**ALLOWABLE HOLES—TJI® JOISTS**

**TJI® 360 JOIST**

**TJI® 560 JOIST**

**TJI® 560D JOIST**

**WARNING: JOISTS ARE UNSTABLE UNTIL BRACED LATERALLY**

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

1. Properly install all blocking, hangers, rim board, sheathing, Rim Joist, and Strut Lines.
2. Establish a permanent deck (sheathing), fastened to the first 4 feet of joists at the end of the bay or braced end wall.
3. Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area and to each joist.
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 1/2" from true alignment.

**PLEASE READ CAREFULLY! IMPORTANT!**

La Seguridad Ante Todo

**Por Favor Lea Cuidadosamente**

- Las viguetas son inestables hasta que sean reforzadas lateralmente. Vea la guía de instalaciones antes de instalar las viguetas TJI®.
- No camine sobre las viguetas hasta que sean apuntaladas.
- No ponga materiales de construcción sobre las viguetas TJI® antes de instalar el tripley. Ponga materiales únicamente sobre vigos o muros.

La Seguridad Ante Todo

**AVERTISSEMENT**

Les solives non contreventées latéralement sont instables. Voir le guide d’installation avant la pose des solives TJI®.

- Ne pas circuler sur les solives TJI® avant qu’elles ne soient adéquatement contreventées. Risque de blessure.

**WOODBYWY.COM  1.888.453.8358**

Reorder TJ-9006  •  February 2015
**TJI® JOIST FLOOR FRAMING**

*TJI® joist floor framing does not require bridging or mid-span blocking*

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**TJI® JOIST NAILING REQUIREMENTS AT BEARING**

### TJI® Joist to Bearing Plate

- **For TJI® 360 and 560 joists, use one 8d (0.113" x 2½") nail each side. Drive nails at an angle at least 1½" from end.**
- **For TJI® 560D, use 10d (0.131" x 3") nails.**

**1¼" or 1½" TimberStrand® LSL rim board**

**1¼" minimum bearing at end support**

**3½" minimum intermediate bearing; 5¼" may be required for maximum capacity**

Shear transfer nailing: At minimum, use connections equivalent to floor panel nailing schedule

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### Rim to TJI® Joist

- **Rim board joint between joists**

**1 ¼" or 1½" TimberStrand® LSL rim board**

**Use B1 or B2 at intermediate bearings with load bearing or shear wall from above**

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### Squash Blocks to TJI® Joist

- **Load bearing wall above**

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See Fillers and Backer Blocks page 3

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WARNING

Joints are unstable until laterally braced. See Warning on cover.

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

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Structural sheathing

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

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End of joists at centerline of support

---

Protect untreated wood from direct contact with concrete

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**End of joists at centerline of support**

---

**1½" knockouts at approximately 12" on-center**

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Bearing plate to be flush with inside face of wall or beam

---

**Two 2½" screws for 2x_ strapping connections**

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Apply subfloor adhesive to all contact surfaces

---

When specified on the layout, one of the above bracing options is required

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Safety bracing (1x4 minimum) at 8' on-center and extended to a braced end wall. Fasten at each joist with two 8d (0.113" x 2½") nails minimum (see Warning on cover).
**WEB STIFFENERS**

**FILLER AND BACKER BLOCKS**

- **Hanger backer block:** Install tight to top flange (tight to bottom flange with face mount hangers). Attach per table at right.
- **Backer block both sides of web with single TJI® joist**

**RIM BOARD**

- **Plate nail**
- **Floor panel nail**
- **Rim board to TJI® joist**
- **1¼” or 1½” TimberStrand® LSL rim board**
- **Toe nail**
- **Rim board to TJI® joist**
- **Web stifener required on both sides at 3SW ONLY**

**FASTENING OF FLOOR PANELS**

**Web Stiffener Requirements**

<table>
<thead>
<tr>
<th>TJI®</th>
<th>Depth (in.)</th>
<th>Min. Web Stiffener Size</th>
<th>Nailing Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>All</td>
<td>1&quot; x 2½&quot; (3)</td>
<td>8d (0.113&quot; x 2½&quot;)</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>2x4(2)</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
<tr>
<td>560</td>
<td>18&quot;</td>
<td>2x4(2)</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
<tr>
<td>20&quot;</td>
<td></td>
<td>2x4(2)</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
<tr>
<td>22½&quot;</td>
<td></td>
<td>2x4(2)</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
<tr>
<td>24&quot;</td>
<td></td>
<td>2x4(2)</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th># of Nails</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filler</td>
<td>3</td>
</tr>
<tr>
<td>Backer</td>
<td>3</td>
</tr>
<tr>
<td>Filler</td>
<td>4</td>
</tr>
<tr>
<td>Backer</td>
<td>5</td>
</tr>
<tr>
<td>Filler</td>
<td>6</td>
</tr>
<tr>
<td>Backer</td>
<td>11</td>
</tr>
<tr>
<td>Filler</td>
<td>6</td>
</tr>
<tr>
<td>Backer</td>
<td>13</td>
</tr>
</tbody>
</table>

**Filler and Backer Block Sizes**

- **TJI® Depth Type**
- **Filler/Backer**
- **Nail Size**
- **Quantity**

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>18&quot;–20&quot;</td>
<td>15 one side</td>
</tr>
<tr>
<td>Filler</td>
<td>2x12 + ½&quot; sheathing</td>
<td>10d (0.128&quot; x 3&quot;)</td>
</tr>
<tr>
<td>Backer</td>
<td>½&quot; or 1&quot; net</td>
<td>10d (0.128&quot; x 3&quot;)</td>
</tr>
<tr>
<td>560, 560D</td>
<td>18&quot;–20&quot;</td>
<td>15 each side</td>
</tr>
<tr>
<td>Filler</td>
<td>Two 2x12</td>
<td>16d (0.135&quot; x 3½&quot;)</td>
</tr>
<tr>
<td>Backer</td>
<td>2x12</td>
<td>16d (0.128&quot; x 3&quot;)</td>
</tr>
<tr>
<td>560D</td>
<td>22&quot;–24&quot;</td>
<td>25 each side</td>
</tr>
<tr>
<td>Filler</td>
<td>Four ½&quot; x 15&quot; sheathing</td>
<td>10d (0.128&quot; x 3&quot;)</td>
</tr>
<tr>
<td>Backer</td>
<td>Two ¾&quot; x 15&quot; sheathing</td>
<td>10d (0.128&quot; x 3&quot;)</td>
</tr>
</tbody>
</table>

**Fastening Floor Panels to TJI® Joist Flanges and TimberStrand® LSL Rim Board**

<table>
<thead>
<tr>
<th>Nail Size</th>
<th>Closest On-Center Spacing per Row</th>
</tr>
</thead>
<tbody>
<tr>
<td>TJI® 360, 560 and 560D</td>
<td>TimberStrand® LSL Rim Board</td>
</tr>
<tr>
<td>8d (0.113&quot; x 2½&quot;)</td>
<td>3&quot;</td>
</tr>
<tr>
<td>10d (0.128&quot; x 3&quot;)</td>
<td>3&quot;</td>
</tr>
<tr>
<td>12d (0.148&quot; x 3½&quot;)</td>
<td>4½&quot;</td>
</tr>
<tr>
<td>16d (0.162&quot; x 3½&quot;)</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

- (1) Stagger nails when using 4" on-center spacing and maintain ½" 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 spacing shown 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) Can be reduced to 4" on-center if nail penetration into the narrow edge is no more than ⅛" to avoid splitting.

**Web stiffeners are always required for 22" and 24" TJI® 560D joists, AND when the following conditions occur:**

- At all birdsmouth cuts
- At all sloped hangers
- If the sides of the hanger do not extend to laterally support at least ¼ of the TJI® joist top flange
- When intermediate bearing lengths are less than 3¼" except where noted on framing plan

- Maximum spacing of nails is 24" on-center for TJI® joists.
- Nailing rows must be offset at least ¼" and staggered.
- 14 ga. staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" into the TJI® joist or rim board is achieved.
- Table also applies for the attachment of TJI® rim joists and blocking panels to the wall plate.
- 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.

**Javelin® Software Framing Plans**

- At A1, joists require full bearing width. At A2 and A3, joists require full bearing width minus rim board or rim joist thickness.
- Web stiffeners required on each side of joist at intermediate bearings. Refer to your Javelin® framing plan.
- Bearing requirements as shown on the Javelin® framing plan are job specific and supersede minimum bearing requirements listed.

- At minimum, attach TimberStrand® LSL rim board to bearing plate with connections equivalent to decking schedule.
- Maximum spacing of nails is 24" on-center for TJI® joists.
- Nailing rows must be offset at least ¼" and staggered.
- 14 ga. staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" into the TJI® joist or rim board is achieved.
- Table applies for the attachment of TJI® rim joists and blocking panels to the wall plate.
- 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.
At PB1, cantilever back span must be permanently braced with either direct-applied ceiling along entire length or permanent bracing at 1/3 points. See detail PB1 on page 2 for connections.

1 1/4" or 1 1/2" Timberstrand® LSL rim board, typical. Nail with 10d (0.131" x 3") nails, one each at top and bottom flange.

Blocking panel between each joist. At minimum, nail with connections equivalent to floor panel schedule.

Web stiffeners required both sides at E1W. 8" diameter maximum hole for 18"–24" deep blocking panels, 6" diameter maximum for blocking panels less than 12" long. Do not cut flanges.

1 1/4" or 1 1/2" Timberstrand® LSL rim board closure, typical.

Nail through 2x, cantilever, wood backer, and TJ® joist web with two rows 10d (0.148" x 3") nails at 6" on-center, clinched. Use 16d (0.135" x 3 1/2") nails with TJ® 560 and 560D joists. F1 applies to uniformly loaded joists only.

FRAMING CONNECTORS

Approved Hangers
- The following manufacturers are approved to supply hangers for Trus Joist® products:
  - Simpson Strong-Tie Co. Inc. 1-800-999-5099
  - USP Structural Connectors® 1-800-328-5934
- Hanger design loads differ by support type and may exceed the capacity of the support and/or supported member. Contact your Weyerhaeuser representative or refer to Weyerhaeuser software.

Nailing Requirements
- Fill all round, dimple, and positive angle holes with the proper nails. Hanger nails are usually a heavier gauge because of the higher loads they need to carry.
- Unless specified otherwise, full capacity of straps or connectors can only be achieved if the following nail penetration is provided:

<table>
<thead>
<tr>
<th></th>
<th>Face Mount</th>
<th>Top Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10d (0.148&quot; x 1 1/2&quot;)</td>
<td>1 1/4&quot; minimum</td>
<td>1 1/4&quot; minimum</td>
</tr>
<tr>
<td>10d (0.148&quot; x 3&quot;)</td>
<td>1 1/4&quot; minimum, clinched</td>
<td>3&quot; minimum</td>
</tr>
<tr>
<td>16d (0.162&quot; x 3 1/2&quot;)</td>
<td>1 1/4&quot; minimum, clinched</td>
<td>3 1/2&quot; minimum</td>
</tr>
</tbody>
</table>

- Top mount hangers should be fastened to TJ® joist headers with 10d (0.148" x 1 1/2") nails. Fasten face mount hangers to 3 1/2" or wider TJ® joist headers with 10d (0.148" x 3") or 16d (0.162" x 3 1/2") nails.

Connector Installation and Squeak Prevention Tips
- Nails must be completely set.
- Leave 1/4" clearance between the end of the supported joist and the header or hanger.
- Joist-to-beam connections require hangers; do not toenail.
- Seat the supported member tight to the bottom of the hanger. On Simpson Strong-Tie® VPA connectors, bend the bottom flange tabs over and nail to TJ® joist bottom flange.
- Reduce squeaks by adding subfloor adhesive to the hanger seat. See Weyerhaeuser's glue recommendation in General Notes under Fastening of Floor Panels table, page 3.
### Multiple-Member Connections for Top-Loaded Beams

Load must be applied evenly across entire beam width. Otherwise, use connections for side-loaded beams.

<table>
<thead>
<tr>
<th>Piece Width</th>
<th># of Plies</th>
<th>Orientations</th>
<th>Fastener Information</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1¾”</td>
<td>2</td>
<td>1 side</td>
<td>10d nails 3” 3(2)</td>
<td>One side</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12d–16d nails 3¼”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Screws 3¼” or 3½”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Both sides</td>
<td>10d nails 3” 3(2)</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12d–16d nails 3¼”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Screws 3¼” or 3½”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2 sides</td>
<td>10d nails(3) 3” 3(2)</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12d–16d nails(3) 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Screws 5” or 6”</td>
<td></td>
</tr>
<tr>
<td>3½”</td>
<td>2</td>
<td>2 sides</td>
<td>Screws 5” or 6”</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6¼”</td>
<td>One side</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>½” bolts 8” 2</td>
<td>One side</td>
</tr>
</tbody>
</table>

(1) 10d nails are 0.128” diameter; 12d–16d nails are 0.148”–0.162” diameter; screws are SDS, SDW, USP WS, or TrussLok-EWP™.
(2) An additional row of nails is required with depths of 14” or greater.
(3) When connecting 4-ply members, nail each ply to the other and offset nail rows by 2” from the rows in the ply below.

### ALLOWABLE HOLES—BEAMS, HEADERS, AND WALL STUDS

#### 1.55E TimberStrand® LSL Headers and Beams

- Allowed hole zone suitable for headers and beams with uniform and/or concentrated loads anywhere along the member.
- Round holes only.
- No holes in headers or beams in plank orientation.

#### Other Trus Joist® Beams

- All allowed hole zone suitable for headers and beams with uniform loads only.
- No holes in cantilevers.
- Round holes only.
- No holes in headers or beams in plank orientation.

#### TimberStrand® LSL Wall Studs

- One notch may be cut anywhere except the middle ⅛ of the length of the stud or column.
- Holes may be drilled along the length of the stud or column but must be at least ⅛” from the edge.

- Maximum diameter:
  - 1⅛” for 3½” thick walls
  - 1½” for 5⅛”–11¼” thick walls

- DO NOT cut, notch, or drill holes in headers or beams except as indicated in the illustrations and tables.

- Maximum notches:
  - ⅜” for 3½” thick walls
  - ⅝” for 5⅛”–11¼” thick walls

- DO NOT cut a notch and a hole in the same cross section.
Safety bracing (1x4 minimum) at 8’ on-center and extended to a braced end wall. Fasten at each joist with two 8d (0.113” x 2½”) nails minimum (see Warning on cover).

Maximum slope of 3:12.

Safety bracing (1x4 minimum) at 8’ on-center and extended to a braced end wall. Fasten at each joist with two 8d (0.113” x 2½”) nails minimum (see Warning on cover).

Maximum slope of 3:12.

WARNING
Joists are unstable until laterally braced. See Warning on cover.

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TJI® joists and other products shown are intended for dry-use applications

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TJI® joists and other products shown are intended for dry-use applications

TJI® JOIST NAILING REQUIREMENTS AT BEARING

**TJI® Joist to Bearing Plate**

- **End Bearing (1¼” minimum bearing required)**
  - One nail each side, 1⅛” minimum from end.
  - For TJI® 360 and 560 joists: Use 8d (0.113” x 2½”) nails
  - For TJI® 560D joists: Use 10d (0.131” x 3”) nails

- **Intermediate Bearing (3½” minimum bearing required)**
  - One nail each side.
  - For TJI® 360 and 560 joists: Use 8d (0.113” x 2½”) nails
  - For TJI® 560D joists: Use 10d (0.131” x 3”) nails

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

- **Blocking to Bearing Plate**
  - 1¼” or 1½” TimberStrand® LSL rim board: 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

**These Conditions Are NOT Permitted:**

- DO NOT cut holes too close to support. Refer to Allowable Holes on page 1 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.
- DO NOT overhang seat cuts on beams beyond inside face of support member.
ROOF FRAMING (Maximum slope: 3:12)

Beveled Plate Requirements

<table>
<thead>
<tr>
<th>Required Bearing Length</th>
<th>Maximum Slope Without Beveled Plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 3/4&quot;</td>
<td>3/12</td>
</tr>
<tr>
<td>3 1/2&quot;</td>
<td>4/12</td>
</tr>
<tr>
<td>5 1/2&quot;</td>
<td>4/12</td>
</tr>
</tbody>
</table>

Birdsmouth Cut

**Allowed at low end of joist only**

Beveled web stiffeners required on both sides. Cut to match roof slope.

Intermediate Bearing

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

Shear Blocking and Ventilation Holes

(Roof Only)

1 3/4" or 1 1/2" TimberStrand® LSL rim board for shear blocking (between joists). Field trim to match joist depth at outer edge of wall or locate on wall to match joist depth.
PRODUCT STORAGE

Protect products from sun and water.

CAUTION:
Wrap is slippery when wet or icy.
Align stickers (2x3 or larger) directly over support blocks.
Use support blocks (8x6 or larger) at 10’ on-centre to keep products out of mud and water.

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.

Store and handle TJI® joists in vertical orientation (wrapped)
Store and handle Parallam® PSL, Microllam® LVL, and TimberStrand® LSL in flat orientation (wrapped)

Our Guarantee

Have a damaged joist or beam?
File a damage report online for prompt service from your regional technical office. Scan the QR code with your smartphone or go to woodbywy.com/support.

Visit woodbywy.com/warranty for copies of this and other Trus Joist® Engineered Wood Product warranties.

For conditions not shown in this guide, or other assistance, contact your Weyerhaeuser representative or call 1.888.453.8358

CODE EVALUATIONS

<table>
<thead>
<tr>
<th>TJI® Joists</th>
<th>TimberStrand® LSL</th>
<th>Parallam® PSL</th>
<th>Microllam® LVL</th>
<th>TJ® Rim Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC ES ESR-1153</td>
<td>CCMC 13132-R (pending)</td>
<td>ICC ES ESR-1387</td>
<td>CCMC 12627-R</td>
<td>ICC ES ESR-1387</td>
</tr>
<tr>
<td>CCMC 12627-R</td>
<td>CCMC 11161-R</td>
<td>CCMC 08675-R</td>
<td>CCMC 13261-R</td>
<td></td>
</tr>
</tbody>
</table>

BUILD SAFELY

We at Weyerhaeuser are committed to working safely and want to remind you to do the same. We encourage you to follow the recommendations of OSHA (osha.gov) in the U.S. or provincial regulations (canosh.web.org/en) in Canada regarding:
- Personal protective equipment (PPE) for hands, feet, head, and eyes
- Fall protection
- Use of pneumatic nailers and other hand tools
- Forklift safety

Please adhere to the Weyerhaeuser product installation details, including the installation of safety bracing on unsheathed floors and roofs.

CONTACT US

1.888.453.8358 • woodbywy.com/contact

Trus Joist®
Weyerhaeuser

February 2015 • Reorder TJ-9006
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