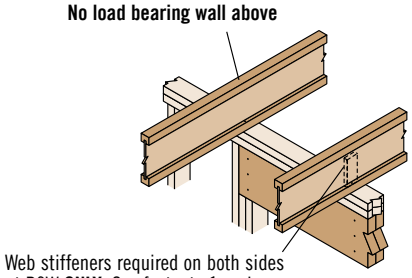
FLOOR DETAILS



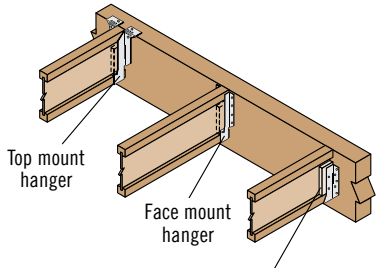
B1 B1W *IRC 502.7 requires lateral restraint (blocking) at all intermediate supports in Seismic Design Categories D_0, D_1, and D_2 to strengthen the floor diaphragm*



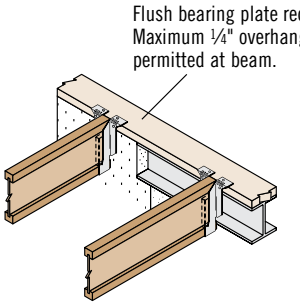
B2 B2W *Blocking panels may be required with braced/shear walls above or below—see detail B1*



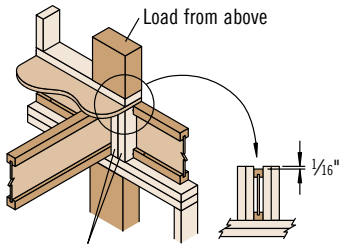
B3 B3W *Blocking panels may be required with braced/shear walls above or below—see detail B1*



H1

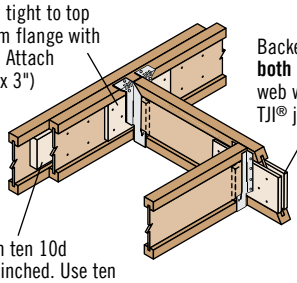


H3



CS *Use 2x4 minimum squash blocks to transfer load around TJI® joist*

Backer block: Install tight to top flange (tight to bottom flange with face mount hangers). Attach with ten 10d (0.128" x 3") nails, clinched when possible. Use 15 nails in multi-family applications.



Filler block: Nail with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3½") nails from each side with TJI® 560 joists. Use 15 nails in multi-family applications.

H2 *With top mount hangers, backer block required only for downward loads exceeding 250 lbs or for uplift conditions*

Filler and Backer Block Sizes

TJI®	110		210		230 or 360		560	
Depth	9½" or 11⅞"	14"	9½" or 11⅞"	14" or 16"	9½" or 11⅞"	14" or 16"	11⅞"	14" or 16"
Filler Block(1) (Detail H2)	2x6	2x8	2x6 + ⅜" sheathing	2x8 + ⅜" sheathing	2x6 + ½" sheathing	2x8 + ½" sheathing	Two 2x6	Two 2x8
Cantilever Filler (Detail E4)	2x6 4'-0" long	2x10 6'-0" long	2x6 + ⅜" sheathing 4'-0" long	2x10 + ⅜" sheathing 6'-0" long	2x6 + ½" sheathing 4'-0" long	2x10 + ½" sheathing 6'-0" long	Not applicable	
Backer Block(1) (Detail F1 or H2)	⅝" or ¾"		¾" or ⅞"		⅞" or 1" net		2x6	2x8

(1) If necessary, increase filler and backer block height for face mount hangers and maintain ⅛" gap at top of joist. See detail W. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.

Fastener Spacing and Diaphragm Design Information

TJI®	Closest On-Center Spacing per Row(1)(2)			Diaphragm Design Information				
					Maximum Allowable Seismic Design Capacities(4)			
	8d (0.113" x 2½"), 8d (0.131" x 2½"), 10d (0.128" x 3"), 12d (0.128" x 3¼")	10d (0.148" x 3"), 12d (0.148" x 3¼"), 16d (0.135" x 3½")	16d (0.162" x 3½")	Equivalent Nominal Framing Width	Blocked	Unblocked Case 1	Unblocked Case 3	Unblocked Cases 2, 4, 5, 6
110 and 210	4"	4"(3)	6"	2"	425	285	215	185(5)
230	4"	4"(3)	6"	3"	480	320	240	205(5)
360 and 560	3"	4"(3)	6"	3"	720	320	240	240

(1) Stagger nails when using 4" on-center spacing and maintain ⅜" joist and panel edge distance. One row of fasteners is permitted (two at abutting panel edges) for diaphragms. Fastener spacing **for TJI® joists** in diaphragm applications cannot be less than shown in table. When fastener spacing **for blocking** is less than above, rectangular blocking must be used in lieu of TJI® joists.

(2) For non-diaphragm applications, multiple rows of fasteners are permitted if the rows are offset at least ½" and staggered.

(3) Can be reduced to 3" on-center for light gauge steel straps with 10d (0.148" x 1½") nails.

(4) The maximum allowable seismic design capacities may be increased by a factor of 1.4 for wind design applications.

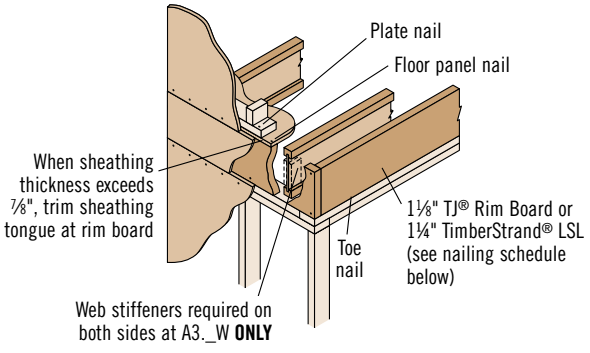
(5) The design capacity of an upblocked diaphragm framed with TJI® 110, 210 or 230 joists may be multiplied by a factor of 1.18 if a solvent-based subfloor adhesive that meets ASTM D3498 (AFG-01) performance standards is used in combination with mechanical fasteners for sheathing attachment. See page 12 for Weyerhaeuser's adhesive recommendations.

- Maximum spacing of nails is 18" on-center.
- 14 gauge staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" is achieved.
- Table also applies to the attachment of TJI® rim joists and blocking panels to the wall plate.

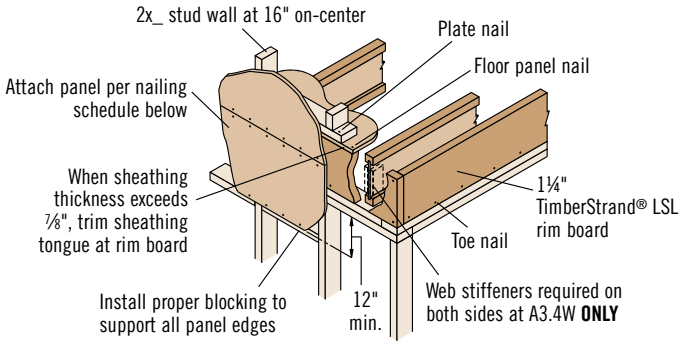
Also see nailing requirements on page 6

RIM BOARD SELECTION AND INSTALLATION

Rim board is often an important structural link in the ability of a home to resist lateral seismic and wind loads. It also transfers vertical load around the TJI® joists. Rim board detail A3 (shown below) satisfies conventional construction requirements. But if your project requires a designed solution, see Weyerhaeuser's *Rim Board Specifier's Guide,* TJ-8000, which features additional information on rim board selection and installation.



A3 A3.1 A3.2 A3.3 A3 W A3.1 W A3.2 W A3.3 W



A3.4 A3.4 W

Rim Board Installation

Specifications	A3 Conventional Construction, Code Minimum	A3.1, A3.2, A3.3, A3.4 Designed Solution
Rim Board Thickness	1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL	See Weyerhaeuser's Rim Board Specifier's Guide (Reorder #TJ-8000)
Plate Nail—16d (0.135" x 3½")	16" o.c.	
Floor Panel Nail—8d (0.131" x 2½")	6" o.c.	
Toe Nail—10d (0.131" x 3")	6" o.c.	
Wall Sheathing	Per code	

Nails Installed on the Narrow Face

Nail Size	Closest On-Center Spacing per Row	
	1⅛" TJ® Rim Board	1¼" TimberStrand® LSL
8d (0.113" or 0.131" x 2½"), 10d (0.128" or 0.148" x 3"), 12d (0.128" or 0.148" x 3¼")	6"	4"
16d (0.162" x 3½")	16"(1)	6"(2)

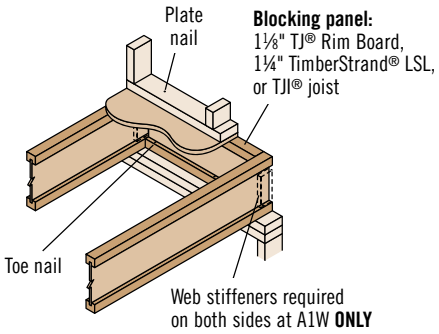
(1) Can be reduced to 5" on-center if nail penetration into the narrow edge is no more than 1⅜" (to avoid splitting).
(2) Can be reduced to 4" on-center if nail penetration into the narrow edge is no more than 1⅜" (to avoid splitting).

- If more than one row of nails is used, the rows must be offset at least ½" and staggered.
- 14 gauge staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" is achieved.

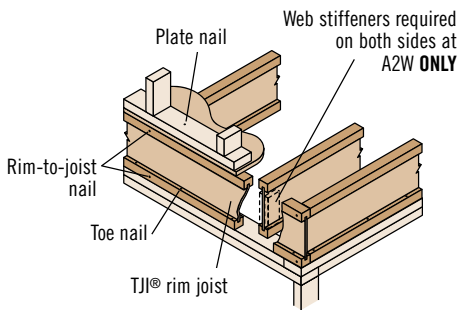
Vertical Load Transfer at Bearing

Rim Material	Uniform Load(1) (PLF)				Concentrated Load (lbs)
	9½"	11⅞"	14"	16"	All Depths
TJI® rim joist or blocking	2,100				–
1⅛" TJ® Rim Board or blocking	4860(2)		4,570	4,000	3,400
1¼" TimberStrand® LSL or blocking	5,400(2)			5,000	3,760

(1) Values may not be increased for duration of load.
(2) Capacity is limited to a maximum of 360 psi per ASTM D7672.



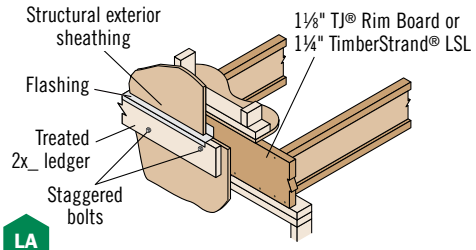
A1 A1 W *Attach blocking per A3 in Rim Board Installation table above*



A2 A2 W *Must have 1¾" minimum joist bearing at ends. Attach rim joist per A3 in Rim Board Installation table above.*

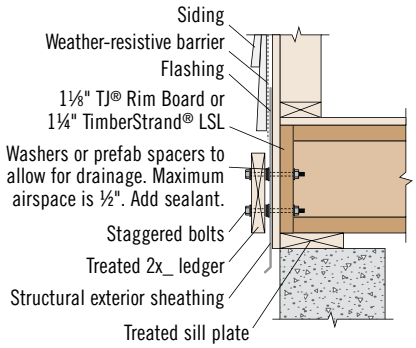
Also see nailing requirements on page 6

Exterior Deck Attachment



LA

Shimmed Deck Attachment



Ledger Fastener(1) Capacities

Rim Board Thickness	Fastener Allowable Load(2) (lbs/bolt)		
	½" Lag Bolt	½" Through Bolt	½" Through Bolt with Air Space
1⅛"	480	695	615(3)
1¼"	610	725	

(1) Corrosion-resistant fasteners required in wet-service applications.
(2) Allowable load determined in accordance with ASTM D7672.
(3) Maximum ½" shimmed air space.

General Notes

- Maintain 2" distance (minimum) from edge of ledger to edge of fastener. Stagger bolts.
- Local building codes may require through bolts with washers.
- Lateral restraining connections may be required. Refer to 2012 IRC R507.2.3 and the WIJMA deck connection details.

ALLOWABLE HOLES

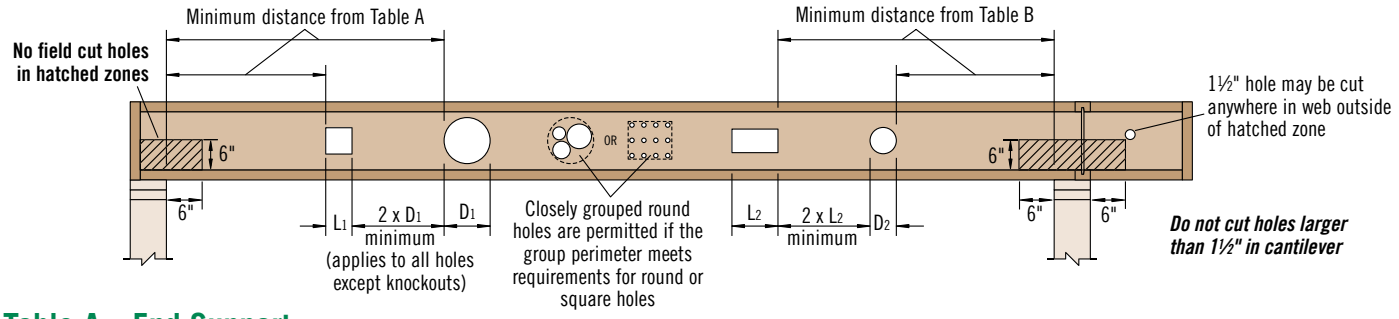


Table A—End Support

Minimum distance from edge of hole to inside face of nearest end support

Depth	TJI®	Round Hole Size									Square or Rectangular Hole Size								
		2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-6"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	5'-6"			1'-0"	1'-6"	2'-0"	2'-6"	4'-6"	5'-0"	6'-0"		
	210	1'-0"	1'-6"	2'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	6'-6"			1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	5'-6"	7'-0"		
	360	1'-6"	2'-0"	3'-0"	3'-6"	4'-6"	5'-0"	7'-0"			1'-6"	2'-6"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
	560	1'-6"	2'-6"	3'-0"	4'-0"	5'-6"	6'-0"	8'-0"			2'-6"	3'-6"	4'-6"	5'-6"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	5'-6"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	6'-0"		1'-0"	1'-0"	2'-0"	2'-6"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	2'-6"	4'-0"	7'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-6"	8'-0"		1'-0"	1'-6"	2'-6"	4'-0"	6'-0"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	6'-6"	9'-0"		1'-6"	3'-0"	4'-0"	5'-0"	7'-0"	7'-6"	9'-0"	10'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	6'-6"	8'-0"	11'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	3'-0"	4'-0"	7'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	7'-0"	9'-0"	11'-0"
	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	2'-6"	4'-6"	6'-6"	9'-0"	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-0"	7'-6"	10'-0"	1'-0"	2'-0"	3'-0"	4'-6"	6'-6"	7'-0"	10'-0"	11'-0"	12'-0"

Table B—Intermediate or Cantilever Support

Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Depth	TJI®	Round Hole Size									Square or Rectangular Hole Size								
		2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	5'-0"	8'-0"					2'-0"	3'-0"	4'-0"	6'-6"	7'-6"				
	230	2'-6"	3'-0"	4'-0"	5'-6"	8'-6"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	8'-6"			1'-0"	1'-6"	2'-6"	4'-0"	7'-0"	7'-0"	9'-6"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	8'-0"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	10'-0"			1'-0"	2'-6"	3'-6"	5'-0"	8'-6"	9'-0"	10'-6"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-6"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-6"	9'-6"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	13'-0"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	6'-0"	10'-6"		1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	7'-6"	11'-0"	13'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	6'-0"	10'-0"	1'-0"	1'-0"	1'-0"	1'-6"	4'-6"	5'-6"	10'-0"	12'-6"	16'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	4'-0"	6'-6"	11'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	10'-6"	13'-6"	16'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	4'-0"	6'-6"	10'-0"	13'-6"	1'-0"	1'-0"	2'-0"	4'-0"	7'-6"	8'-6"	13'-0"	14'-6"	17'-0"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	7'-0"	11'-0"	15'-0"	1'-0"	1'-0"	3'-6"	5'-6"	9'-0"	10'-0"	14'-6"	16'-0"	18'-0"

- Rectangular holes based on measurement of longest side.

How to Use These Tables

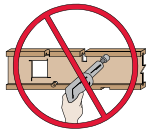
1. Using **Table A, Table B,** or both if required, determine the hole shape/size and select the TJI® joist and depth.
2. Scan horizontally until you intersect the correct hole size column.
3. Measurement shown is minimum distance from edge of hole to support.
4. Maintain the required minimum distance from the end **and** the intermediate or cantilever support.

WARNING: Drilling, sawing, sanding or machining wood products generates wood dust. The paint and/or coatings on this product may contain titanium dioxide. Wood dust and titanium dioxide are substances known to the State of California to cause cancer. For more information on Proposition 65, visit wy.com/inform.

General Notes

- Holes may be located vertically anywhere within the web. Leave ⅛" of web (minimum) at top and bottom of hole.
- Knockouts are located in web at approximately 12" on-center; they do not affect hole placement.
- For simple span (5' minimum) uniformly loaded joists meeting the requirements of this guide, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**
- Distances are based on the maximum uniform loads shown in this guide. For other load conditions or hole configurations, use Forte® software or contact your Weyerhaeuser representative.

DO NOT cut or notch flange.

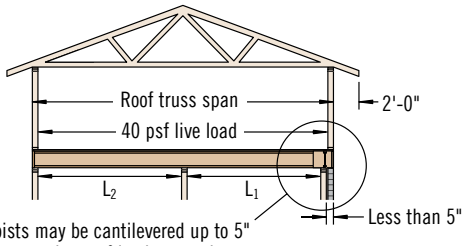


DO NOT cut holes in cantilever reinforcement.

CANTILEVERS

Cantilevers Less than 5" (Brick Ledge)

See Section A of cantilever table on page 11

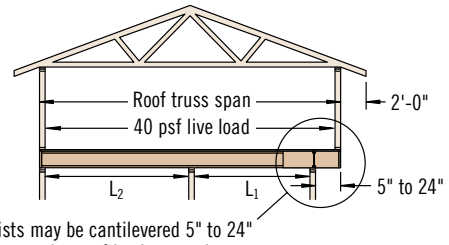


TJI® joists may be cantilevered up to 5" when supporting roof load, assuming:

- simple or continuous span
- $L_1 \leq L_2$
- minimum backspan = 2x cantilever length

Cantilevers 5" to 24"

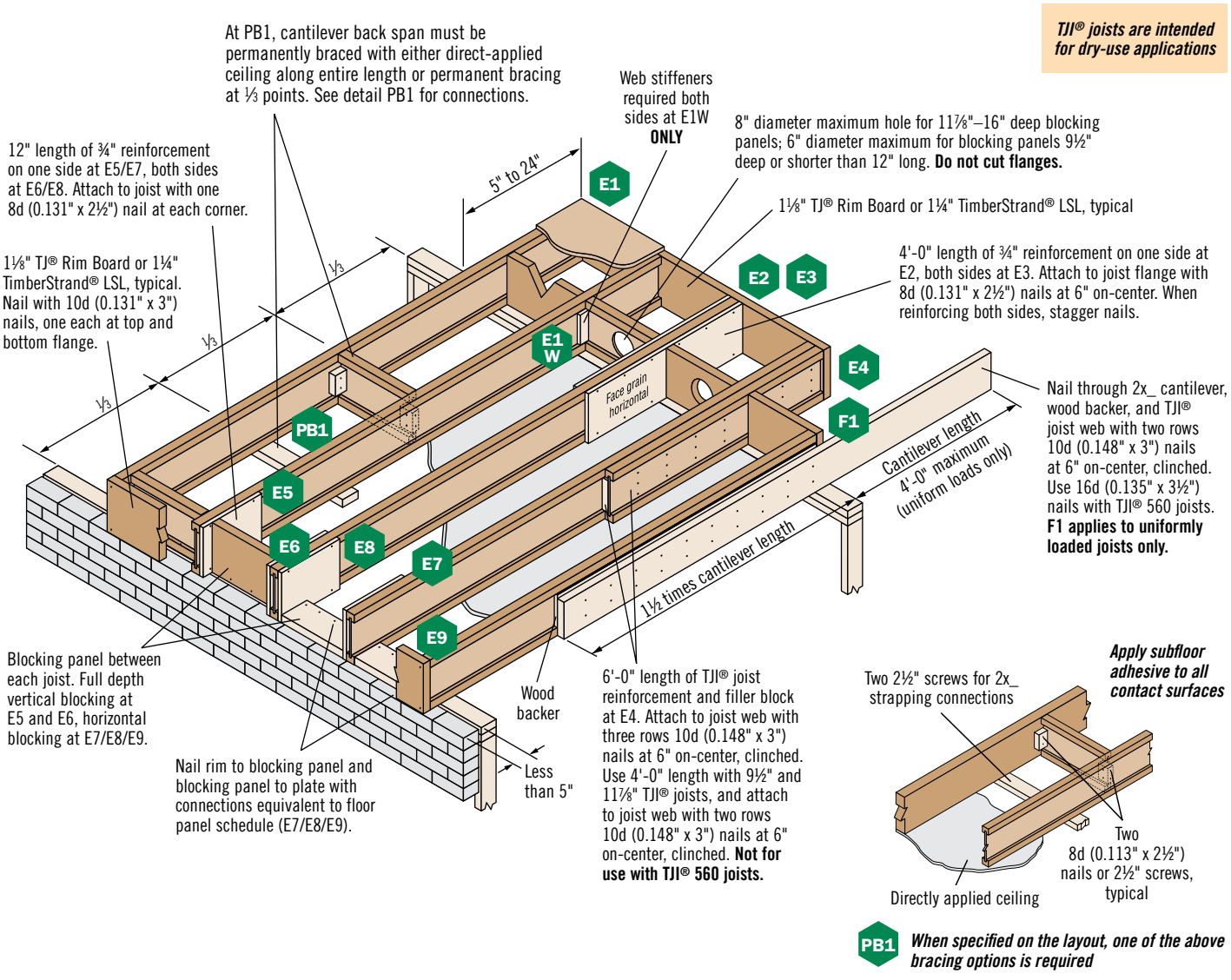
See Section B of cantilever table on page 11



TJI® joists may be cantilevered 5" to 24" when supporting roof load, assuming:

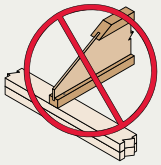
- simple or continuous span
- $L_1 \leq L_2$
- minimum backspan = 2x cantilever length

TJI® joists are intended for dry-use applications



These Conditions are NOT Permitted:

DO NOT use sawn lumber for rim board or blocking as it may shrink after installation. Use only engineered lumber



DO NOT bevel cut joist beyond inside face of wall.

DO NOT install hanger overhanging face of plate or beam. Flush bearing plate with inside face of wall or beam.

Cantilever Reinforcement

Depth	TJI®	Roof Truss Span	Section A: Cantilevers less than 5" (Brick Ledge)									Section B: Cantilevers 5" to 24"								
			Roof Total Load									Roof Total Load								
			35 PSF			45 PSF			55 PSF			35 PSF			45 PSF			55 PSF		
			On-Center Joist Spacing									On-Center Joist Spacing								
			16"	19.2"	24"	16"	19.2"	24"	16"	19.2"	24"	16"	19.2"	24"	16"	19.2"	24"	16"	19.2"	24"
9½" 11⅞" 14"	110	20'						E5			E5						E2			X
		22'			E5			E5		E5	E5						E3		E2	X
		24'			E5		E5	E5		E5	E5			E2		E2	X	E2	E3	X
		26'			E5		E5	E5	E5	E5	E5			E2		E3	X	E3	X	X
		28'			E5		E5	E5	E5	E5	E6		E2	E3	E2	X	X	X	X	X
		30'		E5	X	E5	E5	X	E5	E5	X		E2	X	E3	X	X	X	X	X
		32'		X	X	E5	X	X	E5	X	X	E2	E3	X	X	X	X	X	X	X
9½" 11⅞" 14" 16"	210	20'						E5			E5									E2
		22'						E5			E5						E2		E2	E3
		24'			E5			E5		E5	E5						E3		E2	X
		26'			E5			E5		E5	E5			E2		E2	E3	E2	E3	X
		28'			E5		E5	E5		E5	E5			E2		E3	X	E3	X	X
		30'			E5		E5	E5	E5	E5	E6			E3	E2	E3	X	X	X	X
		32'		E5	X		E5	X	E5	E5	X		E2	X	E3	X	X	X	X	X
9½" 11⅞" 14" 16"	230	24'			E5			E5		E5	E5						E2		E2	X
		26'			E5			E5		E5	E5						E3	E2	E3	X
		28'			E5		E5	E5		E5	E5			E2		E2	X	E2	X	X
		30'			E5		E5	E5	E5	E5	E5			E2	E2	E3	X	E3	X	X
		32'		E5	E5		E5	E5	E5	E5	E6		E2	E3	E2	X	X	X	X	X
		34'		E5	X	E5	E5	X	E5	E5	X		E2	X	E3	X	X	X	X	X
11⅞" 14" 16"	360	28'			E5			E5		E5	E5									
		30'			E5			E5		E5	E5									E2
		32'			E5		E5	E5		E5	E5									E2
		34'			E5		E5	E5	E5	E5	E6									E3
		36'			E5		E5	E5	E5	E5	E6						E2		E2	X
		38'		E5	E5		E5	E5	E5	E5	E6						E3		E3	X
		40'		E5	E5	E5	E5	E5	E5	E5	E6					E2	E3	E2	E3	X
11⅞" 14" 16"	560	30'						E5			E5									
		32'						E5		E5	E5									
		34'			E5			E5		E5	E5									
		36'			E5			E5		E5	E6									E2
		38'			E5		E5	E5		E5	E6									E2
		40'			E5		E5	E5	E5	E5	E6									E2

How to Use This Table

1. Identify TJI® joist and depth.
2. Locate the **Roof Truss Span** (horizontal) that meets or exceeds your condition.
3. Identify the cantilever condition (less than 5" or 5" to 24") and locate the **Roof Total Load** and **On-Center Joist Spacing** for your application.
4. Scan down to find the appropriate cantilever detail and refer to drawing on page 10:
   - Blank cells indicate that no reinforcement is required.
   - E4 may be used in place of E2 or E3 except when using TJI® 560 joists.
   - X indicates that cantilever will not work. Use Forte® and Javelin® software, or reduce spacing of joists and recheck table.

General Notes

- Table is based on:
  - 15 psf roof dead load on a horizontal projection.
  - 80 plf exterior wall load with 3'-0" maximum width window or door openings. For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" on-center, additional joists beneath the opening's trimmers may be required.
  - Floor load of 40 psf live load and 10 psf dead load.
  - More restrictive of simple or continuous span.
  - Roof truss with 24" soffits.
- ¾" reinforcement refers to ¾" Exposure 1 plywood or other ¾" Exposure 1, 48/24-rated sheathing that is cut to match the full depth of the TJI® joist. Install with face grain horizontal. Reinforcing member must bear fully on the wall plate.
- Designed for 2x4 and 2x6 plate widths.
- For conditions beyond the scope of this table, including cantilevers longer than 24", use our Forte® and Javelin® software.

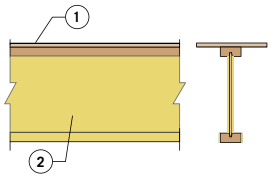
FIRE-SAFE CONSTRUCTION

The assemblies shown below are provided to help you specify and install Trus Joist® brand products with fire safety in mind. For more information on fire assemblies and fire-safe construction, please refer to the *Weyerhaeuser Fire-Rated Assemblies and Sprinkler Systems Guide*, 1500, or visit woodbywy.com.

TJI® joists with Flak Jacket® protection meet 2012 IRC requirements for fire protection of floors and give you an effective one-hour-rated assembly for multi-family projects. This new solution helps you easily and efficiently meet code without impacting construction procedures or adding complexity to your jobs. TJI® joists with Flak Jacket® protection are available in limited markets; contact your Weyerhaeuser representative for more information.

Floor Assembly Compliant with 2012 IRC R501.3

Exposed



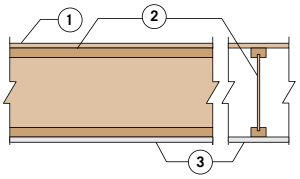
1. Appropriate span-rated sheathing (Exposure 1)
2. TJI® 210, 230, 360, or 560 series joist with Flak Jacket® protection

ICC ES ESR-1153

No gypsum board is required in this assembly when using TJI® joists with Flak Jacket® Protection

FLAK JACKET PROTECTION

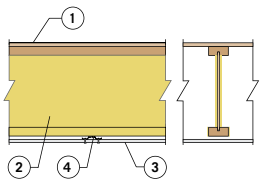
Single Layer



1. Appropriate span-rated sheathing (Exposure 1)
2. TJI® joist
3. Single-layer of ½" gypsum wall board

One-Hour Assembly for Rated Construction

Single Layer



1. 48/24 tongue-and-groove, span-rated sheathing (Exposure 1), glued with a subfloor adhesive and nailed
2. TJI® 210, 230, 360, or 560 joist with Flak Jacket® protection and joist o.c. spacing of 16" or less. For wider spacing (up to 24" o.c.) use a minimum of 11⅞" deep TJI® 230, 360, or 560 joists.
3. One layer of ⅝" Pabco® Type C gypsum board
4. Resilient channels at 16" on-center

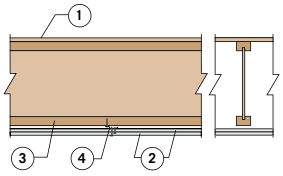
Optional: Glass fiber insulation, 3½" thick in TJI® joist cavity, between TJI® joists above the bottom flange.

Note: Use 90% of the published TJI® joist bending moment capacity.

ICC ES ESR-1153

FLAK JACKET PROTECTION

Double Layer



1. 48/24 tongue-and-groove, span-rated sheathing (Exposure 1), glued with a subfloor adhesive and nailed
2. Two layers of ⅝" Type X gypsum board
3. TJI® joist
4. Resilient channels (optional)*

Optional: Minimum 3½"-thick glass fiber insulation or non-combustible insulation, rated R-30 or less.*

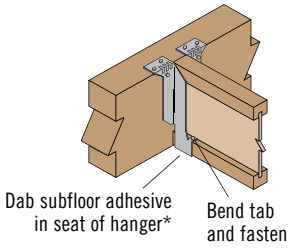
***Resilient channels are required when insulation is used.**

ICC ES ESR-1153

TIPS FOR PREVENTING FLOOR NOISE

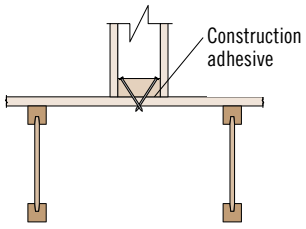
Trus Joist® TJI® joists are structurally uniform and dimensionally stable, and they resist shrinking and twisting. This helps prevent gaps from forming around the nails between the joist and the floor panels—gaps that can potentially cause squeaks or other floor noise. Using TJI® joists can help you build a quieter floor, but only if the entire floor system is installed properly. This is because other components of the floor system, such as hangers, connectors, and nails can be a source of floor noise.

Properly Seat Each Joist in Hanger



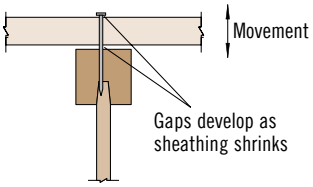
Seat the joist tight to the bottom of the hanger. When using hangers with tabs, bend the flange tabs over and nail to the TJI® joist bottom flange. Placing a dab of subfloor adhesive* in the seat of the hanger prior to installing the joist can reduce squeaks.

Use Adhesive and Special Nailing When Needed



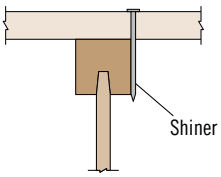
Nail interior partitions to the joists when possible. If the wall can be nailed only to the floor panel, run a bead of adhesive* under the wall and either cross nail, nail through and clinch tight, or screw tightly into the wall from below.

Prevent Shrinkage



Keep building materials dry, and properly glue floor panels to the joists. Panels that become excessively wet during construction shrink as they dry. This shrinkage may leave gaps that allow the panel to move when stepped on.

Avoid "Shiners"



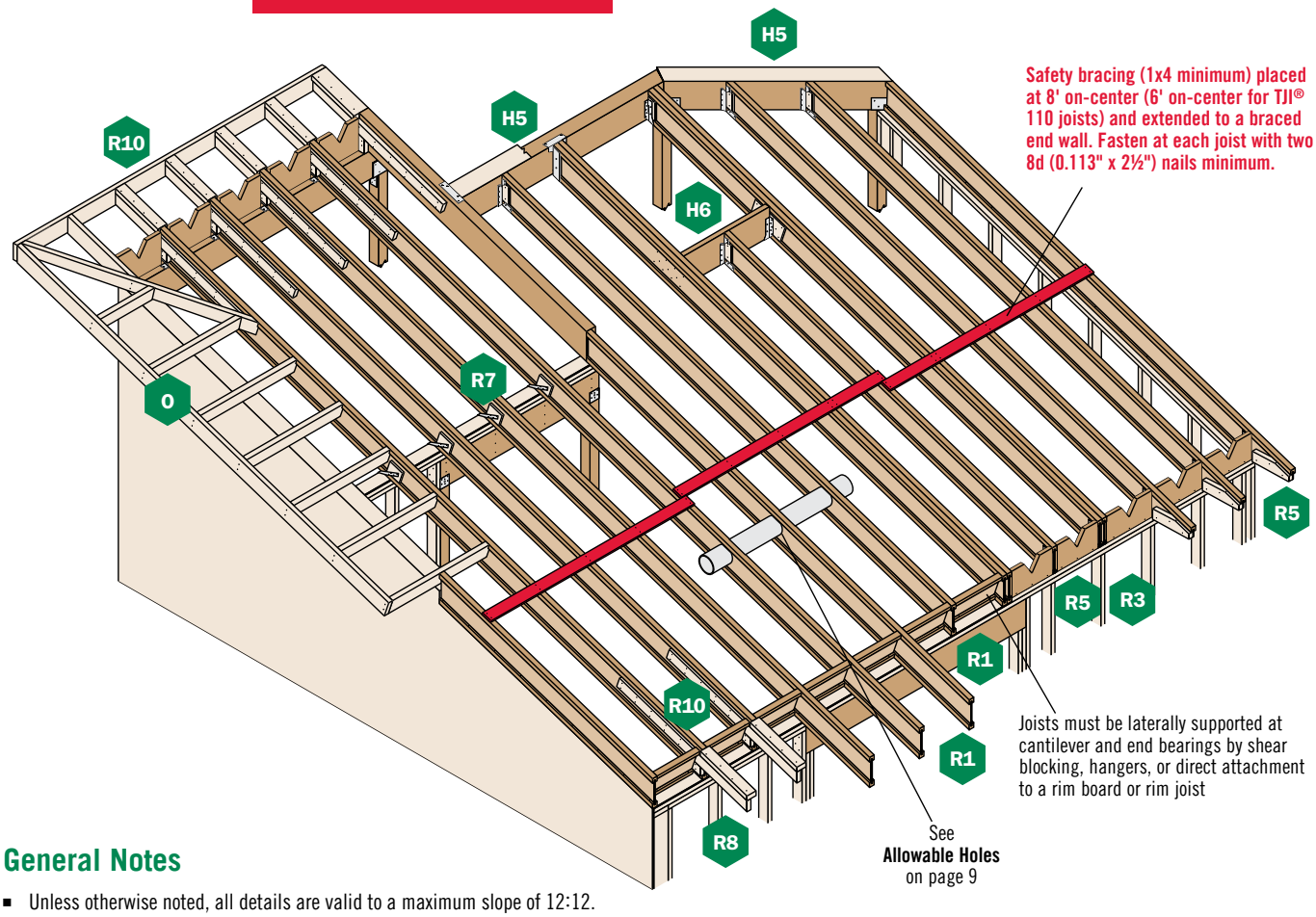
Exercise care when nailing. Nails that barely hit the joists (shiners) do not hold the panel tight to the joist and should be removed. If left in, the nails will rub against the side of the joist when the panel deflects.

* Weyerhaeuser recommends using solvent-based subfloor adhesives that meet ASTM D3498 (AFG-01) performance standards. When latex subfloor adhesive is required, careful selection is necessary due to a wide range of performance between brands.

For more information and tips on how to prevent floor noise, refer to the Weyerhaeuser Prevention and Repair of Floor System Squeaks Technical Resource Sheet, 9009, or contact your Weyerhaeuser representative.

ROOF FRAMING

WARNING
Joists are unstable until laterally braced.
See Warning Notes on page 5.



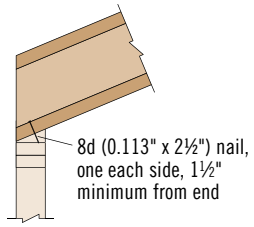
General Notes

- Unless otherwise noted, all details are valid to a maximum slope of 12:12.
- Web stiffeners are required if the sides of the hanger do not laterally support at least ⅜" of the TJI® joist top flange.

TJI® Joist Nailing Requirements at Bearing

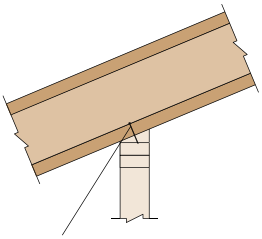
TJI® Joist to Bearing Plate

End Bearing
(1¾" minimum bearing required)



When slope exceeds ¼:12, a beveled bearing plate, variable slope seat connector, or birdsmouth cut (at low end of joist only) is required

Intermediate Bearing
(3½" minimum bearing required)

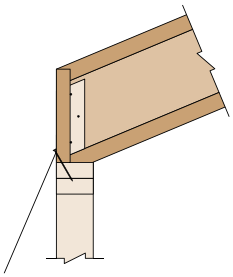


Slopes 3:12 or less:
One 8d (0.113" x 2½") nail each side. See detail R7.

Slopes greater than 3:12:
Two 8d (0.113" x 2½") nails each side, plus a twist strap and backer block. See detail R7S.

When slope exceeds ¼:12 for a 2x4 wall or ⅛:12 for a 2x6 wall, a beveled bearing plate or variable slope seat connector is required.

Blocking to Bearing Plate

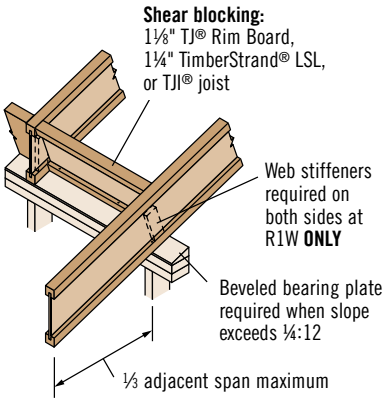


1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL:
Toenail with 10d (0.131" x 3") nails at 6" on-center or 16d (0.135" x 3½") nails at 12" on-center

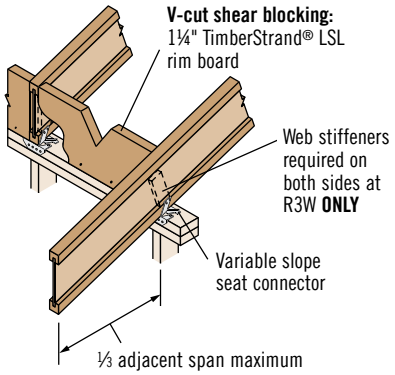
TJI® joist blocking:
10d (0.128" x 3") nails at 6" on-center

Shear transfer nailing:
Minimum, use connections equivalent to sheathing nail schedule

ROOF DETAILS



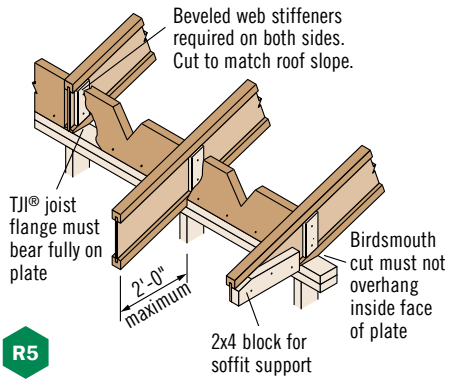
R1 R1W



R3 R3W

Birdsmouth Cut

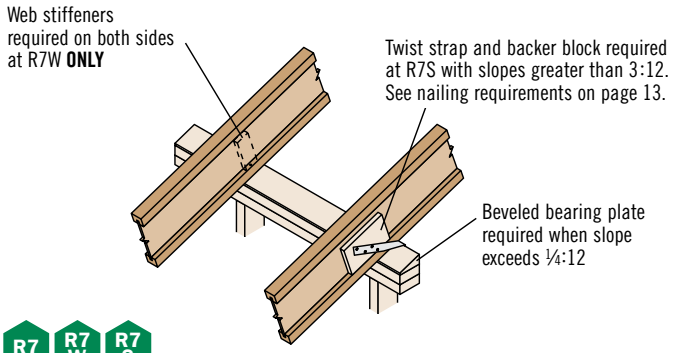
Allowed at low end of joist only



R5

Intermediate Bearing

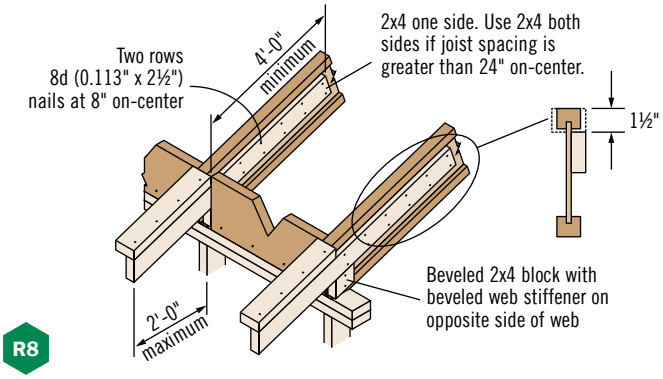
Blocking panels or shear blocking may be specified for joist stability at intermediate supports



R7 R7W R7S

Birdsmouth Cut

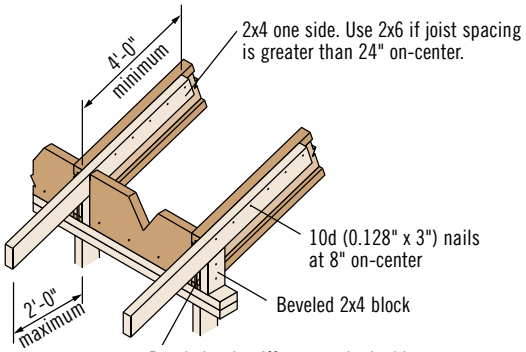
Allowed at low end of joist only



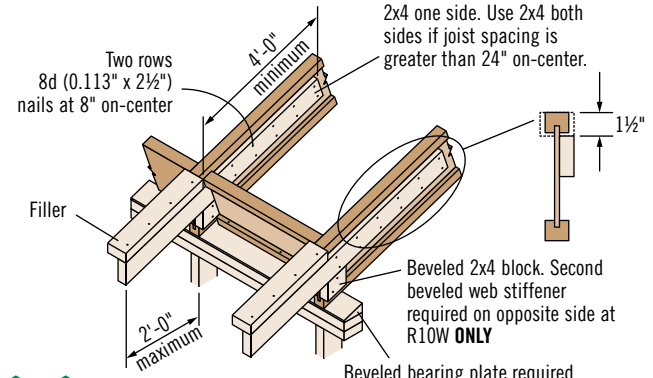
R8

Birdsmouth Cut

Allowed at low end of joist only



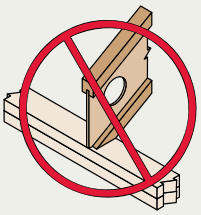
R9



R10 R10W

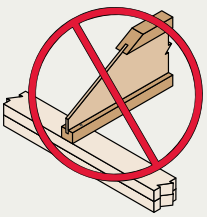
These Conditions are NOT Permitted

DO NOT cut holes too close to support.

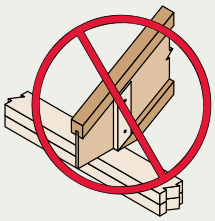


Refer to Allowable Holes on page 9 for minimum distance from support.

DO NOT bevel cut joist beyond inside face of wall.

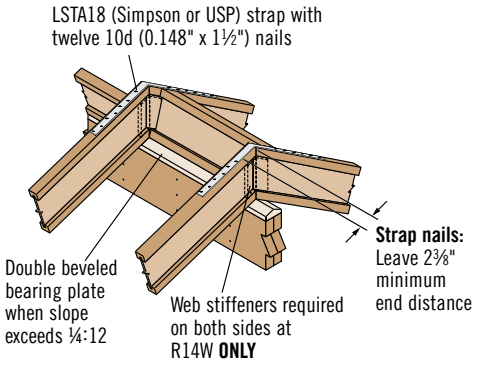


DO NOT overhang birdsmouth cut from inside face of plate.

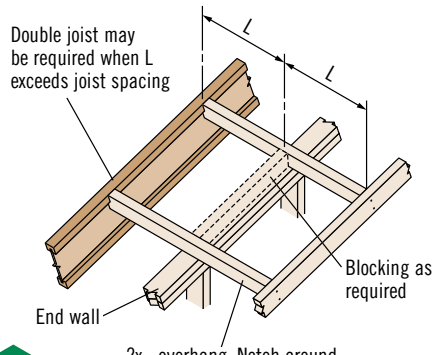


TJI® joist flange must bear fully on the plate. See detail BC on page 15.

ROOF DETAILS



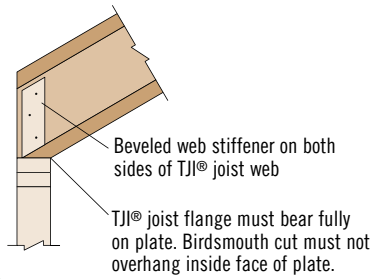
R14 R14W *Additional blocking may be required for shear transfer*



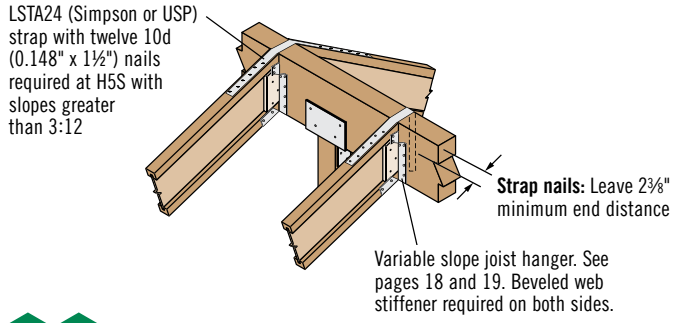
O

Birdsmouth Cut

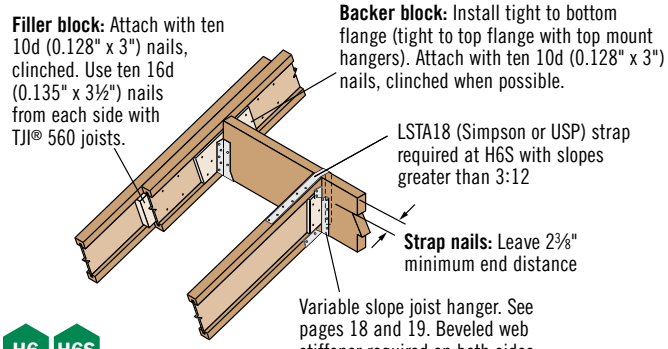
Allowed at low end of joist only



BC

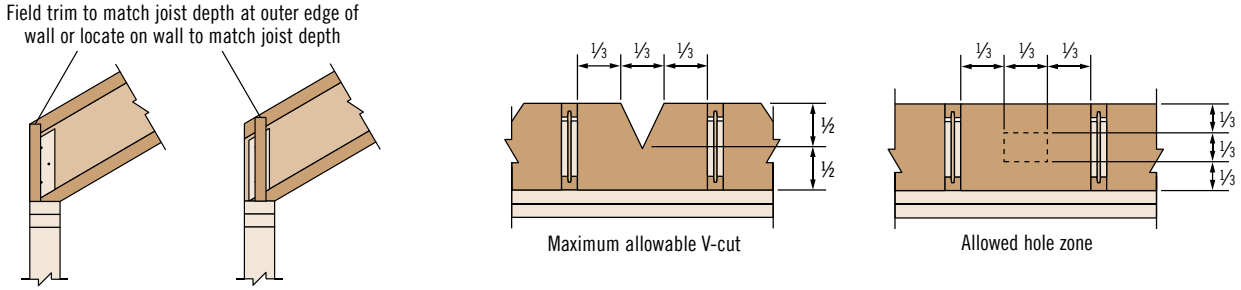


H5 H5S *Additional blocking may be required for shear transfer*



H6 H6S

Shear Blocking and Ventilation Holes (Roof Only)



SB ***For TJI® joists with slopes of 10:12 to 12:12, the vertical depth of the shear blocking at bearing will require 1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL that is one size deeper than the TJI® joist. DO NOT use 1⅛" TJ® Rim Board in ventilation-hole applications.***

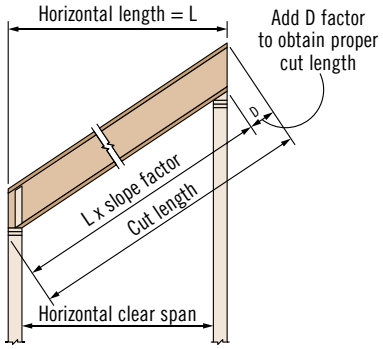
Filler and Backer Block Sizes

TJI®	110		210		230 or 360		560	
Depth	9½" or 11⅞"	14"	9½" or 11⅞"	14" or 16"	9½" or 11⅞"	14" or 16"	11⅞"	14" or 16"
Filler Block (Detail H6)	2x6	2x8	2x6 + ⅜" sheathing	2x8 + ⅜" sheathing	2x6 + ½" sheathing	2x8 + ½" sheathing	Two 2x6	Two 2x8
Backer Block (Detail H6)	⅝" or ¾"		¾" or ⅞"		⅞" or 1" net		2x6	2x8

- If necessary, increase filler and backer block height for face mount hangers and maintain ⅛" gap at top of joist; see detail W on page 6. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.

D Factors (Cut Length Calculations)

Depth	Slope												
	2½:12	3:12	3½:12	4:12	4½:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
9½"	2"	2⅜"	2⅞"	3¼"	3⅝"	4"	4¾"	5⅝"	6⅜"	7⅛"	8"	8¾"	9½"
11⅞"	2½"	3"	3½"	4"	4½"	5"	6"	7"	8"	9"	10"	11"	11⅞"
14"	3"	3½"	4⅛"	4¾"	5¼"	5⅞"	7"	8¼"	9⅜"	10½"	11¾"	12⅞"	14"
16"	3⅜"	4"	4¾"	5⅜"	6"	6¾"	8"	9⅜"	10¾"	12"	13⅜"	14¾"	16"



Actual cut length can be approximated by multiplying the horizontal length by the slope factor (see table on page 17) and adding the D factor.

See General Notes and nailing requirements on page 13

ROOF SPAN TABLE

Maximum Horizontal Clear Spans—Roof

O.C. Spacing	Depth	TJI®	Design Live Load (LL) and Dead Load (DL) in PSF											
			Non-Snow (125%)				Snow Load Area (115%)							
			20LL + 15DL		20LL + 20DL		25LL + 15DL		30LL + 15DL		40LL + 15DL		50LL + 15DL	
			Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
16"	9½"	110	20'-0"	17'-10"	19'-1"	16'-11"	19'-2"	17'-2"	18'-5"	16'-7"	17'-2"	15'-7"	15'-11"	14'-9"
		210	21'-2"	18'-10"	20'-2"	17'-10"	20'-3"	18'-2"	19'-6"	17'-6"	18'-2"	16'-6"	17'-2"	15'-7"
		230	21'-11"	19'-6"	20'-10"	18'-6"	20'-11"	18'-9"	20'-2"	18'-1"	18'-10"	17'-0"	17'-9"	16'-2"
	11⅞"	110	23'-11"	21'-4"	22'-9"	20'-2"	22'-8"	20'-6"	21'-5"	19'-10"	19'-5"	18'-7"	17'-11"	17'-4"
		210	25'-3"	22'-6"	24'-1"	21'-4"	24'-2"	21'-8"	23'-3"	20'-11"	21'-4"	19'-8"	19'-8"	18'-8"
		230	26'-1"	23'-3"	24'-10"	22'-0"	24'-11"	22'-4"	24'-0"	21'-7"	22'-5"	20'-4"	20'-9"	19'-3"
		360	27'-9"	24'-9"	26'-5"	23'-5"	26'-7"	23'-10"	25'-6"	23'- 0"	23'-11"	21'-7"	22'-7"	20'-6"
		560	31'-11"	28'-6"	30'-5"	27'- 0"	30'-7"	27'-5"	29'-5"	26'-5"	27'-6"	24'-10"	26'- 0"	23'-7"
	14"	110	27'-2"	24'-3"	25'-7"	23'-0"	24'-9"	23'-4"	23'-4"	22'-4"	21'-2"	20'-5"	19'-6"	18'-11"
		210	28'-9"	25'-7"	27'-4"	24'-3"	27'-1"	24'-8"	25'-7"	23'-9"	23'-3"	22'-4"	21'-5"	20'-9"
		230	29'-8"	26'-6"	28'-3"	25'-1"	28'-5"	25'-5"	27'-0"	24'-7"	24'-6"	23'-1"	22'-7"	21'-10"
		360	31'-6"	28'-2"	30'-0"	26'-8"	30'-2"	27'-1"	29'-0"	26'-1"	27'-2"	24'-7"	25'-8"	23'-4"
		560	36'-3"	32'-4"	34'-6"	30'-7"	34'-8"	31'-1"	33'-4"	30'-0"	31'-2"	28'-3"	29'-6"	26'-9"
	16"	210	31'-10"	28'-5"	30'-0"	26'-11"	29'-0"	27'-4"	27'-5"	26'-2"	24'-10"	23'-11"	22'-8"	22'-2"
		230	32'-10"	29'-4"	31'-4"	27'-9"	30'-7"	28'-2"	28'-11"	27'-3"	26'-2"	25'-3"	24'-2"	23'-5"
		360	34'-11"	31'-2"	33'-3"	29'-6"	33'-5"	30'- 0"	32'-2"	28'-11"	30'-1"	27'-2"	26'- 0"	25'-10"
		560	40'-1"	35'-9"	38'-2"	33'-11"	38'-4"	34'-5"	36'-11"	33'-2"	34'-6"	31'-3"	31'-8"	29'-8"
19.2"	9½"	110	18'-9"	16'-9"	17'-11"	15'-10"	18'-0"	16'-1"	17'-3"	15'-7"	15'-9"	14'-7"	14'-6"	13'-10"
		210	19'-10"	17'-9"	18'-11"	16'-9"	19'-0"	17'-0"	18'-3"	16'-5"	17'-1"	15'-5"	15'-11"	14'-8"
		230	20'-7"	18'-4"	19'-7"	17'-4"	19'-8"	17'-7"	18'-11"	17'-0"	17'-8"	16'-0"	16'-8"	15'-2"
	11⅞"	110	22'-5"	20'-0"	21'-5"	19'-0"	20'-9"	19'-3"	19'-7"	18'-7"	17'-9"	17'-1"	16'-4"	15'-10"
		210	23'-9"	21'-2"	22'-7"	20'-0"	22'-8"	20'-4"	21'-5"	19'-8"	19'-6"	18'-6"	17'-11"	17'-4"
		230	24'-6"	21'-10"	23'-4"	20'-8"	23'-5"	21'-0"	22'-6"	20'-3"	20'-6"	19'-1"	18'-11"	18'-1"
		360	26'-1"	23'-3"	24'-10"	22'-0"	24'-11"	22'-4"	24'- 0"	21'-7"	22'-5"	20'-3"	21'-2"	19'-3"
		560	30'- 0"	26'-9"	28'-7"	25'-4"	28'-8"	25'-9"	27'-7"	24'-10"	25'-9"	23'-4"	24'-4"	22'-2"
	14"	110	25'-1"	22'-10"	23'-4"	21'-7"	22'-7"	21'-5"	21'-4"	20'-4"	19'-4"	18'-7"	17'-0"	17'-3"
		210	27'-0"	24'-1"	25'-7"	22'-10"	24'-9"	23'-2"	23'-4"	22'-4"	21'-2"	20'-5"	18'-10"	18'-11"
		230	27'-10"	24'-10"	26'-6"	23'-7"	26'-1"	23'-11"	24'-7"	23'-1"	22'-4"	21'-6"	20'-7"	19'-11"
		360	29'-7"	26'-5"	28'-2"	25'-0"	28'-4"	25'-5"	27'-3"	24'-6"	25'-6"	23'-1"	21'-7"	21'-8"
		560	34'-0"	30'-4"	32'-5"	28'-9"	32'-7"	29'-2"	31'-4"	28'-2"	29'-3"	26'-6"	26'-5"	25'-2"
	16"	210	29'-5"	26'-8"	27'-5"	25'-4"	26'-5"	25'-2"	25'-0"	23'-11"	22'-3"	21'-10"	18'-10"	20'-2"
		230	30'-11"	27'-7"	28'-11"	26'-1"	27'-11"	26'-6"	26'-4"	25'-2"	23'-11"	23'-0"	21'-2"	21'-3"
		360	32'-10"	29'-3"	31'-3"	27'-9"	31'-5"	28'-2"	30'-2"	27'-2"	25'-7"	25'-3"	21'-7"	21'-8"
		560	37'-8"	33'-7"	35'-10"	31'-10"	36'-0"	32'-4"	34'-8"	31'-2"	31'-3"	29'-4"	26'-5"	25'-5"
24"	9½"	110	17'-5"	15'-6"	16'-7"	14'-8"	16'-5"	14'-11"	15'-6"	14'-5"	14'-1"	13'-6"	13'-0"	12'-7"
		210	18'-5"	16'-5"	17'-6"	15'-6"	17'-7"	15'-9"	16'-11"	15'-3"	15'-5"	14'-4"	14'-3"	13'-7"
		230	19'-0"	17'-0"	18'-1"	16'-1"	18'-2"	16'-4"	17'-6"	15'-9"	16'-3"	14'-10"	15'-0"	14'-0"
	11⅞"	110	20'-7"	18'-7"	19'-2"	17'-7"	18'-6"	17'-7"	17'-6"	16'-8"	15'-10"	15'-3"	13'-7"	14'-2"
		210	21'-11"	19'-7"	20'-11"	18'-7"	20'-4"	18'-10"	19'-2"	18'-2"	17'-5"	16'-9"	15'-0"	15'-6"
		230	22'-8"	20'-3"	21'-7"	19'-2"	21'-5"	19'-5"	20'-3"	18'-9"	18'-4"	17'-8"	16'-11"	16'-4"
		360	24'-1"	21'-6"	23'- 0"	20'-5"	23'-1"	20'-8"	22'-2"	20'-0"	20'-5"	18'-9"	17'-3"	17'-4"
		560	27'-9"	24'-9"	26'-5"	23'-6"	26'-7"	23'-10"	25'-6"	23'-0"	23'-10"	21'-7"	21'-1"	20'-3"
	14"	110	22'-5"	21'-1"	20'-10"	19'-6"	20'-2"	19'-2"	19'-0"	18'-2"	16'-0"	16'-7"	13'-7"	14'-7"
		210	24'-7"	22'-4"	22'-11"	21'-1"	22'-1"	21'-0"	20'-10"	19'-11"	17'-10"	18'-3"	15'-0"	16'-1"
		230	25'-9"	23'-0"	24'-1"	21'-10"	23'-4"	22'-2"	22'-0"	21'-0"	20'-0"	19'-3"	16'-11"	17'-0"
		360	27'-5"	24'-6"	26'-1"	23'-2"	26'-3"	23'-6"	25'-0"	22'-8"	20'-5"	20'-2"	17'-3"	17'-4"
		560	31'-6"	28'-1"	30'-0"	26'-8"	30'-2"	27'-0"	29'-0"	26'-1"	24'-11"	23'-7"	21'-1"	20'-3"
	16"	210	26'-3"	24'-9"	24'-6"	22'-11"	23'-8"	22'-6"	21'-9"	21'-4"	17'-10"	18'-9"	15'-0"	16'-1"
		230	27'-9"	25'-6"	25'-10"	24'-2"	24'-11"	23'-8"	23'-7"	22'-6"	20'-0"	19'-9"	16'-11"	17'-0"
		360	30'-4"	27'-1"	28'-11"	25'-8"	28'-2"	26'-1"	25'-0"	24'-1"	20'-5"	20'-2"	17'-3"	17'-4"
		560	34'-10"	31'-2"	33'-2"	29'-6"	33'-4"	29'-11"	30'-6"	28'-3"	24'-11"	23'-7"	21'-1"	20'-3"

How to Use This Table

1. Determine appropriate live and dead load, and the load duration factor.
2. If your slope is 6:12 or less, use the **Low** slope column. If it is between 6:12 and 12:12, use the **High** column.
3. Scan down the column until you find a span that meets or exceeds the span of your application.
4. Select TJI® joist and on-center spacing.

General Notes

- Table is based on:
  - Minimum bearing length of 1¾" end and 3½" intermediate, without web stiffeners.
  - Uniform loads.
  - More restrictive of simple or continuous span.
  - Minimum roof slope of ¼:12.
- Total load values are limited to deflection of L/180 and live load is based on joist deflection of L/240.
- A support beam or wall at the high end is required. Ridge board applications do not provide adequate support.
- For flat roofs or other loading conditions not shown, refer to Weyerhaeuser software.

ROOF LOAD TABLES

Roof—115% and 125% Load Duration (PLF) for 6'–16' Spans

Depth	TJI®	Roof Joist Horizontal Clear Span																	
		6'			8'			10'			12'			14'			16'		
		Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.
		Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240
9½"	110	289	314	*	218	237	*	175	190	*	146	159	*	114	124	112	88	95	77
	210	321	349	*	242	263	*	194	211	*	162	176	*	137	149	130	105	115	90
	230	360	392	*	272	295	*	218	237	*	182	198	*	153	166	143	117	127	99
11⅞"	110	289	314	*	218	237	*	175	190	*	146	159	*	125	136	*	110	119	*
	210	321	349	*	242	263	*	194	211	*	162	176	*	139	151	*	122	132	*
	230	360	392	*	272	295	*	218	237	*	182	198	*	156	170	*	137	149	*
	360	368	400	*	277	301	*	223	242	*	186	202	*	159	173	*	140	152	*
	560	449	488	*	338	368	*	272	295	*	227	246	*	195	212	*	170	185	*
14"	110	289	314	*	218	237	*	175	190	*	146	159	*	125	136	*	110	119	*
	210	321	349	*	242	263	*	194	211	*	162	176	*	139	151	*	122	132	*
	230	360	392	*	272	295	*	218	237	*	182	198	*	156	170	*	137	149	*
	360	368	400	*	277	301	*	223	242	*	186	202	*	159	173	*	140	152	*
	560	449	488	*	338	368	*	272	295	*	227	246	*	195	212	*	170	185	*
16"	210	321	349	*	242	263	*	194	211	*	162	176	*	139	151	*	122	132	*
	230	360	392	*	272	295	*	218	237	*	182	198	*	156	170	*	137	149	*
	360	368	400	*	277	301	*	223	242	*	186	202	*	159	173	*	140	152	*
	560	449	488	*	338	368	*	272	295	*	227	246	*	195	212	*	170	185	*

Roof—115% and 125% Load Duration (PLF) for 18'–28' Spans

Depth	TJI®	Roof Joist Horizontal Clear Span																	
		18'			20'			22'			24'			26'			28'		
		Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.	Total Load		Defl.
		Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240	Snow 115%	Non-Snow 125%	Live Load L/240
9½"	110																		
	210	83	86	64															
	230	93	94	71															
11⅞"	110	88	95	91		77	68												
	210	106	115	106	86	93	79		77	60									
	230	117	128	116	95	103	86	79	85	66									
	360	124	135	*	112	122	103	102	105	78	82	82	61						
	560	152	165	*	137	148	*	124	135	117	114	122	91	97	97	73	79	79	59
14"	110	98	106	*	84	92	*		76	75									
	210	108	118	*	97	106	*	84	91	87		77	68						
	230	122	132	*	110	119	*	93	101	95	78	85	74						
	360	124	135	*	112	122	*	102	111	*	93	101	88	86	94	70	76	76	57
	560	152	165	*	137	148	*	124	135	*	114	124	*	105	114	104	98	106	85
16"	210	108	118	*	97	106	*	89	96	*	81	88	*		75	73			
	230	122	132	*	110	119	*	100	108	*	90	97	*	76	83	79			
	360	124	135	*	112	122	*	102	111	*	93	101	*	86	94	*	80	87	76
	560	152	165	*	137	148	*	124	135	*	114	124	*	105	114	*	98	106	*

* Indicates that **Total Load** value controls.

Slope Factors

Slope	2½:12	3:12	3½:12	4:12	4½:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
Factor	1.021	1.031	1.042	1.054	1.068	1.083	1.118	1.158	1.202	1.250	1.302	1.357	1.414

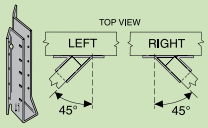
How to Use These Tables

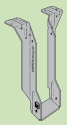
1. Calculate actual total load in pounds per linear foot (plf).
2. Select appropriate **Roof Joist Horizontal Clear Span**. For slopes greater than 2:12, approximate the increased dead load by multiplying the joist horizontal clear span by the **Slope Factor** above.
3. Scan down the column to find a TJI® joist that meets or exceeds actual total load.

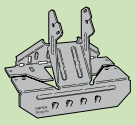
General Notes

- Tables are based on:
  - Minimum bearing length of 1¾" end and 3½" intermediate, without web stiffeners.
  - Uniform loads.
  - More restrictive of simple or continuous span.
  - Minimum roof slope of ¼:12.
- **Total Load** values are limited to deflection of L/180. For stiffer deflection criteria, use the **Live Load** L/240 values.

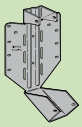
FRAMING CONNECTORS (SIMPSON STRONG-TIE®)

Joist		Single Joist—Top Mount				Single Joist—Face Mount				Face Mount Skewed 45° Joist Hanger[1]			
													
Depth	TJI®	Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing	
				Header	Joist			Header	Joist			Header	Joist
9½"	110	ITS1.81/9.5	975	10d	N.A.	IUS1.81/9.5	950	10d	N.A.	***SUR/L1.81/9***	1,220	16d	10d x 1½"
	210	ITS2.06/9.5	1,070	10d	N.A.	IUS2.06/9.5	950	10d	N.A.	***SUR/L2.1/9***	1,330	16d	10d x 1½"
	230	ITS2.37/9.5	1,120	10d	N.A.	IUS2.37/9.5	950	10d	N.A.	***SUR/L2.37/9***	1,330	16d	10d x 1½"
11⅞"	110	ITS1.81/11.88	975	10d	N.A.	IUS1.81/11.88[1]	975	10d	N.A.	***SUR/L1.81/11***	1,240	16d	10d x 1½"
	210	ITS2.06/11.88	1,070	10d	N.A.	IUS2.06/11.88[1]	1,070	10d	N.A.	***SUR/L2.1/11***	1,380	16d	10d x 1½"
	230	ITS2.37/11.88	1,120	10d	N.A.	IUS2.37/11.88[1]	1,120	10d	N.A.	***SUR/L2.37/11***	1,410	16d	10d x 1½"
	360	ITS2.37/11.88	1,140	10d	N.A.	IUS2.37/11.88[1]	1,140	10d	N.A.	***SUR/L2.37/11***	1,430	16d	10d x 1½"
	560	ITS3.56/11.88[6]	1,150	10d	N.A.	IUS3.56/11.88[1][6]	1,150	10d	N.A.	***SUR/L410***	1,495	16d	16d
14"	110	ITS1.81/14	975	10d	N.A.	IUS1.81/14[1]	975	10d	N.A.	***SUR/L1.81/14***	1,240	16d	10d x 1½"
	210	ITS2.06/14	1,070	10d	N.A.	IUS2.06/14[1]	1,070	10d	N.A.	***SUR/L2.1/11***	1,380	16d	10d x 1½"
	230	ITS2.37/14	1,120	10d	N.A.	IUS2.37/14[1]	1,120	10d	N.A.	***SUR/L2.37/14***	1,410	16d	10d x 1½"
	360	ITS2.37/14	1,140	10d	N.A.	IUS2.37/14[1]	1,140	10d	N.A.	***SUR/L2.37/14***	1,430	16d	10d x 1½"
	560	ITS3.56/14[6]	1,150	10d	N.A.	IUS3.56/14[1][6]	1,150	10d	N.A.	***SUR/L414***	1,460	16d	16d
16"	210	ITS2.06/16	1,070	10d	N.A.	IUS2.06/16 [1]	1,070	10d	N.A.	***SUR/L2.1/11***	1,380	16d	10d x 1½"
	230	ITS2.37/16	1,120	10d	N.A.	IUS2.37/16 [1]	1,120	10d	N.A.	***SUR/L2.37/14***	1,410	16d	10d x 1½"
	360	ITS2.37/16	1,140	10d	N.A.	IUS2.37/16 [1]	1,140	10d	N.A.	***SUR/L2.37/14***	1,430	16d	10d x 1½"
	560	ITS3.56/16[6]	1,150	10d	N.A.	IUS3.56/16[1][6]	1,150	10d	N.A.	***SUR/L414***	1,460	16d	16d

Joist		Double Joist—Top Mount				Double Joist—Face Mount			
									
Depth	TJI®	Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing	
				Header	Joist			Header	Joist
9½"	110	***MIT49.5***	2,115	16d	10d x 1½"	***MIU3.56/9[1]***	2,215	16d	10d x 1½"
	210	***MIT4.28/9.5***	2,115	16d	10d x 1½"	***MIU4.28/9***	2,305	16d	10d x 1½"
	230	***MIT359.5-2***	2,115	16d	10d x 1½"	***MIU4.75/9***	2,305	16d	10d x 1½"
11⅞"	110	***MIT411.88***	2,115	16d	10d x 1½"	***MIU3.56/11[1]***	2,215	16d	10d x 1½"
	210	***MIT4.28/11.88***	2,115	16d	10d x 1½"	***MIU4.28/11[1]***	2,395	16d	10d x 1½"
	230	***MIT3511.88-2***	2,115	16d	10d x 1½"	***MIU4.75/11[1]***	2,490	16d	10d x 1½"
	360	***MIT3511.88-2***	2,115	16d	10d x 1½"	***MIU4.75/11***	2,525	16d	10d x 1½"
	560	***B7.12/11.88***	2,925	16d	16d	***HU412-2***	2,380	16d	16d
14"	110	***MIT414***	2,115	16d	10d x 1½"	***MIU3.56/14[1]***	2,215	16d	10d x 1½"
	210	***MIT4.28/14***	2,115	16d	10d x 1½"	***MIU4.28/14[1]***	2,395	16d	10d x 1½"
	230	***MIT3514-2***	2,115	16d	10d x 1½"	***MIU4.75/14[1]***	2,490	16d	10d x 1½"
	360	***MIT3514-2***	2,115	16d	10d x 1½"	***MIU4.75/14[1]***	2,525	16d	10d x 1½"
	560	***B7.12/14***	2,925	16d	16d	***HU414-2***	2,925	16d	16d
16"	210	***LBV4.28/16***	2,395	16d	10d x 1½"	***MIU4.28/16[1]***	2,395	16d	10d x 1½"
	230	***LBV4.75/16***	2,115	16d	10d x 1½"	***MIU4.75/16[1]***	2,490	16d	10d x 1½"
	360	***LBV4.75/16***	2,115	16d	10d x 1½"	***MIU4.75/16[1]***	2,525	16d	10d x 1½"
	560	***B7.12/16***	2,925	16d	16d	***HU414-2***	2,925	16d	16d

Joist	Variable Slope Seat Connector[2]			
				
TJI®	Hanger	Capacity (lbs)	Nailing	
			Header	Joist
110	VPA25	975	10d	10d x 1½"
210	VPA2.1	1,070	10d	10d x 1½"
230	VPA35	1,120	10d	10d x 1½"
360	VPA35	1,140	10d	10d x 1½"
560	VPA4	1,230	10d	10d x 1½"

Hanger information on these two pages was provided by either Simpson Strong-Tie® or USP Structural Connectors®. For additional information, please refer to their literature.

Joist	Variable Slope Seat Joist Hanger[3]				
					
TJI®	Hanger	Capacity (lbs)		Nailing	
		Sloped Only	Sloped and Skewed	Header	Joist
110	***LSSUI25***	1,110[1]	995	10d	10d x 1½"
210	***LSSU2.1***	1,110[1]	995	10d	10d x 1½"
230	***LSSUI35***	1,110[1]	995	10d	10d x 1½"
360	***LSSUI35***	1,110[1]	995	10d	10d x 1½"
560	***LSSU410***	1,725[1]	1,625	16d	10d x 1½"

General Notes

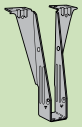
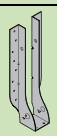
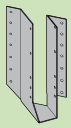
Bold italic hangers require web stiffeners.

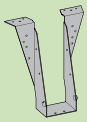
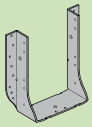
Capacities will vary with different nailing criteria or other support conditions; contact your Weyerhaeuser representative for assistance.

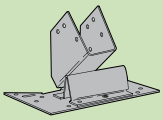
- Hanger capacities shown are either joist bearing capacity or hanger capacity—whichever is less. Joist end reaction must be checked to ensure it does not exceed the capacity shown in the tables.
- All capacities are for downward loads at 100% duration of load.
- Fill all round, dimple, and positive-angle nail holes.
- Use sloped seat hangers and beveled web stiffeners when TJI® joist slope exceeds ¼:12.
- Leave 1/16" clearance (⅛" maximum) between the end of the supported joist and the header or hanger.
- Nails: 16d = 0.162" x 3½", 10d = 0.148" x 3", and 10d x 1½" = 0.148" x 1½".

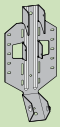
See additional notes on page 19

FRAMING CONNECTORS (USP STRUCTURAL CONNECTORS®)

Joist		Single Joist—Top Mount				Single Joist—Face Mount[1]				Face Mount Skewed 45° Joist Hanger[1]			
													
Depth	TJI®	Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing	
				Header	Joist			Header	Joist			Header	Joist
9½"	110	THO17950	975	10d	10d x 1½"	THF17925	910	10d	10d x 1½"	***SKH1720L/R***	945	10d	10d x 1½"
	210	TFL2095	1,070	10d	10d x 1½"	THF20925	910	10d	10d x 1½"	***SKH2020L/R***	1,035	10d	10d x 1½"
	230	TFL2395	1,120	10d	10d x 1½"	THF23925	1,245	10d	10d x 1½"	***SKH2320L/R***	1,090	10d	10d x 1½"
11⅞"	110	THO17118	975	10d	10d x 1½"	THF17112	910	10d	10d x 1½"	***SKH1720L/R***	945	10d	10d x 1½"
	210	TFL20118	1,070	10d	10d x 1½"	THF20112	910	10d	10d x 1½"	***SKH2020L/R***	1,035	10d	10d x 1½"
	230	TFL23118	1,120	10d	10d x 1½"	THF23118	1,245	10d	10d x 1½"	***SKH2320L/R***	1,090	10d	10d x 1½"
	360	TFL23118	1,140	10d	10d x 1½"	THF23118	1,265	10d	10d x 1½"	***SKH2320L/R***	1,110	10d	10d x 1½"
	560	THO35118	1,430	10d	10d x 1½"	THF35112	1,460	10d	10d x 1½"	***SKH410L/R[4]***	1,460	10d	16d
14"	110	TFL1714	975	10d	10d x 1½"	THF17140	975	10d	10d x 1½"	***SKH1720L/R***	945	10d	10d x 1½"
	210	TFL2014	1,070	10d	10d x 1½"	THF20140	1,070	10d	10d x 1½"	***SKH2020L/R***	1,035	10d	10d x 1½"
	230	TFL2314	1,120	10d	10d x 1½"	THF23140	1,245	10d	10d x 1½"	***SKH2324L/R***	1,090	10d	10d x 1½"
	360	TFL2314	1,140	10d	10d x 1½"	THF23140	1,265	10d	10d x 1½"	***SKH2324L/R***	1,110	10d	10d x 1½"
	560	THO35140	1,430	10d	10d x 1½"	THF35140	1,460	10d	10d x 1½"	***SKH414L/R[4]***	1,460	10d	16d
16"	210	TFL2016	1,070	10d	10d x 1½"	THF20157	1,425	10d	10d x 1½"	***SKH2024L/R***	1,035	10d	10d x 1½"
	230	TFL2316	1,120	10d	10d x 1½"	THF23160	1,245	10d	10d x 1½"	***SKH2324L/R***	1,090	10d	10d x 1½"
	360	TFL2316	1,140	10d	10d x 1½"	THF23160	1,265	10d	10d x 1½"	***SKH2324L/R***	1,110	10d	10d x 1½"
	560	THO35160	1,430	10d	10d x 1½"	THF35157	1,460	10d	10d x 1½"	***SKH414L/R[4]***	1,460	10d	10d x 1½"

Joist		Double Joist—Top Mount				Double Joist—Face Mount[1]			
									
Depth	TJI®	Hanger	Capacity (lbs)	Nailing		Hanger	Capacity (lbs)	Nailing	
				Header	Joist			Header	Joist
9½"	110	***THO35950***	2,050	10d	10d x 1½"	***THF35925***	1,370	10d	10d x 1½"
	210	***THO20950-2***	2,330	16d	10d	***THF20925-2***	1,390	10d	10d
	230	***THO23950-2***	2,660	16d	10d	***THF23925-2***	1,625	10d	10d
11⅞"	110	***THO35118***	2,050	10d	10d x 1½"	***THF35112***	1,825	10d	10d x 1½"
	210	***THO20118-2***	2,330	16d	10d	***THF20112-2***	1,855	10d	10d
	230	***THO23118-2***	2,730	16d	10d	***THF23118-2***	1,855	10d	10d
	360	***THO23118-2***	2,770	16d	10d	***THF23118-2***	1,855	10d	10d
	560	***BPH71118***	3,185	16d	10d	***HD7120***	2,255	16d	10d
14"	110	***THO35140***	2,150	10d	10d x 1½"	***THF35140***	2,215	10d	10d x 1½"
	210	***THO20140-2***	2,330	16d	10d	***THF20140-2***	2,320	10d	10d
	230	***THO23140-2***	2,730	16d	10d	***THF23140-2***	2,490	10d	10d
	360	***THO23140-2***	2,770	16d	10d	***THF23140-2***	2,525	10d	10d
	560	***BPH7114***	3,185	16d	10d	***HD7140***	2,820	16d	10d
16"	210	***THO20160-2***	2,330	16d	10d	***THF20140-2***	2,320	10d	10d
	230	***THO23160-2***	2,730	16d	10d	***THF23160-2***	2,490	10d	10d
	360	***THO23160-2***	2,770	16d	10d	***THF23160-2***	2,525	10d	10d
	560	***BPH7116***	3,185	16d	10d	***HD7140***	2,820	16d	10d

Joist	Variable Slope Seat Connector[5]			
				
TJI®	Hanger	Capacity (lbs)	Nailing	
			Header	Joist
110	TMP175	1,150	10d	10d x 1½"
	TMPH175	1,220	10d	10d x 1½"
210	TMP21	1,290	10d	10d x 1½"
	TMPH21	1,330	10d	10d x 1½"
230	TMP23	1,330	10d	10d x 1½"
	TMPH23	1,330	10d	10d x 1½"
360	TMP23	1,505	10d	10d x 1½"
	TMPH23	1,505	10d	10d x 1½"
560	TMP4	1,725	10d	10d x 1½"
	TMPH4	1,725	10d	10d x 1½"

Joist	Variable Slope Seat Joist Hanger[3]				
					
TJI®	Hanger	Capacity (lbs)		Nailing	
		Sloped Only	Sloped and Skewed	Header	Joist
110	***LSSH179***	1,180	1,180	10d	10d x 1½"
210	***LSSH20***	1,180	1,180	10d	10d x 1½"
230	***LSSH23***	1,180	1,180	10d	10d x 1½"
360	***LSSH23***	1,180	1,180	10d	10d x 1½"
560	***LSSH35***	1,595[1]	1,595	16d	10d x 1½"

Support Requirements

- Support material assumed to be Trus Joist® engineered lumber or sawn lumber (Douglas fir or southern pine species).
- Minimum support width for single- and double-joist top mount hangers is 3" (1½" for ITS hangers).
- Minimum support width for face mount hangers with 10d and 16d nails (clinched) is 1½" and 1¾", respectively.

Footnotes:

(1) Face mount hanger capacities may be increased up to 15% for snow roofs or 25% for non-snow roofs. Maximum increase for LSSU, LSSUI, and LSSH hangers is 15%.

(2) VPA connectors are allowed on slopes of 3:12 through 12:12 only.

(3) LSSU, LSSUI, and LSSH hangers can be field adjusted for slopes and skews of up to 45 degrees. Additional lateral restraints are required for 16" deep TJI® joists.

(4) Miter cut is required at end of joist.

(5) TMP connectors are allowed on slopes of 1:12 through 6:12 only, and TMPH connectors are allowed on slopes of 6:12 through 12:12 only.

(6) Capacity may be increased to 1,330 lbs if web stiffeners are used.

See General Notes on page 18

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You want to build solid and durable structures—we want to help. Weyerhaeuser provides high-quality building products and unparalleled technical and field assistance to support you and your project from start to finish.

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