SAFETY & CONSTRUCTION PRECAUTIONS

Do not allow workers to walk on I-joists or LVL beams until they are fully installed and braced, or serious injuries can result.

Never stack building materials over unsheathed I-joists. Stack only over braced beams or walls.

WARNING

I-joists and LVL beams are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following These Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. However, if additional support, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
   - Temporary bracing or struts must be 1 x 4 inch minimum, at least 8 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 8d (2-1/2") nails fastened to the top surface of each I-joist. Nail bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
   - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. See APA Technical Note number J735B "Temporary Construction Loads Over I-Joist Roofs and Floors" for additional information regarding proper stacking of building materials.
5. Never install a damaged I-joist or LVL beam.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for RFPI®-Joists or RigidLam® LVL, failure to use allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

1. Do not drop I-joists or LVL off the delivery truck. Best practice is use of a forklift or boom.
2. Store bundles upright on a smooth, level, well-drained supportive surface.
3. DO NOT store I-joists or LVL in direct contact with the ground. Bundles should be a minimum of 6" off the ground and supported every 10' or less.
4. Always stack and handle I-joists in their upright position only.
5. Place 2x or LVL spacers (at a maximum of 10' apart) between bundles stored on top of one another. Spacers above should be lined up with spacers below.
6. Bundles should remain wrapped, strapped, and protected from the weather until time of installation.
7. Do not lift I-joist bundles by top flange.
8. Avoid excessive bowing or twisting of I-joists or LVL during all phases of handling and installation (i.e. measuring, sawing or placement). Never load I-joists in the flat-wise orientation.
9. Take care to avoid forklift damage. Reduce forklift speed to avoid "bouncing" the load.
10. When handling I-joists with a crane ("picking"), take a few simple precautions to prevent damage to the I-joists and injury to your work crew:
    - Pick I-joists in the bundles as shipped by the supplier.
    - Orient the bundles so that the webs of the I-joists are vertical.
    - Pick the bundles at the 5th points, using a spreader bar if necessary.
11. Do not stack LVL bundles on top of I-joist bundles.
12. NEVER USE A DAMAGED I-JOIST OR LVL. All field repairs must be approved by a Design Professional.

ROSEBURG FRAMING SYSTEM® INSTALLATION GUIDE

RFPI® JOIST • RIGIDLAM® LVL

Quality Engineered Wood Products For Today's Builder®

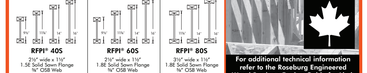
Form No. CCMC13 April 2019 / Revised April 2019

Supersedes previous panels. Go to Roseburg.com for current information.

CANADA

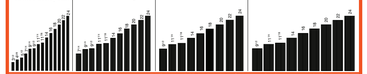
Available RFPI® Joist Sizes*

SOLID SAWN FLANGE



LVL FLANGE

Available RigidLam® LVL Sizes*



*Not all sizes available in all markets. Contact your Roseburg representative for availability.

For additional technical information refer to the Roseburg Engineered Wood Products Design Guide for Limit States Design

Roseburg
A Forest Products Company

3660 Gateway Street • Springfield, OR 97477
Tel. 800-347-7260 • Fax: 541-679-3612
www.Roseburg.com • email: wpsales@rfpco.com

PRINTED ON RECYCLED PAPER. © 2019 ROSEBURG FOREST PRODUCTS. ALL RIGHTS RESERVED. RFPI®, RIGIDLAM®, RIGIDRIM®, RFP-KEYBEAM®, RFP-KEYPLAN®, SMARTFRAMER™ AND ROSEBURG FOREST PRODUCTS ARE TRADEMARKS OF ROSEBURG FOREST PRODUCTS. REPRINTED BY THE U.S. COPYRIGHT LAWS. EXPRESSLY AUTHORIZED BY ROSEBURG FOREST PRODUCTS.

RFPI® JOIST ALLOWABLE CLEAR SPANS - STANDARD TERM

1. Allowable spans shown are based on uniformly loaded I-Joists with 1½" end bearing lengths and 3½" intermediate bearing lengths without the use of web stiffeners. When longer bearing lengths or web stiffeners are used, longer spans may be permitted. For applications with any of these other conditions, an engineering analysis may be required using the design properties found in *Roseburg's Design Guide - Engineered Wood Products, Limit States Design*. Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for other loading.
2. Design is to CSA O86-14 and CCMC vibration concluding report dated September 4, 1997.
3. Simple Spans are for joists supported at each end only.
4. Multiple Spans are for continuous joists spanning over three or more supports, where the shortest span is at least 50% of the longest span.
5. Multiple span lengths shown require adequate bottom flange lateral bracing.
6. Spans listed are clear distances between the face of supports.
7. Web stiffeners are not required for spans listed but may be required for other loadings.
8. Use in dry service conditions only.
9. Include lateral support at points of bearing to prevent twisting of joists.
10. Spans are based on the controlling condition of: L/360 live load deflection, L/240 total load deflection or CCMC floor vibration criteria.
11. Subfloor adhesive shall adhere to requirements of CGSB Standard CAN-CGSB-71.26-M88
12. Minimum bearing length to be 1-3/4" at ends and 3-1/2" at interior supports.
13. The ends of multiple span joists must be anchored to resist a factored uplift force of 10 plf x joist spacing x longest span (due to pattern loading).

TABLE 1

60 PSF LIVE LOAD and 10 PSF DEAD LOAD Glued Subfloor and No Directly Applied Ceiling

Joist Depth	Joist Series	Simple Span - 33/22" OSB Subfloor 12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	Multiple Span - 33/22" OSB Subfloor 12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	16'-6"	15'-2"	14'-8"	13'-11"	17'-5"	16'-3"	15'-10"	15'-1"
	RFPI® 40S	16'-6"	15'-7"	15'-0"	14'-0"	17'-11"	16'-11"	16'-3"	15'-4"
	RFPI® 400	16'-6"	15'-7"	15'-0"	14'-0"	17'-11"	16'-10"	16'-2"	15'-8"
	RFPI® 40	16'-10"	15'-10"	15'-4"	14'-8"	18'-2"	17'-2"	16'-7"	15'-11"
	RFPI® 60S	17'-1"	16'-11"	15'-6"	14'-10"	18'-3"	17'-10"	16'-9"	16'-1"
	RFPI® 70	17'-6"	16'-5"	15'-10"	15'-2"	19'-2"	17'-10"	17'-2"	16'-6"
11-7/8"	RFPI® 20	18'-1"	17'-0"	16'-5"	15'-9"	19'-11"	18'-6"	17'-9"	16'-7"
	RFPI® 40S	18'-1"	17'-7"	16'-10"	16'-2"	20'-7"	19'-2"	18'-2"	17'-10"
	RFPI® 400	18'-8"	17'-5"	16'-10"	16'-2"	20'-7"	19'-1"	18'-3"	17'-6"
	RFPI® 40	19'-1"	17'-9"	17'-1"	16'-5"	21'-1"	19'-3"	18'-8"	17'-9"
	RFPI® 60S	19'-5"	18'-6"	17'-8"	16'-8"	21'-8"	19'-11"	19'-2"	18'-2"
	RFPI® 70	20'-0"	18'-6"	17'-9"	17'-0"	22'-2"	20'-6"	19'-6"	18'-7"
	RFPI® 80S	20'-10"	19'-2"	18'-4"	17'-6"	22'-7"	21'-4"	20'-4"	19'-2"
	RFPI® 90	21'-10"	20'-2"	19'-2"	18'-2"	24'-2"	22'-4"	21'-3"	20'-2"
14"	RFPI® 20	20'-1"	18'-7"	17'-10"	17'-1"	22'-2"	20'-7"	19'-8"	18'-7"
	RFPI® 40S	20'-1"	19'-2"	18'-4"	17'-6"	22'-10"	21'-2"	20'-2"	19'-2"
	RFPI® 400	20'-9"	19'-2"	18'-4"	17'-6"	22'-11"	21'-3"	20'-2"	19'-2"
	RFPI® 40	21'-2"	19'-8"	18'-9"	17'-10"	23'-5"	21'-9"	20'-9"	19'-8"
	RFPI® 60S	21'-7"	20'-0"	19'-1"	18'-1"	23'-10"	22'-1"	21'-1"	20'-0"
	RFPI® 70	22'-3"	20'-7"	19'-7"	18'-7"	24'-7"	22'-9"	21'-9"	20'-7"
	RFPI® 80S	23'-2"	21'-5"	20'-4"	19'-4"	25'-7"	23'-8"	22'-7"	21'-4"
	RFPI® 90	24'-3"	22'-5"	21'-4"	20'-2"	26'-11"	24'-10"	23'-7"	22'-4"
16"	RFPI® 20	20'-8"	19'-2"	18'-3"	17'-5"	22'-7"	20'-9"	19'-8"	18'-7"
	RFPI® 40S	22'-7"	20'-11"	19'-11"	18'-11"	24'-11"	23'-1"	22'-1"	19'-4"
	RFPI® 400	22'-7"	20'-11"	19'-11"	18'-11"	24'-11"	23'-1"	22'-1"	19'-4"
	RFPI® 40	23'-1"	21'-4"	20'-5"	19'-4"	25'-6"	23'-8"	22'-6"	21'-5"
	RFPI® 60S	23'-6"	21'-9"	20'-9"	19'-8"	26'-0"	24'-1"	23'-1"	21'-9"
	RFPI® 70	24'-2"	22'-5"	21'-4"	20'-3"	26'-10"	24'-10"	23'-8"	21'-6"
	RFPI® 80S	25'-2"	23'-2"	22'-2"	21'-0"	27'-11"	25'-9"	24'-7"	22'-3"
	RFPI® 90	26'-5"	24'-5"	23'-2"	21'-11"	29'-4"	27'-0"	25'-8"	24'-4"

TABLE 2

40 PSF LIVE LOAD and 10 PSF DEAD LOAD Glued Subfloor and No Directly Applied Ceiling

Joist Depth	Joist Series	Simple Span - 19/32" OSB Subfloor 12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	Multiple Span - 19/32" OSB Subfloor 12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	15'-3"	14'-0"	13'-11"	16'-4"	15'-7"	15'-1"	14'-6"	13'-7"
	RFPI® 40S	15'-8"	14'-9"	14'-4"	16'-11"	16'-0"	16'-0"	15'-4"	14'-5"
	RFPI® 400	15'-8"	14'-9"	14'-4"	16'-11"	16'-0"	16'-0"	15'-4"	14'-5"
	RFPI® 40	15'-11"	15'-1"	14'-7"	17'-2"	16'-4"	15'-9"	15'-9"	14'-9"
	RFPI® 60S	16'-2"	15'-3"	14'-9"	17'-4"	16'-6"	16'-6"	16'-0"	15'-0"
	RFPI® 70	16'-7"	15'-7"	15'-1"	17'-11"	16'-11"	16'-11"	16'-1"	15'-11"
11-7/8"	RFPI® 20	17'-1"	16'-2"	15'-7"	18'-8"	17'-6"	16'-6"	16'-11"	
	RFPI® 40S	17'-7"	16'-7"	16'-0"	18'-7"	17'-11"	17'-11"	17'-4"	
	RFPI® 400	17'-7"	16'-7"	16'-0"	19'-2"	17'-11"	17'-11"	17'-4"	
	RFPI® 40	17'-10"	16'-10"	16'-4"	19'-9"	18'-4"	17'-8"		
	RFPI® 60S	18'-1"	17'-1"	16'-6"	20'-1"	18'-7"	17'-11"		
	RFPI® 70	18'-8"	17'-6"	16'-11"	20'-8"	19'-2"	18'-5"		
	RFPI® 80S	19'-3"	18'-2"	17'-6"	21'-5"	19'-9"	18'-9"		
	RFPI® 90	20'-9"	18'-10"	18'-1"	22'-8"	20'-11"	20'-0"		
14"	RFPI® 20	18'-9"	17'-7"	17'-0"	20'-9"	19'-3"	18'-4"		
	RFPI® 40S	19'-4"	18'-0"	17'-5"	21'-9"	19'-10"	19'-0"		
	RFPI® 400	19'-4"	18'-0"	17'-5"	21'-9"	19'-11"	19'-1"		
	RFPI® 40	19'-7"	18'-9"	17'-9"	22'-11"	20'-4"	19'-6"		
	RFPI® 60S	20'-2"	18'-8"	17'-11"	22'-4"	20'-8"	19'-10"		
	RFPI® 70	20'-10"	19'-3"	18'-3"	23'-0"	21'-4"	20'-8"		
	RFPI® 80S	21'-8"	20'-0"	19'-2"	24'-0"	22'-2"	21'-3"		
	RFPI® 90	22'-9"	21'-0"	20'-0"	25'-2"	23'-2"	22'-3"		
16"	RFPI® 20	19'-3"	17'-9"	17'-2"	21'-2"	19'-6"	18'-7"		
	RFPI® 40S	21'-1"	19'-7"	18'-9"	23'-4"	21'-8"	20'-9"		
	RFPI® 400	21'-7"	20'-0"	19'-2"	23'-11"	22'-2"	21'-2"		
	RFPI® 40	22'-0"	20'-5"	19'-6"	24'-4"	22'-7"	21'-7"		
	RFPI® 60S	22'-6"	21'-0"	20'-1"	25'-1"	23'-2"	22'-2"		
	RFPI® 70	23'-2"	21'-10"	20'-10"	26'-2"	24'-2"	23'-1"		
	RFPI® 80S	24'-0"	22'-10"	21'-10"	27'-5"	25'-4"	24'-2"		
	RFPI® 90	24'-9"	22'-10"	21'-10"	27'-5"	25'-4"	24'-2"		

RFPI® JOIST WEB HOLES

1. Except for cutting to length, never cut, drill, or notch I-joist flanges.
2. Whenever possible center holes vertically in the middle of the web. However, holes may be located vertically anywhere in the web provided a minimum of 1/8" of web remains between the edge of the hole and the flanges.
3. The sides of square holes (or longest side of rectangular hole) shall not exceed three-fourths of the maximum round hole diameter permitted at that location. Do not over-cut the sides of square or rectangular holes.
4. Where more than one hole is necessary, the distance between adjacent hole edges must be a minimum of 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 longest rectangular hole). In addition, each hole must comply with the requirements of the Hole Chart.
5. A 1¼" hole can be cut anywhere in the web provided the requirements of Note 4 are met. **DO NOT** hammer holes in web, except at prescored knock-out holes.
6. A group of round holes not satisfying the same criteria shall be permitted if they meet the requirements for a single round hole circumscribed around them.

How to Use The Hole Chart:

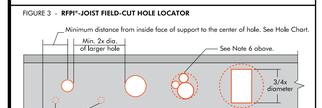
1. Read across the top of Hole Chart to the desired hole size.
2. Follow this column down to the row that represents the I-joist depth and designation. This number indicates the minimum distance from the face of the support to the centerline of the hole.

Example: Need a 5½-inch hole in an 11⅞" RFPI® 40S joist.
From Hole Chart:
For a 5-inch round hole, the minimum distance is 2'-3".
For a 6-inch round hole, the minimum distance is 2'-9".
Therefore the minimum distance for the 5½-inch round hole is 2'- 0" (halfway between 2'-3" and 3'-9").

HOLE CHART - **MINIMUM DISTANCE FROM INSIDE FACE OF NEAREST SUPPORT TO CENTER OF HOLE**

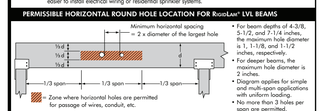
I-Joist Depth	Joist Designation	Round Hole Diameter (in.) 3	4	4.5	5	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
		Minimum Distance from Inside Face of Nearest Support to Center of Hole (ft-in.)													
9-1/2"	RFPI 20	0'-7"	0'-8"	2'-0"	3'-6"	3'-2"	3'-1"	3'-0"	2'-11"	2'-10"	2'-9"	2'-7"	2'-6"	2'-5"	2'-4"
	RFPI 40S	0'-7"	1'-6"	2'-10"	4'-4"	5'-11"	6'-4"								
	RFPI 400	0'-7"	1'-1"	2'-7"	4'-1"	5'-10"	6'-3"								
	RFPI 40	0'-7"	0'-8"	2'-1"	3'-9"	5'-7"	6'-11"								
	RFPI 60S	0'-11"	2'-3"	3'-8"	5'-2"	6'-9"	7'-3"								
	RFPI 70	0'-7"	0'-10"	2'-5"	4'-11"	5'-11"	6'-5"								
11-7/8"	RFPI 20	0'-7"	0'-8"	0'-8"	1'-8"	3'-11"	5'-5"	4'-6"	6'-1"	7'-2"					
	RFPI 40S	0'-7"	0'-8"	0'-10"	2'-2"	3'-7"	4'-7"	5'-1"	6'-9"	7'-10"					
	RFPI 400	0'-7"	0'-8"	0'-10"	2'-3"	3'-9"	4'-1"	5'-3"	7'-0"	8'-1"					
	RFPI 40	0'-7"	0'-8"	0'-8"	2'-0"	3'-6"	3'-11"	5'-2"	6'-11"	8'-1"					
	RFPI 60S	0'-7"	0'-8"	1'-8"	2'-7"	4'-10"	6'-6"	7'-8"	8'-10"	10'-1"					
	RFPI 70	0'-7"	0'-8"	1'-0"	2'-4"	4'-0"	4'-5"	5'-8"	7'-5"	8'-8"					
	RFPI 80S	0'-7"	0'-8"	1'-2"	2'-8"	4'-3"	4'-8"	5'-11"	7'-9"	9'-0"					
	RFPI 90	0'-7"	0'-8"	0'-9"	2'-2"	3'-7"	4'-2"	6'-4"	8'-2"	9'-5"					
14"	RFPI 20	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-4"	2'-9"	3'-8"	4'-2"	5'-9"	6-11"	7'-4"	9'-1"
	RFPI 40S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	1'-7"	2'-6"	3'-0"	4'-9"	6'-2"	6'-8"	8'-9"
	RFPI 400	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-1"	2'-4"	3'-3"	3'-7"	4'-6"	5'-9"	6'-3"	8'-3"
	RFPI 40	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-0"	8'-11"
	RFPI 60S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-3"
	RFPI 70	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-5"
	RFPI 80S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-11"
	RFPI 90	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	11'-8"
16"	RFPI 20	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-4"	2'-9"	3'-8"	4'-2"	5'-9"	6'-11"	7'-4"	9'-1"
	RFPI 40S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-1"	2'-4"	3'-3"	4'-0"	5'-2"	6'-4"	7'-0"	8'-11"
	RFPI 400	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-1"	2'-4"	3'-3"	4'-0"	5'-2"	6'-4"	7'-0"	9'-1"
	RFPI 40	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-5"
	RFPI 60S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-5"
	RFPI 70	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	9'-11"
	RFPI 80S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	11'-8"
	RFPI 90	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-3"	2'-7"	3'-6"	4'-0"	5'-3"	6'-6"	7'-3"	12'-7"

FIGURE 3 - **RFPI®-JOIST FIELD-CUT HOLE LOCATOR**



Knockouts are prescored holes for the contractor's convenience to install electrical or small plumbing lines. They are 1½" in diameter, and are spaced approximately 1.6" on center along the web of the I-joist. **Where possible, it is preferable to use knockouts instead of field cutting holes.** For floor applications, position the I-joists so the knockouts are all on the bottom of the joist, making it easier to install electrical wiring or residential sprinkler systems.

PERMISSIBLE HORIZONTAL ROUND HOLE LOCATION FOR RIGIDLAM® LVL BEAMS



- Note: Larger holes, more holes and/or holes that are located outside of the shaded area shown may be permissible as verified by appropriate software or engineering analysis.
- For beam depths of 4-3/8, 5-1/2, and 7-1/4 inches, the maximum hole diameter is 1, 1-1/8, and 1-1/2 inches, respectively.
- For deeper beams, the maximum hole diameter is 2 inches.
- Diagram applies for simple and multi-span applications with uniform loading.
- No more than 3 holes per span are permitted.
- Holes should not be cut in cantilevers.

Notes:

1. Distances in this hole chart are based on uniformly loaded I-joists and allowable I-joist reactions **without web stiffeners** on minimum required bearing lengths. This chart conservatively accounts for the worst case created by the allowable **simple or multiple** span joists shown elsewhere in this guide at on-center spacings of 12", 16", 19.2" and 24" with floor loads of 40 psf live load and 10 psf dead load. **Holes in conditions that fall outside of the hole chart parameters (including the use of web stiffeners, longer bearing lengths or other loading conditions) may still be acceptable. The most accurate method of determining the acceptability of a given hole is the use of appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for the actual condition.**
2. Hole location distance is measured from inside face of nearest support to center of hole.

Never drill, cut or notch the flange, or over-cut the web. Holes in webs should be cut with a sharp saw. 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 the I-joist.

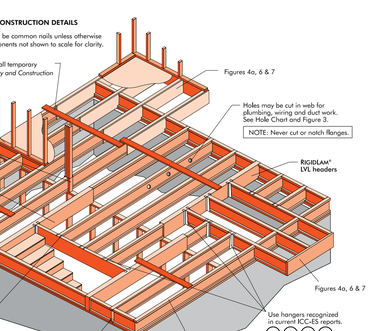
INSTALLING RFPI®-JOISTS FOR FLOOR SYSTEMS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
2. Except for cutting to length, never cut, drill, or notch I-joist flanges.
3. RFPI-Joists are produced without camber so either flange can be the top or bottom flange; however, orienting the floor I-joists so the pre-scored knockouts are on the bottom may ease installation of electrical wiring or residential sprinkler systems.
4. Install I-joists so that top and bottom flanges are within ½ inch of true vertical alignment.
5. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
6. Minimum bearing lengths: 1¾ inches for end bearings and 3½ inches for intermediate bearings.
7. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
8. Leave a ⅛-inch gap between the I-joist end and a header.
9. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist web.
10. Never install I-joists where they will be permanently exposed to weather or where they will remain in direct contact with concrete or masonry.
11. Restrain ends of floor joists to prevent rollover. Use RigidRim™ Rimboard, rim joists or I-joist blocking panels.
12. For I-joists installed over and beneath bearing walls, use full depth blocking panels, RigidRim™ Rimboard, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
13. Due to shrinkage, common framing lumber set on edge cannot be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as RigidRim™ Rimboard – must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
14. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
15. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
16. See table at right for recommended sheathing attachment with nails. If sheathing is to be attached with screws, the screw size should be equal to or only slightly larger than the recommended nail size. Space the screws the same as the required nail spacing. The unfreeshed shank of the screw should extend beyond the thickness of the panel to ensure that the panel is pulled securely against the I-joist flange. Use screws intended for structural assembly of wood structures. It is recommended to use screws from a manufacturer that can provide an ICC-ES Report (or similar) with approved application specifications and design values. Drywall screws can be brittle and should not be used.
17. Nail spacing & guidelines
    a. Attach sheathing to RFPI-Joist in accordance with applicable building code or approved building plan. **However, do not use nails larger or spaced closer than shown in the table at right.**
    b. If more than one row of nails is required, rows must be offset by at least 1" and staggered.
    c. 14 gauge staples may be substituted for 8d (2-1/2") nails if staples penetrate the joist at least 1".
    d. 10d (3") box nails may be substituted for 8d (2-1/2") common nails.
    e. Nails on opposing flange edges must be offset one-half the minimum spacing.
    f. Maximum of 0.131" diameter (8d common)

FIGURE 2

TYPICAL RFPI®-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

All nails shown in the details below are assumed to be common nails unless otherwise noted. Notes (1a & 17 at left). Individual components not shown to scale for clarity. Some framing elements such as blocking panels have been omitted for clarity.



SHEATHING NAIL SPACING - See Note 17

Recommended Nail Size and Spacing[a]		Flange Face Nailing (in)[a,b,c]		Flange Edge Nailing (in)		
Flange Material	Fastener Diameter[d,e]	End Distance	Nail Spacing	End Distance	Nailed to one flange edge	Nailed to both flange edges[e,f]
LVL Flange I-joist	dia.≤ 0.128" (8d box or sinker, 10d box or sinker, 12d box)	3	3	3	3	6
	0.128"<dia.≤ 0.148" (8d.com, 10d.com, 12d.common, 16d box or sinker)	3	3	3[g]	6[g]	
Solid Sawn Flange I-joist	dia.≤ 0.128" (8d box or sinker, 10d box or sinker, 12d box)	2	2	2	2	4
	0.128"<dia.≤ 0.148" (8d.com, 10d.com, 12d sinker or com, 16d box or sinker)	2	3	2	3	6

RIM BOARD/I-JOIST BLOCKING PLF LIMITS - (DETAILS 1a, 1b, 1g)

The uniform vertical load capacity is limited to a rim board depth of 16 inches or less and is based on standard term load duration. This load capacity shall not be used in the design of a bending member, such as a joist, header, or rafter. For concentrated vertical load transfer, see 1d.

Blocking Panel or Rim Board	Factored Uniform Vertical Load Transfer Capacity (plf)
1-1/8" Rimboard	7335
1-1/8" Rimboard Plus	8090
RFPI® Joist	3300

WEB STIFFENERS

1. Web stiffeners are required:
   - When sides of the hangers do not laterally brace the top flange of each I-joist.
   - When I-joists are designed to support concentrated factored loads greater than 1580 lbs. applied to the I-joist's top flange between supports. In these applications only, the gap between the web stiffener and the flange shall be at the bottom flange.
   - For Birdsmouth cuts on roof I-joists.
2. Web stiffeners may be required per Note 1 of Tables 1 and 2.
3. When used at end bearings, install web stiffeners tight against the bottom flange of the I-joist. Leave a minimum ⅛-inch gap between the top of the stiffener and the bottom of the top flange (see Figure 1).
4. Web stiffeners may be cut in the field as required.

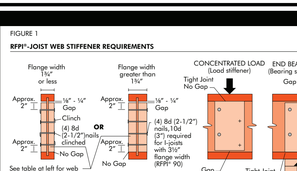
WEB STIFFENER SIZE REQUIRED

RFPI® Joist* Flange Width	Web Stiffener Size Each Side of Web
1-3/4"	19/32" x 2-5/16" minimum width
2-1/16"	3/4" x 2-5/16" minimum width
2-5/16"	7/8" x 2-5/16" minimum width
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

*See Table 4 for applicable joist designation.

FIGURE 1

RFPI®-JOIST WEB STIFFENER REQUIREMENTS


Flange width 1¾" or less
Approx. 2"
¼" - ⅛" Gap
Clinch
(4) 8d (2-1/2") nails clinched
No Gap
See table at left for web stiffener size requirements
Flange width greater than 1¾