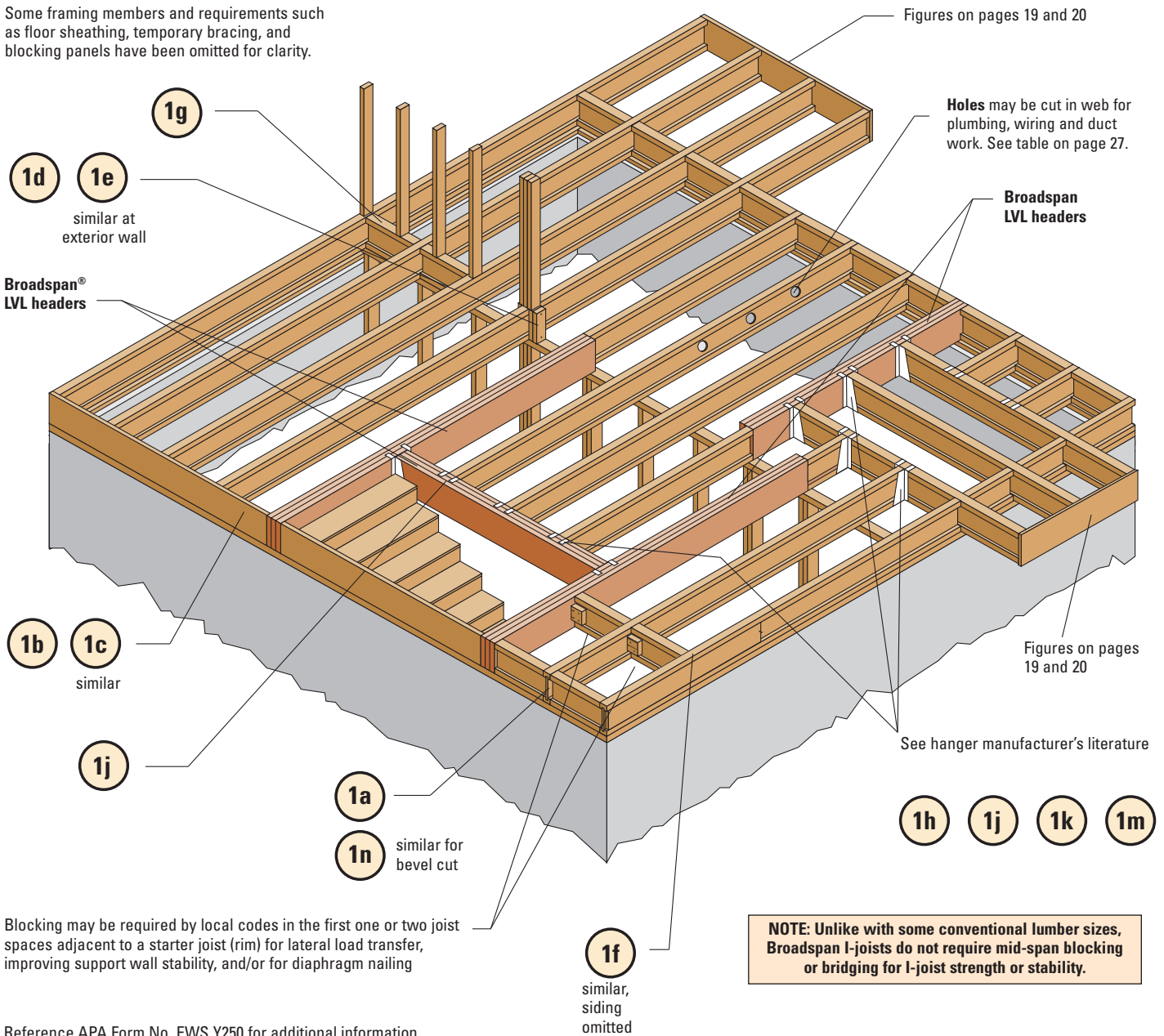


Floor Framing

NOTE: Except for cutting to length and as shown in this guide, never cut or notch the flanges.

Some framing members and requirements such as floor sheathing, temporary bracing, and blocking panels have been omitted for clarity.



Blocking may be required by local codes in the first one or two joist spaces adjacent to a starter joist (rim) for lateral load transfer, improving support wall stability, and/or for diaphragm nailing

Reference APA Form No. EWS Y250 for additional information on shear transfer at engineered wood framing systems.

NOTE: Unlike with some conventional lumber sizes, Broadspan I-joists do not require mid-span blocking or bridging for I-joist strength or stability.

Floor Details

GENERAL NOTES

1. All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails may be substituted for 8d common shown in details. Individual components not shown to scale for clarity.
2. To minimize splitting of flange and bearing plate at I-joist ends, angle nails and start at least 1½" from end.
3. For shear transfer at BSI Joists or rim board used as blocking or continuous rim, use same nailing as required for floor sheathing, but meeting flange nail spacing in this guide (see page 3).

1a

BSI Joist blocking panel; uniform vertical load transfer = 2000 plf maximum.

Attach I-joist to top plate with one 8d face nail each side at bearing

8d nails at 6" o.c. (see note 3)

1b

Blocking Panel or Rim Joist	Uniform Vertical Load Transfer Capacity (plf)
1½" Broadspan® (APA) Rim Board Plus	4850
1" Broadspan (APA) Rim Board	3300
1½" APA Rim Board	4400

One 8d nail at top and bottom flange

One 8d face nail each side at bearing

Attach rim board to top plate using 8d common or box toe nails at 6" o.c. (see note 3)

1c

BSI rim joist vertical load transfer= 2000 plf maximum

Attach I-joist to top plate with one 8d face nail each side at bearing

8d nails at 6" o.c. (see note 3)

Minimum 1¾" end bearing required for joists (2x6 bearing required for rim joists with flange widths greater than 1¾")

TOP VIEW

Rim joist flange

Floor joist flange

- For flanges less than 3½" wide: One 16d box nail at top and bottom flange or toe nail as for 3½" wide flanges.
- For 3½" wide flanges: Toe nail from I-joist into rim joist with 10d (3") box nails, one each side of flange

1d

BSI Joist or rim board blocking panel per Detail 1a

+¼" for squash blocks

Squash blocks to transfer point loads around I-joist at bearing. Use only if load bearing wall will occur above

AT INTERMEDIATE WALL

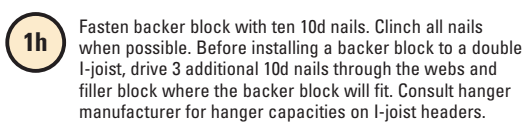
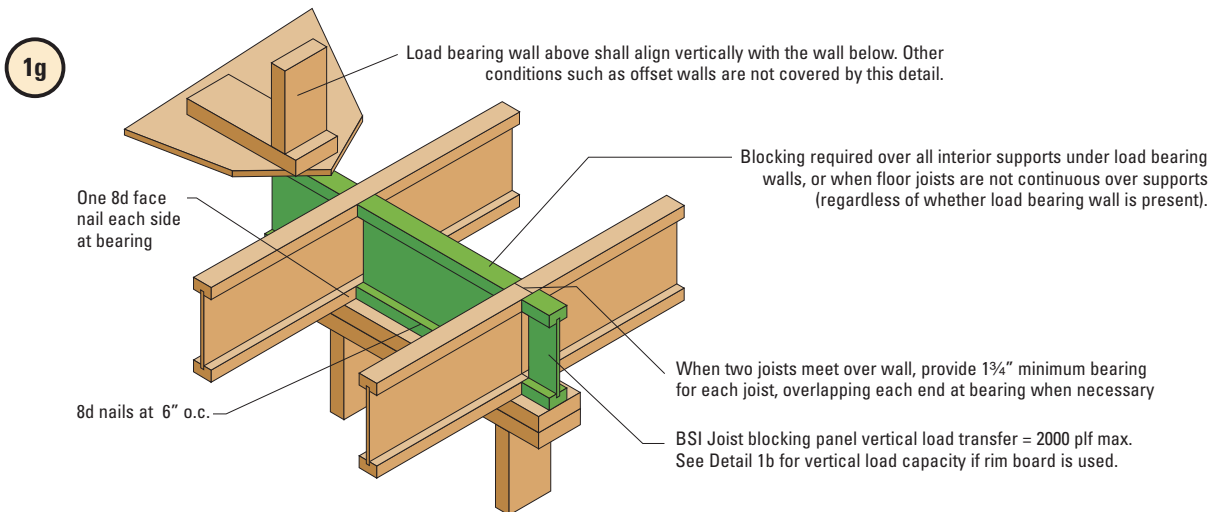
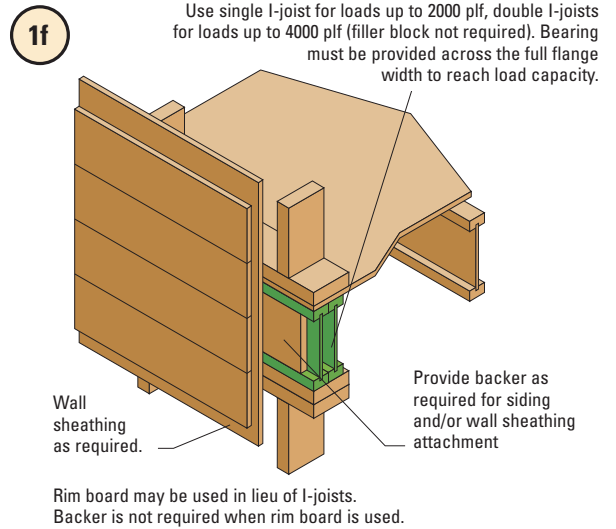
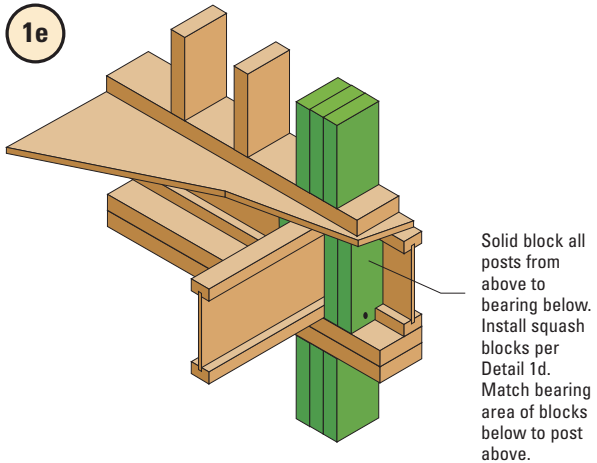
AT END WALL

Provide lateral bracing per Details 1a, 1b or 1c

Pair of Squash Blocks	Vertical load transfer capacity per pair of squash blocks (lbs)	
	3½" wide	5½" wide
2x Lumber	4000	7000
1½" Broadspan (APA) Rim Board Plus, APA Rim Board, or APA Rated® Sturd-I-Floor® panels 48 o.c.	3000	3500
1" Broadspan (APA) Rim Board or Rated Sturd-I-Floor panels 32 o.c.	2700	3500

Floor Details (continued)

Refer to General Notes on page 15.



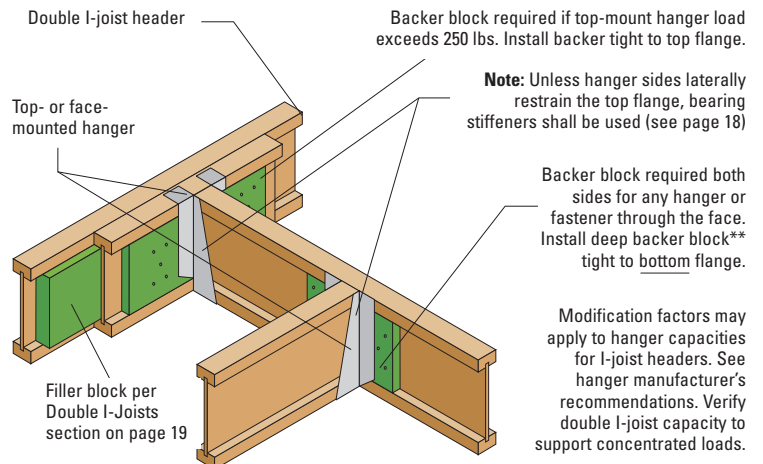
Backer Blocks

(Blocks must be long enough to permit required nailing without splitting)

Flange Width	Material Thickness Required*	Minimum Depth**
1 1/4"	23/32"	5 1/2"
2 5/16", 2 1/2"	1"	5 1/2"
3 1/2"	1 1/2"	7 1/4"

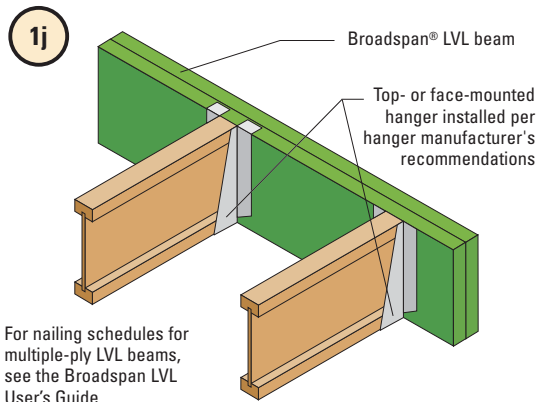
* Minimum grade for backer block material shall be Utility grade SPF (south) or better for solid sawn lumber and APA Rated Sheathing grade for wood structural panels.

** For any hanger or fastener through the face use net web height between flanges minus 1/4".



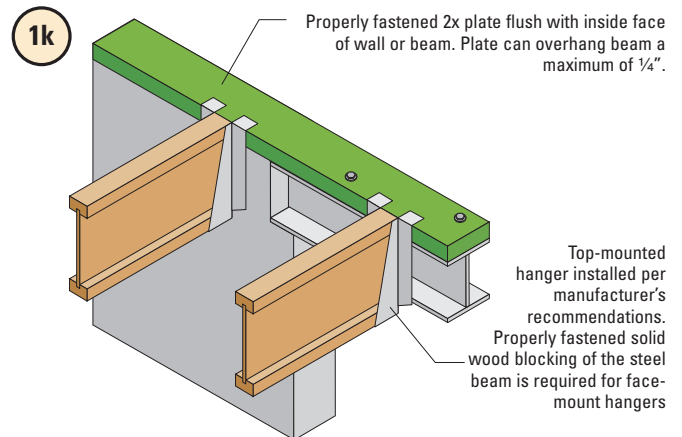
Floor Details (continued)

Refer to General Notes on page 15.

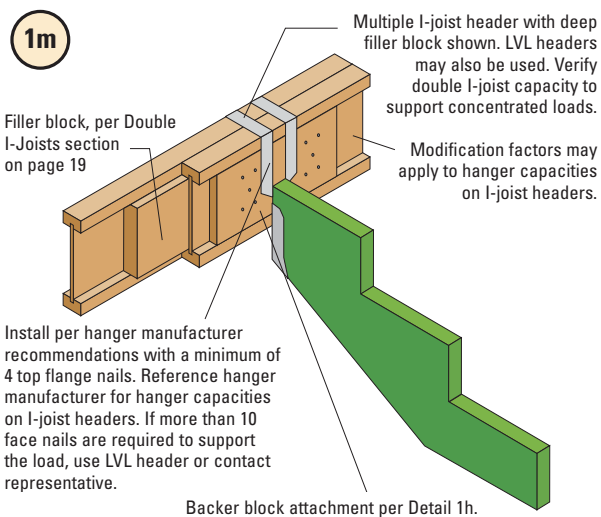


For nailing schedules for multiple-ply LVL beams, see the Broadspan LVL User's Guide

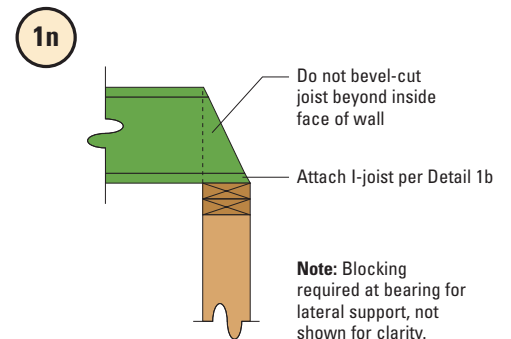
Note: Bearing stiffeners shall be used unless hanger sides laterally restrain the top flange, and as noted in the Web Stiffener Section (see page 18).



Note: Bearing stiffeners shall be used unless hanger sides laterally restrain the top flange, and as noted in the Web Stiffener Section (See page 18).



Install per hanger manufacturer recommendations with a minimum of 4 top flange nails. Reference hanger manufacturer for hanger capacities on I-joint headers. If more than 10 face nails are required to support the load, use LVL header or contact representative.



Note: Blocking required at bearing for lateral support, not shown for clarity.

Blocking Panels

Blocking panels prevent floor joists from overturning and transfer loads through the floor system into the structure below. Framing lumber installed on edge is unacceptable to use as blocking for I-joint floor and roof systems, due to the differences in product depths and shrinkage characteristics. I-joists and rim board are acceptable to use as blocking panels. Blocking panels must be cut to the proper length to fit tightly between the I-joists, and their depth must match the depth of the I-joists.

Blocking panels may be used as shown in Details 1a-1g, 2b-2f, 2f-2k, and 2n to accomplish the following:

1. To stabilize the I-joists laterally at supports. Lateral support is required during installation and is necessary to obtain design carrying capacity.
2. To transmit vertical loads from the framing above to the framing below.
3. To provide closure of the framed space.
4. To transmit lateral forces to shear walls. Nailing into flanges must be as required to transfer shear (must be at least the same as required for the floor sheathing).
5. To provide lateral stability to walls where required by local codes. The blocking is sometimes required in the first and second joist spaces next to the starter joist or starter rim on the exterior wall.

Web Stiffener Requirements

Web stiffeners are not required to attain the spans shown in this guide, but are required for conditions as described in this section. There are two main types of web stiffeners: bearing stiffeners and "load" stiffeners. Both types reinforce the I-joist at locations of concentrated loads. The bearing stiffeners are located at bearing points and may also be required for hangers with side or angle nailing, or to provide lateral restraint to the I-joist in some hanger applications and at birdsmouth cuts. The load stiffeners are located away from bearing supports anywhere large point loads are applied to the top flange of the I-joist.

BEARING STIFFENERS:

- Bearing stiffeners are required:
 - When sides of the hangers or adjacent framing do not laterally brace the top flange of each I-joist.
 - For all I-joists that have a design end reaction exceeding 1550 lbs (1900 lbs for BSI 900).
- Install bearing stiffeners tight against the bottom flange of the I-joist, leaving $\frac{1}{8}$ " - $\frac{1}{4}$ " gap at the top.

LOAD STIFFENERS:

- Load stiffeners are required:
 - When I-joists are designed to support concentrated loads that exceed 1500 lbs applied to the top flange between supports.
 - For concentrated loads on cantilevers that exceed 1500 lbs, but do not exceed the un-reinforced I-joist shear capacity. If the full loading on the cantilever exceeds the shear capacity of the un-reinforced joist, cantilever reinforcement is required per the instructions in this guide.
- Install load stiffeners tight against the top flange of the I-joist, leaving $\frac{1}{8}$ " - $\frac{1}{4}$ " gap at the bottom.
- Concentrated loads require $3\frac{1}{2}$ " minimum bearing length above the top flange.
- Except for pre-scored knock-outs, concentrated loads must be applied with 6" minimum horizontal distance between the edge of the load and the edge of the web hole.

Web stiffeners may be supplied by the distributor, or may be cut in the field as required.

Figure A

Web Stiffeners

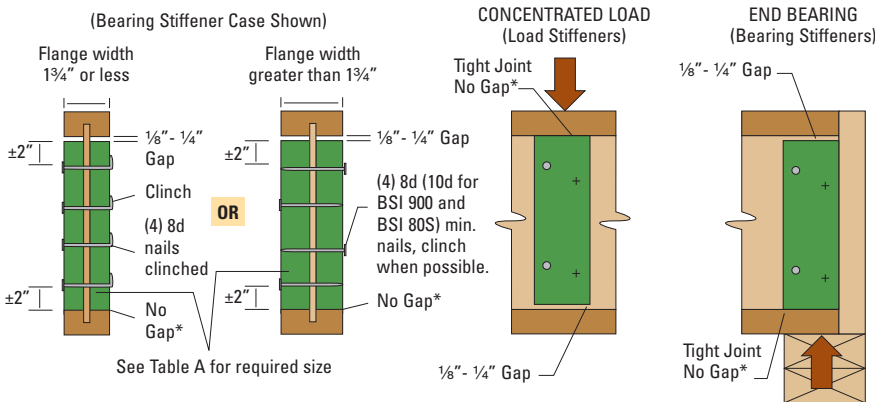


Table A

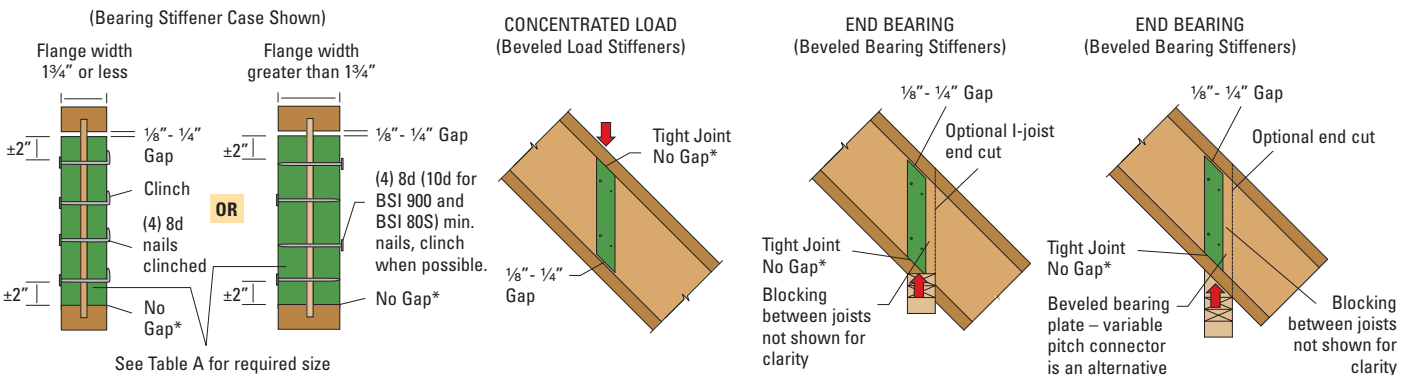
Required Web Stiffener Sizes

Joist Series	Flange Width	Web Stiffener Size Each Side of Web
BSI 200	$1\frac{3}{4}$ "	$1\frac{9}{32}$ " x $2\frac{5}{16}$ " minimum width
BSI 400, 700, 40S, 60S	$2\frac{5}{16}$ " $2\frac{1}{2}$ "	1" x $2\frac{5}{16}$ " minimum width
BSI 900, 80S	$3\frac{1}{2}$ "	$1\frac{1}{2}$ " x $2\frac{5}{16}$ " minimum width

SI units conversion: 1 inch = 25.4 mm

* Scraping glue that extends out of joints may be required to achieve a tight joint with no gap.

Beveled Web Stiffeners



* Scraping glue that extends out of joints may be required to achieve a tight joint with no gap.

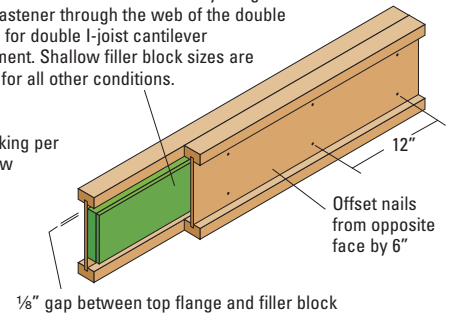
Double I-Joists

1. Double I-joists may be required to frame openings, support concentrated loads, support partitions parallel to floor joists, or support any other loads which would exceed the capacity of a single I-joist. Install double I-joists where drawn or noted on framing plans.
2. Filler blocks can be omitted only when double joists are loaded evenly from above along the tops of both joists, such as when a parallel bearing wall is directly centered over the double joists.
3. Support back of I-joist web during nailing to prevent damage to web/flange connection.
4. Leave a 1/8-inch gap between top of filler block and bottom of top I-joist flange.
5. Filler must extend the full span length, but does not have to be one continuous piece, except at cantilever reinforcements. Cantilever reinforcement fillers must be one continuous piece extending the full length of reinforcement.
6. Fasten joists together with two rows of 10d (16d for BSI 900 and BSI 80S) minimum nails at 12" o.c. from each side, clinching nails when possible. A total of 4 nails per foot is required if nails cannot be fully clinched and 2 nails per foot if fully clinched.

Double I-Joist Construction

Deep filler blocks must be used for any hanger or required fastener through the web of the double I-joist and for double I-joist cantilever reinforcement. Shallow filler block sizes are permitted for all other conditions.

Filler blocking per table below



Filler Block Size for Double I-Joist

Flange Width	Joist Series	Depth	Shallow Filler Block Size	Deep Filler Block Size (for cantilevers and web fasteners)	
			Allowable Lumber Combinations	Overall Dimensions	Allowable Lumber Combinations
1 3/4"	BSI 200	9 1/2"	2x6	1 3/8" x 6"	2x6
		11 7/8"	2x6	1 3/8" x 8"	2x8
		14"	2x8	1 3/8" x 10"	2x10
2 5/16"	BSI 400, BSI 700	9 1/2"	2x6 + 3/8" WSP*	1 7/8" x 6"	2x6 + 3/8" WSP*
		11 7/8"	2x6 + 3/8" WSP*	1 7/8" x 8"	2x8 + 3/8" WSP*
		14"	2x8 + 3/8" WSP*	1 7/8" x 10"	2x10 + 3/8" WSP*
		16"	2x8 + 3/8" WSP*	1 7/8" x 12"	2x12 + 3/8" WSP*
2 1/2"	BSI 40S, BSI 60S	9 1/2"	2x6 + 5/8" WSP*	2 1/8" x 6"	2x6 + 5/8" WSP*
		11 7/8"	2x6 + 5/8" WSP*	2 1/8" x 8"	2x8 + 5/8" WSP*
		14"	2x8 + 5/8" WSP*	2 1/8" x 10"	2x10 + 5/8" WSP*
		16"	2x8 + 5/8" WSP*	2 1/8" x 12"	2x12 + 5/8" WSP*
3 1/2"	BSI 900, BSI 80S	11 7/8"	(2) 2x6	3" x 8"	(2) 2x8
		14"	(2) 2x8	3" x 10"	(2) 2x10
		16"	(2) 2x8	3" x 12"	(2) 2x12

* WSP = wood structural panel (OSB, plywood, etc.)

Cantilevers

Lumber Cantilever Detail for Balconies

Full web-depth backer block with 1/8" gap between block and top flange of I-joist. See Detail 1h. Nail with 2 rows of 10d nails at 6" o.c. and clinch.

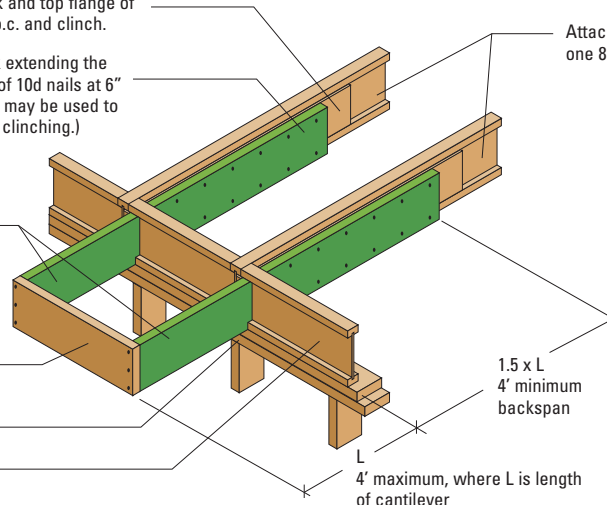
2 x 8 minimum (designed by others). Nail to backer block extending the full length of the lumber backspan and joist with 2 rows of 10d nails at 6" o.c. and clinch (when possible.) (Lumber cantilever nails may be used to attach backer block if length of nail is sufficient to allow clinching.)

Cantilever extension supporting uniform floor loads only (load bearing wall not allowed)

Lumber or wood structural panel closure (designed and attached by others)

3 1/2" min. bearing required

BSI Joist or rim board



Note: Protect cantilever from the weather to prevent moisture intrusion into the structure and potential decay of untreated extensions.

Load-Bearing Cantilever Floor Details

I-Joist Cantilever without Reinforcement

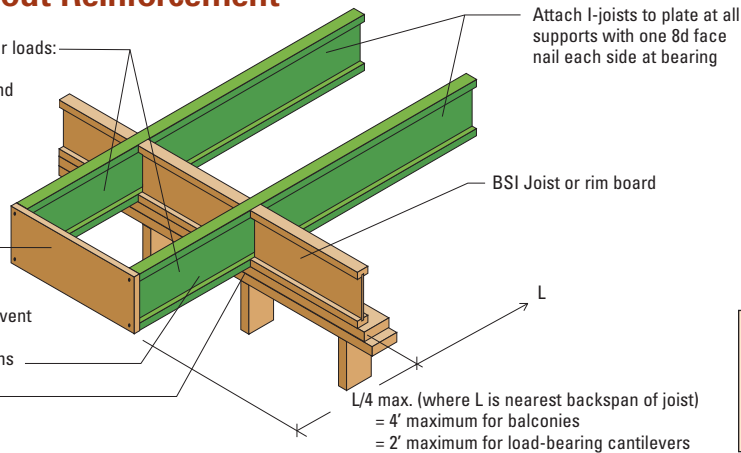
Cantilever extension supporting uniform floor loads:

- Floor only – balcony
- Floor plus wall/roof loads on cantilever end

Broadspan® (APA) Rim Board or wood structural panel closure, attach to I-joist ends with one 8d nail at top and bottom flange

Note: Protect I-joist from the weather to prevent moisture intrusion into the structure and potential decay of untreated I-joist extensions

3½" min. bearing required



For cantilever capacities without reinforcement, use cantilever tables or software.

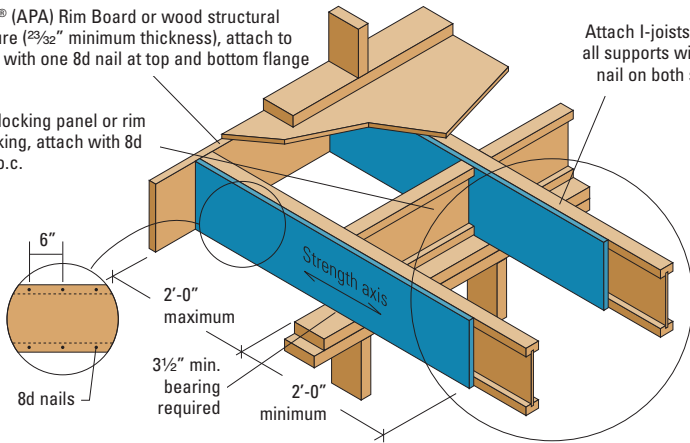
I-Joist Cantilever with Reinforcement

Method 1 Sheathing Reinforcement – One Side

Broadspan® (APA) Rim Board or wood structural panel closure (2¾" minimum thickness), attach to I-joist ends with one 8d nail at top and bottom flange

BSI Joist blocking panel or rim board blocking, attach with 8d nails at 6" o.c.

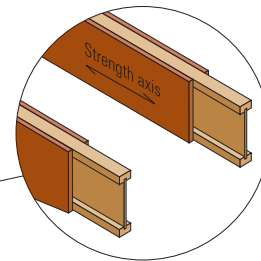
Attach I-joists to top plate at all supports with one 8d face nail on both sides of flange



Method 2

Sheathing Reinforcement – Two Sides

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing or rim board



Use nailing pattern shown for Method 1 with opposite face nailing offset by 3"

Note: Wood structural panel, APA Rated® Sheathing 48/24 (minimum thickness 2¾") or Broadspan® (APA) Rim Board required on sides of joist. Depth shall match the full height of the joist. Nail with 8d nails at 6" o.c., top and bottom flange. Install with strength axis horizontal. Attach I-joist to plate at all supports with one 8d face nail on both sides of flange.

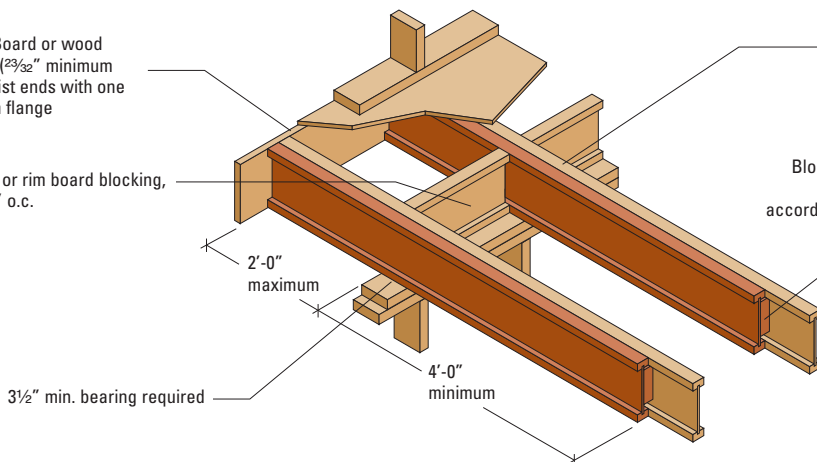
Alternate Method 2 I-Joist Reinforcement – One Side (Double I-Joist)

Broadspan® (APA) Rim Board or wood structural panel closure (2¾" minimum thickness), attach to I-joist ends with one 8d nail at top and bottom flange

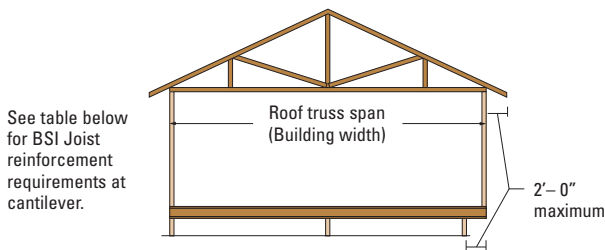
BSI Joist blocking panel or rim board blocking, attach with 8d nails at 6" o.c.

Attach I-joists to top plate at all supports with one 8d face nail on both sides of flange

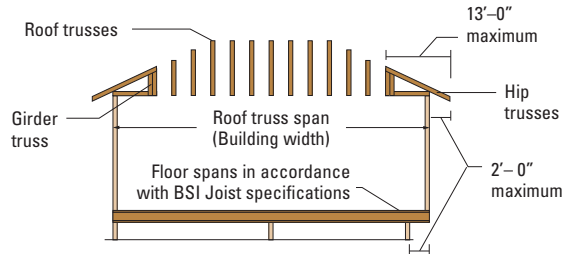
Block I-joists together with deep filler blocks for the full length of the reinforcement, sized and attached in accordance with the Double I-Joists section (see page 19).



Load-Bearing Cantilever Reinforcement



See table below for BSI Joist reinforcement requirements at cantilever.



For hip roofs with the hip trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26' may be used.

Joist Depth (in)	Roof Truss Span (ft)	Roof Loadings											
		TL = 35 psf LL not to exceed 20 psf				TL = 45 psf LL not to exceed 30 psf				TL = 55 psf LL not to exceed 40 psf			
		Joist Spacing (in)				Joist Spacing (in)				Joist Spacing (in)			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
9½	26	N	N	N	1	N	N	1	2	N	1	2	X
	28	N	N	1	1	N	N	1	2	N	1	2	X
	30	N	N	1	1	N	1	1	2	N	1	2	X
	32	N	N	1	2	N	1	1	X	N	1	2	X
	34	N	N	1	2	N	1	2	X	N	2	X	X
	36	N	N	1	2	N	1	2	X	N	2	X	X
11⅞	26	N	N	N	1	N	N	1	1	N	1	1	2
	28	N	N	1	1	N	1	1	1	N	1	1	2
	30	N	N	1	1	N	1	1	2	N	1	1	2
	32	N	N	1	1	N	1	1	2	N	1	1	2
	34	N	N	1	1	N	1	1	2	N	1	2	2
	36	N	N	1	1	N	1	1	2	N	1	2	2
14	38	N	1	1	2	N	1	1	2	1	1	2	X
	26	N	N	N	1	N	N	N	1	N	N	1	1
	28	N	N	N	1	N	N	1	1	N	N	1	2
	30	N	N	N	1	N	N	1	1	N	1	1	2
	32	N	N	N	1	N	N	1	1	N	1	1	2
	34	N	N	N	1	N	N	1	2	N	1	1	2
16	36	N	N	1	1	N	1	1	2	N	1	1	2
	38	N	N	1	1	N	1	1	2	N	1	1	2
	40	N	N	1	1	N	1	1	2	N	1	2	2
	26	N	N	N	1	N	N	1	1	N	N	1	1
	28	N	N	N	1	N	N	1	1	N	1	1	2
	30	N	N	N	1	N	N	1	1	N	1	1	2
16	32	N	N	N	1	N	N	1	1	N	1	1	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
	38	N	N	1	1	N	1	1	2	N	1	2	2
	40	N	N	1	1	N	1	1	2	N	1	2	2
	42	N	N	1	1	N	1	1	2	N	1	2	X

NOTES

- N = No I-joist reinforcing required.
1 = BSI Joists reinforced with minimum 2⅜" wood structural panel or rim board on one side only. See Method 1 detail on page 20.
2 = BSI Joists reinforced with minimum 2⅜" wood structural panel or rim board on two sides or double I-joist reinforcing. See Method 2 or Alternate Method 2 detail on page 20.
X = Try a deeper joist or closer spacing.
- Color coding in table is matched to the cantilever details on page 20.
- Maximum load shall be: 15 psf roof dead load, 50 psf floor total load, and 80 plf wall load.
- load. Wall load is based on 3'-0" maximum width window or door openings. For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
- Table assumes maximum joist simple spans and applies to joists 12" to 24" o.c. Use 12" o.c. requirements for lesser spacings.
- The required cantilever reinforcement for the loading conditions given in this table are conservative for conventional framing (stick built) roofs that are braced to interior supports. For roofs with a ridge board, use the roof truss span as the span between rafter support walls. For roofs with a ridge beam, use the roof truss span as the span between the rafter support wall and the ridge beam.

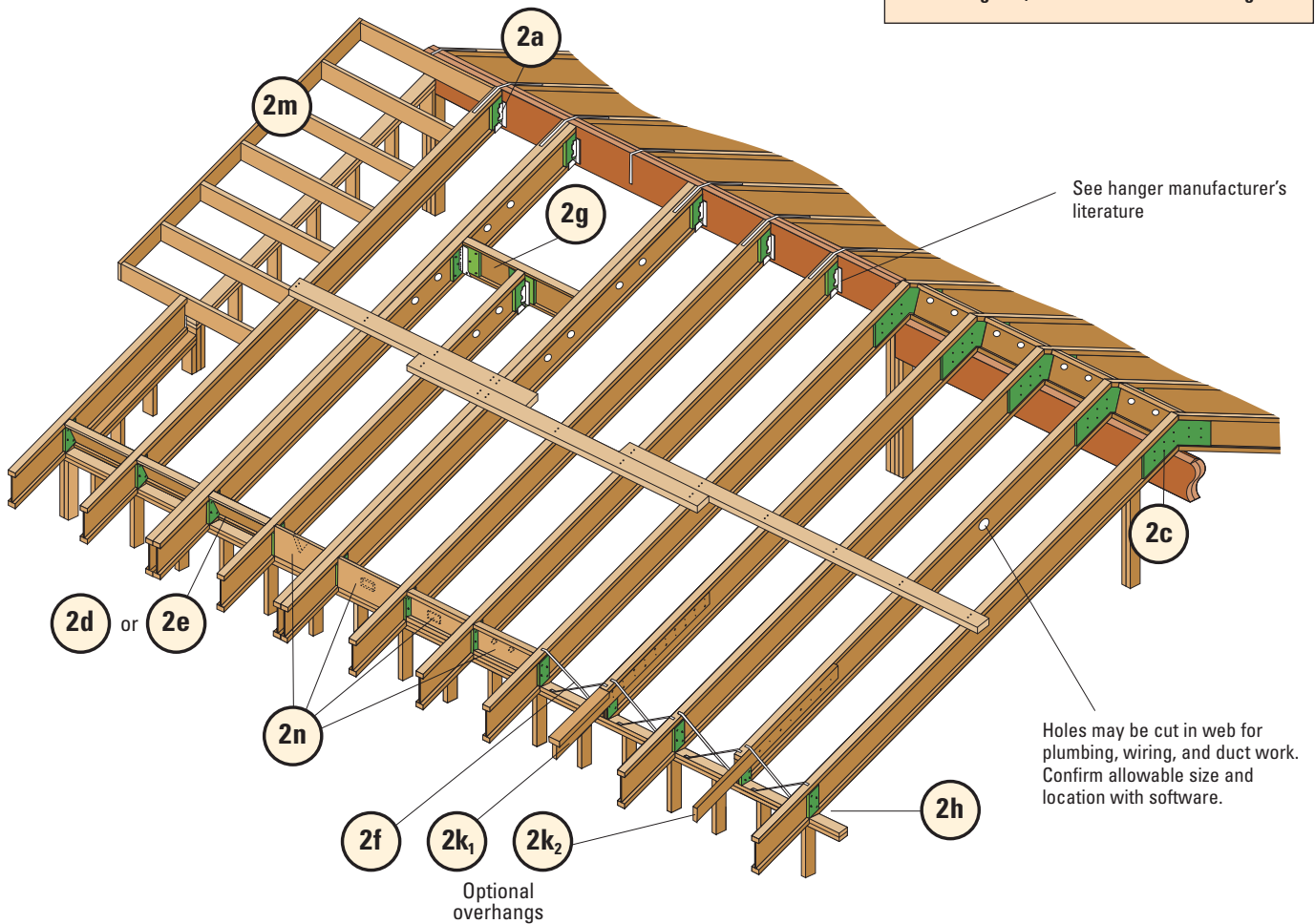
Roof Framing

GENERAL NOTES

1. Roof must slope a minimum of ¼/12.
2. Maximum I-joist roof slope of 12/12.
3. A support beam or wall (ridge board not adequate) is required at the high end.
4. To minimize splitting of flange and bearing plate at I-joist ends, angle nails and start at least 1½" from end.
5. For shear transfer at BSI Joists or rim board used as blocking or continuous rim, use same nailing as required for floor sheathing, but meeting flange nail spacing in this guide (see page 3).
6. Additional uplift connections may be required for each roof detail.
7. Additional blocking or restraint may be required for shear transfer.
8. Attach I-joist to top plate with one 8d face nail each side at bearing.

Some framing members and requirements such as floor sheathing, temporary bracing, and blocking panels have been omitted for clarity.

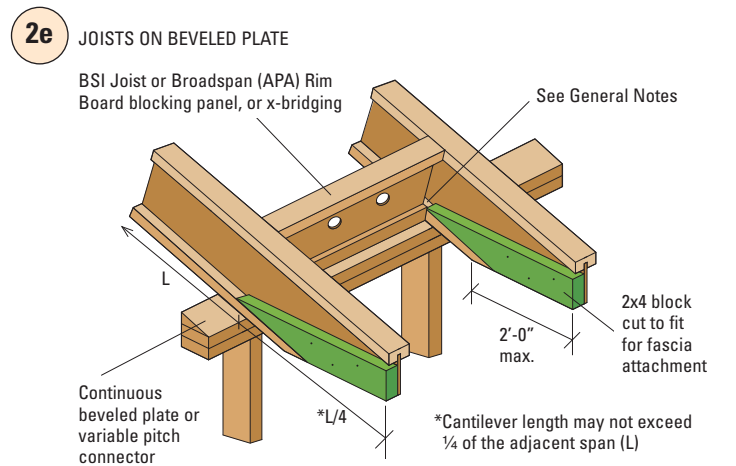
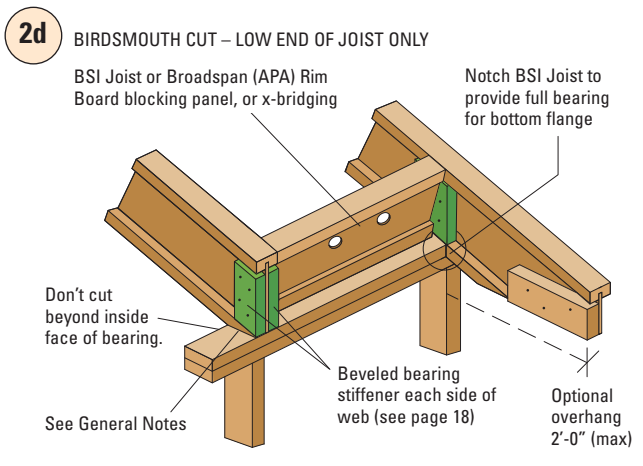
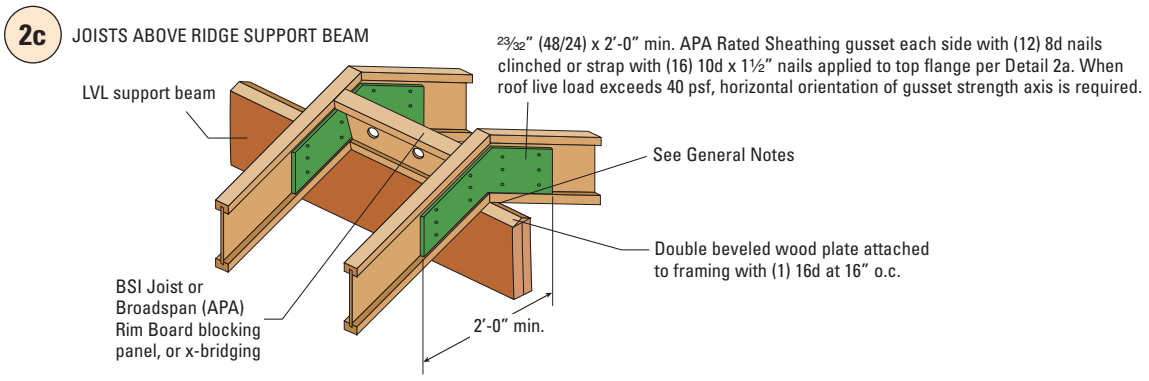
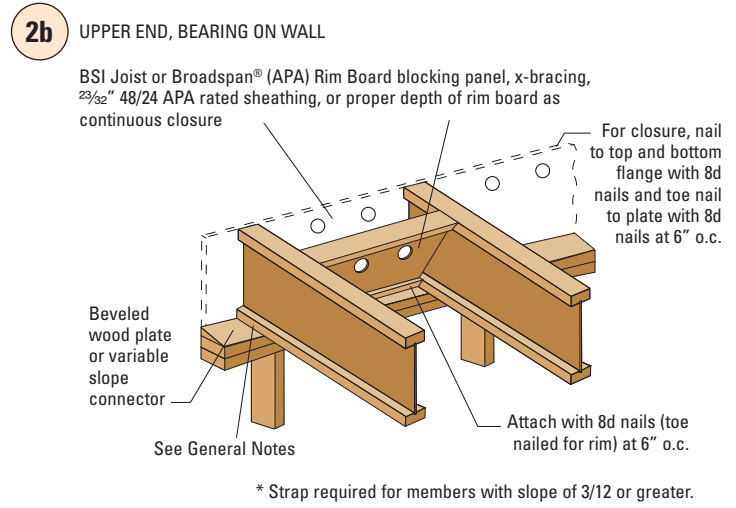
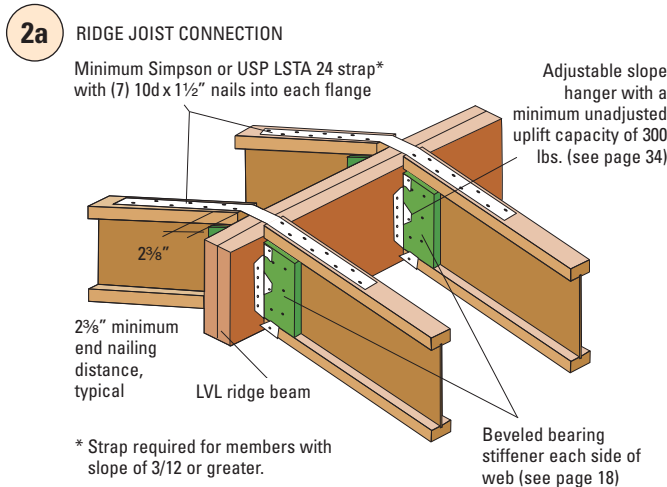
NOTE: Except for cutting to length and as shown in this guide, never cut or notch the flanges.



Reference APA Form No. EWS Y250 for additional information on shear transfer at engineered wood framing systems.

Roof Details

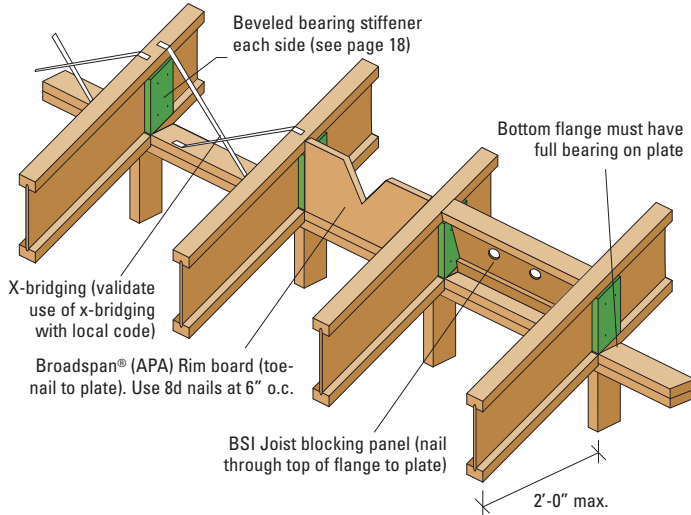
Refer to General Notes on page 22.



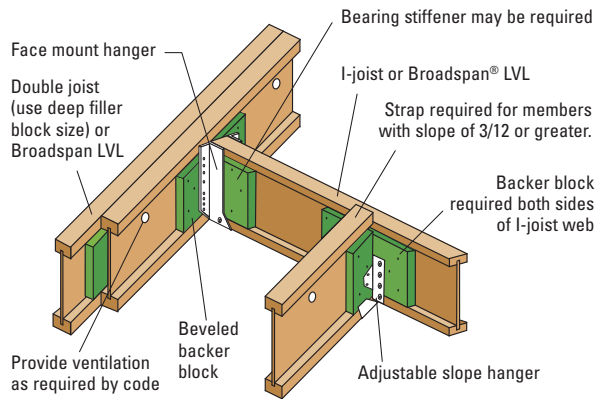
Roof Details (continued)

Refer to General Notes on page 22.

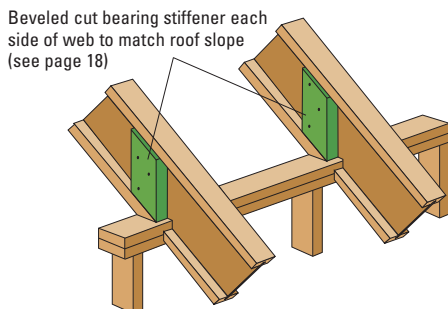
2f BIRDSMOUTH CUT – LOW END OF JOIST ONLY



2g ROOF OPENING, FACE MOUNTED HANGERS



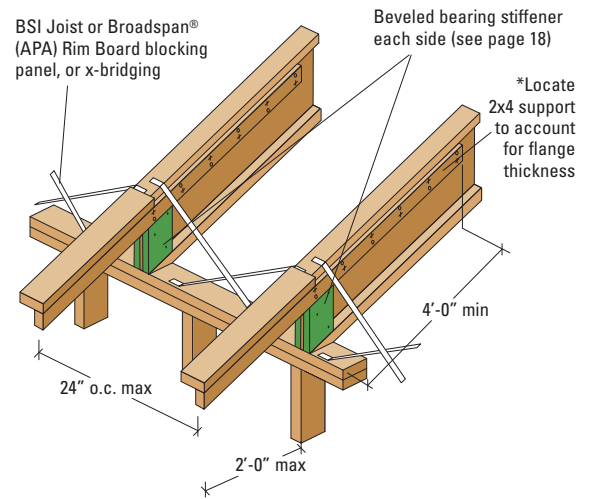
2h BEVEL CUT BEARING STIFFENER – LOW END ONLY



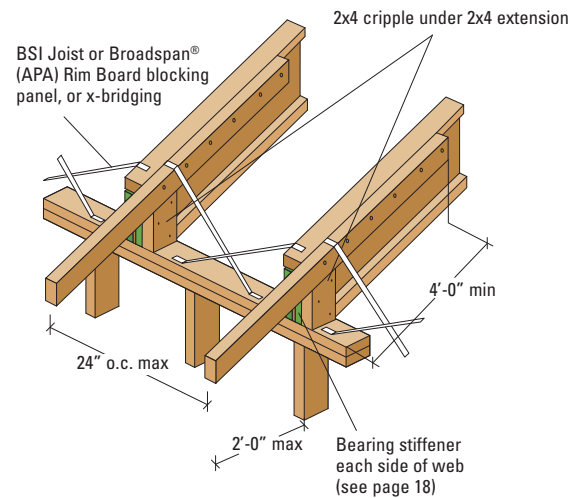
2k OPTIONAL OVERHANG EXTENSIONS FOR UNIFORMLY DISTRIBUTED LOADS ONLY

May be used with Details 2d-2f (Low end only)

k₁ Stop BSI Joist at wall line and extend top flange with 2x4*. Support extension with 2x4 nailed to web of joist with (2) staggered rows of 8d nails at 8" o.c. clinched from each side. Fasten flange extension to 2x4 support with 8d nails at 8" o.c.



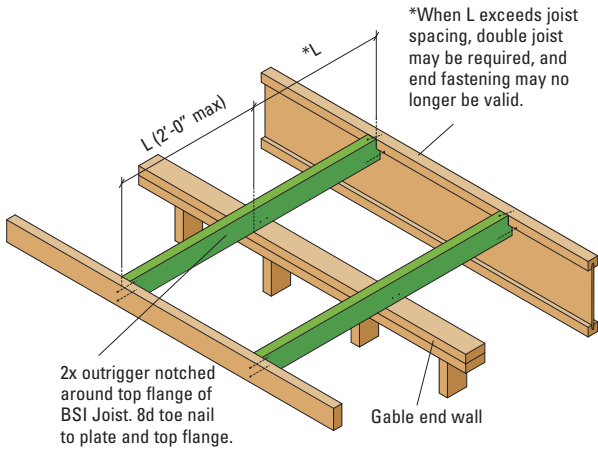
k₂ 2x4 nailed to side of top flange with 10d box nails at 8" o.c. Place 2x4 cripple stud at plate, under 2x4 overhang. Bevel cut to match roof slope.



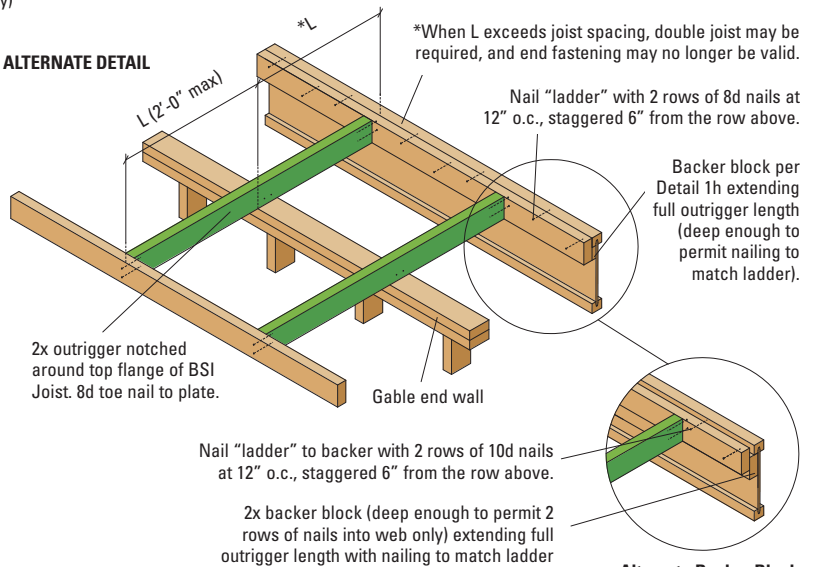
Roof Details (continued)

Refer to General Notes on page 22.

2m OVERHANG PARALLEL TO JOIST (Blocking at wall not shown for clarity)

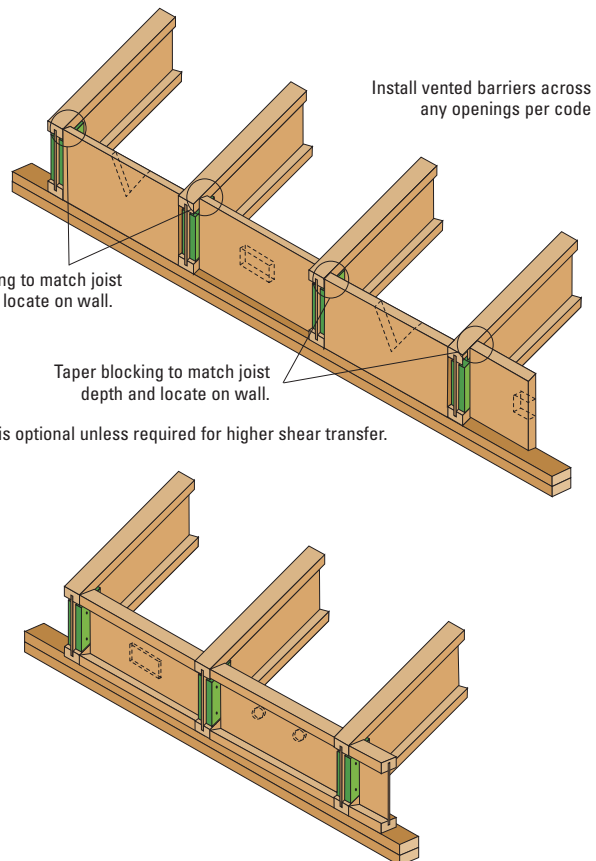
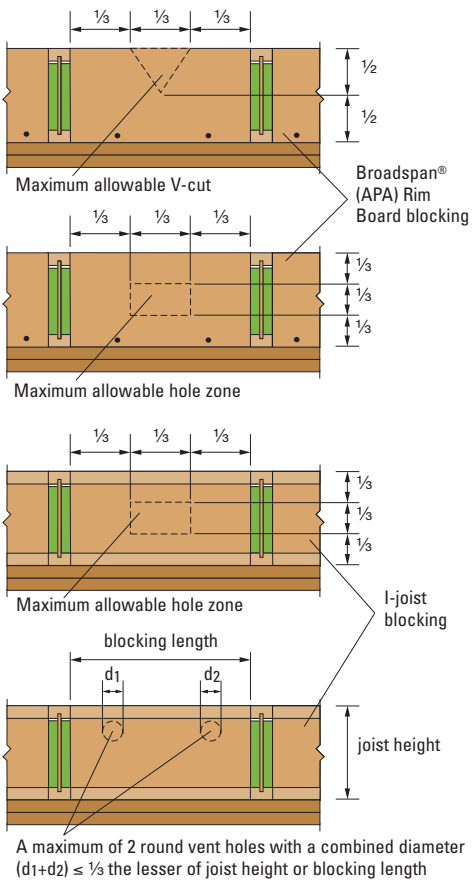


ALTERNATE DETAIL



Alternate Backer Block

2n ROOF BLOCKING WITH PERMITTED VENTILATION

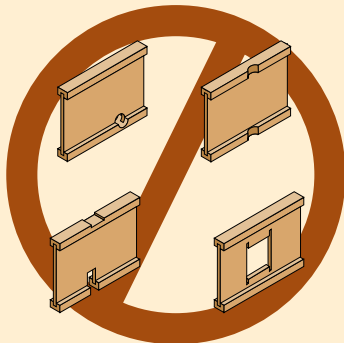


Web Hole Specifications

One of the benefits of using I-joists in residential floor construction is that holes may be cut in the joist webs to accommodate electrical wiring, plumbing lines and other mechanical systems, therefore minimizing the depth of the floor system.

Rules for cutting holes in BSI Joists

1. The distance between the inside edge of the support and the centerline of any hole shall not be less than that shown in table on page 27.
2. Except for cutting to length and birdsmouth cuts, I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Holes may be located anywhere vertically in the web only. Whenever possible, center holes in the web and always maintain at least $\frac{1}{8}$ " of the web at the top and bottom of the hole. The maximum size hole that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus $\frac{1}{4}$ ".
4. The sides of square holes or longest sides of rectangular holes should not exceed three-fourths (75%) of the maximum round hole diameter permitted at that location. (For example, if a 10" diameter round hole is permitted, then the longest side of a rectangular hole cannot exceed $10" \times 0.75 = 7\frac{1}{2}"$.) Do not over-cut the sides or corners of rectangular holes.
5. Where more than one hole is necessary, the distance between nearest hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the largest rectangular hole). Each hole must comply with the requirements of table on page 27.
6. A knockout may be utilized anywhere it occurs and may be ignored for purposes of calculating minimum distances between holes.
7. A $1\frac{1}{2}$ " diameter hole can be placed anywhere in the web, including a cantilevered joist section, provided that it meets the requirements of 5 above, and does not penetrate required cantilever reinforcement.
8. For joists with more than one span, use the longest span to determine hole location in either span. For large differences in adjacent span lengths, use software to determine allowable hole locations.
9. Limit 3 maximum size holes per span.
10. A group of round holes at approximately the same location shall be permitted if they meet requirements for a single round hole circumscribed around them.

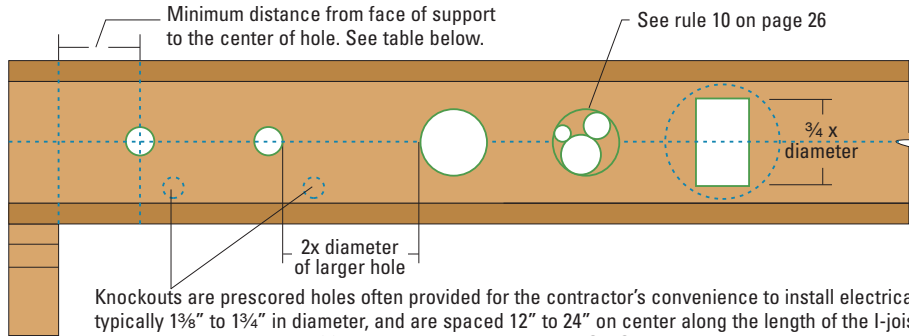


Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw or drill bit, not by hammering (except at pre-scored knockouts.)

For rectangular holes, avoid over cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Start the rectangular hole by drilling a 1" diameter hole in each of the four corners and then make the cuts between the holes to minimize damage to I-joist.

Typical Holes



Minimum Distance from Face of Joist Supports to Center of Hole – Worst Case Single or Multiple Span, 40 psf Live Load and 10 or 20 psf Dead Load

I-Joist Depth	Broadspan® Joist Series	Span Adjustment Factor	Round Hole Diameter (in.)														
			2	3	4	5	6	6 1/4	7	8	8 5/8	9	10	10 3/4	11	12	12 3/4
			Minimum Distance from Inside Face of Joist Supports to Center of Hole														
9 1/2"	BSI 200	13' – 10"	1' – 6"	2' – 6"	3' – 6"	4' – 6"	5' – 6"	6' – 0"									
	BSI 400	14' – 6"	1' – 6"	2' – 6"	3' – 6"	4' – 6"	6' – 0"	6' – 6"									
11 7/8"	BSI 200	15' – 5"	1' – 0"	1' – 0"	2' – 0"	3' – 0"	4' – 0"	4' – 3"	5' – 3"	6' – 6"	7' – 6"						
	BSI 400	16' – 6"	1' – 0"	1' – 6"	2' – 6"	3' – 6"	4' – 6"	4' – 9"	5' – 6"	7' – 0"	8' – 3"						
	BSI 700	18' – 8"	1' – 6"	2' – 6"	3' – 9"	5' – 0"	6' – 0"	6' – 3"	7' – 0"	8' – 3"	9' – 3"						
14"	BSI 900	21' – 0"	1' – 0"	2' – 6"	3' – 6"	5' – 0"	6' – 3"	6' – 9"	7' – 9"	9' – 0"	10' – 0"						
	BSI 200	15' – 5"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	2' – 0"	2' – 3"	3' – 3"	4' – 6"	5' – 6"	6' – 0"	7' – 6"	9' – 0"			
	BSI 400	17' – 1"	1' – 0"	1' – 0"	1' – 6"	2' – 6"	3' – 9"	4' – 0"	5' – 0"	6' – 0"	6' – 9"	7' – 0"	8' – 9"	10' – 6"			
	BSI 700	19' – 9"	1' – 0"	1' – 0"	2' – 6"	3' – 6"	5' – 0"	5' – 3"	6' – 6"	7' – 6"	8' – 6"	9' – 0"	10' – 0"	11' – 6"			
16"	BSI 900	23' – 10"	1' – 0"	1' – 0"	2' – 6"	3' – 9"	5' – 0"	5' – 6"	6' – 6"	7' – 9"	8' – 9"	9' – 3"	11' – 0"	12' – 3"			
	BSI 400	17' – 1"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 9"	2' – 3"	3' – 0"	4' – 3"	5' – 0"	5' – 6"	7' – 0"	7' – 9"	8' – 0"	10' – 0"	11' – 6"
	BSI 700	19' – 9"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	2' – 6"	3' – 0"	4' – 0"	5' – 6"	6' – 6"	7' – 0"	9' – 0"	10' – 0"	10' – 6"	12' – 0"	13' – 3"
9 1/2"	BSI 40S	13' – 4"	1' – 0"	1' – 9"	2' – 9"	3' – 9"	5' – 0"	5' – 6"									
	BSI 60S	15' – 3"	2' – 0"	3' – 0"	4' – 0"	5' – 3"	6' – 6"	7' – 0"									
11 7/8"	BSI 40S	15' – 3"	1' – 0"	1' – 0"	1' – 9"	2' – 9"	3' – 9"	4' – 0"	4' – 9"	6' – 0"	7' – 9"						
	BSI 60S	17' – 1"	1' – 0"	1' – 6"	2' – 6"	3' – 9"	5' – 0"	5' – 6"	6' – 3"	7' – 9"	8' – 9"						
14"	BSI 80S	19' – 0"	1' – 0"	2' – 6"	4' – 6"	5' – 3"	6' – 9"	7' – 0"	8' – 0"	9' – 6"	10' – 3"						
	BSI 40S	16' – 9"	1' – 0"	1' – 0"	1' – 0"	1' – 6"	2' – 6"	2' – 9"	3' – 6"	4' – 6"	5' – 3"	5' – 6"	7' – 0"	8' – 6"			
	BSI 60S	17' – 3"	1' – 0"	1' – 0"	1' – 0"	2' – 0"	3' – 3"	3' – 9"	4' – 9"	6' – 0"	7' – 0"	7' – 6"	9' – 6"	10' – 9"			
16"	BSI 80S	20' – 1"	1' – 0"	1' – 0"	2' – 6"	3' – 9"	5' – 0"	5' – 6"	6' – 6"	8' – 0"	9' – 3"	9' – 9"	11' – 3"	12' – 6"			
	BSI 40S	17' – 5"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 9"	2' – 9"	3' – 6"	3' – 9"	5' – 0"	6' – 0"	6' – 3"	7' – 9"	9' – 6"
	BSI 60S	17' – 7"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 0"	1' – 3"	2' – 6"	4' – 0"	5' – 0"	5' – 6"	7' – 0"	8' – 3"	8' – 6"	10' – 6"	12' – 3"
	BSI 80S	21' – 1"	1' – 0"	1' – 0"	1' – 0"	2' – 0"	3' – 6"	4' – 0"	5' – 0"	6' – 6"	7' – 9"	8' – 6"	10' – 0"	11' – 3"	11' – 6"	13' – 0"	14' – 6"

NOTES

- Above tables may be used for I-joist spacing of 24" on center or less.
- Hole location distance is measured from inside face of supports to center of hole. The minimum distance should be satisfied from both supports of the span where the hole is located.
- Distances in this table are based on uniformly loaded joists that meet the span table requirements on page 7.
- For joists with more than one span, use the longest span to determine hole location in either span. For large differences in adjacent span lengths, use software to determine allowable hole locations.

OPTIONAL MINIMUM DISTANCE REDUCTION

The above table is based on the I-joists being used at their maximum span. If the I-joists are placed at less than their full allowable span as shown on page 7, the minimum distance from the inside face of the joist supports to the centerline of the hole (D) as given above may be reduced as follows, but cannot be less than given in the "Limit Table for Reducing Minimum Distance".

$$D_{\text{reduced}} = \frac{L_{\text{actual}} \times D}{\text{SAF}}$$

Where:

D_{reduced} = Distance from the inside face of the joist supports to center of hole, reduced for less-than-maximum span applications (ft).

L_{actual} = The actual measured span distance between the inside faces of supports (ft).

SAF = Span Adjustment Factor given in table above.

D = The minimum distance from the inside face of the joist supports to the center of hole from table above.

Note: If $\frac{L_{\text{actual}}}{\text{SAF}}$ is greater than 1.0, use $\frac{L_{\text{actual}}}{\text{SAF}} = 1.0$ in the above calculation for D_{reduced} .

LIMIT TABLE FOR REDUCING MINIMUM DISTANCE

When calculating hole locations by this optional method, the following limits for minimum distances between the inside face of the joist supports and the centerline of the hole apply:

Round Hole Diameter	Minimum Distance	Round Hole Diameter	Minimum Distance	Round Hole Diameter	Minimum Distance
2"	0' – 6"	6 1/4"	1' – 6"	10"	1' – 6"
3"	0' – 6"	7"	1' – 6"	10 3/4"	1' – 6"
4"	1' – 0"	8"	1' – 6"	11"	1' – 6"
5"	1' – 0"	8 5/8"	1' – 6"	12"	1' – 6"
6"	1' – 0"	9"	1' – 6"	12 3/4"	2' – 0"