2025 SPECIFIER'S GUIDE

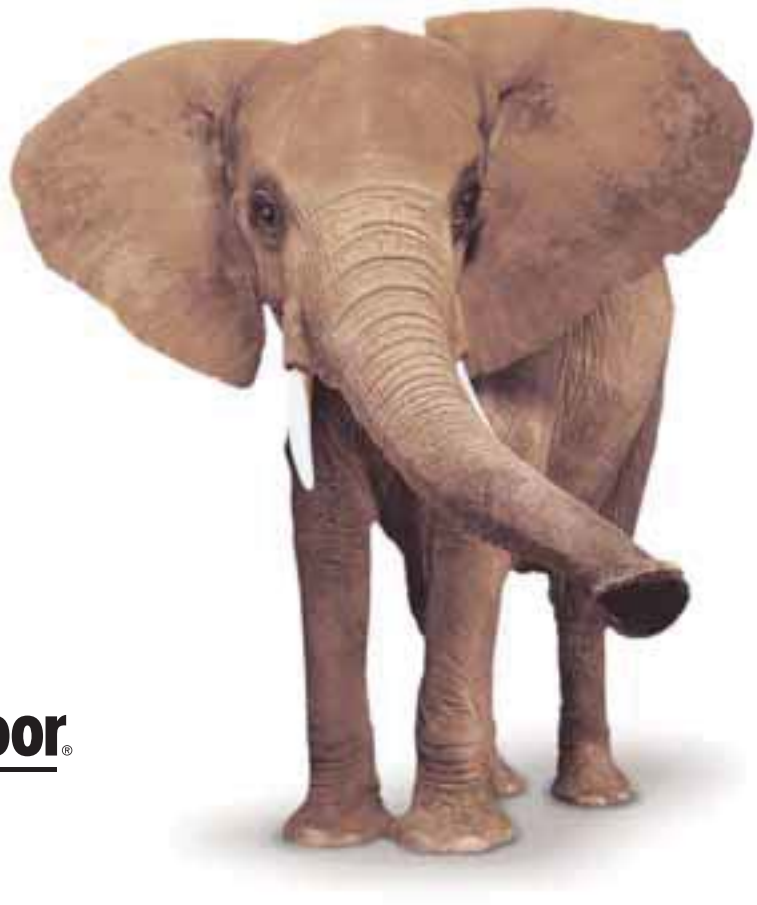
Trus Joist®
A Weyerhaeuser Business

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

This literature is for legacy Trus Joist® products only and is not intended for use in current specification. Visit www.woodbywy.com for the most current Trus Joist® product offering and specification information.

Featuring Silent Floor® Joists for Residential Applications

- Environmentally Responsible
- Uniform and Predictable
- Resist Bowing, Twisting, and Shrinking
- Lightweight for Fast Installation
- Significantly Reduce Callbacks
- Available in Long Lengths
- Product Warranty



1-800-628-3997
www.trusjoist.com

Silent Floor®
Trus Joist®

Why choose the Silent Floor® joist? Here's why so many specifiers and builders do:

EASY INSTALLATION—
no surprises on the job or later on.

The same precision engineering that keeps a floor strong and quiet also makes it easier to install. The natural defects found in sawn lumber are engineered out, and dimensional stability is manufactured in.

And, at about half the weight of ordinary lumber joists, TJI® joists can be installed in a fraction of the time.

PRODUCT AVAILABILITY—
our nation-wide distribution system ensures on-time delivery.

With seven TJI® joist manufacturing plants and over 70 distribution centers located strategically across North America, we make specifying, purchasing, and installing Silent Floor® joists a hassle-free experience.

DESIGN FLEXIBILITY—
longer lengths for endless design options.

Silent Floor® joists are not limited by the dimensions or inconsistencies of ordinary sawn lumber. Longer uninterrupted spans with joists that won't bow, twist, or shrink means you have more design freedom than ever before.

INTEGRITY—
guaranteed for the lifetime of the structure.

Builders appreciate our lifetime guarantee as much as homeowners do. After 30 years and more than three million homes, we at Trus Joist have so much confidence in our Silent Floor® joists that we guarantee them for the life of the home.

The residential products in this guide are intended for use in single-family dwellings and are readily available through our nation-wide network of distributors and dealers. For information on using these products in multi-family dwellings, refer to *TJI® Joists for Multi-Family Applications* (Reorder 2041).

For commercial applications such as retail stores, office buildings, schools, restaurants, hotels, and nursing homes, please refer to the *TJI® L65, L90, H90 Joist Commercial Design Guide* (Reorder 1062). Commercial products are typically designed, manufactured, and sold by Trus Joist for each specific job.

For more information on any Trus Joist product, please call **1-800-628-3997**.

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

Silent Floor® Joist
Trus Joist®

HOMEBUYER'S GUARANTEE

We guarantee that the Trus Joist products used in your home have been manufactured to precise tolerances and are free from defects in materials and workmanship. In the unlikely event that your Silent Floor® joist develops squeaks or any other problem caused by such defects, and provided that your floor joists have been properly installed, we will promptly remedy that problem at no cost to you.

In addition, if you call us with a problem that you believe may be caused by our products, our representative will contact you within one business day to evaluate the problem and help solve it. Guaranteed.

This guarantee is effective for the life of your home.

1-800-628-3997

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" Intermediate Reaction (lbs)	
							No Web Stiffeners	With Web Stiffeners
9½"	110	2.3	2,380	140	1,220	885	1,935	N.A.
	210	2.6	2,860	167	1,330	980	2,145	N.A.
	230	2.7	3,175	183	1,330	1,035	2,410	N.A.
11⅞"	110	2.5	3,015	238	1,560	885	1,935	2,295
	210	2.8	3,620	283	1,655	980	2,145	2,505
	230	3.0	4,015	310	1,655	1,035	2,410	2,765
	360	3.0	6,180	419	1,705	1,080	2,460	2,815
	560	4.0	9,500	636	2,050	1,265	3,000	3,475
14"	110	2.8	3,565	351	1,860	885	1,935	2,295
	210	3.1	4,280	415	1,945	980	2,145	2,505
	230	3.3	4,755	454	1,945	1,035	2,410	2,765
	360	3.3	7,335	612	1,955	1,080	2,460	2,815
	560	4.2	11,275	926	2,390	1,265	3,000	3,475
16"	210	3.3	4,895	566	2,190	980	2,145	2,505
	230	3.5	5,440	618	2,190	1,035	2,410	2,765
	360	3.5	8,405	830	2,190	1,080	2,460	2,815
	560	4.5	12,925	1,252	2,710	1,265	3,000	3,475

(1) ***Caution:*** *Do* ***not*** *increase joist moment design properties by a repetitive member use factor.*

General Notes

- Design reaction includes all loads on the joist. Design shear is computed at the inside face of supports and includes 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):

TJI® joists are intended for dry-use applications

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

Material Weights

(Include TJI® weights in dead load calculations—see **Design Properties** table at left 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:

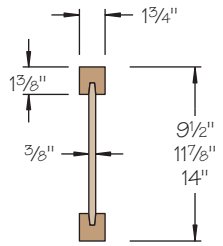
Regular (1") . . . . . .12.0 psf
Lightweight (1") . . . . . .8.0 to 10.0 psf
Gypsum concrete (¾") . . . . . .6.5 psf

Ceilings

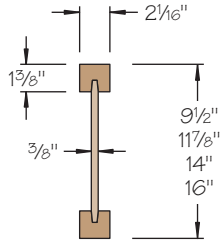
Acoustical fiber tile . . . . . .1.0 psf
½" gypsum board . . . . . .2.2 psf
⅝" gypsum board . . . . . .2.8 psf
Plaster (1" thick) . . . . . .8.0 psf

TABLE OF CONTENTS

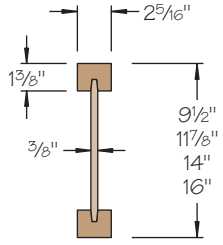
Not all products are available in all markets. Contact your Trus Joist representative for information.



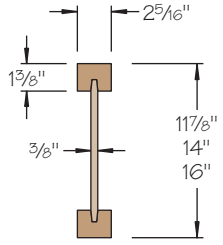
TJI® 110 joists



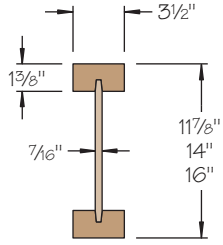
TJI® 210 joists



TJI® 230 joists



TJI® 360 joists



TJI® 560 joists

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'-5"	15'-0"	14'-2"	13'-2"	16'-5"	15'-0"	13'-11"	12'-5"
	210	17'-3"	15'-9"	14'-10"	13'-10"	17'-3"	15'-9"	14'-10"	13'-8"
	230	17'-8"	16'-2"	15'-3"	14'-2"	17'-8"	16'-2"	15'-3"	14'-2"
11⅞"	110	19'-6"	17'-10"	16'-10"	15'-5"(1)	19'-6"	17'-3"	15'-8"	14'-0"(1)
	210	20'-6"	18'-8"	17'-8"	16'-5"	20'-6"	18'-8"	17'-3"	15'-5"(1)
	230	21'-0"	19'-2"	18'-1"	16'-10"	21'-0"	19'-2"	18'-1"	16'-3"(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'-2"	20'-3"	18'-9"	16'-9"(1)	21'-8"	18'-9"	17'-1"(1)	14'-7"(1)
	210	23'-3"	21'-3"	20'-0"	18'-4"(1)	23'-3"	20'-7"	18'-9"(1)	16'-2"(1)
	230	23'-10"	21'-9"	20'-6"	19'-1"	23'-10"	21'-8"	19'-9"	17'-1"(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	25'-9"	23'-6"	22'-0"(1)	19'-5"(1)	25'-5"	22'-0"(1)	20'-1"(1)	16'-2"(1)
	230	26'-5"	24'-1"	22'-9"	20'-7"(1)	***26'-5"***	23'-2"	21'-2"(1)	17'-1"(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'-2"	16'-7"	15'-3"	13'-8"	17'-8"	15'-3"	13'-11"	12'-5"
	210	19'-1"	17'-5"	16'-6"	15'-0"	19'-1"	16'-9"	15'-4"	13'-8"
	230	19'-7"	17'-11"	16'-11"	15'-9"	19'-7"	17'-8"	16'-1"	14'-5"
11⅞"	110	21'-7"	18'-11"	17'-3"	15'-5"(1)	19'-11"	17'-3"	15'-8"	14'-0"(1)
	210	22'-8"	20'-8"	18'-11"	16'-10"	21'-10"	18'-11"	17'-3"	15'-5"(1)
	230	23'-3"	21'-3"	19'-11"	17'-9"	***23'-0"***	19'-11"	18'-2"	16'-3"(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	23'-9"	20'-6"	18'-9"	16'-9"(1)	21'-8"	18'-9"	17'-1"(1)	14'-7"(1)
	210	25'-8"	22'-6"	20'-7"	18'-4"(1)	23'-9"	20'-7"	18'-9"(1)	16'-2"(1)
	230	26'-4"	23'-9"	21'-8"	19'-4"(1)	***25'-0"***	21'-8"	19'-9"	17'-1"(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	27'-10"	24'-1"	22'-0"(1)	19'-5"(1)	25'-5"	22'-0"(1)	20'-1"(1)	16'-2"(1)
	230	29'-2"	25'-5"	23'-2"	20'-7"(1)	***26'-9"***	23'-2"	21'-2"(1)	17'-1"(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)

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".*

(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"

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™ Rating system.

General Notes

- Tables are based on:
  - Uniform loads.
  - More restrictive of simple or continuous span.
  - Clear distance between supports (1¾" 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 Trus Joist software may exceed the spans shown in these tables because software reflects actual design conditions.
- For loading conditions not shown, refer to software or to load tables on page 5.

Floor—100% (PLF)

Depth	TJI®	Joist Clear Span 8' Live Load L/480	8' Total Load	10' Live Load L/480	10' Total Load	12' Live Load L/480	12' Total Load	14' Live Load L/480	14' Total Load	16' Live Load L/480	16' Total Load	18' Live Load L/480	18' Total Load	20' Live Load L/480	20' Total Load	22' Live Load L/480	22' Total Load	24' Live Load L/480	24' Total Load
9½"	110	*	190	127	152	77	127	50	95										
	210	*	210	147	169	90	141	59	114	40	81								
	230	*	236	159	190	98	158	64	126	44	88								
11⅞"	110	*	190	*	152	*	127	83	109	57	92								
	210	*	210	*	169	*	141	97	121	67	106	48	87						
	230	*	236	*	190	*	158	105	136	73	119	52	97	39	78				
	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	83	95	59	85						
	210	*	210	*	169	*	141	*	121	96	106	69	94	51	84				
	230	*	236	*	190	*	158	*	136	104	119	75	106	56	93	43	77		
	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	93	94	69	85	53	77		
	230	*	236	*	190	*	158	*	136	*	119	100	106	75	95	57	87		
	360	*	241	*	193	*	162	*	139	*	121	*	108	*	97	75	88	59	81
	560	*	294	*	236	*	197	*	169	*	148	*	132	*	119	*	108	86	99

**Indicates 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

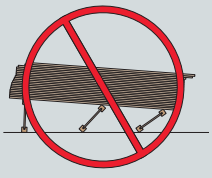
General Notes

- Table is based on:
  – Uniform loads.
  – No composite action provided by sheathing.
  – More restrictive of simple or continuous span.
- **Total Load** limits joist deflection to 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 shall not exceed the **Total Load** shown.

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

DO NOT allow workers to walk on joists until braced. INJURY MAY RESULT.



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

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. Under normal conditions if the following guidelines are observed, accidents will be avoided.**

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 lines 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—like a worker or one layer of unnailed sheathing.
4. Sheathing must be totally 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.

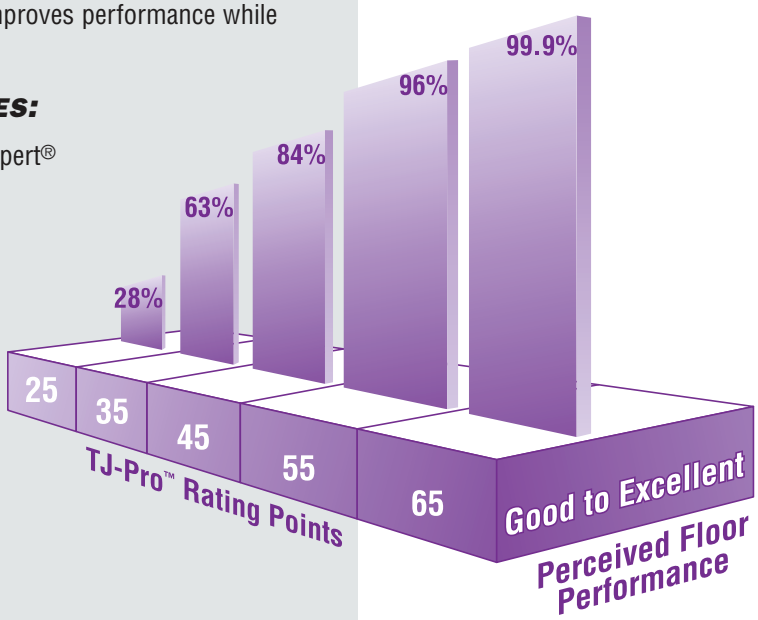
IT'S ABOUT CHOICE—

The TJ-Pro™ Rating System is a sophisticated computer model for predicting floor performance and evaluating the relationship between the cost and the "feel" of any given floor system. Its methodology is based on extensive laboratory research, more than one million installations, and the combined expertise of the best engineers in the field. TJ-Pro™ Rating goes beyond deflection criteria to consider job-specific needs and expectations. In many cases, TJ-Pro™ Rating 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 and 16% find it marginal to unacceptable.

TJ-PRO™ RATING SYSTEM ADVANTAGES:

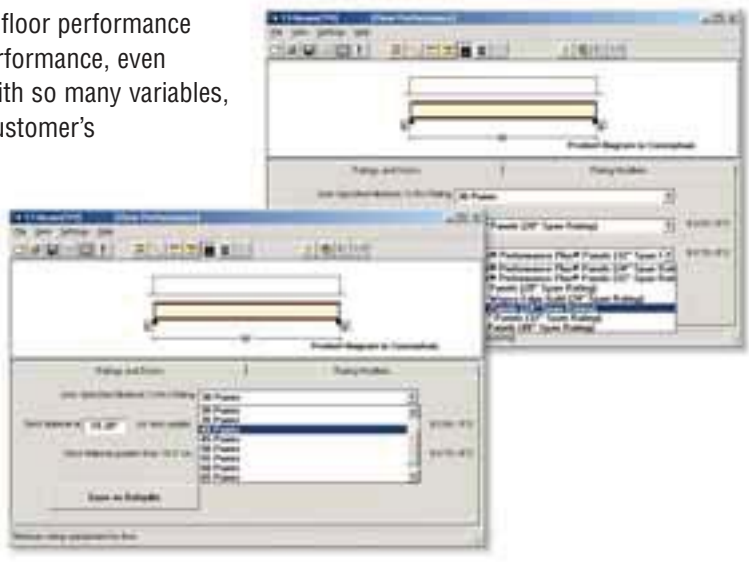
- Works as part of Trus Joist's TJ-Beam® and TJ-Xpert® software.
- Provides a new method for accurately predicting floor performance.
- Takes perceptions of the homeowner into account.
- Provides cost comparison.



DESIGN SMARTER—DON'T OVER-SPECIFY

The traditional way to specify a floor system is to use live load deflection criteria, but deflection only explains part of how a floor performs. Depending on factors unique to the structure and its use, the code minimum of L/360 (or even the more restrictive limits of L/480) may disappoint many customers.

The TJ-Pro™ Rating System is a much better predictor of floor performance because it considers the many factors that affect floor performance, even taking into account the perceptions of the homeowner. With so many variables, you can deliver an economical solution tailored to your customer's expectations.



Factors that affect floor performance:

- TJI® joist series, depth, and spacing
- Deck thickness and quality
- Directly applied ceilings
- Location of partitions on floor
- Blocking
- Bearing conditions for the TJI® joists

GET THE SUPPORT YOU NEED—

We're here to help you make the most of the TJ-Pro™ Rating System, whether it's help with setup, tips and tricks, or selecting the best rating for your project. Call your Trus Joist representative today.

The FrameWorks® Floor System
The premium floor system from Trus Joist

You'll like the way it builds. Your customers will love the way it feels.

Design your floors to suit each customer

With the TJ-Pro™ Rating System and Trus Joist's proprietary materials, we can accurately predict what it will take to build a floor that satisfies even your most demanding customer. And you'll get the right balance of cost and performance in every system.

Fewer callbacks and more referrals

Satisfied customers mean more referrals. And the FrameWorks® Floor System is the best way to make sure that there's less to complain about. It takes the guesswork out of how to build a floor that will make your customers happy.

Better tile and hardwood performance

Our unique panel provides increased stiffness, better fastener holding, and lower edge swell than commodity panels, so it's ideal for hardwood and ceramic tile applications.

Faster and easier installation

The TJ-Performance Plus® panels will save you time. The precise fastening template makes it easy to get it right the first time, and the self-gapping tongue and groove lets your crews slide the panels into place quickly.

Now you can build a strong and stable floor—without overbuilding.

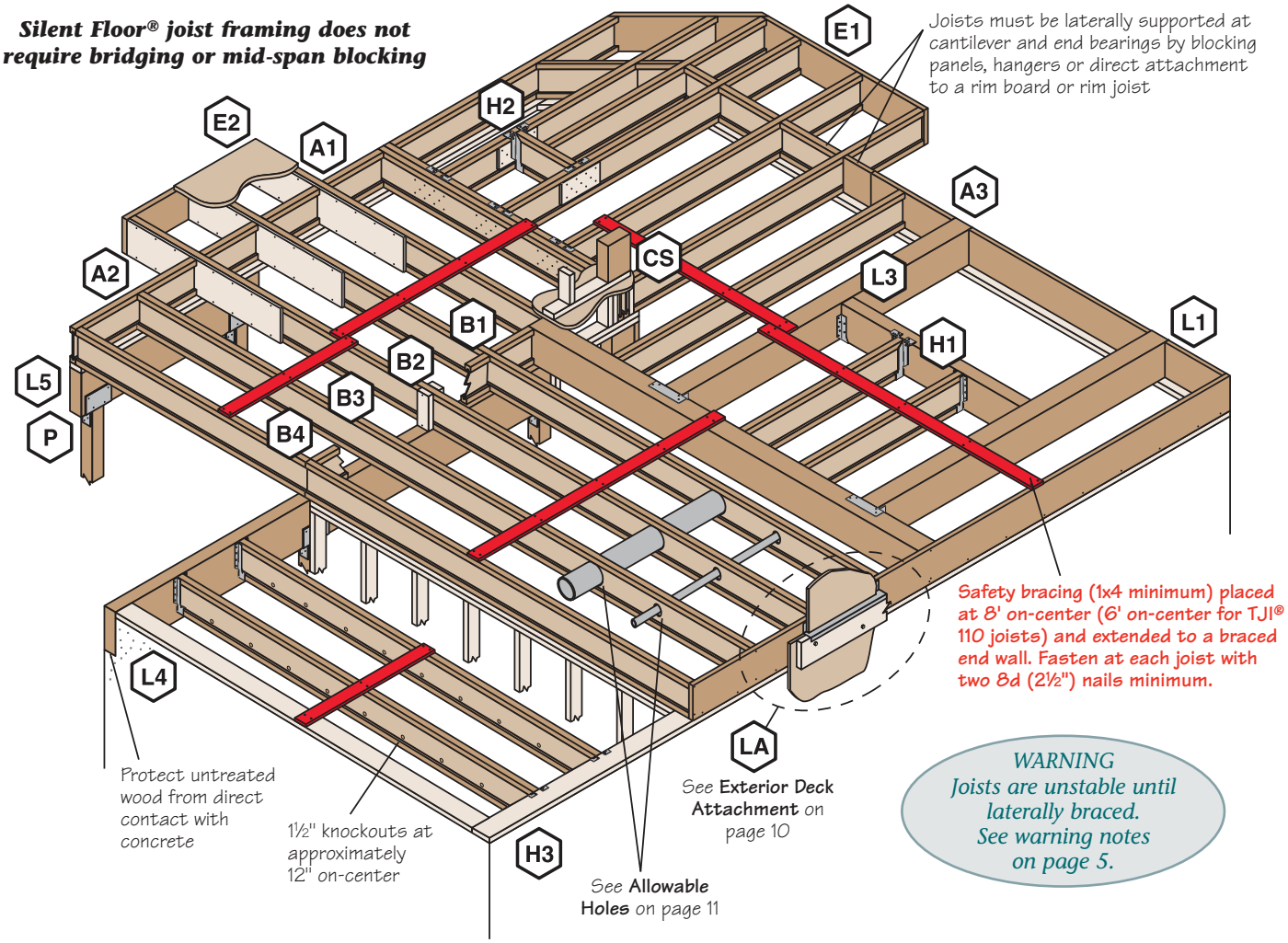
The performance of most commodity building products is unpredictable. But since we know the precise strength of every component in the FrameWorks® Floor System, we can comfortably build to your specifications while making sure that you don't use more material than you need.

Silent Floor® joists have very specific performance characteristics. TJ-Performance Plus® panels are made with a proprietary formula, meet precise thickness tolerances, and have a top-quality edge seal—making them more stable and consistent than other structural panels. Add rim board, beams, and columns made of TimberStrand® LSL, Parallam® PSL, and Microllam® LVL, as well as our helpful installation guidelines, and you get more control, more strength, and more reliability than you could with a package made up of typical framing materials.

So next time you're building someone's dream home, don't rely on guesswork. Bring your plans to any Trus Joist or Weyerhaeuser location and we'll show you how to make the most of both your framing material and the labor it takes to turn it into a home.

For projects that demand quality, performance, and customer satisfaction, upgrade to the FrameWorks® Floor System. Contact your Trus Joist representative or call 800-338-0515 for more information.

Silent Floor® joist framing does not require bridging or mid-span blocking



Joists must be laterally supported at cantilever and end bearings by blocking panels, hangers or direct attachment to a rim board or rim joist

Safety bracing (1x4 minimum) placed at 8' on-center (6' on-center for TJI® 110 joists) and extended to a braced end wall. Fasten at each joist with two 8d (2½") nails minimum.

WARNING
Joists are unstable until laterally braced. See warning notes on page 5.

Protect untreated wood from direct contact with concrete

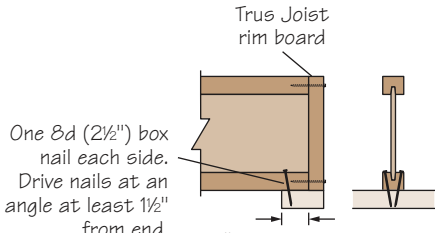
1½" knockouts at approximately 12" on-center

See **Exterior Deck Attachment** on page 10

See **Allowable Holes** on page 11

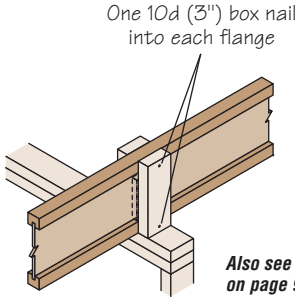
TJI® Joist Nailing Requirements at Bearing

TJI® Joist to Bearing Plate



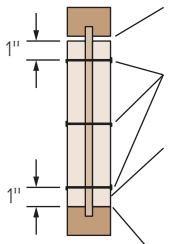
Shear transfer: Connections equivalent to floor panel nailing schedule

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



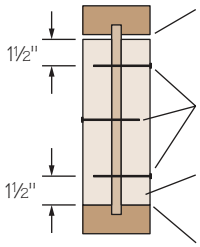
Also see detail B2 on page 9

Web Stiffener Attachment



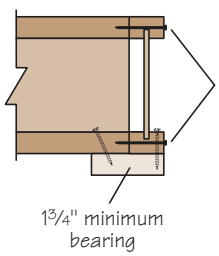
Gap:
⅛" minimum
2¾" maximum
Three 8d (2½") box nails, clinched
Web stiffener each side(1)
TJI® 110 joists:
⅝" x 2⁵⁄₁₆" minimum
TJI® 210 joists:
¾" x 2⁵⁄₁₆" minimum
TJI® 230 and 360 joists:
⅞" x 2⁵⁄₁₆" minimum
Tight

TJI® 560 joists only



Gap:
⅛" minimum
2¾" maximum
Three 16d (3½") box nails
2x4 web stiffener(2)
Tight

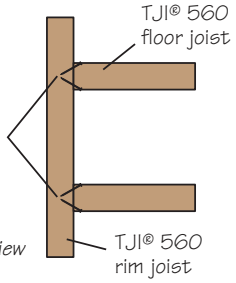
Rim to TJI® Joist



Trus Joist rim board or TJI® 110 rim joist:
One 10d (3") box nail into each flange

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

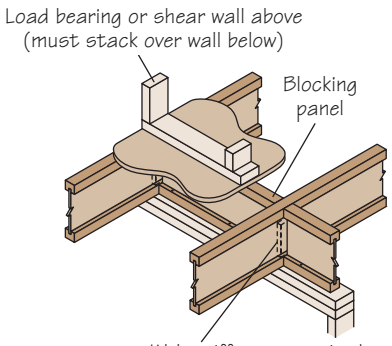
TJI® 560 rim joist:
Toenail with 10d (3") box nails, one each side of TJI® joist flange



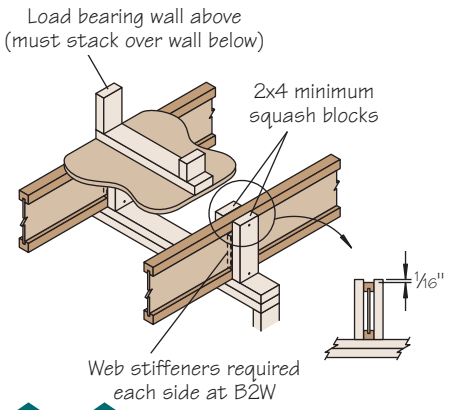
W

(1) Web stiffener material shall be PS1 or PS2 sheathing, face grain vertical

(2) Construction grade or better



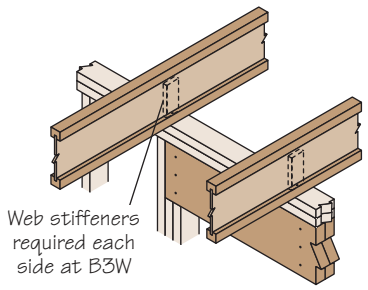
B1 B1W



B2 B2W

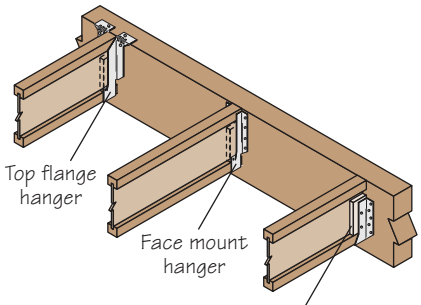
Blocking panels may be required with shear walls above or below—see detail B1

Intermediate Bearing – No Load Bearing Wall Above

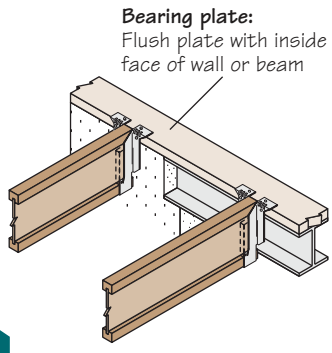


B3 B3W

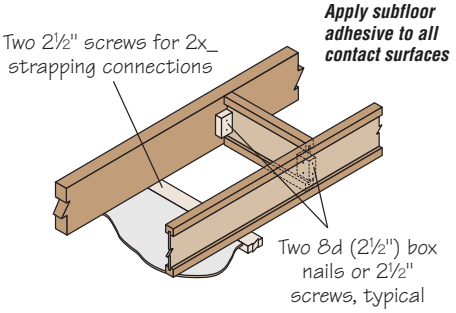
Blocking panels may be required with shear walls above or below—see detail B1



H1



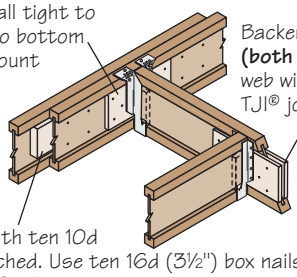
H3



PB1

Applications shown in this guide do not require blocking, strapping, or a directly applied ceiling; however, backspan bracing of cantilever applications is required when specified by software

Backer block: Install tight to top flange (tight to bottom flange with face mount hangers). Attach with ten 10d (3") box nails, clinched when possible.



Filler block: Nail with ten 10d (3") box nails, clinched. Use ten 16d (3½") box nails from each side with TJI® 560 joists.

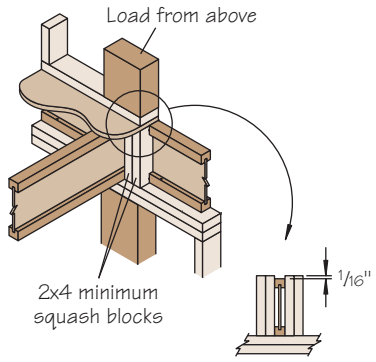
H2

With top flange 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* (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* (Detail F1 or H2)	⅝" or ¾"		¾" or ⅞"		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. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.*



CS

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

Fastening of Floor Panels to TJI® Joist Flanges and Trus Joist Rim Board

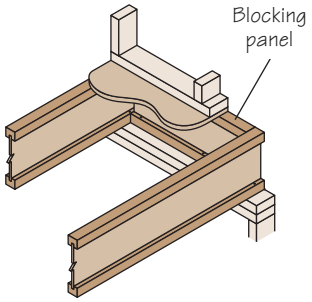
Nail Size	Closest On-Center Spacing per Row			
	TJI®		Trus Joist Rim Board	
	110 and 210	230, 360, and 560	1"	1¼"
8d (2½") box	2½"	2"	6"	4"
8d (2½") common	3½"	2"	6"	4"
10d (3"), 12d (3¼") box	3"	2"	6"	4"
10d (3"), 12d (3¼") common	4½"	3"	6"	4"
16d (3½") common	N.A.	4"	16"	6"(1)

(1) Can be reduced to 4" on-center with maximum nail penetration of 1⅜" into the narrow edge.

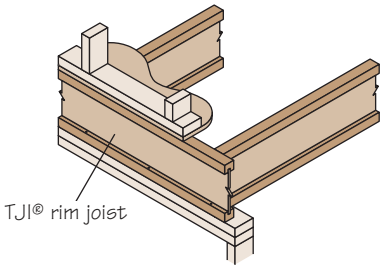
General Notes

- Maximum spacing of nails is 18" on-center for TJI® 110 joists, and 24" on-center for TJI® 210, 230, 360, and 560 joists.
- If more than one row of nails is used, the rows must be offset at least ½" and staggered.
- 14 ga. staples may be substituted for 8d (2½") nails if minimum penetration of 1" is achieved.
- Table also applies for the attachment of TJI® rim joists and blocking panels to the wall plate.

Also see nailing requirements on page 8

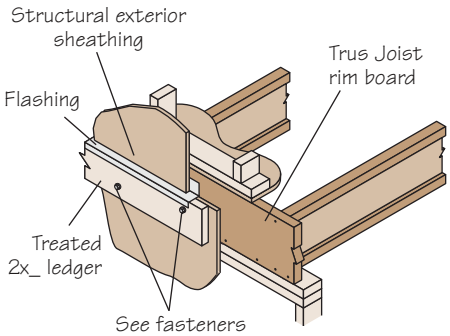


A1



A2

Exterior Deck Attachment



LA

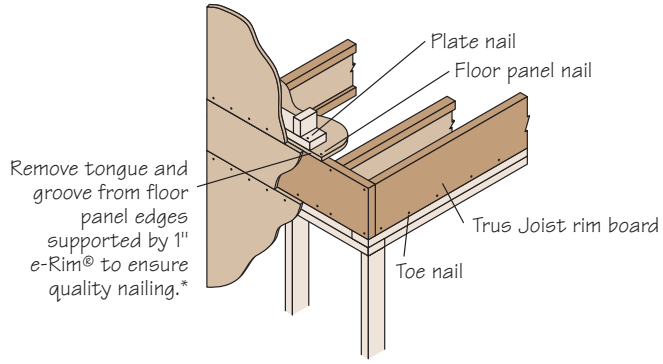
Fastener	Allowable Load (lbs)(1) 1¼" Rim Board	1" e-Rim®
⅜" lag bolt	400	N.A.
½" lag bolt	475	325

(1) Allowable load determined in accordance with AC 124.

• Corrosion-resistant fasteners required for wet-service applications.

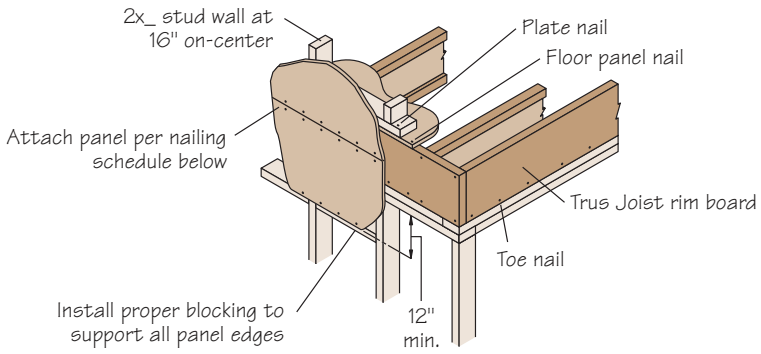
Rim board is often the critical structural link in the ability of a home to resist lateral wind loads. It also transfers vertical load around the TJI® joists.

Rim board detail A3 (shown below) satisfies conventional construction requirements. But if your project requires a designed solution, see our Trus Joist ***Rim Board Selection and Installation Guide for Lateral Wind Loads*** (Reorder 2109). This easy-to-use design guide for specifiers and code officials goes beyond conventional construction guidelines—which were based on the smaller, simpler homes of the past—and provides design information that considers today's larger, more complex homes.



A3 A3.1 A3.2 A3.3

According to ICBO Evaluation Services, Inc., it is necessary to trim the panel edges when using 1⅛" or thinner rim board.



A3.4

Rim Board Installation

Specifications	A3 Conventional Construction, Code Minimum	A3.1, A3.2, A3.3, A3.4 Designed Solution
Rim Board Thickness	1" or 1¼"	See the *Trus Joist Rim Board Selection and Installation Guide for Lateral Wind Loads* (Reorder 2109)
Plate Nail—16d (3½") box	16" o.c.	
Floor Panel Nail—8d (2½") common	6" o.c.	
Toe Nail—10d (3") box	6" o.c.	
Sill Plate Anchor Bolt	½" dia. at 6' o.c.	
Wall Sheathing	Per code	

Vertical Load Transfer at Bearing

Allowable Uniform Vertical Loads (PLF)	
TJI® rim joist or blocking	2,100
Trus Joist rim board or blocking	4,250

• Loads may not be increased for duration of load.

Also see nailing requirements on page 8

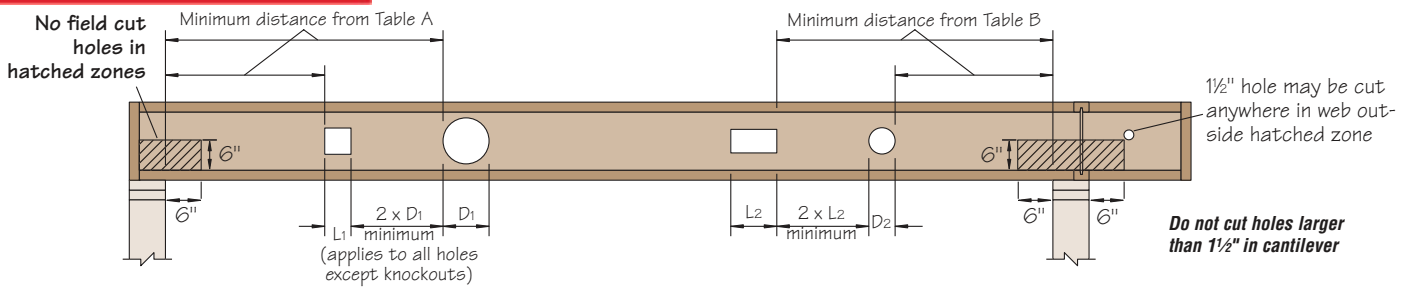


Table A—End Support

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"	2'-6"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-0"	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'-0"	1'-0"	2'-6"	2'-6"	5'-0"			1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	4'-6"	6'-0"		
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"			1'-0"	1'-0"	2'-0"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-0"	2'-0"	3'-0"	5'-6"	5'-6"	7'-0"		
	360	1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	5'-0"	7'-0"			1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	6'-6"	7'-6"		
	560	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	8'-0"			1'-0"	2'-0"	3'-6"	5'-0"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"		1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-0"	6'-0"		1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	6'-6"		1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-6"	8'-0"		1'-0"	1'-0"	1'-0"	2'-6"	5'-6"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	6'-0"	9'-0"		1'-0"	1'-0"	1'-6"	3'-6"	6'-6"	7'-0"	9'-0"	10'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	6'-6"	8'-0"	10'-6"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	6'-6"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	3'-6"	7'-0"	9'-0"	11'-0"
	360	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-0"	9'-0"	1'-0"	1'-0"	1'-0"	1'-0"	4'-0"	5'-0"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-6"	10'-0"	1'-0"	1'-0"	1'-0"	1'-6"	5'-0"	6'-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	1'-6"	2'-6"	3'-0"	4'-0"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					2'-0"	3'-0"	4'-0"	6'-0"	7'-0"				
	230	2'-6"	3'-0"	4'-0"	5'-0"	8'-0"					2'-6"	3'-0"	4'-6"	6'-6"	7'-6"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-0"	8'-0"			1'-0"	1'-6"	2'-6"	4'-0"	6'-6"	7'-0"	9'-0"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	7'-6"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	9'-6"			1'-0"	2'-6"	3'-6"	5'-0"	8'-0"	8'-6"	10'-0"		
	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'-0"		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'-0"	9'-0"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	12'-6"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	5'-6"	10'-0"		1'-0"	1'-0"	2'-6"	4'-0"	6'-0"	7'-6"	10'-6"	13'-0"	
	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'-0"	5'-6"	9'-6"	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	5'-6"	9'-6"	12'-6"	15'-6"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	4'-0"	6'-6"	10'-6"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	10'-6"	13'-0"	16'-0"
	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.

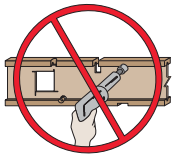
How to Use These Tables

1. Using **Table A (End Support), Table B (Intermediate or Cantilever Support)**, or both 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. Place the hole so that the required minimum distance from the end **and** the intermediate or cantilever support is maintained.

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 TJ-Beam® software or contact your Trus Joist representative.

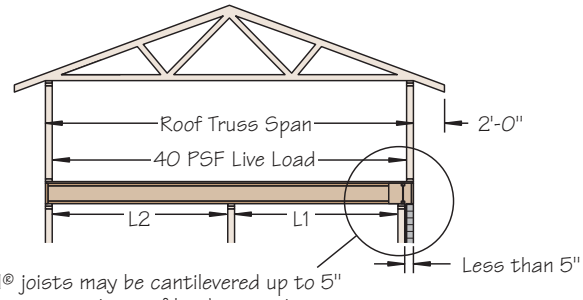
DO NOT
cut or notch flange.



DO NOT
cut holes in cantilever reinforcement.

Cantilevers less than 5" (Brick Ledge)

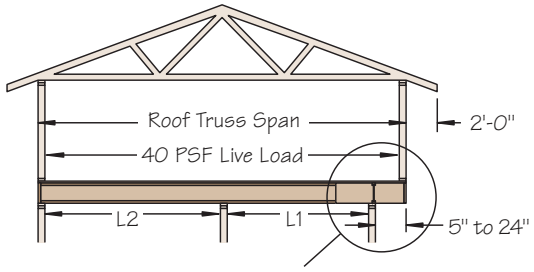
(See Section A of Cantilever Table on page 13)



TJI® joists may be cantilevered up to 5" when supporting roof load, assuming:
- simple or continuous span
- L1 ≤ L2
- minimum backspan = 2x cantilever length

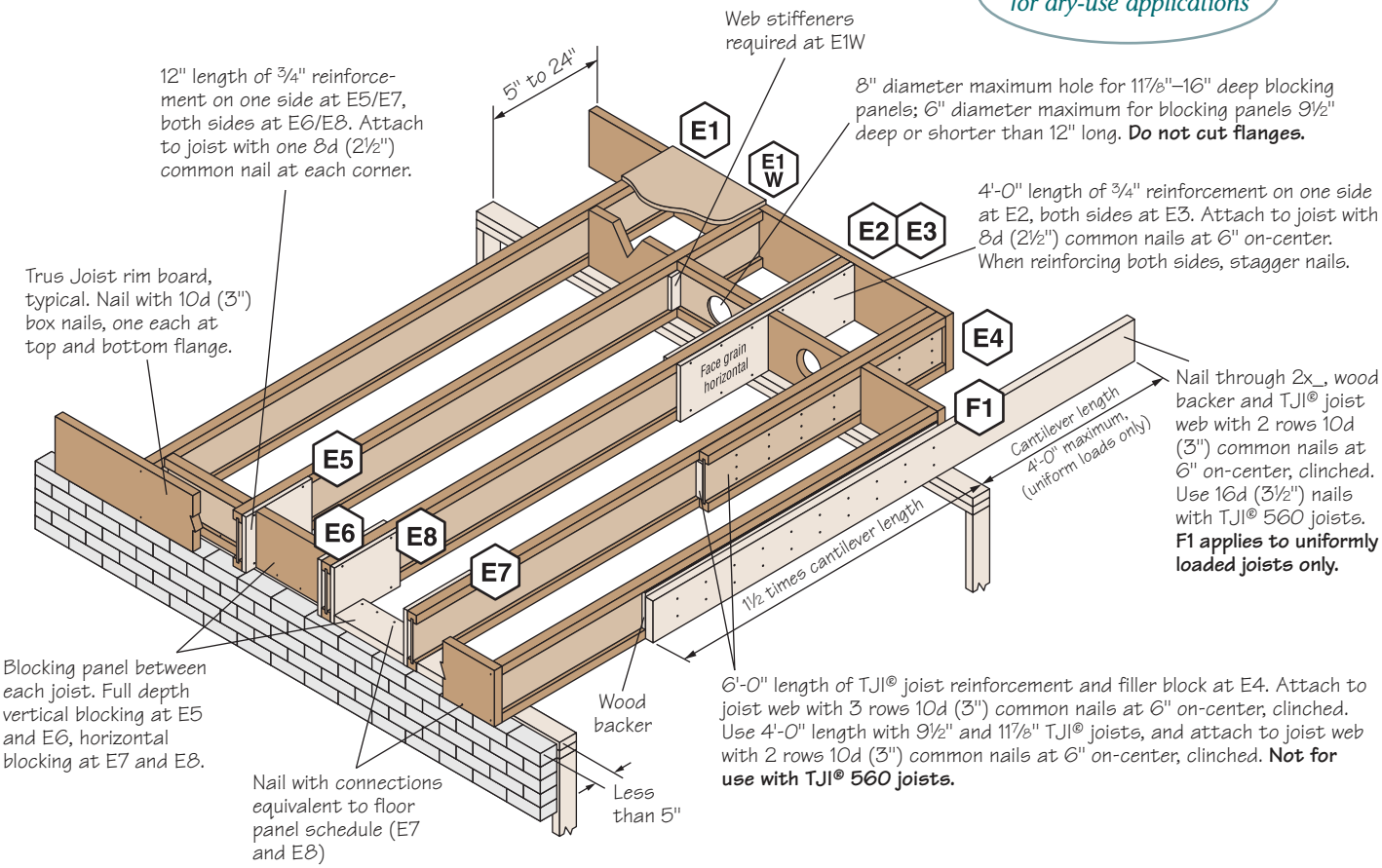
Cantilevers 5" to 24"

(See Section B of Cantilever Table on page 13)



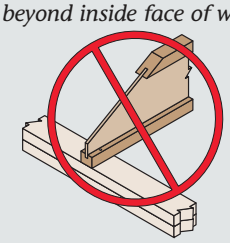
TJI® joists may be cantilevered 5" to 24" when supporting roof load, assuming:
- simple or continuous span
- L1 ≤ L2
- minimum backspan = 2x cantilever length

TJI® joists are intended for dry-use applications



These Conditions Are NOT Permitted

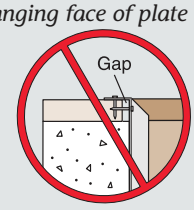
DO NOT *bevel cut joist beyond inside face of wall.*



DO NOT *use sawn lumber for rim board or blocking.*

Sawn lumber may shrink after installation.

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	E5		E5	E5						X			X
		22'			E5		E5	E5	E5	E5	E5						X		X	X
		24'		E5	E5	E5	E5	E5	E5	E5	E5						X		X	X
		26'		E5	E5	E5	E5	E5	E5	E5	E6			X		E2	X	E2	X	X
		28'		E5	X	E5	E5	X	E5	E5	X		E2	X	E2	X	X	X	X	X
		30'	E5	E5	X	E5	E5	X	E5	E5	X		E3	X	E3	X	X	X	X	X
		32'	E5	X	X	E5	X	X	E5	X	X	E2	X	X	X	X	X	X	X	X
9½" 11⅞" 14" 16"	210	20'			E5			E5		E5	E5									X
		22'			E5		E5	E5		E5	E5						E2			X
		24'			E5		E5	E5	E5	E5	E5						E2			X
		26'		E5	E5		E5	E5	E5	E5	E5						X		E2	X
		28'		E5	E5	E5	E5	E5	E5	E5	E6			E2		E2	X	E2	X	X
		30'		E5	E5	E5	E5	E5	E5	E5	E6			E3	E2	E3	X	E3	X	X
		32'	E5	E5	X	E5	E5	X	E5	E5	X		E2	X	E3	X	X	X	X	X
9½" 11⅞" 14" 16"	230	24'			E5		E5	E5	E5	E5	E5						E2			X
		26'		E5	E5		E5	E5	E5	E5	E5						E2		E2	X
		28'		E5	E5	E5	E5	E5	E5	E5	E5					E2	E3	E2	E3	X
		30'		E5	E5	E5	E5	E5	E5	E5	E5			E2		E2	X	E2	X	X
		32'	E5	E5	X	E5	E5	X	E5	E5	X		E2	E3	E2	E3	X	E3	X	X
		34'	E5	E5	X	E5	E5	X	E5	E5	X		E3	X	E3	X	X	X	X	X
11⅞" 14" 16"	360	28'			E5		E5	E5	E5	E5	E5									E2
		30'		E5	E5		E5	E5	E5	E5	E5						E1W			E2
		32'		E5	E5	E5	E5	E5	E5	E5	E5						E2			E2
		34'		E5	E5	E5	E5	E5	E5	E5	E6						E2		E1W	E3
		36'		E5	E5	E5	E5	E5	E5	E5	E6			E1W			E2		E2	E3
		38'	E5	E5	E5	E5	E5	E5	E5	E5	E6			E1W			E2		E2	E3
		40'	E5	E5	E5	E5	E5	E5	E5	E5	E6			E1W		E1W	E2		E2	E3
11⅞" 14" 16"	560	30'			E5		E5	E5		E5	E5									
		32'			E5		E5	E5	E5	E5	E5									
		34'			E5		E5	E5	E5	E5	E5									E2
		36'		E5	E5		E5	E5	E5	E5	E6									E2
		38'		E5	E5	E5	E5	E5	E5	E5	E6									E2
		40'		E5	E5	E5	E5	E5	E5	E5	E6						E1W			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 12:
   - 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 TJ-Beam® or TJ-Xpert® 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.
  - 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 TJ-Beam® or TJ-Xpert® software.

Fire-safe construction and life safety are major concerns for everyone in the building materials and construction industry. The 2003 statistics on residential fire in the U.S. alone include 3,145 fire fatalities and $6.1 billion in property damage. These numbers underscore the seriousness of the issue and the need for fire-safe construction.

Over the past 30 years, prefabricated wood I-joists have established a record of safe and reliable performance in millions of structures. Many of these structures, such as one- or two-family residential dwellings, do not require specific fire-endurance ratings per the building codes. The following information is intended to help you specify and install Trus Joist products with fire safety in mind.

Active Fire Suppression

Trus Joist supports the position that homeowners, firefighters, insurers, and the community at large benefit from the use of properly installed fire sprinkler systems. Automatic residential fire sprinkler systems have an excellent record of performance and offer the best available protection to occupants and their property. Today's modern systems are inconspicuous and efficient, and can be installed for less cost than the typical homeowner will spend to carpet their floors. This type of fire suppression system will:

- Provide early and unsupervised fire suppression
- Reduce smoke development
- Enhance life safety
- Reduce potential for significant property damage

Smoke Detectors

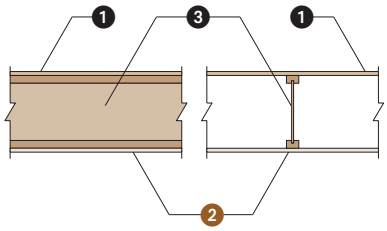
Smoke detectors are universally recognized as the most cost-effective life-saving devices. While smoke detectors do not provide protection to the structure or to the contents in a home, they do alert occupants to potential fire hazards and allow them time to escape.

Passive Fire Protection

Independent tests have proven that unprotected, lightweight framing systems—whether combustible or non-combustible—suffer serious and rapid structural degradation when exposed to heat and fire. All floor framing materials—sawn lumber, wood I-joists, trusses, and light gauge steel—succumb quickly to fire if not protected. In fire scenarios, a protective membrane such as gypsum ceiling board will provide additional protection to the structural framing members. Passive fire-suppression methods will:

- Delay fire growth
- Reduce potential for significant property damage
- Enhance the market value of the home

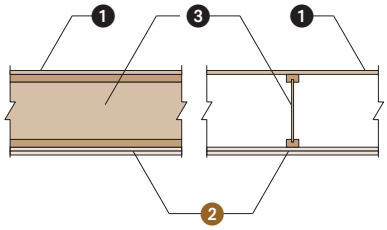
Suggested Minimum Membrane Construction



Trus Joist supports the idea that all floor/ceiling and roof/ceiling assemblies in habitable areas be protected by a minimum membrane protection consisting of ½" gypsum board (or equivalent)

1. 48/24 tongue-and-groove, span-rated floor panels (Exposure 1)
2. Single layer of ½" thick gypsum board
3. TJI® joists

One-Hour Rated Assembly



For more information on fire assemblies and fire-safe construction, please refer to Trus Joist's Fire Facts Guide (Reorder 5003) or visit www.trusjoist.com and www.i-joist.com

1. 48/24 tongue-and-groove, span-rated floor panels (Exposure 1)
2. Two layers of ½" thick Type X gypsum board
3. TJI® joists

Note:

- Resilient channels (not shown) may be installed between the joists and gypsum board if improved STC and IIC sound ratings are desired.
- Resilient channels are required when optional 3½" thick glass fiber batt insulation is being installed.

Reference: ICC ES ESR-1153

A specifier or builder who uses the Silent Floor® joist is making a significant effort to eliminate annoying floor squeaks. Here's why:

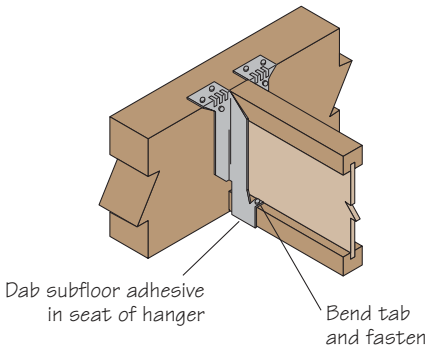
The most common cause of floor noise (squeaks) comes from using ordinary sawn lumber joists. Even when kiln-dried, these joists can warp, twist, and shrink, leaving gaps around nails between the joist and floor panel—causing a squeak with every step.

Silent Floor® joists are structurally uniform, dimensionally stable, and have a consistent moisture content. They resist shrinking and twisting, which means no gaps—and no squeaks.

Using Silent Floor® joists can ensure a quieter floor, but only if the system is properly installed. This is because other components—like hangers, connectors, nails, etc.—can also cause floor noise.

To help you get the best possible performance from your Silent Floor® joists, we recommend the following installation tips:

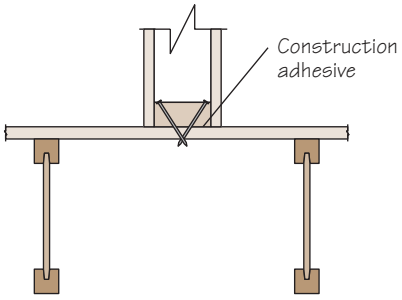
Properly seat each joist in hanger



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.

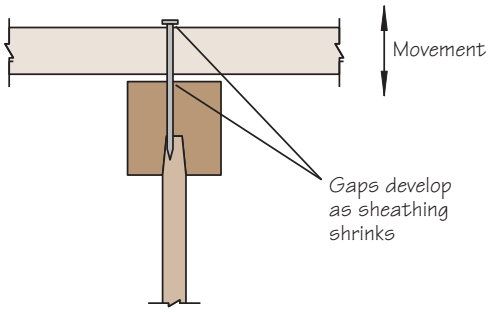
Placing a dab of subfloor adhesive in the seat of the hanger prior to installing the joist can reduce squeaks.

Use adhesive and special nailing when needed



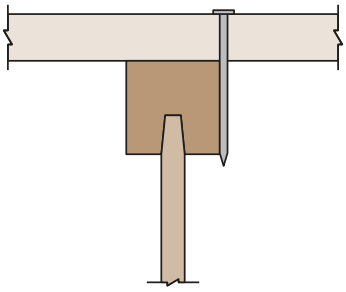
Nail interior partitions to the joists when possible. If the wall can only be nailed to the floor panel, run a bead of adhesive under the wall and either cross nail, nail through and clinch tight, or screw into the wall from below.

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.

For more information and tips on how to prevent floor noise, refer to *The Silent Floor® Field Guide for Prevention and Repair of Squeaks* (Reorder 2065).

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	19'-3"	17'-2"	18'-4"	16'-3"	18'-5"	16'-6"	17'-9"	15'-11"	16'-7"	15'- 0"	15'-6"	14'-3"
		210	20'-5"	18'-2"	19'-5"	17'-3"	19'-6"	17'-6"	18'-9"	16'-11"	17'-7"	15'-11"	16'-7"	15'-1"
		230	21'-0"	18'-9"	20'-0"	17'-9"	20'-2"	18'-0"	19'-4"	17'-5"	18'-1"	16'-4"	17'-1"	15'-6"
	11⅞"	110	23'-0"	20'-6"	21'-11"	19'-5"	22'-0"	19'-9"	20'-11"	19'-1"	19'- 0"	17'-11"	17'-6"	16'-11"
		210	24'-4"	21'-9"	23'-3"	20'-7"	23'-4"	20'-11"	22'-5"	20'-2"	20'-10"	19'- 0"	19'-2"	18'-0"
		230	25'-1"	22'-5"	23'-11"	21'-3"	24'-1"	21'-7"	23'-1"	20'-10"	21'-7"	19'-7"	20'-3"	18'-7"
		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	26'-3"	23'-5"	25'- 0"	22'-2"	24'-1"	22'-6"	22'-9"	21'-9"	20'-8"	19'-11"	19'-1"	18'-5"
		210	27'-9"	24'-9"	26'-5"	23'-5"	26'-5"	23'-9"	25'- 0"	22'-11"	22'-8"	21'-7"	20'-11"	20'-3"
		230	28'-7"	25'-6"	27'-2"	24'-2"	27'-4"	24'-6"	26'-4"	23'-8"	23'-11"	22'-3"	22'-0"	21'-1"
		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	30'-9"	27'-5"	29'-4"	26'- 0"	28'-3"	26'-5"	26'-9"	25'-6"	24'-3"	23'-4"	22'-4"	21'-8"
		230	31'-8"	28'-3"	30'-2"	26'-9"	29'-10"	27'-2"	28'-2"	26'-3"	25'-7"	24'-7"	23'-7"	22'-10"
		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'-1"	16'-1"	17'-3"	15'-3"	17'-4"	15'-6"	16'-8"	15'- 0"	15'-5"	14'-1"	14'-2"	13'-4"
		210	19'-2"	17'-1"	18'-3"	16'-2"	18'-4"	16'-5"	17'-8"	15'-10"	16'-6"	14'-11"	15'-7"	14'-2"
		230	19'-9"	17'-7"	18'-10"	16'-8"	18'-11"	16'-11"	18'-2"	16'-4"	17'- 0"	15'-4"	16'-1"	14'-7"
	11⅞"	110	21'-7"	19'-3"	20'-7"	18'-3"	20'-3"	18'-6"	19'-1"	17'-11"	17'-4"	16'-8"	16'- 0"	15'-5"
		210	22'-11"	20'-5"	21'-10"	19'-4"	21'-11"	19'-8"	20'-11"	18'-11"	19'-0"	17'-10"	17'-6"	16'-11"
		230	23'-7"	21'-1"	22'-6"	19'-11"	22'-7"	20'-3"	21'-8"	19'-6"	20'-0"	18'-4"	18'-5"	17'-5"
		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	24'-6"	22'- 0"	22'-9"	20'-10"	22'-0"	20'-11"	20'-9"	19'-10"	18'-10"	18'-2"	17'- 0"	16'-10"
		210	26'-0"	23'-3"	24'-10"	22'-0"	24'-2"	22'-4"	22'-10"	21'-7"	20'-8"	19'-11"	18'-10"	18'-5"
		230	26'-10"	23'-11"	25'-7"	22'-8"	25'-5"	23'-0"	24'-0"	22'-3"	21'-10"	20'-11"	20'-1"	19'-5"
		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	28'-8"	25'-9"	26'-9"	24'-5"	25'-10"	24'-6"	24'-5"	23'-4"	22'-1"	21'-4"	18'-10"	19'-8"
		230	29'-9"	26'-7"	28'-2"	25'-2"	27'-3"	25'-6"	25'-9"	24'-7"	23'-4"	22'-6"	21'-2"	20'-9"
		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	16'-9"	14'-11"	15'-11"	14'-2"	16'-0"	14'-4"	15'-2"	13'-10"	13'-9"	13'-0"	12'-8"	12'-3"
		210	17'-9"	15'-10"	16'-11"	15'- 0"	17'- 0"	15'-3"	16'-4"	14'-8"	15'-1"	13'-10"	13'-11"	13'-1"
		230	18'-3"	16'-4"	17'-5"	15'-5"	17'-6"	15'-8"	16'-10"	15'-2"	15'-8"	14'-3"	14'-8"	13'-6"
	11⅞"	110	20'-0"	17'-10"	18'-9"	16'-11"	18'-1"	17'-2"	17'-1"	16'-4"	15'-6"	14'-11"	13'-7"	13'-10"
		210	21'-2"	18'-11"	20'-2"	17'-11"	19'-10"	18'-2"	18'-9"	17'-7"	17'- 0"	16'-4"	15'-0"	15'-2"
		230	21'-10"	19'-6"	20'-10"	18'-5"	20'-11"	18'-9"	19'-9"	18'-1"	17'-11"	17'- 0"	16'-6"	16'- 0"
		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	21'-10"	20'-4"	20'-4"	19'-1"	19'-8"	18'-8"	18'-7"	17'-9"	16'-0"	16'-3"	13'-7"	14'-2"
		210	24'- 0"	21'-6"	22'-4"	20'-5"	21'-7"	20'-6"	20'-4"	19'-6"	17'-10"	17'-9"	15'-0"	15'-8"
		230	24'-10"	22'-2"	23'-7"	21'- 0"	22'-9"	21'-4"	21'-6"	20'-6"	19'-6"	18'-9"	16'-11"	16'-7"
		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	25'-8"	23'-11"	23'-11"	22'-4"	23'-1"	21'-11"	21'-9"	20'-10"	17'-10"	18'-3"	15'-0"	15'-8"
		230	27'-1"	24'-7"	25'-2"	23'-3"	24'-4"	23'-1"	23'- 0"	22'- 0"	20'-0"	19'-4"	16'-11"	16'-7"
		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"

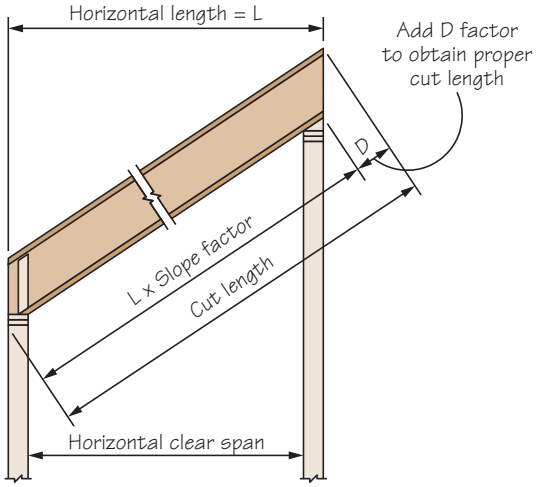
See page 17 for General Notes and information on how to use this table

How to Use Roof Span Table on page 16

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:
  - Uniform loads.
  - More restrictive of simple or continuous span.
  - Minimum roof surface slope of ¼" in 12".
  - 1¾" minimum end bearing and 3½" minimum intermediate bearing.
- Total load limits joist deflection to L/180.
- 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).
- Spans shown assume no web stiffeners at intermediate bearings.



Actual cut length can be approximated by multiplying the horizontal length by the slope factor and adding the D factor.

D Factors

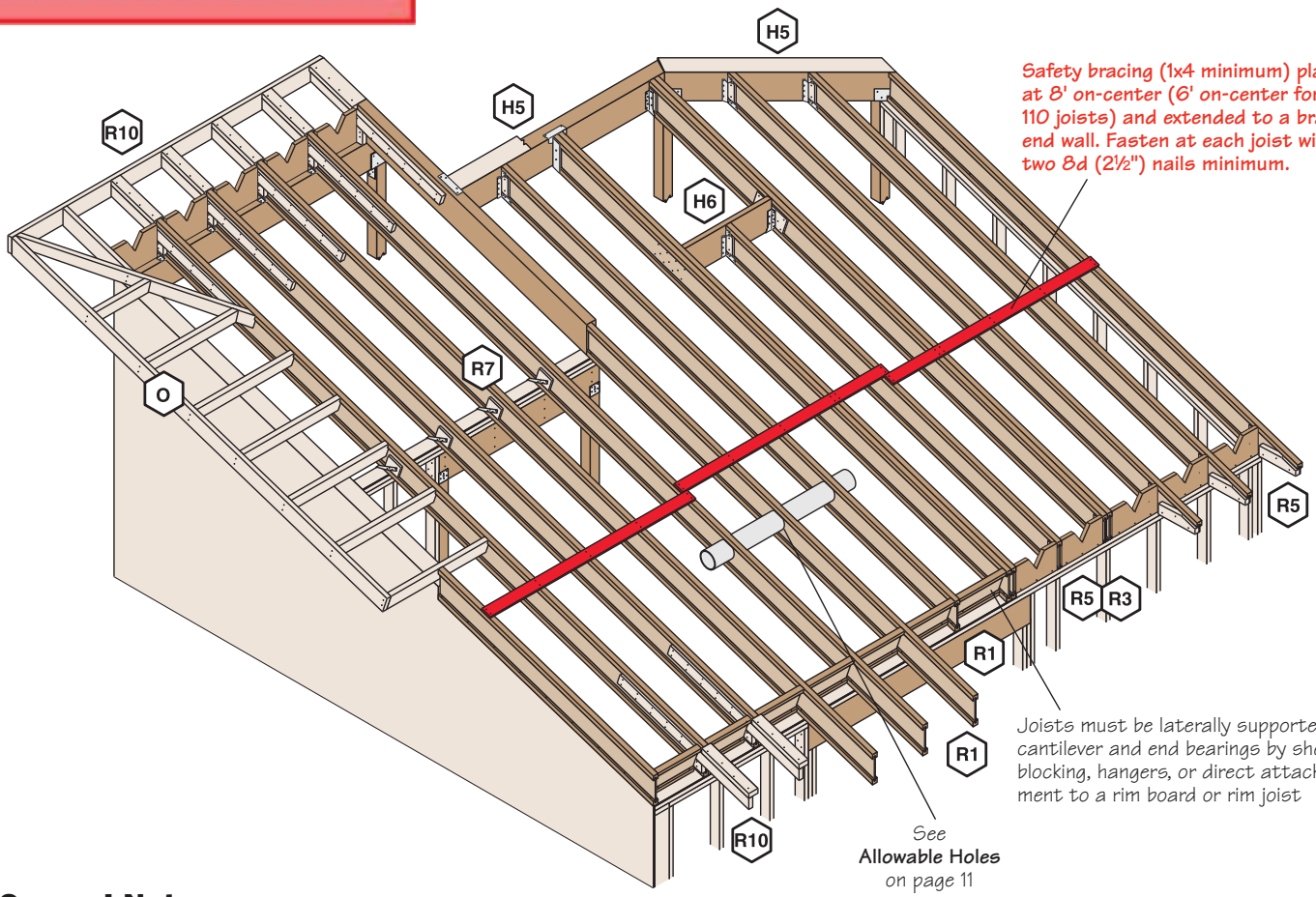
Depth	Slope												
	2½ in 12	3 in 12	3½ in 12	4 in 12	4½ in 12	5 in 12	6 in 12	7 in 12	8 in 12	9 in 12	10 in 12	11 in 12	12 in 12
9½"	2"	2⅜"	2⅞"	3¼"	3⅝"	4"	4¾"	5⅝"	6⅜"	7⅛"	8"	8¾"	9½"
11⅞"	2½"	3"	3½"	4"	4½"	5"	6"	7"	8"	9"	10"	11"	11⅞"
14"	3"	3½"	4⅛"	4¾"	5¼"	5⅞"	7"	8¼"	9⅜"	10½"	11¾"	12⅞"	14"
16"	3⅜"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

Slope Factors

Slope	2½ in 12	3 in 12	3½ in 12	4 in 12	4½ in 12	5 in 12	6 in 12	7 in 12	8 in 12	9 in 12	10 in 12	11 in 12	12 in 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

Legacy Literature
See Note on Front Cover

WARNING
Joists are unstable until laterally braced. See warning notes on page 5.



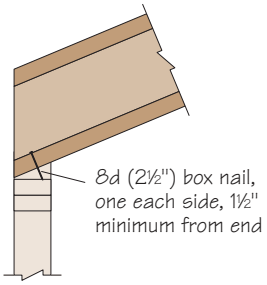
General Notes

- 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.

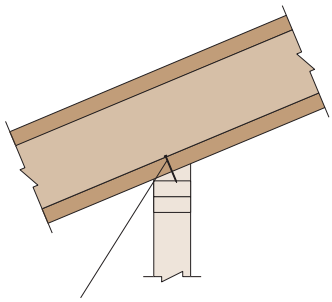
TJI® Joist Nailing Requirements at Bearing

TJI® Joist to Bearing Plate

End Bearing
(1¾" minimum bearing required)



Intermediate Bearing
(3½" minimum bearing required)

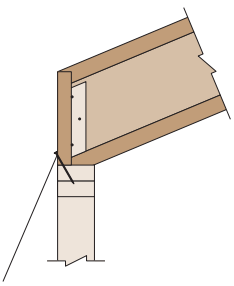


Slopes 3/12 or less:
One 8d (2½") box nail each side (see detail R7)

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

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

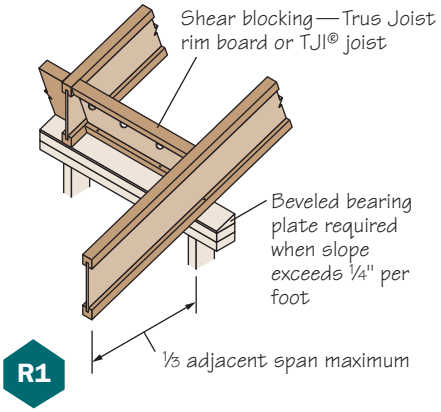
Blocking to Bearing Plate

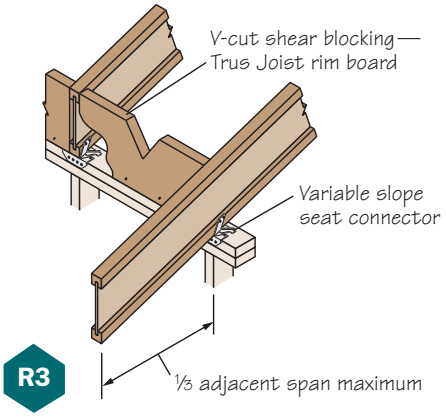


Trus Joist rim board:
Toenail with 10d (3") box nails at 6" on-center or 16d (3½") box nails at 12" on-center

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

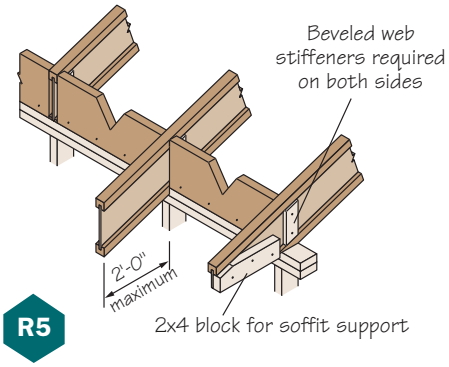
Shear transfer nailing:
Use connections equivalent to sheathing nail schedule





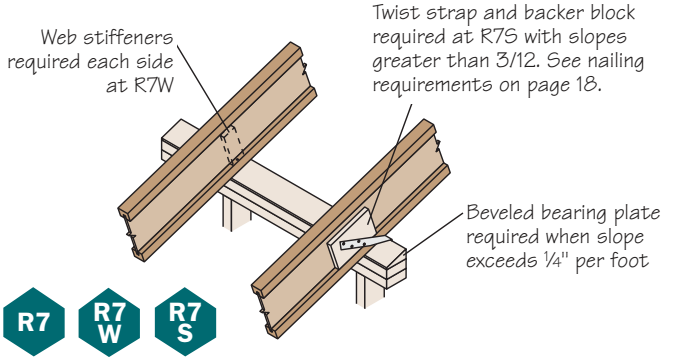
Birdsmouth Cut

Allowed at low end of joist only



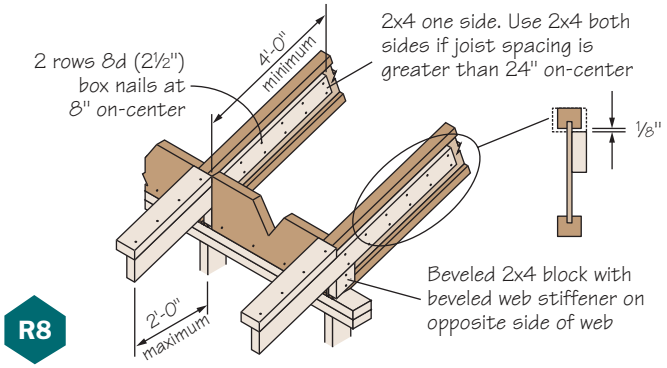
Intermediate Bearing

Blocking panels or shear blocking are optional for joist stability at intermediate supports



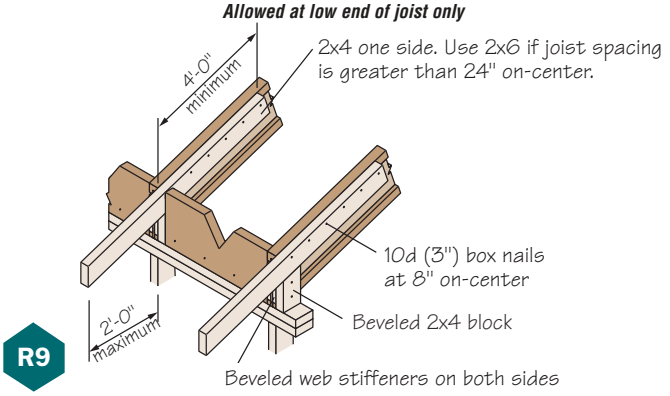
Birdsmouth Cut

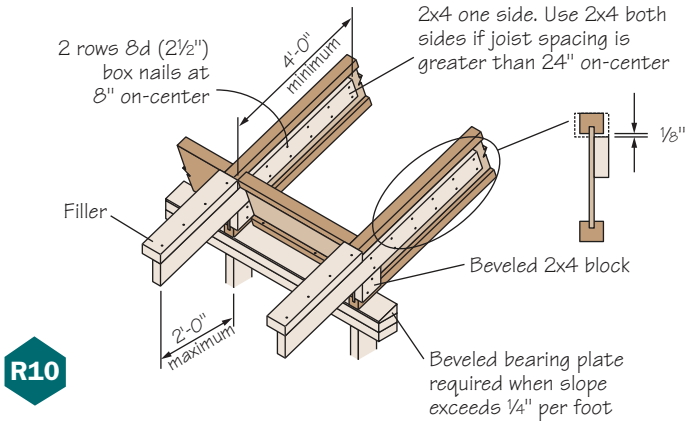
Allowed at low end of joist only



Birdsmouth Cut

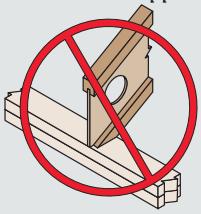
Allowed at low end of joist only





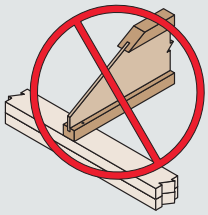
These Conditions Are NOT Permitted

DO NOT *cut holes too close to support.*

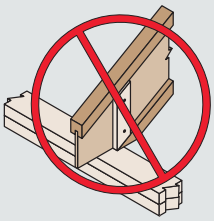


Refer to ***Allowable Holes*** *on page 11 for minimum distance from support.*

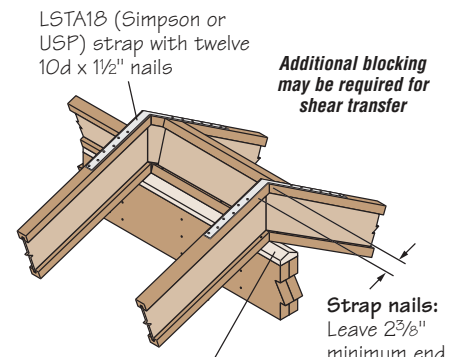
DO NOT *bevel cut joist beyond inside face of wall.*



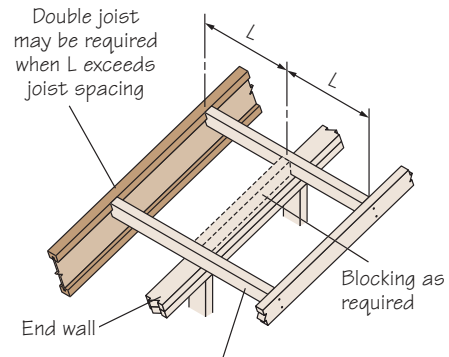
DO NOT *overhang birdsmouth cut from inside face of plate.*



TJI® joist flange must bear fully on the plate. See detail BC on page 20.



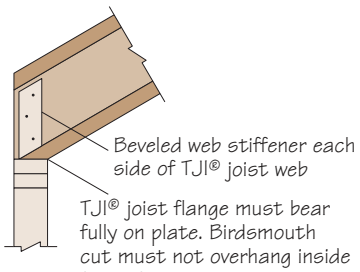
R14



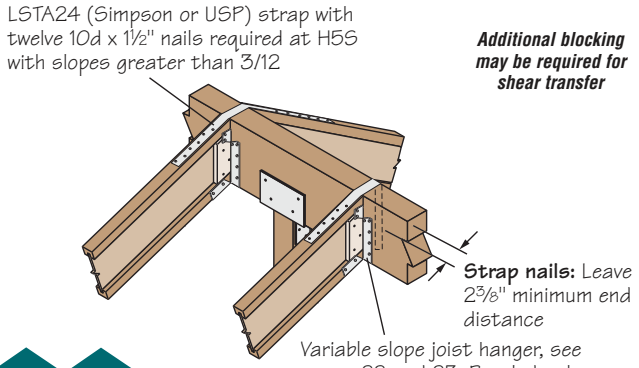
O

Birdsmouth Cut

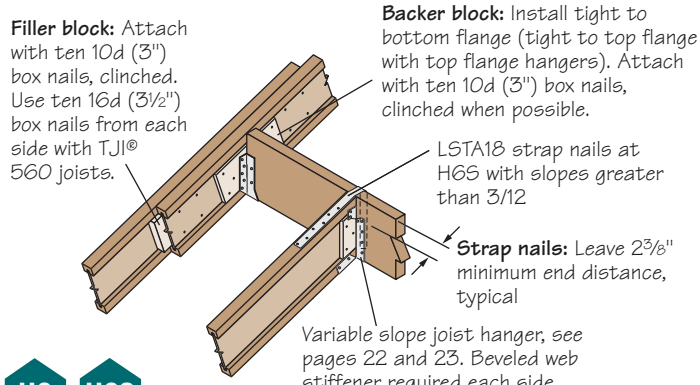
Allowed at low end of joist only



BC

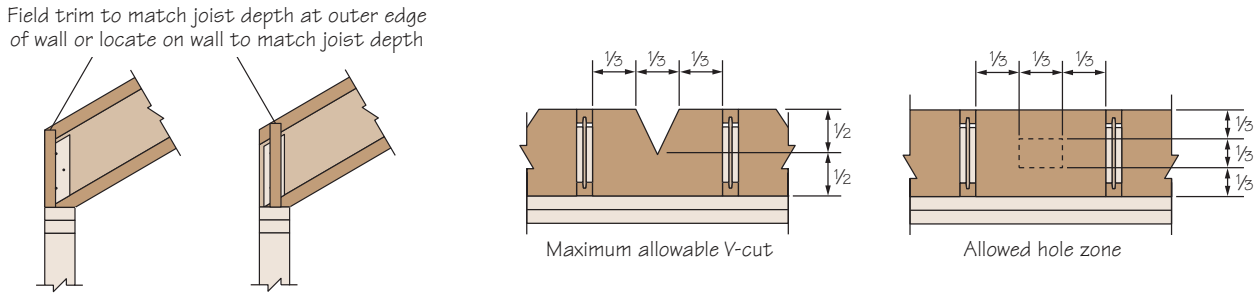


H5 H5S



H6 H6S

Shear Blocking and Ventilation Holes (Roof Only)



SB

For TJI® joists with slopes of 10/12 to 12/12, the vertical depth at bearing will require Trus Joist rim board (for shear blocking) that is one size deeper than the TJI® joist

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"		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. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.

See General Notes and nailing requirements on page 18

Roof—115% and 125% Load Duration (PLF)

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	155	109	118	101	83	91	69
	210	321	349	*	242	263	*	194	211	*	162	176	*	131	142	118	100	108	81
	230	360	392	*	272	295	*	218	237	*	182	198	196	145	158	128	112	118	88
11⅞"	110	289	314	*	218	237	*	175	190	*	146	159	*	125	136	*	106	115	*
	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	146
	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	*

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	77	77	58															
	230	84	84	63															
11⅞"	110	84	91	82															
	210	101	109	96	82	89	71												
	230	112	121	105	91	98	78	75	79	59									
	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	*	80	87	*												
	210	108	118	*	97	105	103	80	87	79									
	230	122	132	*	107	117	112	89	96	86	75	81	67						
	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	*	77	83	*						
	230	122	132	*	110	119	*	100	108	*	85	93	90		79	72			
	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 TOTAL LOAD value controls.*

Slope Factors

Slope	2½ in 12	3 in 12	3½ in 12	4 in 12	4½ in 12	5 in 12	6 in 12	7 in 12	8 in 12	9 in 12	10 in 12	11 in 12	12 in 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" per foot, 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. **Total Load** values are limited to deflection of L/180. For stiffer deflection criteria, use the **Live Load** L/240 values.

General Notes

- Tables are based on:
  - Uniform loads.
  - No composite action provided by sheathing.
  - More restrictive of simple or continuous span.
  - Minimum roof surface slope of ¼" in 12".
- **Total Load** limits joist deflection to L/180.

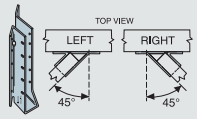
Single Joist—Top Flange

Depth	TJI®	Hanger	Capacity (lbs)	Nailing	
				Header	Joist
9½"	110	ITT9.5	935	10d	10d x 1½"
	210	ITT2.1/9.5	1,030	10d	10d x 1½"
	230	ITT359.5	1,075	10d	10d x 1½"
11⅞"	110	ITT11.88	950	10d	10d x 1½"
	210	ITT2.1/11.88	1,045	10d	10d x 1½"
	230	ITT3511.88	1,095	10d	10d x 1½"
	360	ITT3511.88	1,140	10d	10d x 1½"
	560	ITT411.88	1,300	10d	10d x 1½"
14"	110	ITT14	950	10d	10d x 1½"
	210	ITT2.1/14	1,045	10d	10d x 1½"
	230	ITT3514	1,095	10d	10d x 1½"
	360	ITT3514	1,140	10d	10d x 1½"
	560	ITT414	1,300	10d	10d x 1½"
16"	210	ITT2.1/16	1,045	10d	10d x 1½"
	230	MIT3516	1,215	10d	10d x 1½"
	360	MIT3516	1,260	10d	10d x 1½"
	560	MIT416	1,460	10d	10d x 1½"

Single Joist—Face Mount(1)

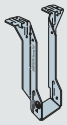
Hanger	Capacity (lbs)	Nailing	
		Header	Joist
IUS1.81/9.5	935	10d	N.A.
IUS2.06/9.5	935	10d	N.A.
IUS2.37/9.5	935	10d	N.A.
IUS1.81/11.88	950	10d	N.A.
IUS2.06/11.88	1,045	10d	N.A.
IUS2.37/11.88	1,095	10d	N.A.
IUS2.37/11.88	1,140	10d	N.A.
IUS3.56/11.88	1,330	10d	N.A.
IUS1.81/14	950	10d	N.A.
IUS2.06/14	1,045	10d	N.A.
IUS2.37/14	1,095	10d	N.A.
IUS2.37/14	1,140	10d	N.A.
IUS3.56/14	1,330	10d	N.A.
IUS2.06/16	1,045	10d	N.A.
IUS2.37/16	1,095	10d	N.A.
IUS2.37/16	1,140	10d	N.A.
IUS3.56/16	1,330	10d	N.A.

Face Mount Skewed 45° Joist Hanger(1)



Hanger	Capacity (lbs)	Nailing	
		Header	Joist
SUR/L1.81/9	1,125	16d	10d x 1½"
SUR/L2.1/9	1,230	16d	10d x 1½"
SURI/LI3510/12	1,225	16d	10d x 1½"
SUR/L1.81/11	1,215	16d	10d x 1½"
SUR/L2.1/11	1,305	16d	10d x 1½"
SURI/LI3510/12	1,310	16d	10d x 1½"
SURI/LI3510/12	1,355	16d	10d x 1½"
SUR/L410	1,495	16d	10d x 1½"
SUR/L1.81/11	1,215	16d	10d x 1½"
SUR/L2.1/11	1,305	16d	10d x 1½"
SURI/LI3514/20	1,310	16d	10d x 1½"
SURI/LI3514/20	1,355	16d	10d x 1½"
SUR/L414	1,460	16d	10d x 1½"
SUR/L2.1/11	1,045	16d	10d x 1½"
SURI/LI3514/20	1,310	16d	10d x 1½"
SURI/LI3514/20	1,355	16d	10d x 1½"
SUR/L414	1,460	16d	10d x 1½"

Double Joist—Top Flange

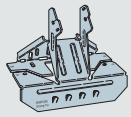


Depth	TJI®	Hanger	Capacity (lbs)	Nailing	
				Header	Joist
9½"	110	MIT49.5	2,000	16d	10d x 1½"
	210	MIT4.28/9.5	2,000	16d	10d x 1½"
	230	MIT359.5-2	2,000	16d	10d x 1½"
11⅞"	110	MIT411.88	2,000	16d	10d x 1½"
	210	MIT4.28/11.88	2,000	16d	10d x 1½"
	230	MIT3511.88-2	2,000	16d	10d x 1½"
	360	MIT3511.88-2	2,000	16d	10d x 1½"
	560	***WPI411.88-2***	2,925	16d	10d x 1½"
14"	110	MIT414	2,000	16d	10d x 1½"
	210	MIT4.28/14	2,000	16d	10d x 1½"
	230	MIT3514-2	2,000	16d	10d x 1½"
	360	MIT3514-2	2,000	16d	10d x 1½"
	560	***WPI414-2***	2,925	16d	10d x 1½"
16"	210	LBV4.28/16	2,035	16d	10d x 1½"
	230	LBV3516-2	2,035	16d	10d x 1½"
	360	LBV3516-2	2,035	16d	10d x 1½"
	560	***WPI416-2***	2,925	16d	10d x 1½"

Double Joist—Face Mount(1)

Hanger	Capacity (lbs)	Nailing	
		Header	Joist
MIU49	1,860	16d	10d x 1½"
MIU4.28/9	1,860	16d	10d x 1½"
MIU4.75/9	1,860	16d	10d x 1½"
MIU411	2,130	16d	10d x 1½"
MIU4.28/11	2,130	16d	10d x 1½"
MIU4.75/11	2,130	16d	10d x 1½"
MIU4.75/11	2,130	16d	10d x 1½"
HU412-2	2,145	16d	10d x 1½"
MIU414	2,170	16d	10d x 1½"
MIU4.28/14	2,350	16d	10d x 1½"
MIU4.75/14	2,395	16d	10d x 1½"
MIU4.75/14	2,395	16d	10d x 1½"
HU414-2	2,680	16d	10d x 1½"
MIU4.28/16	2,350	16d	10d x 1½"
MIU4.75/16	2,435	16d	10d x 1½"
MIU4.75/16	2,525	16d	10d x 1½"
HU414-2	2,680	16d	10d x 1½"

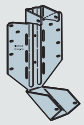
Variable Slope Seat Connector(2)



TJI®	Hanger	Capacity (lbs)	Nailing	
			Header	Joist
110	VPA25	1,050	10d	10d x 1½"
210	VPA2.1	1,230	10d	10d x 1½"
230	VPA35	1,230	10d	10d x 1½"
360	VPA35	1,230	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.

Variable Slope Seat Joist Hanger(1)(3)



TJI®	Hanger	Capacity (lbs)		Nailing	
		Sloped Only	Sloped and Skewed	Header	Joist
110	***LSSUI25***	1,110	995	10d	10d x 1½"
210	***LSSU2.1***	1,110	995	10d	10d x 1½"
230	***LSSUI35***	1,110	995	10d	10d x 1½"
360	***LSSUI35***	1,110	995	10d	10d x 1½"
560	***LSSU410***	1,725	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 Trus Joist representative for assistance.

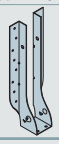
- Hanger capacities shown are either joist bearing capacity or hanger capacity—whichever is less. Joist end reaction must be checked to ensure it does not exceed the capacity shown in the tables.
- All capacities are for downward loads at 100% duration of load.
- Fill all round, dimple, and positive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

See additional notes on page 23

Single Joist—Top Flange

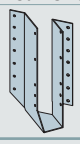
Depth	TJI®	Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
9½"	110	THO17950	935	10d	10d x 1½"
	210	THO20950	1,030	10d	10d x 1½"
	230	THO23950	1,140	10d	10d x 1½"
11⅞"	110	THO17118	950	10d	10d x 1½"
	210	THO20118	1,030	10d	10d x 1½"
	230	THO23118	1,185	10d	10d x 1½"
	360	THO23118	1,230	10d	10d x 1½"
	560	THO35118	1,430	10d	10d x 1½"
14"	110	THO17140	1,215	10d	10d x 1½"
	210	THO20140	1,080	10d	10d x 1½"
	230	THO23140	1,185	10d	10d x 1½"
	360	THO23140	1,230	10d	10d x 1½"
	560	THO35140	1,430	10d	10d x 1½"
16"	210	THO20160	1,080	10d	10d x 1½"
	230	THO23160	1,185	10d	10d x 1½"
	360	THO23160	1,230	10d	10d x 1½"
	560	THO35160	1,430	10d	10d x 1½"

Single Joist—Face Mount(1)



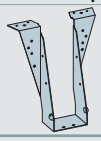
Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
THF17925	895	10d	10d x 1½"
THF20925	895	10d	10d x 1½"
THF23925	1,160	10d	10d x 1½"
THF17112	895	10d	10d x 1½"
THF20112	895	10d	10d x 1½"
THF23118	1,215	10d	10d x 1½"
THF23118	1,260	10d	10d x 1½"
THF17112-2	1,460	10d	10d
THF17140	950	10d	10d x 1½"
THF20140	1,045	10d	10d x 1½"
THF23140	1,215	10d	10d x 1½"
THF23140	1,260	10d	10d x 1½"
THF17140-2	1,460	10d	10d
THF20157	1,045	10d	10d x 1½"
THF23160	1,215	10d	10d x 1½"
THF23160	1,260	10d	10d x 1½"
THF17157-2	1,460	10d	10d

Face Mount Skewed 45° Joist Hanger(1)(4)



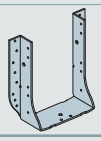
Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
SKH1720L/R	910	10d	10d x 1½"
SKH2020L/R	1,005	10d	10d x 1½"
SKH2320L/R	1,055	10d	10d x 1½"
SKH1720L/R	920	10d	10d x 1½"
SKH2020L/R	1,015	10d	10d x 1½"
SKH2320L/R	1,065	10d	10d x 1½"
SKH2320L/R	1,110	10d	10d x 1½"
SKH410L/R1	1,460	16d	16d
SKH1720L/R	920	10d	10d x 1½"
SKH2020L/R	1,015	10d	10d x 1½"
SKH2324L/R	1,065	10d	10d x 1½"
SKH2324L/R	1,110	10d	10d x 1½"
SKH414L/R1	1,460	16d	16d
SKH2024L/R	1,015	10d	10d x 1½"
SKH2324L/R	1,065	10d	10d x 1½"
SKH2324L/R	1,110	10d	10d x 1½"
SKH414L/R1	1,460	16d	16d

Double Joist—Top Flange



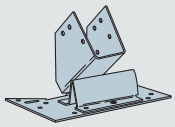
Depth	TJI®	Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
9½"	110	THO35950	2,010	10d	10d x 1½"
	210	***THO20950-2***	2,330	16d	10d
	230	***THO23950-2***	2,490	16d	10d
11⅞"	110	THO35118	2,050	10d	10d x 1½"
	210	***THO20118-2***	2,610	16d	10d
	230	***THO23118-2***	2,675	16d	10d
	360	***THO23118-2***	2,765	16d	10d
	560	***BPH71118***	3,185	16d	10d
14"	110	THO35140	2,100	10d	10d x 1½"
	210	***THO20140-2***	2,330	16d	10d
	230	***THO23140-2***	2,675	16d	10d
	360	***THO23140-2***	2,765	16d	10d
	560	***BPH7114***	3,185	16d	10d
16"	210	***THO20160-2***	2,330	16d	10d
	230	***THO23160-2***	2,675	16d	10d
	360	***THO23160-2***	2,765	16d	10d
	560	***BPH7116***	3,185	16d	10d

Double Joist—Face Mount(1)



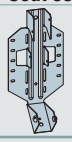
Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
THF17925-2	1,350	10d	10d
THF20925-2	1,350	10d	10d
THF23925-2	1,575	10d	10d
THF17112-2	1,575	10d	10d
THF20112-2	1,575	10d	10d
THF23118-2	1,800	10d	10d
THF23118-2	1,800	10d	10d
HD7120	2,175	16d	10d
THF17140-2	2,170	10d	10d
THF20140-2	2,250	10d	10d
THF23140-2	2,370	10d	10d
THF23140-2	2,370	10d	10d
HD7140	2,720	16d	10d
–	–	–	–
THF23160-2	2,430	10d	10d
THF23160-2	2,520	10d	10d
HD7160	2,925	16d	10d

Variable Slope Seat Connector(5)



TJI®	Hanger	Capacity (lbs)	Nailing Header	Nailing Joist
110	TMP175	1,150	10d	10d x 1½"
	TMPH175	1,945	10d	10d x 1½"
210	–	–	–	–
230	TMP23	1,785	10d	10d x 1½"
	TMPH23	1,945	10d	10d x 1½"
360	TMP23	1,785	10d	10d x 1½"
	TMPH23	1,945	10d	10d x 1½"
560	TMP4	1,970	10d	10d x 1½"
	TMPH4	1,945	10d	10d x 1½"

Variable Slope Seat Joist Hanger(1)(3)



TJI®	Hanger	Capacity (lbs) Sloped Only	Capacity (lbs) Sloped and Skewed	Nailing Header	Nailing Joist
110	***LSSH179***	1,120	1,120	10d	10d x 1½"
210	***LSSH20***	1,120	1,120	10d	10d x 1½"
230	***LSSH23***	1,120	1,120	10d	10d x 1½"
360	***LSSH23***	1,120	1,120	10d	10d x 1½"
560	***LSSH35***	1,595	1,595	16d	10d x 1½"

Support Requirements

- Support material assumed to be Trus Joist structural composite 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 ITT hangers).
- Minimum support width for face mount hangers with 10d and 16d nails is 1¾" and 2", 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.*

See General Notes on page 22

Service You Can Count On

Unparalleled Technical Support

Our goal is to help you build solid, durable, and comfortable homes by providing strong technical support to specifiers, dealers, and builders located throughout North America. With a staff of over 175 Trus Joist technical representatives, we are uniquely prepared to train our partners in providing comprehensive specification and installation. We enhance our training with cutting-edge automation tools; these products include:

TJ-Beam® software
produces single-member sizing options in floor and roof applications for TJI® joists, Microllam® LVL, TimberStrand® LSL and Parallam® PSL beams, headers, and columns.

TJ-Xpert® software
tracks vertical loads throughout the structure and develops sizing solutions, material lists, framing plans, and installation details.

TJ-YardMate™ software
produces inventory solutions and cut lists for each home package with the least amount of cutting and waste.

Our support doesn't stop there. Our skilled team of Trus Joist representatives—the industry's largest—isn't afraid to get involved and make things happen. If you call us with a problem that you believe may be caused by our products, our representative will contact you within one business day to evaluate the problem and help solve it—GUARANTEED.

Products You Can Trust

TJI® Joists

Rim Board, Headers, Beams, Columns, and Wall Framing

Beams and Columns

Headers and Beams

FOR MORE INFORMATION, CONTACT YOUR TRUS JOIST DEALER

Legacy Literature
See Note on Front Cover

Product Warranty

Trus Joist warrants that its products will be free from manufacturing errors or defects in workmanship and material. In addition, provided the product is correctly installed and used, the company warrants the adequacy of its design for the normal and expected life of the building.

Trus Joist
A Weyerhaeuser Business

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Kurt Liebich, President

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