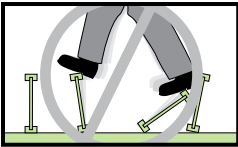
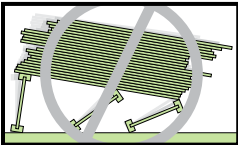


SAFETY & CONSTRUCTION PRECAUTIONS



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 unbraced 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.

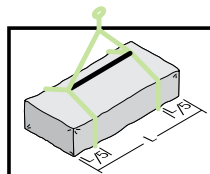
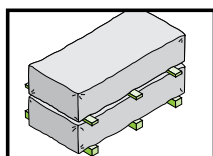
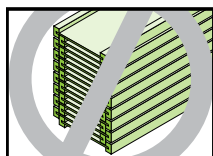
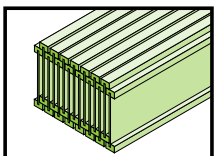
Avoid Accidents by Following These Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rimboard, 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. Until this sheathing is applied, 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 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, rimboard, 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.



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Supersedes previous version. Go to Roseburg.com for latest literature.
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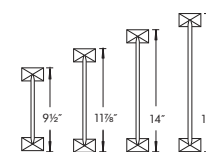
ROSEBURG FRAMING SYSTEM® INSTALLATION GUIDE

RFPI® JOIST • RIGIDLAM® LVL Quality Engineered Wood Products For Today's Builder®



Available RFPI® Joist Sizes*

SOLID SAWN FLANGE

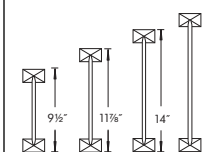


RFPI® 40S

2 1/2" wide x 1 1/2"
1.5E Solid Sawn Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14", 16"

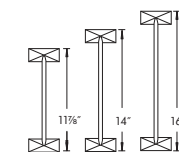


RFPI® 60S

2 1/2" wide x 1 1/2"
1.8E Solid Sawn Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14", 16"



RFPI® 80S

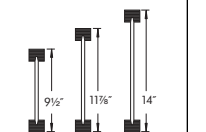
3 1/2" wide x 1 1/2"
1.8E Solid Sawn Flange
3/8" OSB Web

Depths

11 7/8", 14", 16"

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

LVL FLANGE

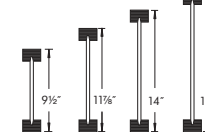


RFPI® 20

1 3/4" wide x 1 3/8"
LVL Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14"

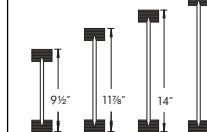


RFPI® 400

2 1/16" wide x 1 3/8"
LVL Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14", 16"

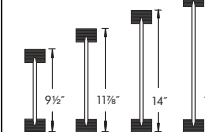


RFPI® 40

2 5/16" wide x 1 3/8"
LVL Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14", 16"

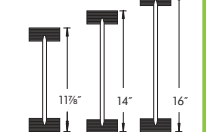


RFPI® 70

2 5/16" wide x 1 1/2"
LVL Flange
3/8" OSB Web

Depths

9 1/2", 11 7/8", 14", 16"



RFPI® 90

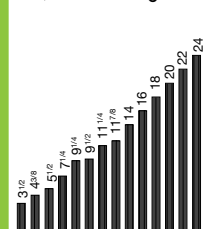
3 1/2" wide x 1 1/2"
LVL Flange
7/16" OSB Web

Depths

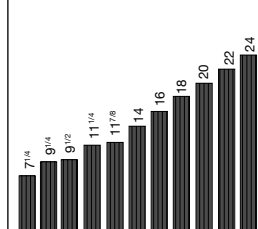
11 7/8", 14", 16"

Available RigidLam® LVL Sizes*

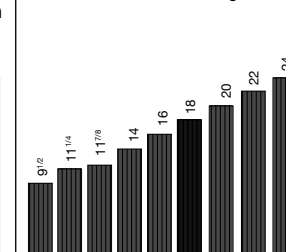
1-1/2" and 1-3/4"
1.3E, 1.5E & 2.0E RigidLam



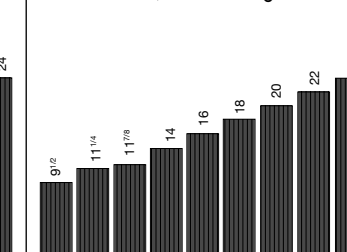
3-1/2"
1.3E, 1.5E, 2.0E & 2.2E RigidLam



5-1/4" 1.5E, 2.0E & 2.2E RigidLam



7" 1.5E, 2.0E & 2.2E RigidLam



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

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RFPI® JOIST ALLOWABLE CLEAR SPANS

- Allowable spans shown in Table 1 and Table 2 are based on uniformly loaded I-joists with 1 3/4" end bearing lengths and 3 1/2" intermediate bearing lengths without the use of web stiffeners. When longer bearing lengths or web stiffeners are used, longer spans may be permitted. Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for other conditions. Refer to the Engineered Wood section of the Roseburg website (www.Roseburg.com) for additional information.
- The allowable spans in Table 1 are for applications with a live load of 40 psf and a dead load of 10 psf. The allowable spans in Table 2 are for applications with a live load of 40 psf and a dead load of 20 psf.
- Deflection under live load is limited to L/480.
- Maximum spans shown are clear distances between supports.
- For multiple-span applications the end spans must be at least 40% or more of the adjacent span.
- Multiple span lengths shown require the installation of adequate bottom flange lateral bracing.
- Spans are based on a composite floor with glued-nailed sheathing meeting the requirements for APA Rated Sheathing or APA Rated STURD-I-FLOOR conforming to PRP-108, PS 1, or PS 2 with a minimum thickness of 19/32 inches (40/20 or 20 oc) for a joist spacing of 19.2 inches or less, or 23/32 (48/24 or 24 oc) for a joist spacing of 24 inches. Adhesives must meet APA Specification AFG-01 or ASTM D3498. Reduce spans by 1 foot when floor sheathing is nailed-only.
- Web stiffeners are not required when RFPI®-Joists are used according to the spans and spacings found in Tables 1 & 2 except as noted in this Installation Guide.
- SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

TABLE 1 - RFPI® JOIST ALLOWABLE SPANS - 40 PSF LIVE LOAD/10 PSF DEAD LOAD

Joist Depth	Joist Series	40/10 Simple Span				40/10 Multiple Span			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	17' - 2"	15' - 9"	14' - 10"	13' - 10"	18' - 9"	17' - 1"	16' - 2"	14' - 0"
	RFPI® 40S	18' - 0"	16' - 5"	15' - 6"	14' - 6"	19' - 7"	17' - 11"	16' - 4"	14' - 7"
	RFPI® 400	18' - 0"	16' - 5"	15' - 6"	14' - 6"	19' - 7"	17' - 10"	16' - 10"	15' - 9"
	RFPI® 40	18' - 7"	16' - 11"	16' - 0"	14' - 11"	20' - 2"	18' - 5"	17' - 5"	16' - 2"
	RFPI® 60S	18' - 11"	17' - 4"	16' - 4"	15' - 3"	20' - 8"	18' - 10"	17' - 9"	16' - 6"
	RFPI® 70	19' - 9"	18' - 0"	17' - 0"	15' - 10"	21' - 6"	19' - 7"	18' - 5"	17' - 2"
11-7/8"	RFPI® 20	20' - 6"	18' - 9"	17' - 9"	16' - 6"	22' - 4"	20' - 5"	18' - 10"	15' - 3"
	RFPI® 40S	21' - 5"	19' - 7"	18' - 6"	16' - 8"	23' - 5"	20' - 5"	18' - 7"	16' - 7"
	RFPI® 400	21' - 5"	19' - 7"	18' - 6"	17' - 3"	23' - 4"	21' - 4"	20' - 1"	17' - 9"
	RFPI® 40	22' - 1"	20' - 2"	19' - 0"	17' - 9"	24' - 1"	22' - 0"	20' - 8"	19' - 3"
	RFPI® 60S	22' - 7"	20' - 8"	19' - 6"	18' - 2"	24' - 8"	22' - 6"	21' - 2"	19' - 7"
	RFPI® 70	23' - 7"	21' - 6"	20' - 3"	18' - 10"	25' - 8"	23' - 5"	22' - 0"	19' - 9"
14"	RFPI® 80S	24' - 11"	22' - 8"	21' - 4"	19' - 11"	27' - 1"	24' - 8"	23' - 3"	21' - 7"
	RFPI® 90	26' - 6"	24' - 1"	22' - 8"	21' - 1"	28' - 10"	26' - 3"	24' - 8"	22' - 11"
	RFPI® 20	23' - 4"	21' - 4"	20' - 2"	18' - 6"	25' - 5"	22' - 7"	19' - 2"	15' - 3"
	RFPI® 40S	24' - 4"	22' - 3"	20' - 6"	18' - 4"	25' - 11"	22' - 5"	20' - 5"	18' - 3"
	RFPI® 400	24' - 4"	22' - 3"	21' - 0"	19' - 7"	26' - 7"	24' - 3"	22' - 3"	17' - 9"
	RFPI® 40	25' - 2"	22' - 11"	21' - 8"	20' - 2"	27' - 5"	25' - 0"	23' - 7"	19' - 9"
16"	RFPI® 60S	25' - 9"	23' - 6"	22' - 2"	20' - 8"	28' - 0"	25' - 7"	24' - 1"	19' - 9"
	RFPI® 70	26' - 10"	24' - 5"	23' - 0"	21' - 5"	29' - 3"	26' - 7"	24' - 9"	19' - 9"
	RFPI® 80S	28' - 3"	25' - 9"	24' - 3"	22' - 7"	30' - 9"	28' - 0"	26' - 4"	23' - 11"
	RFPI® 90	30' - 1"	27' - 5"	25' - 9"	23' - 11"	32' - 10"	29' - 10"	28' - 1"	26' - 0"
	RFPI® 40S	26' - 11"	24' - 3"	22' - 1"	19' - 9"	27' - 11"	24' - 2"	22' - 0"	19' - 8"
	RFPI® 400	27' - 0"	24' - 8"	23' - 4"	20' - 10"	29' - 6"	26' - 4"	22' - 3"	17' - 9"
16"	RFPI® 40	27' - 10"	25' - 5"	24' - 0"	22' - 4"	30' - 4"	27' - 8"	24' - 9"	19' - 9"
	RFPI® 60S	28' - 6"	26' - 0"	24' - 7"	22' - 11"	31' - 1"	28' - 4"	24' - 9"	19' - 9"
	RFPI® 70	29' - 9"	27' - 1"	25' - 6"	23' - 9"	32' - 5"	29' - 6"	24' - 9"	19' - 9"
	RFPI® 80S	31' - 4"	28' - 6"	26' - 10"	25' - 0"	34' - 2"	31' - 1"	29' - 3"	23' - 11"
	RFPI® 90	33' - 4"	30' - 4"	28' - 7"	26' - 7"	36' - 5"	33' - 1"	31' - 1"	26' - 7"

TABLE 2 - RFPI® JOIST ALLOWABLE SPANS - 40 PSF LIVE LOAD/20 PSF DEAD LOAD

Joist Depth	Joist Series	40/20 Simple Span				40/20 Multiple Span			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	17' - 2"	15' - 9"	14' - 10"	13' - 7"	18' - 9"	16' - 7"	14' - 7"	11' - 7"
	RFPI® 400	18' - 0"	16' - 5"	14' - 11"	13' - 4"	18' - 11"	16' - 4"	14' - 11"	13' - 3"
	RFPI® 40S	18' - 0"	16' - 5"	15' - 6"	14' - 6"	19' - 7"	17' - 10"	16' - 6"	14' - 1"
	RFPI® 40	18' - 7"	16' - 11"	16' - 0"	14' - 11"	20' - 2"	18' - 5"	17' - 5"	14' - 9"
	RFPI® 60S	18' - 11"	17' - 4"	16' - 4"	15' - 3"	20' - 8"	18' - 10"	17' - 6"	14' - 2"
	RFPI® 70	19' - 9"	18' - 0"	17' - 0"	15' - 10"	21' - 6"	19' - 7"	18' - 5"	15' - 4"
11-7/8"	RFPI® 20	20' - 6"	18' - 9"	17' - 3"	15' - 5"	21' - 10"	18' - 10"	15' - 11"	12' - 8"
	RFPI® 400	21' - 5"	18' - 8"	17' - 1"	15' - 3"	21' - 6"	18' - 7"	17' - 0"	15' - 2"
	RFPI® 40S	21' - 5"	19' - 7"	18' - 6"	16' - 10"	23' - 4"	20' - 7"	18' - 6"	14' - 9"
	RFPI® 40	22' - 1"	20' - 2"	19' - 0"	17' - 9"	24' - 1"	21' - 10"	19' - 11"	16' - 5"
	RFPI® 60S	22' - 7"	20' - 8"	19' - 6"	17' - 11"	24' - 8"	21' - 11"	20' - 0"	16' - 5"
	RFPI® 70	23' - 7"	21' - 6"	20' - 3"	18' - 10"	25' - 8"	23' - 5"	20' - 7"	16' - 5"
14"	RFPI® 80S	24' - 11"	22' - 8"	21' - 4"	19' - 11"	27' - 1"	24' - 8"	23' - 2"	18' - 6"
	RFPI® 90	26' - 6"	24' - 1"	22' - 8"	21' - 1"	28' - 10"	26' - 3"	24' - 8"	22' - 2"
	RFPI® 20	23' - 4"	20' - 8"	18' - 10"	15' - 8"	23' - 10"	19' - 2"	15' - 11"	12' - 8"
	RFPI® 400	23' - 9"	20' - 6"	18' - 9"	16' - 9"	23' - 8"	20' - 5"	18' - 8"	16' - 5"
	RFPI® 40S	24' - 4"	22' - 3"	20' - 7"	17' - 4"	26' - 0"	22' - 3"	18' - 6"	14' - 9"
	RFPI® 40	25' - 2"	22' - 11"	21' - 8"	19' - 6"	27' - 5"	23' - 10"	20' - 7"	16' - 5"
16"	RFPI® 60S	25' - 9"	23' - 6"	22' - 0"	19' - 8"	27' - 10"	24' - 1"	20' - 7"	16' - 5"
	RFPI® 70	26' - 10"	24' - 5"	23' - 0"	19' - 10"	29' - 3"	24' - 9"	20' - 7"	16' - 5"
	RFPI® 80S	28' - 3"	25' - 9"	24' - 3"	21' - 2"	30' - 9"	28' - 0"	24' - 11"	19' - 11"
	RFPI® 90	30' - 1"	27' - 5"	25' - 9"	23' - 2"	32' - 10"	29' - 10"	27' - 9"	22' - 2"
	RFPI® 400	25' - 7"	22' - 1"	20' - 2"	18' - 0"	25' - 6"	22' - 0"	20' - 1"	16' - 5"
	RFPI® 40S	27' - 0"	24' - 1"	21' - 9"	17' - 4"	27' - 9"	22' - 3"	18' - 6"	14' - 9"
16"	RFPI® 40	27' - 10"	25' - 5"	23' - 4"	19' - 10"	29' - 6"	24' - 9"	20' - 7"	16' - 5"
	RFPI® 60S	28' - 6"	26' - 0"	23' - 9"	19' - 10"	30' - 0"	24' - 9"	20' - 7"	16' - 5"
	RFPI® 70	29' - 9"	27' - 1"	24' - 10"	19' - 10"	32' - 5"	24' - 9"	20' - 7"	16' - 5"
	RFPI® 80S	31' - 4"	28' - 6"	26' - 6"	21' - 2"	34' - 2"	30' - 0"	24' - 11"	19' - 11"
	RFPI® 90	33' - 4"	30' - 4"	28' - 7"	23' - 2"	36' - 5"	33' - 1"	27' - 9"	22' - 2"

WEB STIFFENERS

- 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.
- Web stiffeners may be required per Note 1 of Tables 1 and 2.
- When used at end bearings, install web stiffeners tight against the bottom flange of the I-joist. Leave a minimum 1/8-inch gap between the top of the stiffener and the bottom of the top flange (see Figure 1).
- Web stiffeners may be cut in the field as required.

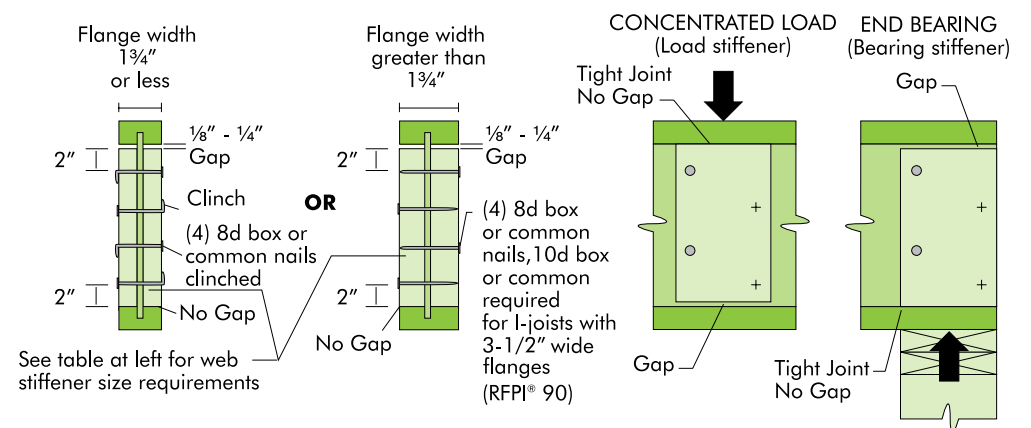
WEB STIFFENER SIZE REQUIRED

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"	7/8" x 2-5/16" minimum width
2-5/16"	1" 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

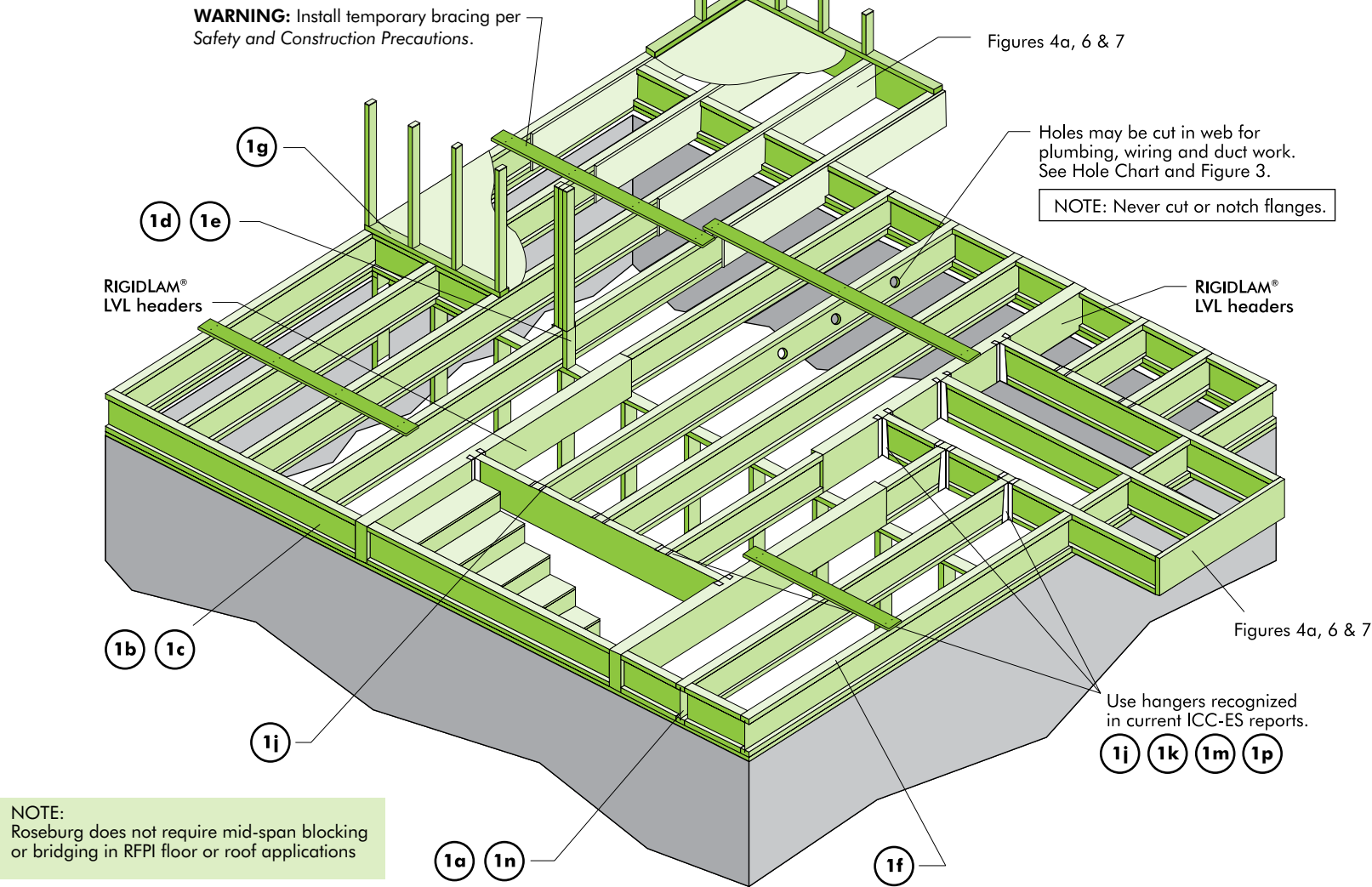
RFPI®-JOIST WEB STIFFENER REQUIREMENTS



INSTALLING RFPI®-JOISTS FOR FLOOR SYSTEMS

- Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
- Except for cutting to length, never cut, drill, or notch I-joist flanges.
- 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.
- Install I-joists so that top and bottom flanges are within ½ inch of true vertical alignment.
- I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
- Minimum bearing lengths: 1¾ inches for end bearings and 3½ inches for intermediate bearings.
- When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
- Leave a ¼-inch gap between the I-joist end and a header.
- 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.
- Never install I-joists where they will be permanently exposed to weather or where they will remain in direct contact with concrete or masonry.
- Restrain ends of floor joists to prevent rollover. Use RigidRim® Rimboard, rim joists or I-joist blocking panels.
- 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.
- Due to shrinkage, common framing lumber set on edge cannot be used as blocking or rimboards. 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.
- 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.
- 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.
- 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 unthreaded shank of the screw should extend beyond the thickness of the panel to assure 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.
- Nail spacing & guidelines
 - 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.**
 - If more than one row of nails is required, rows must be offset by at least ½" and staggered.
 - 14 gauge staples may be substituted for 8d (2-1/2") nails if staples penetrate the joist at least 1".
 - 10d (3") box nails may be substituted for 8d (2-1/2") common nails.
 - Nails on opposing flange edges must be offset one-half the minimum spacing.
 - 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 (see notes 16 & 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		Flange Face Nailing (in) (a)(b)		Flange Edge Nailing (in)		
Material	Fastener Diameter (c) (d)	End Distance	Nail Spacing	End Distance	Nailed to one flange edge	Nailed to both flange edges(e)
LVL Flange	dia. ≤ 0.128" (8d box or sinker, 10d box or sinker, 12d box)	3	2	3	3	6
	0.128" < dia. ≤ 0.148" (8d com, 10d com, 12d sinker or com, 16d box or sinker)	3	3	3	3(f)	6(f)
Solid Sawn Flange	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

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

The uniform vertical load capacity is limited to a rimboard depth of 16 inches or less and is based on 100% 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 Rimboard	Vertical Load Capacity (plf)
1-1/8" RigidRim® OSB Rimboard	4400
1-1/8" or 1-1/4" RigidRim® Plus OSB Rimboard	4850
1-1/4" RigidRim® Seismic OSB Rimboard	5700
1-1/2" 1.3E RigidRim® LVL Rimboard	4900
RFPI® Joist	2000

1a

RFPI® Joist blocking panel vertical load transfer = 2000 plf maximum or RigidRim® Rimboard (see 1b for vertical load capacity)

Attach I-joist to top plate per 1b

Attach blocking panel (or rimboard) to top plate with 8d nails @ 6" o.c. (when used for lateral shear transfer, nail to bearing plate with some nailing as required for decking)

1b

For Rimboard vertical load capacity see Rimboard/I Joist Blocking PLF Table in Figure 2

One 8d nail at top and bottom flange

Attach RigidRim® Rimboard to top plate using 8d box toenails @ 6" o.c.

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

To avoid splitting flange, install nails a minimum of 1 1/2" from end of I-Joist. Nails may be driven at an angle to avoid splitting of bearing plate.

1c

RFPI® Rim Joist vertical load transfer = 2000 plf maximum

Attach rim joist to floor joist with one nail at top and bottom. Nail must provide 1 inch minimum penetration into floor joist. For rim joist with flanges 2" and wider toenails may be used.

Attach I-joist to top plate per 1b

Attach rim joist to top plate per 1a

Minimum 1 3/4" bearing required (2x6 bearing plate required for rim joists with flange greater than 1 3/4")

1d

RFPI® or RigidRim® Rimboard blocking panel

Cut squash blocks 1/16" longer than I-Joist depths

Squash block

Provide lateral bracing per Detail 1a, 1b, 1c, or 1g

Pair of Squash Blocks	Maximum vertical load per pair of squash blocks (lb)	
	3-1/2" wide	5-1/2" wide
2x lumber	3800	5900
1-1/8" APA Rim Board, Rim Board Plus, or Rated Sturd-I-Floor 48 oc	2600	4000
1" APA Rim Board or Rated Sturd-I-Floor 32 oc	1900	3000

1e

Solid block all posts from above to bearing below. Install squash blocks per 1d. Match bearing area of blocks below to post above.

1f

Use single I-joist for loads up to 2000 plf, double I-joists for loads up to 4000 plf (filler block not required)

Attach rim joist to top plate per 1a

Provide backer for siding attachment unless nailable sheathing is used

Wall sheathing, as required

RIGIDRIM® Rimboard may be used in lieu of I-joists. Backer is not required when RIGIDRIM® Rimboard is used.

1g

Load bearing wall above shall align vertically with the wall below. Other conditions such as offset walls are not covered by this detail.

Joist attachment per detail 1b

Attach blocking to top plate per 1a

For Rimboard vertical load capacity, see Rimboard/I-Joist Blocking PLF Table in Figure 2

Roseburg requires blocking over all interior supports under load-bearing walls or when floor joists are not continuous over supports. In addition, blocking may be required at interior supports by project designer or by code for seismic design.

1p

- Backer block required for face-mount hangers (both sides of I-joist) & when top mount hanger load exceeds 250 lbs.
- See charts below for backer block thickness & depth.
- Install backer block tight to the top flange.

• Attach backer block to web with 16 - 10d common nails, clinched. See chart for maximum capacity for this detail.

• Backer block must be wide enough to permit required nailing without splitting (min. width of 12" recommended)

GENERAL NOTES:

- For hanger capacity see hanger manufacture recommendations.
- Verify I-joist capacity to support concentrated load from "header joist" in addition to all other loads.
- If a double I-joist is required to support "header joist" load, refer to Figure 5 for filler block and double I-joist connection guidelines.
- Before installing a backer block to a double I-joist, drive 4 additional 10d nails from both sides of double I-joist through the webs and filler block at backer block location. Clinch nails.

Top or Face-mounted hanger. Note: Unless face-mounted hanger sides laterally support the top flange, web stiffeners shall be used (See Figure 1)

1j

RIGIDLAM® LVL Beam

Top- or face-mounted hanger installed per hanger manufacturer's recommendations

For nailing schedules for multiple RIGIDLAM® LVL beams, see Fastening Recommendation For Multiple Ply, RIGIDLAM® LVL Members below

Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used. (see Figure 1)

1k

2x plate flush with inside face of wall or beam

Top-mounted hanger installed per hanger manufacturer's recommendations

1m

Multiple I-joist header with full depth filler block shown. RIGIDLAM® LVL headers may also be used. Verify double I-joist capacity to support concentrated loads.

Filler block, per Figure 5, Table 4

Install framing anchor per hanger manufacturer's recommendations (both sides of stringer)

Attach backer block per 1h.

Maximum support capacity = 1280 lb.

1n

Do not bevel-cut joist beyond inside face of wall

Attach I-joist per 1b

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

Single or Double I-joist as required (see General Notes above)

Header joist

Backer block tight to top flange (gap at bottom)

I-Joist Flange Width	Backer block Material Thickness Required ^{(a)(b)}	Max. load capacity using 16-10d com. nails
1-3/4"	23/32"	975 lbs
2-1/16"	7/8"	1135 lbs
2-5/16"	1"	1250 lbs
2-1/2"	1-1/8"	1250 lbs
3-1/2"	1-1/2"	1250 lbs

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

(b) Glue 2-ply backer blocks together with construction grade adhesive (ASTM D-3498)

Backer Block Depth				
Joist Depth	9-1/2"	11-7/8"	14"	16"
Top Mount Hangers - Min. Backer Block Depth	5-1/2"	5-1/2"	7-1/4"	7-1/4"
Face Mount Hangers - Req'd Backer Block Depth	6-1/4"	8-5/8"	10-3/4"	12-3/4"

RFPI® JOIST WEB HOLES

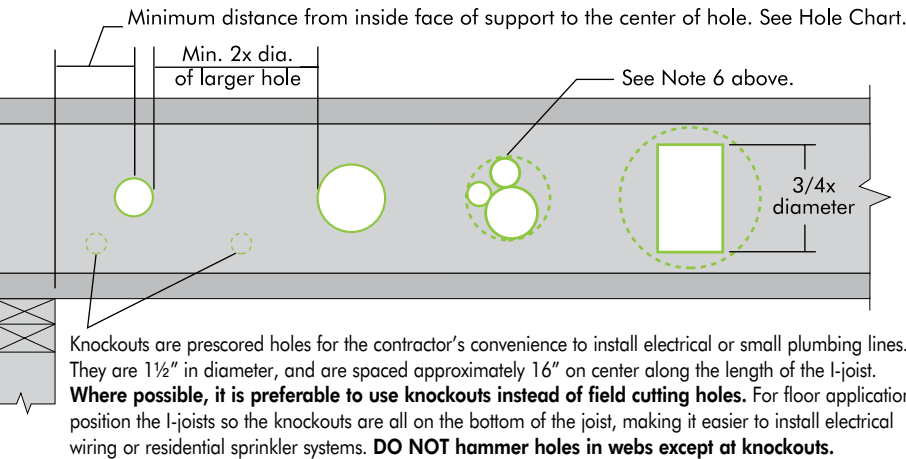
- 1. Except for cutting to length, never cut, drill, or notch I-joist flanges.
- 2. Whenever possible center holes vertically in the middle of the web. However, holes may be located vertically anywhere in the web provided a minimum of 1/8" of web remains between the edge of the hole and the flanges.
- 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 1½" 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 knockouts.**
- 6. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

How to Use The Hole Chart:

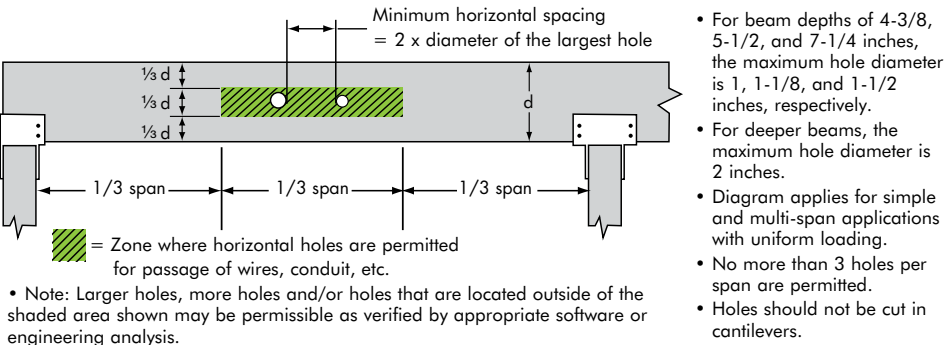
- 1. Read across the top of Hole Chart to the desired hole size.
- 2. Follow this column down to the row that represents the I-joist depth and designation. This number indicates the minimum distance from the face of the support to the centerline of the hole.

Example: Need a 4½-inch hole in an 11½" RFPI® 400 joist:
From Hole Chart,
For a 4-inch round hole, the minimum distance is 1'- 7".
For a 5-inch round hole, the minimum distance is 2'- 11".
Therefore the minimum distance for the 4½-inch round hole is 2'- 3" (halfway between 1'-7" and 2'-11").

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



PERMISSIBLE HORIZONTAL ROUND HOLE LOCATION FOR RIGIDLAM® LVL BEAMS



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

I-Joist Depth (in.)	Joist Designation	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 Nearest Support to Center of Hole (ft-in.)														
9-1/2"	RFPI 20	11.58	0'-7"	0'-8"	2'-0"	3'-6"	5'-4"	5'-9"									
	RFPI 40S	13.25	1'-2"	2'-2"	3'-3"	4'-4"	5'-9"	6'-3"									
	RFPI 400	14.08	1'-0"	2'-1"	3'-3"	4'-9"	6'-4"	6'-9"									
	RFPI 40	14.75	0'-8"	1'-11"	3'-2"	4'-9"	6'-6"	6'-11"									
	RFPI 60S	14.17	2'-0"	3'-3"	4'-8"	6'-1"	7'-7"	8'-0"									
	RFPI 70	15.33	1'-1"	2'-3"	3'-10"	5'-6"	7'-3"	7'-8"									
11-7/8"	RFPI 20	12.67	0'-7"	0'-8"	0'-8"	1'-9"	3'-4"	3'-9"	5'-0"	6'-10"	8'-0"						
	RFPI 40S	15.17	0'-7"	0'-10"	1'-10"	2'-11"	4'-0"	4'-4"	5'-2"	6'-8"	7'-11"						
	RFPI 400	14.75	0'-7"	0'-8"	1'-7"	2'-11"	4'-4"	4'-8"	5'-10"	7'-8"	8'-10"						
	RFPI 40	16.42	0'-7"	0'-10"	2'-0"	3'-5"	4'-11"	5'-3"	6'-5"	8'-2"	9'-6"						
	RFPI 60S	16.42	0'-8"	1'-10"	3'-2"	4'-5"	5'-10"	6'-2"	7'-4"	8'-11"	10'-1"						
	RFPI 70	16.42	0'-7"	1'-0"	2'-5"	3'-10"	5'-6"	6'-0"	7'-4"	9'-4"	10'-8"						
14"	RFPI 80S	18.50	0'-11"	2'-4"	3'-10"	5'-4"	6'-11"	7'-4"	8'-7"	10'-4"	11'-6"						
	RFPI 90	21.08	0'-7"	1'-4"	2'-9"	4'-4"	5'-11"	6'-4"	7'-7"	9'-5"	10'-10"						
	RFPI 20	12.67	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	1'-1"	2'-3"	4'-2"	5'-4"	6'-1"	8'-2"	9'-11"			
	RFPI 40S	16.42	0'-7"	0'-8"	0'-8"	1'-4"	2'-5"	2'-8"	3'-6"	4'-7"	5'-5"	6'-0"	7'-7"	9'-4"			
	RFPI 400	14.75	0'-7"	0'-8"	0'-8"	0'-9"	1'-11"	2'-4"	3'-7"	5'-3"	6'-4"	7'-0"	9'-0"	10'-10"			
	RFPI 40	16.42	0'-7"	0'-8"	0'-8"	1'-3"	2'-7"	2'-11"	4'-2"	5'-11"	7'-0"	7'-9"	9'-8"	11'-7"			
16"	RFPI 60S	16.42	0'-7"	0'-8"	0'-8"	1'-8"	3'-2"	3'-6"	4'-9"	6'-6"	7'-8"	8'-4"	10'-4"	12'-2"			
	RFPI 70	16.42	0'-7"	0'-8"	0'-8"	1'-6"	3'-1"	3'-6"	4'-10"	6'-7"	7'-9"	8'-6"	10'-11"	12'-11"			
	RFPI 80S	19.92	0'-7"	0'-9"	2'-2"	3'-7"	5'-1"	5'-5"	6'-7"	8'-5"	9'-7"	10'-4"	12'-5"	14'-0"			
	RFPI 90	22.17	0'-7"	0'-8"	1'-3"	2'-11"	4'-7"	5'-1"	6'-5"	8'-3"	9'-5"	10'-2"	12'-3"	14'-0"			
	RFPI 40S	16.42	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-5"	2'-9"	3'-7"	4'-1"	5'-6"	6'-7"	7'-0"	8'-9"	10'-9"
	RFPI 400	14.75	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	1'-11"	3'-1"	3'-10"	5'-11"	7'-6"	8'-0"	10'-4"	12'-3"
18"	RFPI 40	16.42	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-10"	3'-6"	4'-6"	5'-2"	6'-11"	8'-5"	9'-0"	11'-5"	13'-4"
	RFPI 60S	16.42	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-10"	3'-6"	4'-6"	5'-2"	7'-3"	8'-11"	9'-6"	11'-10"	13'-9"
	RFPI 70	16.42	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	2'-1"	4'-2"	5'-6"	6'-4"	8'-7"	10'-5"	11'-0"	13'-6"	15'-6"
	RFPI 80S	19.92	0'-7"	0'-8"	0'-8"	1'-2"	2'-10"	3'-3"	4'-6"	6'-3"	7'-5"	8'-1"	9'-11"	11'-5"	11'-11"	14'-3"	16'-5"
	RFPI 90	22.17	0'-7"	0'-8"	0'-8"	0'-10"	2'-9"	3'-2"	4'-7"	6'-7"	7'-10"	8'-7"	10'-8"	12'-4"	12'-11"	15'-2"	17'-1"
	RFPI 40S	16.42	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-5"	2'-9"	3'-7"	4'-1"	5'-6"	6'-7"	7'-0"	8'-9"	10'-9"

- 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** floor spans shown elsewhere in this guide at on-center spacings of 12", 16", 19.2" and 24" with floor loads of 40 psf live load + 10 psf dead load or 40 psf live load + 20 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.
 - 3. SAF = Span Adjustment Factor for optional hole calculation, used as defined on this page.

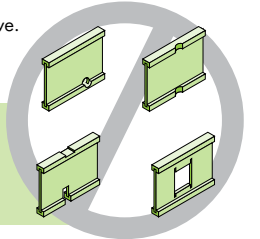
OPTIONAL HOLE CALCULATION:

The Hole Chart 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 in Tables 1 & 2, the minimum distance from the centerline of the hole to the inside face of the nearest joist support (D) as given above may be reduced as follows:

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

- Where:
- D_{reduced} = Minimum distance from the inside face of the nearest joist support 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) (for multi-span joist, use the longest span for L_{actual}).
 - SAF = Span Adjustment Factor given in Hole Chart.
 - D = The minimum distance from the inside face of the nearest joist support to center of hole from Hole Chart above.
If $\frac{L_{\text{actual}}}{\text{SAF}}$ is greater than 1.0, use 1.0 in the above calculation.

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.

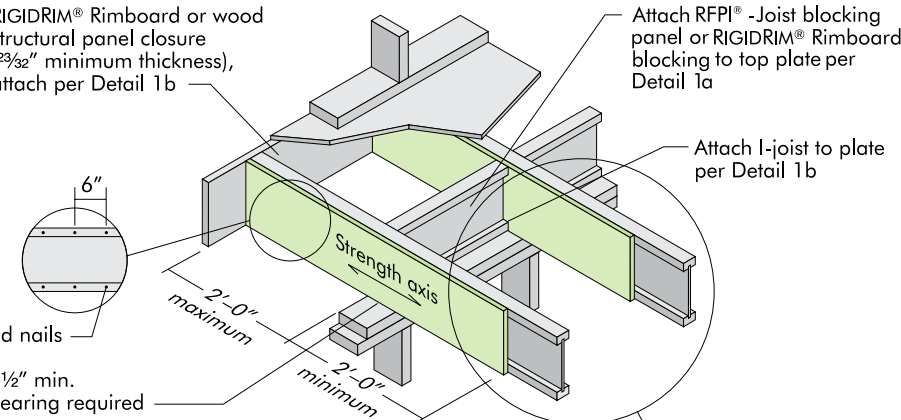


CANTILEVERS FOR VERTICAL BUILDING OFFSETS (Concentrated wall load from above)

FIGURE 4a
RFPI®-JOIST CANTILEVER REINFORCEMENT METHODS

(See Figure 4c to determine recommended method)

Method 1 – SHEATHING REINFORCEMENT ONE SIDE*



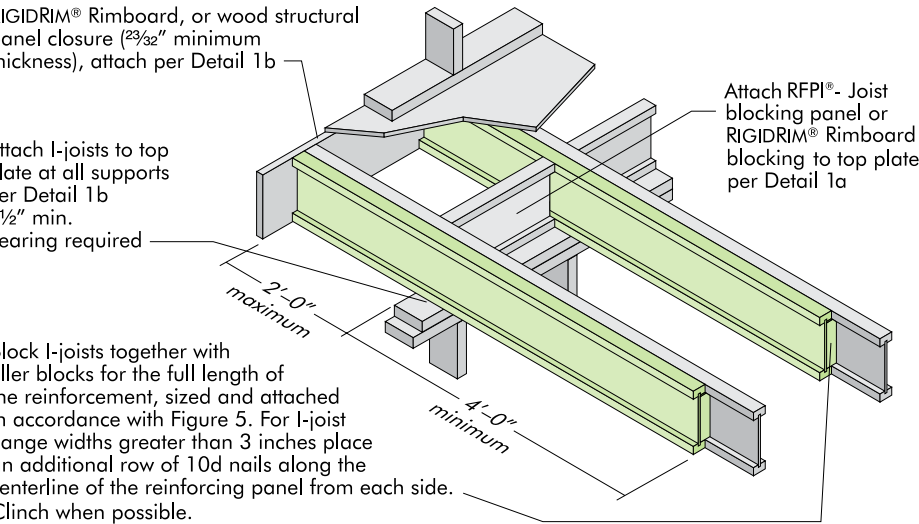
Method 2 – SHEATHING REINFORCEMENT TWO SIDES*

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing or RIGIDRIM® Rimboard

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

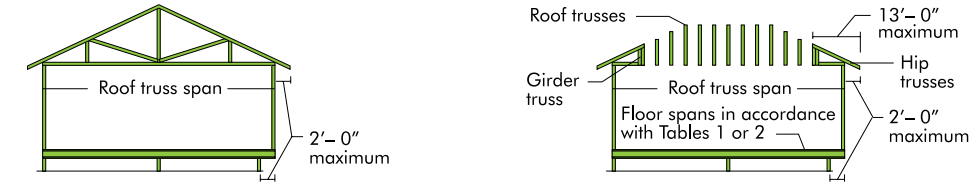
*Note: APA RATED SHEATHING 48/24 (minimum thickness 23/32") required on sides of joist. Depth shall match the full height of the joist. Nail with 8d nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per Detail 1b

Alternate Method 2 – DOUBLE I-JOIST



Filler block does not function as a web stiffener. If web stiffeners are required it is recommended to install continuous filler block and install web stiffener below filler block prior to attaching I-joist reinforcement. Leave a 1/4" gap between top of filler block and bottom of top I-joist flange. Web stiffeners must be tight between top of bottom flange and bottom of filler block.

FIGURE 4b



See Table below for RFPI®-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 ft. shall be permitted to be used.

FIGURE 4c
CANTILEVER REINFORCEMENT METHODS ALLOWED

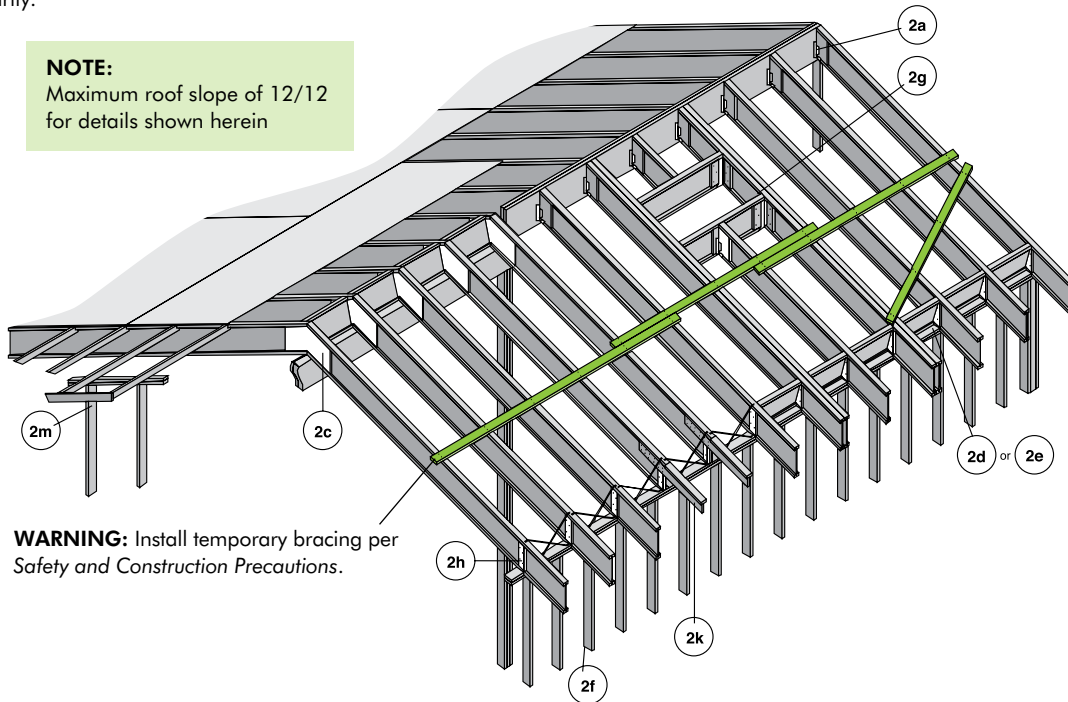
1. N = No reinforcement required.
1 = RFPI®-Joists reinforced with 23/32" Wood Structural panel or RIGIDRIM® Rimboard on one side only.
2 = RFPI®-Joists reinforced with 23/32" Wood Structural panel or RIGIDRIM® Rimboard on both sides or double I-joist.
X = Try a deeper joist or closer spacing.
2. Maximum load shall be: Total roof load as shown in chart below (includes 15 psf roof dead load), 50 psf floor total load, and 80 plf wall load. Wall load is based on 3'-0" maximum width window or door opening. 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.
3. Table applies to joists 12" to 24" o.c. Use 12" o.c. requirements for o.c. spacing less than 12".
4. For a given I-joist depth, table conservatively accounts for multiple I-joist series.
5. For conditions other than those shown or to analyze a specific I-joist series, software with the appropriate design properties, such as Simpson Strong-Tie® Component Solutions™, can be used to analyze specific applications and loading.

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
9-1/2	26	N	N	N	1	N	N	1	2	N	1	2	X
	28	N	N	N	1	N	N	1	2	N	1	2	X
	30	N	N	N	1	N	N	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
11-7/8	36	N	N	1	2	N	1	2	X	N	2	X	X
	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
	32	N	N	N	1	N	N	1	1	N	1	1	2
14	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	X
16	26	N	N	N	1	N	N	N	1	N	N	1	1
	28	N	N	N	1	N	N	N	1	N	N	1	1
	30	N	N	N	1	N	N	N	1	N	N	1	2
	32	N	N	N	1	N	N	1	1	N	N	1	2
	34	N	N	N	1	N	N	1	1	N	1	1	2
	36	N	N	N	1	N	N	1	1	N	1	1	2
	38	N	N	N	1	N	N	1	2	N	1	1	2
	40	N	N	N	1	N	N	1	2	N	1	1	2
	42	N	N	1	1	N	1	1	2	N	1	2	2

TYPICAL RFPI®-JOIST ROOF FRAMING AND CONSTRUCTION DETAILS

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 nails. If nails must be installed into the sides of LVL flanges, spacing shall not be closer than 3 inches o.c. for 8d common nails, and 4 inches o.c. for 10d common nails. Individual components not shown to scale for clarity.

NOTE:
Maximum roof slope of 12/12 for details shown herein



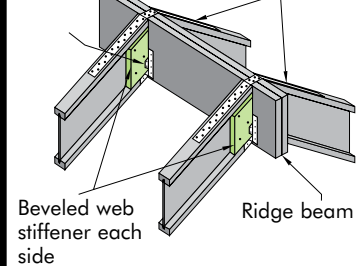
WARNING: Install temporary bracing per Safety and Construction Precautions.

RIDGE JOIST CONNECTION – 12/12 MAXIMUM SLOPE

Adjustable slope hanger with a minimum unadjusted uplift capacity of 300 lbs.

2a

Simpson LSTA21 strap* with (16) 10d x 1½" nails



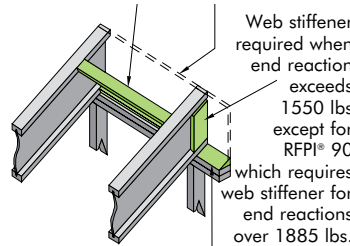
* Strap required for members with slope greater than 3/12.

Uplift connections may be required.

UPPER END, BEARING ON WALL

RFPI®-Joist blocking panel, x-bridging, 23/32" APA Rated Sheathing 48/24, or proper depth of rimboard as continuous closure. (Validate use of x-bridging with local building code.) Connect blocking to top plate with 8d nails at 6" o.c. unless specified otherwise.

2b



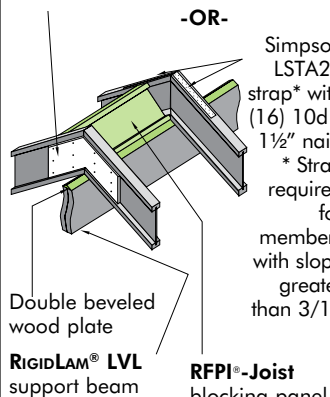
Continuous beveled wood plate required for slopes greater than 1/4/12. Code recognized slope connectors may be substituted. For slopes greater than 4/12 connectors are required to resist lateral thrust.

Uplift connections may be required.

RFPI®-JOIST ABOVE RIDGE SUPPORT BEAM

¾" x 2'-0" plywood gusset (face grain horiz.) each side with (12) 8d nails clinched.

2c

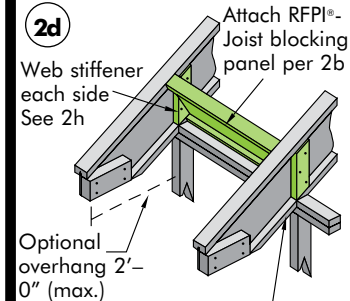


RFPI®-Joist blocking panel or x-bridging. Attach blocking per 2b

Uplift connections may be required.

BIRDSMOUTH CUT - LOW END OF RFPI®-JOIST ONLY

2d

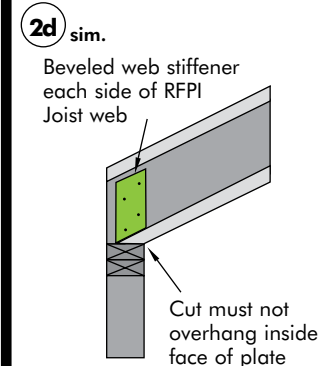


Birdsmouth cut RFPI®-Joist to provide full bearing for bottom flange. Cut must not overhang inside face of plate.

Uplift connections may be required.

BIRDSMOUTH CUT, NO OVERHANG - LOW END OF RFPI®-JOIST ONLY

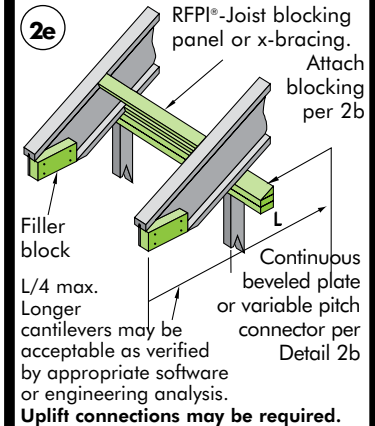
2d sim.



Blocking panel not shown for clarity

RFPI®-JOISTS ON BEVELED PLATE

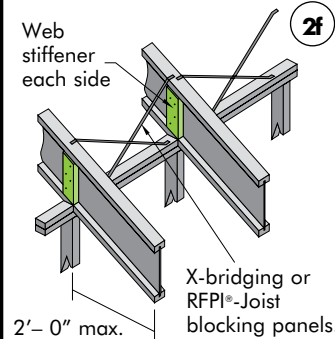
2e



Uplift connections may be required.

BIRDSMOUTH CUT - LOW END OF RFPI®-JOIST ONLY

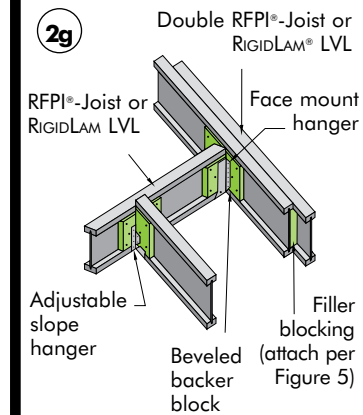
2f



Uplift connections may be required.

ROOF OPENINGS, FACE MOUNTED HANGERS

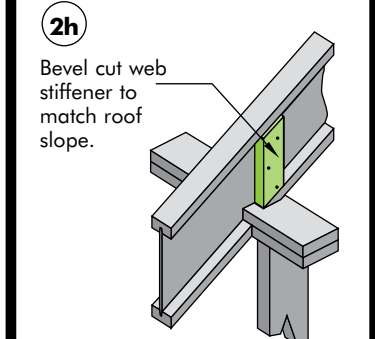
2g



Uplift connections may be required.

BEVELED CUT BEARING STIFFENER

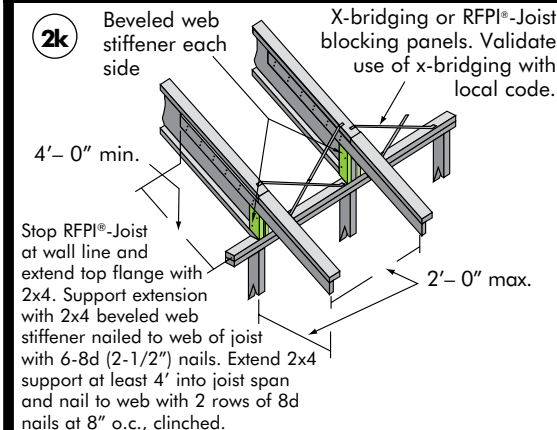
2h



Uplift connections may be required.

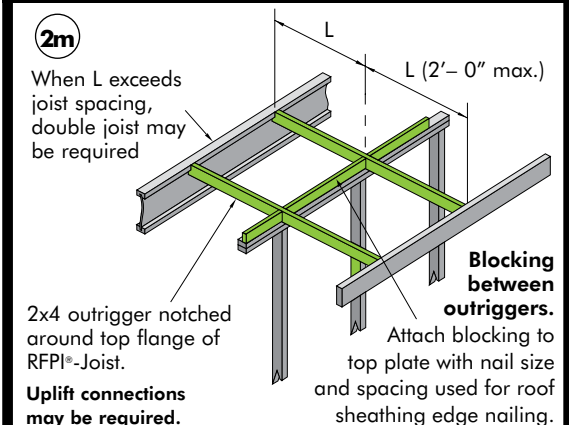
OPTIONAL OVERHANG EXTENSIONS

2k



OVERHANG PARALLEL TO RFPI®-JOIST

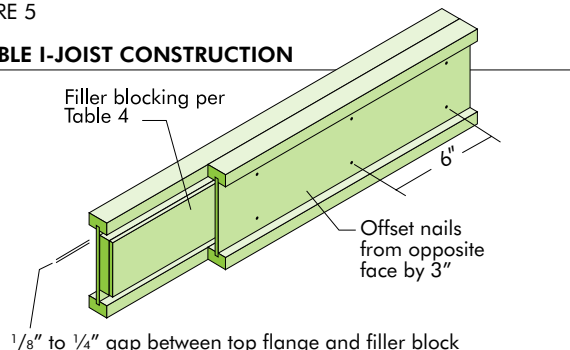
2m



DOUBLE I-JOISTS

FIGURE 5

DOUBLE I-JOIST CONSTRUCTION



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 when noted in the building drawings.
2. Filler blocks do not function as web stiffeners. Install web stiffeners as required.
3. Support back of I-joist web during nailing to prevent damage to web/flange connection.
4. Leave a 1/8"-1/4" gap between top of filler block and bottom of top I-joist flange.
5. For side-loaded conditions or cantilever reinforcement, filler block is required between joists for full length of double member.
6. Nail joists together with two rows of 10d nails at 6 inches o.c. (staggered) on each side of the double I-joist. Total of 8 nails per foot required.
7. Filler block thickness may be achieved by using multiple layers of structural wood panels.
8. The maximum load that may be applied to one side of the double joist using this detail is 620 lbs/ft.

TABLE 4

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Flange Width	Joist Depth	Joist Designation	Net Filler Block Size
1-3/4"	9-1/2"	20	1-3/8" x 6"
	11-7/8"	20	1-3/8" x 8"
	14"	20	1-3/8" x 10"
	16"	20	1-3/8" x 12"
2-1/16"	9-1/2"	400	1-3/4" x 6"
	11-7/8"	400	1-3/4" x 8"
	14"	400	1-3/4" x 10"
	16"	400	1-3/4" x 12"
2-5/16"	9-1/2"	40,70	2" x 6"
	11-7/8"	40,70	2" x 8"
	14"	40,70	2" x 10"
	16"	40,70	2" x 12"
2-1/2"	9-1/2"	40S, 60S	2-1/8" x 6"
	11-7/8"	40S, 60S	2-1/8" x 8"
	14"	40S, 60S	2-1/8" x 10"
	16"	40S, 60S	2-1/8" x 12"
3-1/2"	11-7/8"	80S, 90	3" x 8"
	14"	80S, 90	3" x 10"
	16"	80S, 90	3" x 12"

CANTILEVERS FOR BALCONIES (No wall load from above)

FIGURE 6

RFPI®-JOIST INTERIOR CANTILEVER DETAIL

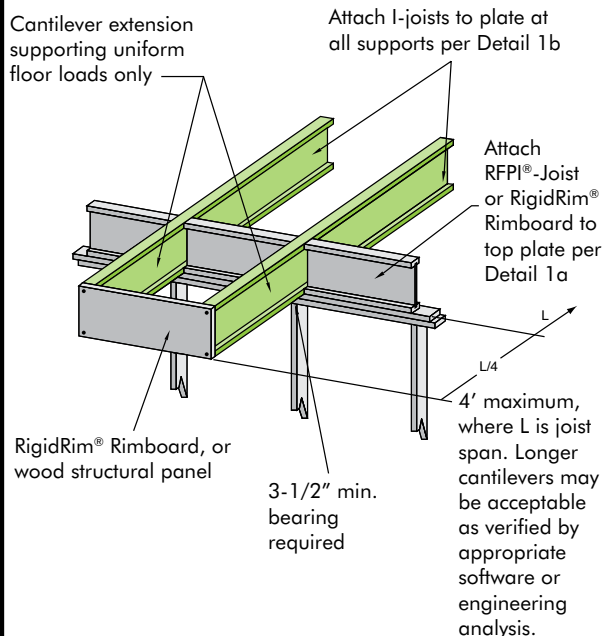
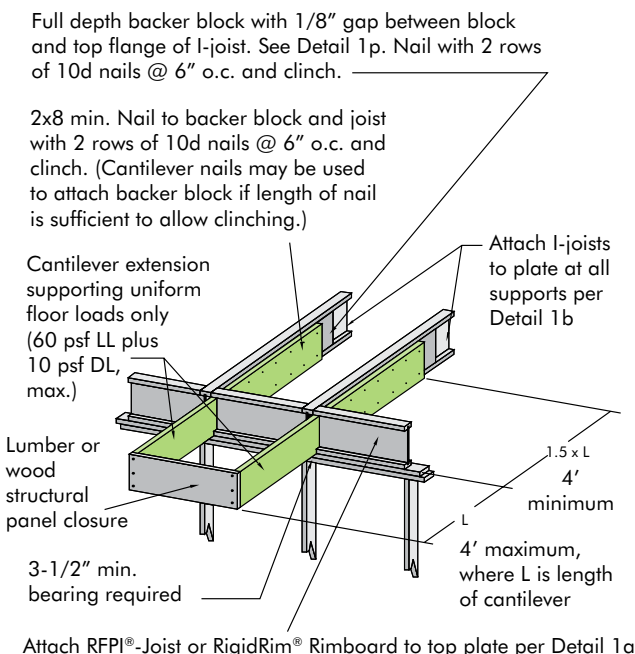


FIGURE 7

LUMBER CANTILEVER DETAIL FOR BALCONIES



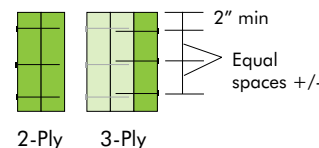
FASTENING RECOMMENDATIONS FOR MULTIPLE PLY, RIGIDLAM LVL MEMBERS

TOP LOADED MEMBERS - 2 & 3 PLY

For 12" deep (or less) members, nail plies together with 2 rows of 16dx3 1/2" com. nails at 12" o.c. (add 1 row for 16d sinkers).

For 14", 16" or 18" deep members, nail plies together with 3 rows of 16dx3 1/2" com. nails at 12" o.c. (add 1 row for 16d sinkers).

For 20", 22" or 24" deep members, nail plies together with 4 rows of 16dx3 1/2" com. nails at 12" o.c. (add 1 row for 16d sinkers).

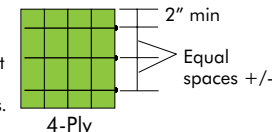


TOP LOADED MEMBERS - 4 PLY

For 4-Ply Top Loaded members, it is recommended to connect the plies together with appropriate wood screws.

The recommended fastener spacing is two rows at 24" o.c. for up to and including 16" deep members, and 3 rows at 24" o.c. for members up to and including 24" deep. If the fastener point penetrates a minimum of 75% of the 4th ply, they may be applied from one side of the beam; otherwise, the fasteners must be applied from both sides and staggered.

Load must be applied evenly to all 4 plies; otherwise, use connections for side loaded members.



SIDE LOADED MEMBERS

MAXIMUM UNIFORM LOAD APPLIED TO EITHER OUTSIDE PIECE - POUNDS PER LINEAL FOOT

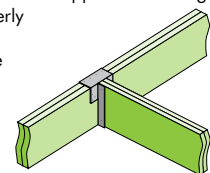
1-1/2" Thick LVL Pieces in Member	Common Nail Size	Nailed				Bolted					
		2 rows 10d com at 12" o.c.		3 rows 10d com at 12" o.c.		2 rows 1/2" bolts at 24" o.c.		2 rows 1/2" bolts at 12" o.c.		3 rows 1/2" bolts at 12" o.c.	
		1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E
2 - 1-1/2"	10d (0.148" x 3")	465	465	700	700	395	435	795	870	1190	1305
3 - 1-1/2"	10d (0.148" x 3")	350	350	525	525	295	325	595	650	895	980
4 - 1-1/2"	use bolts	-	-	-	-	265	290	530	580	795	870
1-3/4" Thick LVL Pieces in Member	Common Nail Size	Nailed				Bolted					
		2 rows 16d com at 12" o.c.		3 rows 16d com at 12" o.c.		2 rows 1/2" bolts at 24" o.c.		2 rows 1/2" bolts at 12" o.c.		3 rows 1/2" bolts at 12" o.c.	
		1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E	1.3E & 1.5E	2.0E & 2.2E
2 - 1-3/4"	16d (0.162" x 3.5")	560	560	845	845	460	505	925	1015	1390	1520
3 - 1-3/4"	16d (0.162" x 3.5")	420	420	635	635	345	380	695	760	1040	1140
4 - 1-3/4"	use bolts	-	-	-	-	305	335	615	675	925	1015
2 - 3-1/2"	use bolts	-	-	-	-	820	860	1640	1720	2465	2580

- Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or beam/header charts or plf load tables to size the beam.
- The table values apply to common (A307) bolts. Bolt holes must be centered at least two inches from the top and bottom edges of the beam. Bolt holes must be the same diameter as the bolts. Washers must be used under the bolt heads and nuts. Offset or stagger rows of bolt holes by one-half of the bolt spacing.
- The specified nailing applies to both sides of a three-piece beam.
- 7 inch wide beams may not be loaded from one side only. They must be loaded from both sides and/or top-loaded.
- The side loaded table values for nails may be doubled for 6" o.c. spacing and tripled for 4" o.c. spacing.
- Duration of load factors (e.g. 115%, 125% etc.) may be applied to the table values.

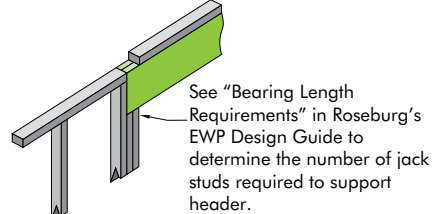
RIGIDLAM LVL BEARING DETAILS

BEAM-TO-BEAM CONNECTION

Make sure hanger capacity is appropriate for each application. Hangers must be properly installed to accommodate full capacity.

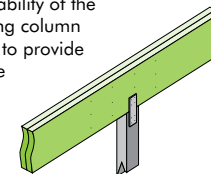


BEARING FOR DOOR OR WINDOW HEADER



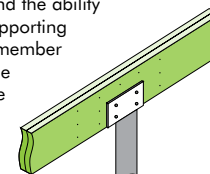
BEARING ON WOOD COLUMN

Verify the required bearing length and the ability of the supporting column member to provide adequate strength.



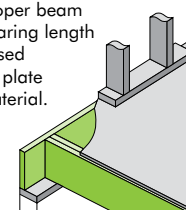
BEARING ON STEEL COLUMN

Verify the required bearing length and the ability of the supporting column member to provide adequate strength.



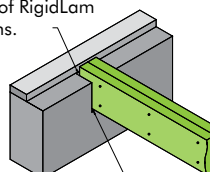
BEARING ON EXTERIOR WALL

Check for proper beam bearing length based on plate material.



POCKET CONSTRUCTION

Provide 1/2" air space on top, sides and end of RigidLam LVL beams.



Provide moisture barrier between RigidLam LVL beams and concrete.