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

Bracing Includes: Blocking, Hangers, Rim Board, Sheathing, Rim Joist, Strut Lines

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

1. Properly install all blocking, hangers, rim boards, and rim joists at TJI® joist end supports.
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 ½" from true alignment.

---

**IMPORTANT: PLEASE READ CAREFULLY!**

---

**WARNING: DO NOT** walk on joists until braced. INJURY MAY RESULT.

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

---

**WARNING: DO NOT** walk on joists that are lying flat.

---

**This guide is intended for the products shown in dry-use conditions.**
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 (www.osha.gov) in the U.S. or provincial regulations (www.canoshweb.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.
**Table A—End Support**
Minimum distance from edge of hole to inside face of nearest end support

<table>
<thead>
<tr>
<th>Joist Depth</th>
<th>TJI®</th>
<th>Round Hole Size</th>
<th>Square or Rectangular Hole Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2&quot; 3&quot; 4&quot; 6½&quot; 8¼&quot; 11&quot; 13&quot;</td>
<td>2&quot; 3&quot; 4&quot; 6½&quot; 8¼&quot; 11&quot; 13&quot;</td>
</tr>
<tr>
<td>9½&quot;</td>
<td>110</td>
<td>1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 3'-6&quot; 7'-0&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>11½&quot;</td>
<td>110</td>
<td>1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 3'-6&quot; 7'-0&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>110</td>
<td>1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 3'-6&quot; 7'-0&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>110</td>
<td>1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 1'-0&quot; 3'-6&quot; 7'-0&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
</tbody>
</table>

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**

**Table B—Intermediate or Cantilever Support**
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

<table>
<thead>
<tr>
<th>Joist Depth</th>
<th>TJI®</th>
<th>Round Hole Size</th>
<th>Square or Rectangular Hole Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2&quot; 3&quot; 4&quot; 6½&quot; 8¼&quot; 11&quot; 13&quot;</td>
<td>2&quot; 3&quot; 4&quot; 6½&quot; 8¼&quot; 11&quot; 13&quot;</td>
</tr>
<tr>
<td>9½&quot;</td>
<td>110</td>
<td>2'-0&quot; 2'-0&quot; 2'-0&quot; 3'-6&quot; 7'-6&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>11½&quot;</td>
<td>110</td>
<td>2'-0&quot; 2'-0&quot; 2'-0&quot; 3'-6&quot; 7'-6&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>110</td>
<td>2'-0&quot; 2'-0&quot; 2'-0&quot; 3'-6&quot; 7'-6&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>110</td>
<td>2'-0&quot; 2'-0&quot; 2'-0&quot; 3'-6&quot; 7'-6&quot;</td>
<td>1'-6&quot; 2'-6&quot; 3'-6&quot; 5'-6&quot;</td>
</tr>
</tbody>
</table>

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**
ALLOWABLE HOLES—BEAMS and STUDS

1.55E TimberStrand® LSL Headers and Beams

2 x diameter of the largest hole (minimum)

- 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® Headers and Beams

1.3E TimberStrand® LSL hole zone

- 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.

General Notes

- See illustration for allowed hole zone.

TimberStrand® LSL Wall Studs

- One notch may be cut anywhere except the middle 1/3 of the length of the stud or column.
- Holes may be drilled anywhere along the length of the stud or column but must be at least 5/8" from the edge.

Maximum diameter: 1⅛" for 3½" thick walls (1⅛" in Canada); 2⅛" for 5½"–11⅝" thick walls (1⅜" in Canada)

Maximum notch: ⅛" for 3½" thick walls 1⅛" for 5½"–11⅝" thick walls

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

1.55E TimberStrand® LSL

<table>
<thead>
<tr>
<th>Header or Beam Depth</th>
<th>Maximum Round Hole Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>9½&quot;–9¾&quot;</td>
<td>3&quot;</td>
</tr>
<tr>
<td>11¼&quot;–11¾&quot;</td>
<td>3½&quot;</td>
</tr>
<tr>
<td>14&quot;–16&quot;</td>
<td>4½&quot;</td>
</tr>
</tbody>
</table>

- See illustration for allowed hole zone.

Other Trus Joist® Beams

- Round holes only.
- No holes in headers or beams in plank orientation.

- Allowed hole zone suitable for headers and beams with uniform and/or concentrated loads anywhere along the member.

- See illustration for allowed hole zone.

- No holes in headers or beams in plank orientation.
**TJI® JOIST NAILING REQUIREMENTS AT BEARING**

### TJI® Joist to Bearing Plate

1 1/8" TJI® Rim Board or 1 1/4" TimberStrand® LSL

- One 8d (0.113" x 2 1/2") nail each side. Drive nails at an angle at least 1 1/2" from end.

- 1 3/4" minimum end bearing for single-family applications

- 3 1/2" minimum intermediate bearing; 5 1/4" may be required for maximum capacity

---

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

- One 10d (0.128" x 3") nail into each flange

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### Rim to TJI® Joist

1 1/8" TJI® Rim Board, 1 1/4" TimberStrand® LSL,

- or TJI® 110 rim joist:

  - One 10d (0.131" x 3") nail into each flange

TJI® 210, 230, and 360 rim joist:

- One 16d (0.135" x 3 1/2") nail into each flange

---

**INSTALLATION RECOMMENDATIONS**

### RECOMMENDED COMPONENTS

- Weyerhaeuser Edge Gold™ floor panels
- TJI® joists
- 1 1/8" TJI® Rim Board or 1 1/4" TimberStrand® LSL

---

### RECOMMENDED ADHESIVES

- 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.

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**Top View**

TJI® 560 rim joist

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**RECOMMENDED ADHESIVES**

- For 3/4" panels, use 8d (0.131" x 2 1/2") or 6d (0.120" x 2") deformed-shank nails or other code-approved fasteners.
- For 7/8" panels, use 8d (0.131" x 2 1/2") or 8d (0.120" x 2 1/2") deformed-shank nails or other code-approved fasteners.
- Fully nail floor panel within 10 minutes of applying adhesive (or sooner if required by adhesive manufacturer).
- Screws may be substituted for the nails noted above if the screws have equivalent lateral load capacity.

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**Shear transfer nailing: Use connections equivalent to floor panel nailing schedule. See page 4.**

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**Also see detail B2, page 5**
TJI® JOIST FLOOR FRAMING

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

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

INSTALLATION TIPS

- Subfloor adhesive will improve floor performance, but may not be required.
- Squash blocks and blocking panels carry stacked vertical loads (details B1 and B2). Packing out the web of a TJI® joist (with web stiffeners) is not a substitute for squash blocks or blocking panels.
- When joists are doubled at non-load bearing parallel partitions, space joists apart the width of the wall for plumbing or HVAC.
- Additional joist at plumbing drop (see detail above).

- Use B1 or B2 at intermediate bearings with load bearing or shear wall from above.
- Rim board joint between joists
- Safety bracing (1x4 minimum) 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 (0.113" x 2½") nails minimum (see Warning on cover).

NOTE: See Filler and Backer Blocks on page 5

Subfloor adhesive will improve floor performance, but may not be required.

Squash blocks and blocking panels carry stacked vertical loads (details B1 and B2). Packing out the web of a TJI® joist (with web stiffeners) is not a substitute for squash blocks or blocking panels.

When joists are doubled at non-load bearing parallel partitions, space joists apart the width of the wall for plumbing or HVAC.

Additional joist at plumbing drop (see detail above).
### END BEARINGS
- A1 with blocking panels
- A2 with TJ® rim joist
- A3 with rim board

### INTERMEDIATE BEARINGS* (see page 5)
- B1 with blocking panels to support load bearing wall above
- B2 with squash blocks to support load bearing wall above
- B3 without blocking panels or squash blocks (no wall above)

### CANTILEVER DETAILS (see page 5)
- E1 no reinforcement
- E2 ¼" reinforcement on one side

### CANTILEVERS LESS THAN 5" (see page 5)
- E3 ¼" reinforcement on both sides, joist reinforcement
- E4 deck cantilever
- E5 ¼" reinforcement on one side, with vertical blocking
- E6 ¼" reinforcement on both sides, with vertical blocking
- E7 ¼" reinforcement on one side, with horizontal blocking
- E8 ¼" reinforcement on both sides, with horizontal blocking

### HANGER DETAILS
- (more connector information on page 8)
- H1 TJ® joist to beam (see page 8)
- H2 TJ® joist to joist (see page 5)
- H3 TJ® joist on masonry wall or steel beam (see page 8)

### OTHER DETAILS
- B4 butting joists with blocking panels (see above)
- C5 column support (see page 4)
- L6 exterior deck attachment (see page 4)
- W8 web stiffeners (see page 6)
- P9 beam details (see page 9)
- L10 column details (see page 9)

### JAVELIN® SOFTWARE FRAMING PLANS
- Web stiffeners required on each side of joist at bearing. Refer to your Javelin® framing plan.
- Bearing requirements as shown on the Javelin® framing plan are job-specific and supersede minimum bearing requirements listed.

### FASTENING OF FLOOR PANELS

#### Guidelines for Closest On-Center Spacing per Row

<table>
<thead>
<tr>
<th>Nail Size</th>
<th>TJI®(1)(2) 110, 210, and 230</th>
<th>360 and 560</th>
<th>1¼&quot; TJI®</th>
<th>1¼&quot; TimberStrand® LSL or wider</th>
<th>1½&quot; TimberStrand® LSL or wider</th>
<th>Microllam® LVL</th>
<th>Parallam® PSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>8d (0.113&quot; x 2½&quot;), 8d (0.131&quot; x 2½&quot;)</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>6&quot;</td>
<td>4&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
<td>3&quot;</td>
</tr>
<tr>
<td>10d (0.148&quot; x 3&quot;), 12d (0.148&quot; x 3¼&quot;)</td>
<td>4&quot;(3)</td>
<td>4&quot;(3)</td>
<td>6&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>16d (0.162&quot; x 3½&quot;)</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>16&quot;</td>
<td>6&quot;(4)</td>
<td>6&quot;(4)</td>
<td>8&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 TJ® 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 TJ® 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 1½" (to avoid splitting).

- Recommended nailing is 12" on-center in field and 6" on-center along panel edge. Fastening requirements on engineered drawings supersede recommendations listed above.
- Weyerhaeuser recommends using a solvent-based subfloor adhesive on all contact points between panels and floor framing. See RECOMMENDED ADHESIVES on page 2.
- Nailing rows must be offset at least ½" and staggered.
- 14 ga. staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" into the TJ® joist or rim board is achieved.
- Maximum spacing of nails is 18" on-center for TJ® joists.
RIM BOARD DETAILS AND INSTALLATION

2x4 or 2x6 stud wall at 16" on-center

2x4 or 2x6 stud wall at 16" on-center

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Rim Board Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rim Board Thickness</td>
<td>A3.1</td>
</tr>
<tr>
<td>1 1/8&quot;</td>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>Plate Nail—16d (0.135&quot; x 3 1/2&quot;)</td>
<td>16&quot; o.c.</td>
</tr>
<tr>
<td>Floor Panel Nail—8d (0.131&quot; x 2 1/2&quot;)</td>
<td>6&quot; o.c.</td>
</tr>
<tr>
<td>Rim Board to TJI® Joist—10d (0.131&quot; x 3&quot;)</td>
<td>One into each flange</td>
</tr>
<tr>
<td>Toe Nail—10d (0.131&quot; x 3&quot;)</td>
<td>6&quot; o.c.</td>
</tr>
<tr>
<td>TJI® Joist to Plate—8d (0.113&quot; x 2 1/2&quot;)</td>
<td>Two nails driven at an angle into bottom flange, one each side of web at least 1 1/2&quot; from end</td>
</tr>
</tbody>
</table>

Wall Framing

| Sheathing | Per Code | Per Code |
| Boundary Nailing | 8d (0.131" x 2 1/2") at 6" o.c. | 5'-4"(5) |
| Intermediate Nailing | 8d (0.131" x 2 1/2") at 6" o.c. | 70% |
| Max. Window Opening Height | 5' (5) |
| % of Wall with Full Height Sheathing | 1/2" gypsum |

Interior Face

| Sheathing | Per Code | Per Code |
| Boundary Nailing | 5d (0.086" x 1 3/4") at 7" o.c. |
| Intermediate Nailing | 5d (0.086" x 1 3/4") at 10" o.c. |

Holdowns

| 90 mph Wind Zone | None |
| 120 mph Wind Zone | 16" o.c. within 10' of corners(6) | 16" o.c. within 6' of corners(6) | 16" o.c. within 4' of corners(6) | none |

(1) All sheathing shall be properly blocked and nailed.

(2) Verify the lateral capacity of the wall. Not all types of code-allowed wall construction provide the same lateral resistance. Check with your local building official or design professional of record.

(3) Detail A3.3 shall be a segmented wall, location of full-height structural sheathing per code.

(4) Sheathing shall be continuous over all plate-to-plate and plate-to-rim-board interfaces and may butt together at mid-depth of rim board as shown in A3.4. At foundation, fasten the bottom edge of the sheathing to the sill plate.

(5) In addition, one 6'-8" standard door opening is allowed.

(6) If required, holdowns shall be Simpson Strong-Tie® CS20 (or equivalent) straps attached with four 8d (0.131" x 2½") nails at each end. As an alternative to holdown straps, wall sheathing may be attached as shown in A3.4. See footnote 4.
Blocking panel:
1 1/8" TJ® Rim Board,
1 1/4" TimberStrand LSL,
or TJI® joist

Plate nail
Toe nail
Web stiffener required on both sides at A1W ONLY

A1 A1 W
Attach blocking per A3.1 in rim board installation table above

A2 A2 W
Must have 1 3/4" minimum joist bearing at ends. Attach rim joist per A3.1 in rim board installation table above.

Exterior Deck Attachment

Load from above
Structural exterior sheathing
Flashings
Treated 2x ledger
Maintain 2" distance (minimum) from edge of ledger to fastener

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

Corrosion-resistant fasteners required for wet-service applications
CANTILEVER DETAILS

- 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 below for connections.

- 11/8" TJ® Rim Board or 11/4" TimberStrand® LSL, typical. Nail with 10d (0.131" x 2 1/2") nail, one each at top and bottom flange.

- Blocking panels between each joist. Full depth vertical blocking at E5 and E6, horizontal blocking at E7 and E8.

- 8" diameter maximum hole for 11/4"-16" deep blocking panels; 0" diameter maximum for blocking panels 9 1/2" deep or shorter than 12" long. Do not cut flanges.

- Blocking panel: 1 1/4" TJI® Rim Board, 1 1/4" TimberStrand® LSL, or TJI® joist closure, typical.

- Nail through 2x_ cantilever, wood backer, and TJI® joist web with 2 rows 10d (0.148" x 3") nails at 6" on-center, clinched. Use 16d (0.135" x 3 1/2") nails with TJP 560 joists.

FILLER AND BACKER BLOCKS

HANGER BACKER BLOCK

Install light to top flange (light to bottom flange with face mount hangers).

- Single-Family Applications: Attach with ten 10d (0.128" x 3") nails, clinched when possible.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched when possible.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched. Use fifteen 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.

Filler and Backer Block Sizes

<table>
<thead>
<tr>
<th>Depth</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filler Block (Detail H2)</td>
<td>2x6</td>
<td>2x6</td>
<td>2x6 + 1/8&quot; sheathing</td>
<td>2x6 + 1/8&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>Two 2x6</td>
</tr>
<tr>
<td>Cantilever Block (Detail E4)</td>
<td>2x6</td>
<td>2x6</td>
<td>2x6 + 1/4&quot; 0&quot;-0&quot; long</td>
<td>2x6 + 1/4&quot; 0&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Backer Block (Detail F1 or D2)</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>Two 2x8</td>
</tr>
</tbody>
</table>

DOUBLE TJP® JOIST FILLER BLOCK

- Single-Family Applications: Attach with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched. Use fifteen 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.

FILLER AND BACKER BLOCKS

HANGER BACKER BLOCK

Install light to top flange (light to bottom flange with face mount hangers).

- Single-Family Applications: Attach with ten 10d (0.128" x 3") nails, clinched when possible.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched when possible.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched. Use fifteen 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.

Filler and Backer Block Sizes

<table>
<thead>
<tr>
<th>Depth</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
<th>9 1/2&quot; or 11 1/2&quot;</th>
<th>14 or 16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filler Block (Detail H2)</td>
<td>2x6</td>
<td>2x6</td>
<td>2x6 + 1/8&quot; sheathing</td>
<td>2x6 + 1/8&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>2x6 + 1/4&quot; sheathing</td>
<td>Two 2x6</td>
</tr>
<tr>
<td>Cantilever Block (Detail E4)</td>
<td>2x6</td>
<td>2x6</td>
<td>2x6 + 1/4&quot; 0&quot;-0&quot; long</td>
<td>2x6 + 1/4&quot; 0&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>2x6 + 1/8&quot; 4&quot;-0&quot; long</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Backer Block (Detail F1 or D2)</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>1/4 or 1/2&quot;</td>
<td>Two 2x8</td>
</tr>
</tbody>
</table>

DOUBLE TJP® JOIST FILLER BLOCK

- Single-Family Applications: Attach with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.

- Multi-Family Applications: Attach with fifteen 10d (0.128" x 3") nails, clinched. Use fifteen 16d (0.135" x 3 1/2") nails from each side with TJP 560 joists.
WEB STIFFENERS—FLOOR AND ROOF APPLICATIONS

WEB STIFFENER SIZES
- TJI® 110 joists: ⅜” x 2⅛” minimum
- TJI® 210 joists: ¼” x 2⅛” minimum
- TJI® 230 and 360 joists: ⅝” x 25⁄16” minimum
- TJI® 560 joists: 2x4, construction grade or better

(1) PS1 or PS2 sheathing, face grain vertical

WEB STIFFENER REQUIREMENTS
- Required at all birdsmouth cuts.
- Required at all sloped hangers.
- Required if the sides of the hanger do not extend to laterally support at least 3⁄8” of the TJI® joist top flange.
- Only required at intermediate bearing locations when noted on framing plan.

WEB STIFFENERS—FLOOR AND ROOF APPLICATIONS

TYPICAL ROOF AND WALL FRAMING

DETAIL SCHEDULE

Roof details (see page 7)
- R1 on bevel plate
- R1 W on bevel plate with web stiffeners
- R3 with variable slope seat connector
- R3 W with seat connector and web stiffeners
- R5 with birdsmouth cut
- R7 intermediate bearing
- R W intermediate bearing with web stiffeners

Other details
- O 2x_ overhang at end wall
- SB shear blocking (see page 8)
- W web stiffeners

Hanger details (see page 8)
- H5 slope adjusted hanger
- H6 header on slope

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) 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 (0.113” x 2½”) nails minimum. (See Warning on cover).

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

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

TimberStrand® LSL blocking:
- 1 row at 10’–16’ height
- 2 rows at 16’–24’ height
- 3 rows at 24’–30’ height

Lateral bracing required at end bearings

Ceiling joists must be braced at 18” on-center

Let-in bracing
Studs must be doubled when notched in middle third of length. Refer to hole charts for allowable holes and notches.

Safety bracing. Lack of proper bracing can result in serious accidents.

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

Install cripples tight to king stud at each end of header

Double joist may be required

Notch around TJI® joist top flange

2x4 block for soffit support

Ceiling Joists
Intermediate Bearing

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

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

2x4 block for soffit support

Birdsmouth cut must not overhang inside face of plate

TJI® joist flange must bear fully on plate

R1 W

R3 W

V-cut shear blocking:
1 1/4" TimberStrand® LSL rim board

Web stiffener required on both sides at R7W ONLY

Birdsmouth cut allowed at low end of joist only

Beveled web stiffener required on both sides.

Web stiffener required on both sides at R7W ONLY

2'-0" maximum

TJI® joist flange must bear fully on plate

V-cut shear blocking:
1 1/4" TimberStrand® LSL rim board

Web stiffener required on both sides at R3W ONLY

Variable slope seat connector

1/3 adjacent span maximum

Beveled web stiffener required when slope exceeds 1/4:12

Beveled bearing plate required when slope exceeds 1/4:12

Shear blocking:
1 1/8" TJ® Rim Board, 1 1/4" TimberStrand® LSL, or TJI® joist

Web stiffener required on both sides at R1W ONLY

1/3 adjacent span maximum

R1 W

R3 W

Variable slope seat connector

1/3 adjacent span maximum

R5

R7 W R7 S

ROOF DETAILS
2x4 one side. Use 2x4 both sides if joist spacing is greater than 24" on-center.

2 rows 8d (0.113" x 2½") nails at 8" on-center

2x4 one side. Use 2x6 if joist spacing is greater than 24" on-center.

10d (0.128" x 3") nails at 8" on-center

Beveled 2x4 block with beveled web stiffener on opposite side of web

Beveled web stiffener on both sides

Birdsmouth cut allowed at low end of joist only

Additional blocking may be required for shear transfer

LSTA18 (Simpson or USP) strap with twelve 10d (0.148" x 1½") nails

Filler

Beveled 2x4 block. Second beveled web stiffener required on opposite side at R10W ONLY

Beveled bearing plate required when slope exceeds ¼:12

Double beveled bearing plate when slope exceeds ¼:12

Web stiffener required on both sides at R14W ONLY

Beveled bearing plate required when slope exceeds ¼:12

Strap nails: Leave 2¾" minimum end distance, typical
**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>Face Mount</th>
<th>Top Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>10d (0.148&quot; x 1¼&quot;)</td>
<td>1½&quot; minimum</td>
</tr>
<tr>
<td>10d (0.148&quot; x 3&quot;)</td>
<td>3&quot; minimum</td>
</tr>
<tr>
<td>16d (0.162&quot; x 3½&quot;)</td>
<td>3½&quot; minimum</td>
</tr>
</tbody>
</table>
- Top mount hangers should be fastened to TJ® joist headers with 10d (0.148" x 1¼") nails. Fasten face mount hangers to 3½" or wider TJ® joist headers with 10d (0.148" x 3") or 16d (0.162" x 3½") nails.

**CONNECTOR INSTALLATION AND SQUEAK PREVENTION TIPS**
- Nails must be completely set.
- Leave ⅛" clearance between the member and the support member 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.

**FRAME CONNECTORS**
- LSTA24 (Simpson or USP) strap with twelve 10d (0.148" x 1½") nails required at H5S with slopes greater than 3:12
- Additional blocking may be required for shear transfer
- Variable slope joist hanger. Beveled web stiffener required on both sides.
Filler block: Attach with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3½") nails from each side with TJI® 560 joists.

Backer block: Install tight to bottom flange (tight to top flange with top mount hangers). Attach with ten 10d (0.128" x 3") nails, clinched when possible.

Variable slope joist hanger. Beveled web stiffeners required on both sides.

LSTA18 strap required at H6S with slopes greater than 3:12

SHEAR BLOCKING AND VENTILATION HOLE (Roof Only)

TJI® Rim Board or TimberStrand® LSL for shear blocking (between joists). Field trim to match joist depth at outer edge of wall or locate on wall to match joist depth.

For TJI® joists with slopes of 10:12 to 12:12, the vertical depth of shear blocking at bearing will require 1½" TJI® Rim Board or 1¼" TimberStrand® LSL that is one size deeper than the TJI® joist. DO NOT use 1¼" TJI® Rim Board in ventilation-hole applications.

TJI® JOIST NAILING REQUIREMENTS AT BEARING

TJI® Joist to Bearing Plate

- **END BEARING** (1¼" minimum bearing required)
  - One 8d (0.113" x 2½") nail each side, 1½" minimum from end

- **INTERMEDIATE BEARING** (3½" minimum bearing required)
  - Slopes 3:12 or less:
    - One 8d (0.113" x 2½") nail each side. See detail R7.
  - Slopes greater than 3:12:
    - Two 8d (0.113" x 2½") nails each side, plus a twist strap and backer block. See detail R7S.

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

  1¼" TJI® Rim Board or 1¼" TimberStrand® LSL:
  - Toenail with 10d (0.131" x 3") nails at 6" on-center or 16d (0.135" x 3½") nails at 12" on-center
  - TJI® joist blocking:
    - 10d (0.128" x 3") nails at 6" on-center
  - Shear transfer nailing:
    - Minimum, use connections equivalent to sheathing nail schedule
Bearing length is extremely critical and must be considered for each application. See Minimum Bearing Length table below for minimum end and intermediate bearing lengths, and your Javelin® framing plan, if applicable.

This guide is intended for the products shown in dry-use conditions.

**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>Fastener</th>
<th>Min. Length</th>
<th># Rows</th>
<th>O.C. Spacing</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1½&quot;</td>
<td>2</td>
<td>10d nails</td>
<td>3&quot;</td>
<td>3(2)</td>
<td>12&quot;</td>
<td>One side</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12d-16d nails</td>
<td>3½&quot;</td>
<td>2(2)</td>
<td>12&quot;</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Screws</td>
<td>3½&quot; or 3½&quot;</td>
<td>2</td>
<td>24&quot;</td>
<td>Both sides</td>
</tr>
<tr>
<td>3½&quot;</td>
<td>2</td>
<td>10d nails</td>
<td>3&quot;</td>
<td>3(2)</td>
<td>12&quot;</td>
<td>One side</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12d-16d nails</td>
<td>3½&quot;</td>
<td>2(2)</td>
<td>12&quot;</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Screws</td>
<td>5&quot; or 6&quot;</td>
<td>2</td>
<td>24&quot;</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6¼&quot;</td>
<td></td>
<td></td>
<td></td>
<td>One side</td>
</tr>
<tr>
<td>3½&quot;</td>
<td>2</td>
<td>Screws</td>
<td>5&quot; or 6&quot;</td>
<td>2</td>
<td>24&quot;</td>
<td>Both sides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6¼&quot;</td>
<td></td>
<td></td>
<td></td>
<td>One side</td>
</tr>
</tbody>
</table>

1½" Multiple pieces can be nailed or bolted together, up to a maximum width of 7".

**MULTIPLE-MEMBER CONNECTIONS FOR SIDE-LOADED BEAMS**

- Additional nailing or bolting may be required with side-loaded multiple-member beams. Refer to current product literature.

(1) 10d nails are 0.128" diameter; 12d-16d nails are 0.148"–0.162" diameter; screws are SDS, SDW, USP WS, or TrussLOK®.

(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 rows by 2" from the rows in ply below.
Minimum Bearing Length for Beams and Headers

<table>
<thead>
<tr>
<th>Beam Depth</th>
<th>Bearing</th>
<th>Span of Header or Beam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4'</td>
</tr>
<tr>
<td>5 1/2&quot;</td>
<td>End/Int.</td>
<td>2 1/4&quot;</td>
</tr>
<tr>
<td>7 1/4&quot;</td>
<td>End/Int.</td>
<td>3 1/4&quot;</td>
</tr>
<tr>
<td>8 1/4&quot;</td>
<td>End/Int.</td>
<td>3 1/2&quot;</td>
</tr>
<tr>
<td>9 1/4&quot;, 9 3/4&quot;</td>
<td>End/Int.</td>
<td>4 1/4&quot;</td>
</tr>
<tr>
<td>11 1/4&quot;, 11 3/4&quot;</td>
<td>End/Int.</td>
<td>4&quot;</td>
</tr>
<tr>
<td>14&quot;</td>
<td>End/Int.</td>
<td>4 1/4&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>End/Int.</td>
<td>4 1/4&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>End/Int.</td>
<td>4 1/4&quot;</td>
</tr>
<tr>
<td>20&quot;</td>
<td>End/Int.</td>
<td>4 1/4&quot;</td>
</tr>
</tbody>
</table>

- **Minimum bearing length:** 1 1/4" at ends, 3 1/2" at intermediate supports.
- **Bearing across full beam width is required.**
- **Bearing lengths shown are based on bearing stress for TimberStrand® LSL, Microllam® LVL, or Parallam® PSL. If the support member’s allowable bearing stress is lower (e.g., when bearing on a flat wood plate), bearing lengths may need to be increased.**
- **Table assumes maximum allowable uniform load. For other conditions, contact your Weyerhaeuser representative.**
- **Beams and headers require lateral support at bearing points and along the top (or compression edge) at 24" on-center or closer.**
- **1 1/4"-thick members that are 16" or deeper must be used in multiple-ply units only.**

### Beam Attachment at Bearing

1 1/8" TJ® Rim Board or 1 1/4" TimberStrand® LSL

Drive nails at an angle to minimize splitting of plate

One 10d (0.128" x 3") nail each side of member at bearing, 1 1/2" minimum from end

DO NOT overhang seat cuts on beams beyond inside face of support member
OUR GUARANTEE

PRODUCT STORAGE

Store and handle joists in vertical orientation.

Protect products from sun and water.

CAUTION: Wrap is slippery when wet or icy.

Use support blocks at 10’ on-center to keep products out of mud and water.

Align stickers directly over support blocks.

For conditions not shown in this guide, or other assistance, contact your Weyerhaeuser representative or call 1-888-453-8358

CODE EVALUATIONS, See

- TJI® Joists
  - ICC ES ESR-1153
  - CCMC 13132-R pending
- TimberStrand® LSL
  - ICC ES ESR-1387
  - CCMC 12627-R
- Parallam® PSL
  - ICC ES ESR-1387
  - CCMC 11161-R
- Microllam® LVL
  - ICC ES ESR-1387
  - CCMC 08675-R
- TJ® Rim Board
  - ICC ES ESR-1387
  - CCMC 13261-R

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.

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.