

Framing Material

STUD GRADE AND #2 & BTR KD SPF												
	88"	92 5/8"	8'	104 5/8"	10'	12'	14'	16'	18'	20'	22'	24'
2 X 4	*	*	*	*	*	*	*	*				
2 X 6	*	*	*	*	*	*	*	*		*		
2 X 8			*		*	*	*	*	*	*		*
2 X 10			*		*	*	*	*	*	*	*	*
2 X 12			*		*	*	*	*	*	*		*
WANE FREE PREMIUM STUDS												
2 X 4			*									

EASTERN SPRUCE						
Rough Green	8'	10'	12'	14'	16'	
1 x 8						*
2 x 10						*
4 x 4			*			*
4 x 6						*
S4S Dry	8'	10'	12'	14'	16'	
1 x 3	*	*	*	*	*	*
1 x 8						*

Douglas Fir Dimension & Timbers #2 GRN				
The following items are available in varying lengths 12' - 40' with a 48 hour notice				
2 x 6			6 x 6	
2 x 8	4 x 8	6 x 8	8 x 8	
2 x 10	4 x 10	6 x 10	8 x 10	
2 x 12	4 x 12	6 x 12	8 x 12	12 x 12
		6 x 14	8 x 14	

DOUGLAS FIR 2/BTR GRN					
	8'	10'	12'	16'	28'
4 x 4	*		*	*	
4 x 6	*		*	*	
2 x 10 and 2 x 12					*

Engineered Lumber

* Stocking items*

Laminated Veneer Lumber (LVL)

	12'	14'	16'	18'	20'	24'	28'	32'	36'	40'
1-3/4 x 7-1/4"			*							
1-3/4 x 9-1/4"			*			*				
1-3/4 x 9-1/2"	*	*	*		*		*			
1-3/4 x 11-7/8"		*	*	*	*	*	*			
1-3/4 x 14"					*	*				
RFPI 40S Solid-Sawn I-Joist										
2-1/2 x 11-7/8"						*	*	*	*	*
OSB RIM BOARD										
1-1/8 x 9-1/2"			*							
1-1/8 x 11-7/8"			*							
1-1/8 x 14"			*							

Panels: Plywood & OSB

TYPE	4 X 8 SHEETS						
	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
ACX Fir S1S		*	*	*	*	*	
AAX Fir S2S						*	*
Plum Creek Underlayment Fir B Crossband			*	*			
T&G Premium Underlayment						*	
Underlayment Fir C Crossband					*	*	
CDX Sheathing Fir			*	*	*	*	
CDX Sheathing SYP							
Southern Yellow Pine Textured T 1-11					*		
Lauan (Meranti)	*	*		*		*	
SurePly Underlayment		*					
A-B Marine						*	
Pressure Treated .40 CDX				*		*	
Pryoguard Fire Retardant (Interior Use)				*	*	*	
Red Oak VC		A-4		A-2		A-1	
Birch VC		A-4		A-2		A-1	
Primed MDO (Medium Density Overlay) G1S				*			
MDO (Medium Density Overlay) G2S						*	
MDF (Medium Density Fiberboard) Lite Weight				*		*	
MDF Beadboard Primed 2" oc				*			
White Melamine G2S						*	
Wackywood 4X8 (Short Grain Tube)			*				
Wackywood 8X4 (Long Grain Can)			*				
OSB			7/16"	15/32"	5/8"	3/4"	
			*	*	*	*	

Metal Studs & Gypsum

METAL STUDS	8'	10'	12'	<i>10' Runner</i>
3 5/8" 20 gauge	*	*	*	*
3 5/8" 25 gauge	*	*	*	*
GYPSUM	3/8"	1/2"	5/8"	
4 x 8 Drywall	*	*	*	
4 x 10 Drywall		*	*	
4 x 12 Drywall		*	*	
4 x 8 Blueboard		*	*	

Allowable Floor Clear Spans For RFPI®-Joists

40 PSF LIVE LOAD AND 10 PSF DEAD LOAD

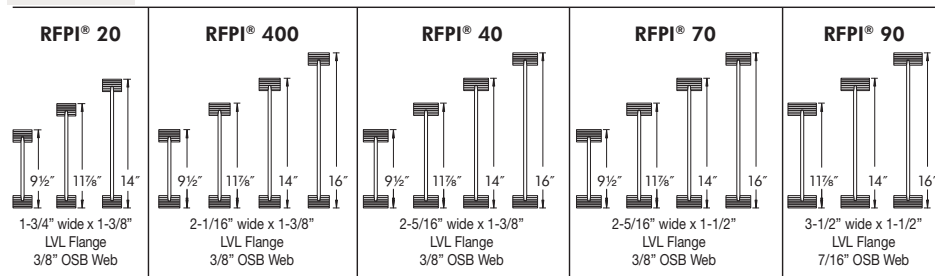
Joist Depth	Joist Series	40/10 Simple Span				40/10 Multiple Span			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	17' - 2"	15' - 9"	14' - 10"	13' - 10"	18' - 9"	17' - 1"	16' - 2"	13' - 5"
	RFPI® 40S	18' - 0"	16' - 5"	15' - 6"	14' - 6"	19' - 7"	17' - 11"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

40 PSF LIVE LOAD AND 20 PSF DEAD LOAD

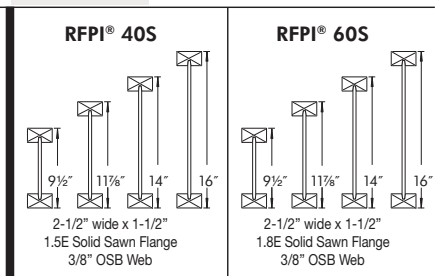
Joist Depth	Joist Series	40/20 Simple Span				40/20 Multiple Span			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9-1/2"	RFPI® 20	17' - 2"	15' - 9"	14' - 10"	13' - 7"	18' - 9"	16' - 7"	13' - 11"	11' - 1"
	RFPI® 40S	18' - 0"	16' - 5"	14' - 11"	13' - 4"	18' - 11"	16' -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

I-JOIST DIMENSIONS

LVL FLANGE RFPI® JOISTS



SOLID SAWN FLANGE RFPI® JOISTS



RFPIs are the ideal choice for designers and builders who want to provide their customers with high quality floor systems. They provide consistent performance for the most demanding residential applications.

Simple to Install

I-joists save builders time, and therefore money. I-joists are typically pre-cut in two-foot increments of length and shipped to the job site ready to install. This minimizes job site cutting and material waste. I-joists can be cut and fastened with traditional framing tools and fasteners – no special tools are required. Since I-joists can typically be used at greater joist spacings as compared to lumber, fewer pieces must be cut and handled on the job site, making I-joist installation less costly and less wasteful for the builder.

Allow Design Flexibility

The availability of long lengths allows multiple span installations thus speeding construction by eliminating the need to lap joists over bearing walls or support beams. This also means fewer pieces to handle. The availability of long lengths and relatively deep joists also gives designers the freedom to create more open spaces and reduces the need for supporting walls, columns, or beams.

Dimensionally Stable

I-joists will not warp, twist, or shrink, and are more uniform in their dimensions than sawn lumber joists. The L/480 maximum live load deflection criteria combined with their straightness and uniformity provides a stiffer, more uniform floor with fewer squeaks, resulting in higher customer satisfaction.

Lightweight

Because I-joists typically weigh less than half of comparable conventional framing lumber, they can be installed quickly and efficiently.

Web Holes

The OS B webs in Roseburg's I-joists permit holes to be easily cut on the job site to permit the passage of electrical wiring, plumbing and ductwork. This cannot always be accomplished with sawn lumber joists where the mechanical systems must be passed under the joist system. Roseburg also provides knockout holes along the length of the joists to facilitate the installation of electrical wiring or light plumbing lines. These knockouts can easily be removed with a hammer as needed.

APA Quality Assured

The APA-EWS trademark ensures superior I-joist quality and consistent performance. All products are subject to the proven quality assurance program of APA.

Resource Friendly

Wood I-joists use up to 50% less wood fiber in their production than conventional lumber joists, allowing more efficient use of our natural resources.

Installation Notes

1. Except for cutting to length, top and bottom flanges of RFPI-Joists shall not be cut, drilled or notched.
2. 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.
3. Any fastening, resistance to uplift or applications not specifically detailed are subject to local approval.
4. I-Joist end bearing length must be at least 1¾". Intermediate bearings of multiple span joists must be at least 3½".
5. Engineered lumber must not remain in direct contact with concrete or masonry construction and must be used in dry use conditions only.
6. RFPI-Joists must be restrained against rotation at the ends of joists by use of rimboard, rim joists, blocking panels, or crossbracing. To laterally support cantilevered joists, blocking panels must also be installed over supports nearest the cantilever.
7. Additionally, rimboard, rim joists, blocking panels, or squash blocks must be provided under all exterior walls and interior load bearing walls to transfer loads from above to the wall or foundation below.
8. Plywood or OS B subfloor nailed to the top flange of an RFPI-Joist is adequate to provide lateral support.
9. Install I-joists so that top and bottom flanges are straight and remain within ½ inch of true alignment.
10. Roseburg does not require mid-span blocking or bridging in RFPI floor or roof applications
11. 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.
12. 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.
13. When nailing sheathing to top flange, closest spacing should be as follows:

Sheathing Nail Spacing Requirements	Flange Width									
	1-3/4"		2-1/16"		2-5/16"		2-1/2"		3-1/2"	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
8d box	2"	18"	2"	18"	2"	24"	2"	24"	2"	24"
8d common, 10d or 12d box	2"	18"	2"	18"	2"	24"	2"	24"	2"	24"

Nailing Notes:

1. If more than one row of nails is required, rows must be offset by at least 2"x" and staggered.
2. 14 gauge staples may be substituted for 8d nails if staples penetrate the joist at least 1".
3. Do not use nails larger than those shown above when attaching sheathing to flanges of RFPI-Joists.
4. Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.
5. 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 with approved application specifications and design values. Drywall screws can be brittle and should not be used.

Web Hole Specifications

One of the benefits of using RFPI-Joists in residential floor and roof 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 RFPI-JOISTS

1. See chart on page 13 for allowable hole sizes and locations. The distance between the inside edge of the support and the centerline of any hole shall not be less than that shown in the chart on page 13.
2. Except for cutting to length, NEVER cut, drill or notch I-joist flanges.
3. 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.
4. 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 1/4". A minimum of 1/8" should always be maintained between the top or bottom of the hole and the adjacent I-joist flange.
5. The sides of square holes or longest side of rectangular holes should not exceed three fourths of the diameter of the maximum round hole permitted at that location. **DO NOT** over-cut the sides of square or rectangular holes.
6. 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 the longest rectangular hole) and each hole must be sized and located in compliance with the requirements of the chart on page 13.
7. Knockouts are prescored holes for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2" in diameter, and are spaced approximately 16" on center along the length of the I-joist. Where possible, it is preferable to use knockouts instead of field cutting holes. For floor applications, positioning the I-joists so the knockouts are all on the bottom of the joist, may ease the installation of electrical wiring or residential sprinkler systems. **DO NOT** hammer holes in web, except at knock outs.
8. A knockout is not considered a hole and may be utilized anywhere it occurs. It can be ignored for purposes of calculating minimum distances between holes.
9. 1 1/2" holes shall be permitted anywhere in a cantilevered section of an RFPI-Joist. Holes of greater size may be permitted subject to verification.
10. A 1 1/2" hole can be placed anywhere in the web provided that it meets the requirements of rule 6 on this page.
11. 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. (See diagram on page 13).
12. All holes shall be cut in a workman-like manner in accordance with the restrictions listed herein.



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.

HOW TO USE HOLE CHART on page 13

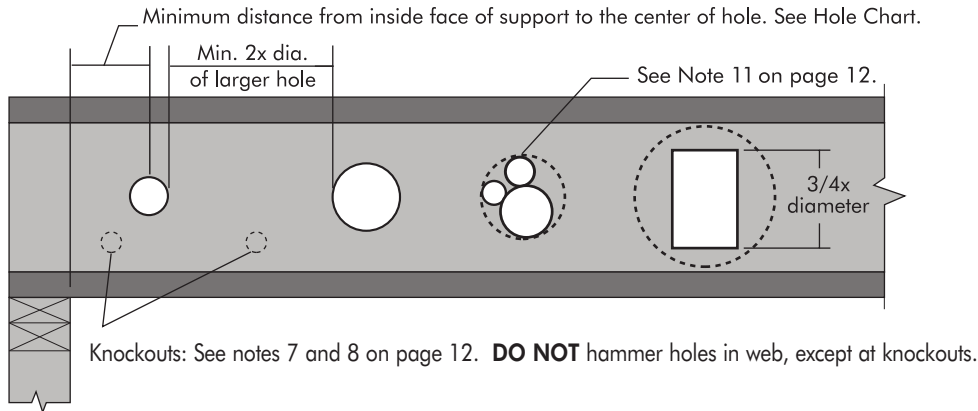
1. Read across the top of Hole Chart to the desired hole size.
2. Follow this column down to the row that represents the I-joist depth and designation. This number indicates the minimum distance from the face of the support to the centerline of the hole.

Example: Need a 5 1/2-inch hole in an 117/8" RFPI®-400 joist:
From Hole Chart,

For a 5-inch round hole, the minimum distance is 3'- 4".
For a 6-inch round hole, the minimum distance is 4'- 8".
Therefore the minimum distance for the 5 1/2-inch round hole is 4'- 0" (halfway between 3'-4" and 4'-8").

Holes For RFPI®-Joists Used In Residential Floor/Roof Applications

RFPI-JOIST TYPICAL HOLES - See "HOW TO USE HOLE CHART" on page 12



HOLE CHART
MINIMUM DISTANCE FROM FACE OF NEAREST JOIST SUPPORT TO CENTER OF HOLE ^{(1) (2)}

I-Joist Depth	Joist Designation	SAF ⁽³⁾	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.) ^{(1) (2)}															
9-1/2"	RFPI 20	11.08	0'-7"	1'-0"	2'-6"	4'-2"	5'-10"	6'-3"										
	RFPI 40S	13.25	1'-2"	2'-2"	3'-3"	4'-4"	5'-9"	6'-3"										
	RFPI 400	14.08	1'-8"	2'-9"	3'-11"	5'-4"	6'-10"	7'-3"										
	RFPI 40	14.17	1'-11"	3'-3"	4'-7"	6'-0"	7'-6"	7'-11"										
	RFPI 60S	14.17	2'-0"	3'-3"	4'-8"	6'-1"	7'-7"	8'-0"										
	RFPI 70	14.75	2'-7"	3'-11"	5'-3"	6'-8"	8'-3"	8'-8"										
11-7/8"	RFPI 20	11.08	0'-7"	0'-8"	0'-8"	0'-9"	2'-4"	2'-10"	4'-3"	6'-6"	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'-9"	3'-4"	4'-8"	5'-0"	6'-2"	7'-11"	9'-1"								
	RFPI 40	16.42	0'-7"	1'-8"	2'-11"	4'-3"	5'-8"	6'-0"	7'-1"	8'-10"	10'-1"							
	RFPI 60S	16.42	0'-8"	1'-10"	3'-2"	4'-5"	5'-10"	6'-2"	7'-4"	8'-11"	10'-1"							
	RFPI 70	15.33	0'-7"	1'-5"	3'-0"	4'-7"	6'-3"	6'-8"	8'-0"	9'-10"	11'-0"							
RFPI 90	21.08	0'-9"	2'-1"	3'-6"	5'-0"	6'-6"	6'-11"	8'-1"	10'-0"	11'-4"								
14"	RFPI 20	13.75	0'-7"	0'-8"	0'-8"	0'-9"	0'-10"	1'-3"	2'-5"	4'-1"	5'-2"	5'-10"	7'-8"	9'-5"				
	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'-8"	3'-0"	3'-4"	4'-7"	6'-3"	7'-4"	8'-0"	10'-0"	11'-11"				
	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	15.33	0'-7"	0'-8"	0'-8"	0'-11"	2'-6"	2'-11"	4'-4"	6'-7"	8'-0"	8'-10"	11'-4"	13'-3"				
RFPI 90	22.17	0'-7"	0'-8"	1'-9"	3'-5"	5'-1"	5'-6"	6'-10"	8'-7"	9'-9"	10'-6"	12'-6"	14'-3"					
16"	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"	
	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	15.33	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-1"	3'-2"	4'-6"	5'-4"	7'-7"	9'-4"	9'-11"	12'-5"	14'-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"	

Notes:

- Distances in this hole chart are conservatively based on uniformly loaded joists and the maximum allowed single or multi-span applications with 40 live/10 dead or 40 live/20 dead at on-center spacings of 12", 16", 19.2" or 24". **Holes that fall outside of these hole chart guidelines may still be acceptable based on actual span and loading conditions.** The most accurate method of determining the acceptability of a given hole is the use of appropriate software (e.g. RFP-KeyBeam[®] by Keymark Enterprises, LLC) or engineering analysis for the actual condition.
- Hole location distance is measured from inside face of nearest support to center of hole.
- 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 the minimum distance from the centerline of the hole to the 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 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.

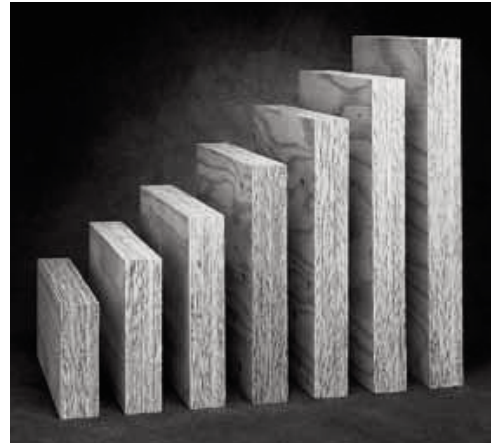
RigidLam® LVL Product Line

You've probably been building with traditional solid sawn lumber beams, headers, columns and studs for as long as you've been building. Now through advances in technology and design, there is a better choice – RigidLam LVL (Laminated Veneer Lumber) beams, headers, columns and studs. They are simply a better alternative than traditional solid sawn lumber pieces.

Work with a stronger, stiffer, more consistent and more predictable building material. Compared with similar sized sections, our RigidLam LVL products can support heavier loads and allow greater spans than conventional lumber.

MOISTURE REPELLENT SEALER

RigidLam LVL is coated with a wax-based moisture repellent sealer that is formulated specifically for LVL. It is applied to all six sides of the LVL during the manufacturing process. After the sealer dries, it is inert and clear in appearance.

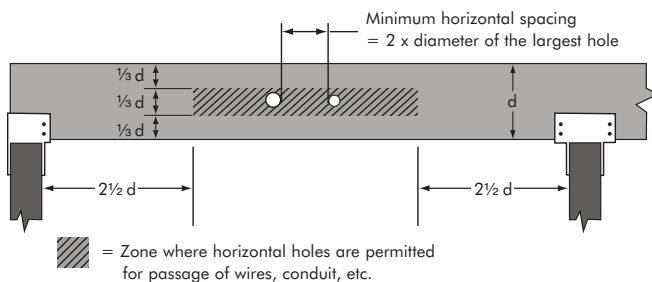


STORAGE, HANDLING & INSTALLATION

- Do Not drop RigidLam LVL off the delivery truck. Best practice is use of a forklift or boom.
- RigidLam LVL should be stored lying flat and protected from the weather.
- Keep the material a minimum of 6" above ground to minimize the absorption of ground moisture and allow circulation of air.
- Bundles should be supported every 10' or less.
- RigidLam LVL is for use in covered, dry conditions only. Protect from the weather on the job site both before and after installation.
- 1-1/2" x 14" and deeper and 1-3/4" x 16" and deeper must be a minimum of two plies unless designed by a design professional for a specific application.
- RigidLam LVL headers and beams shall not be cut, notched or drilled except as shown below. Heel cuts may be possible. Contact your Roseburg Forest Products representative.
- It is permissible to rip RigidLam LVL to a non-standard depth provided it is structurally adequate for the applied loads (non-standard depths may be analyzed using KeyBeam software).
- Protect RigidLam LVL from direct contact with concrete or masonry.
- Ends of RigidLam LVL bearing in concrete or masonry pockets must have a minimum of 1/2" airspace on top, sides and end.
- Do Not install damaged RigidLam LVL.
- Do Not walk on beams until they are fully braced, or serious injuries may result.

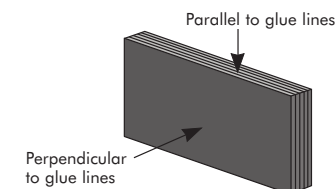
See additional notes on page 6

PERMISSIBLE HORIZONTAL ROUND HOLE LOCATION FOR RIGIDLAM® LVL BEAMS



- For beam depths (d) 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.

MINIMUM NAIL SPACING FOR RIGIDLAM LVL BEAMS



If more than one row of parallel nails is required for end and edge nailing, the rows must be offset at least 1/2" and staggered.

Nail Size	Minimum Parallel Spacing	Minimum Parallel End Distance	Minimum Perpendicular Spacing
8d Box	3"	1-1/2"	2"
8d Common	3"	2"	2"
10d & 12d Box	3"	2"	2"
10d & 12d Common	4"	3"	3"
16d Sinker	4"	3"	3"
16d Common	6"	4"	3"

Available RigidLam® LVL Grades and Sizes*

RIGIDLAM LVL GRADES:	1.3E, 1.5E and 2.0E
RIGIDLAM LVL THICKNESSES:	1-1/2", 1-3/4", 3-1/2", 5-1/4" and 7"
RIGIDLAM LVL DEPTHS:	3-1/2", 4-3/8", 5-1/2", 7-1/4", 9-1/4", 9-1/2", 11-1/4", 11-7/8", 14", 16", 18", 20", 22" & 24"
RIGIDLAM LVL COLUMN SIZES:	3-1/2" x 3-1/2", 3-1/2" x 5-1/2", 3-1/2" x 7" 5-1/4" x 5-1/4", 5-1/4" x 5-1/2", 5-1/4" x 7" 7" x 7"

See pages 56-58 for additional stud and column information.

* Not all grades and/or sizes available in all markets. Contact your Roseburg EWP representative for availability.

RigidLam® LVL Allowable Design Stresses¹

		1.3E RigidLam LVL	1.5E RigidLam LVL	2.0E RigidLam LVL
Modulus of Elasticity (MOE) ² – Edgewise or Flatwise	E (psi) =	1,300,000	1,500,000	2,000,000
Bending – Edgewise ^{3,4}	F _b edge (psi) =	2,250	2,250	2,900
Bending – Flatwise	F _b flat (psi) =	2,250	2,250	2,900
Horizontal Shear - Edgewise	F _v edge (psi) =	200	220	285
Horizontal Shear - Flatwise	F _v flat (psi) =	130	130	130
Compression Perp. To Grain ² - Edgewise	F _{c_perp} edge (psi) =	560	575	750
Compression Perp. To Grain ² - Flatwise	F _{c_perp} flat (psi) =	500	500	500
Compression Parallel to Grain	F _{c_para} (psi) =	1,950	1,950	2,750
Tension Parallel to Grain ⁵	F _t (psi) =	1,500	1,500	1,900
MOE for stability calculations ²	E _{min} (psi) =	660,660	762,300	1,016,400

1. These allowable design stresses apply to dry service conditions.
2. No increase is allowed for duration of load.
3. For depths other than 12" multiply F_b by (12/d)^{1/8} where d = depth of member (in).
4. A factor of 1.04 may be applied for repetitive members as defined in the National

- Design Specification for Wood Construction.
5. Tensile stress is based on a 4-foot gage length. For greater lengths, multiply F_t by (4/L)^{1/9} where L=length in feet. For lengths less than 4 feet, use the published value.

RigidLam® LVL Design Values

1-PLY 1 3/4" 1.3E RIGIDLAM LVL

Depth (in)	Max. Vert. Shear Edgewise (lbs)	Max. Moment Edgewise (ft-lbs)	EI Edgewise (x10 ⁶ lbs-in ²)	Weight (lbs/ft)
3 1/2	817	781	8	1.53
4 3/8	1,021	1,187	16	1.91
5 1/4	1,225	1,671	27	2.30
5 1/2	1,283	1,824	32	2.41
7	1,633	2,866	65	3.06
7 1/4	1,692	3,061	72	3.17
9 1/4	2,158	4,834	150	4.05
9 1/2	2,217	5,082	163	4.16
11 1/4	2,625	6,977	270	4.92
11 7/8	2,771	7,722	317	5.20
14	3,267	10,514	520	6.13
16	3,733	13,506	777	7.00
18	4,200	16,843	1,106	7.88
20	4,667	20,522	1,517	8.75
22	5,133	24,537	2,019	9.63
24	5,600	28,886	2,621	10.50

1-PLY 1 3/4" 1.5E RIGIDLAM LVL

Depth (in)	Max. Vert. Shear Edgewise (lbs)	Max. Moment Edgewise (ft-lbs)	EI Edgewise (x10 ⁶ lbs-in ²)	Weight (lbs/ft)
3 1/2	898	781	9	1.53
4 3/8	1,123	1,187	18	1.91
5 1/4	1,348	1,671	32	2.30
5 1/2	1,412	1,824	36	2.41
7	1,797	2,866	75	3.06
7 1/4	1,861	3,061	83	3.17
9 1/4	2,374	4,834	173	4.05
9 1/2	2,438	5,082	188	4.16
11 1/4	2,888	6,977	311	4.92
11 7/8	3,048	7,722	366	5.20
14	3,593	10,514	600	6.13
16	4,107	13,506	896	7.00
18	4,620	16,843	1,276	7.88
20	5,133	20,522	1,750	8.75
22	5,647	24,537	2,329	9.63
24	6,160	28,886	3,024	10.50

1-PLY 1 3/4" 2.0E RIGIDLAM LVL

Depth (in)	Max. Vert. Shear Edgewise (lbs)	Max. Moment Edgewise (ft-lbs)	EI Edgewise (x10 ⁶ lbs-in ²)	Weight (lbs/ft)
3 1/2	1,164	1,007	13	1.53
4 3/8	1,455	1,531	24	1.91
5 1/4	1,746	2,154	42	2.30
5 1/2	1,829	2,351	49	2.41
7	2,328	3,695	100	3.06
7 1/4	2,411	3,946	111	3.17
9 1/4	3,076	6,230	231	4.05
9 1/2	3,159	6,550	250	4.16
11 1/4	3,741	8,993	415	4.92
11 7/8	3,948	9,953	488	5.20
14	4,655	13,552	800	6.13
16	5,320	17,407	1,195	7.00
18	5,985	21,709	1,701	7.88
20	6,650	26,450	2,333	8.75
22	7,315	31,626	3,106	9.63
24	7,980	37,230	4,032	10.50

1. Allowable shear and moment values are for 100% Duration of Load and may be adjusted for other durations of load. EI shall not be adjusted for duration of load.
2. For 2-Ply, 3-Ply and 4-Ply LVL members, the values in the tables may be multiplied by 2, 3 and 4 respectively.
3. For 1-1/2" thick LVL members, allowable design values may be obtained by multiplying the table values by 0.857.
4. 1-1/2" thick members 14" and deeper must be a minimum of two plies unless designed by a design professional for a specific application.
5. 1-3/4" thick members 16" and deeper must be a minimum of two plies unless designed by a design professional for a specific application.
6. Single ply 1-1/2" thick members are assumed to be laterally braced at 16" o.c. or less.
7. Single ply 1-3/4" thick members are assumed to be laterally braced at 24" o.c. or less.

Web Stiffener Requirements

A web stiffener is a block of plywood, OSB, or even a 2x4 that is added to stiffen the I-joist's web, increase the bearing surface between the web and the flange, and provide additional support for a hanger or other connector. Web stiffeners are common with certain types of joist hanger installations, particularly in roof systems. They are typically placed at the end of the I-joist, between the flanges and against both sides of the web. When used at end bearings, web stiffeners should be installed tight against the bottom flange of the I-joist, but with a minimum 1/8" gap between the top of the stiffener and the bottom of the top flange. **Web stiffeners must be made of Utility grade SPF (south) or better for lumber and/or Sheathing grade or better for wood structural panels.**

When designed in accordance with the load/span conditions set forth in the tables in this guide,

RFPI-Joists do not require web stiffeners, with the following exceptions:

- When sides of the hangers do not laterally brace the top flange of each I-joist.
- For all engineered applications with design end reactions greater than 1550 lbs (1885 lbs for RFPI-90).
- Birds mouth cuts for roof joists.
- When I-joists are designed to support concentrated loads greater than 1000 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. (See Figure B below.)

Web stiffeners may be cut in the field as required for the application.

FIGURE B

RFPI-JOIST WEB STIFFENER REQUIREMENTS

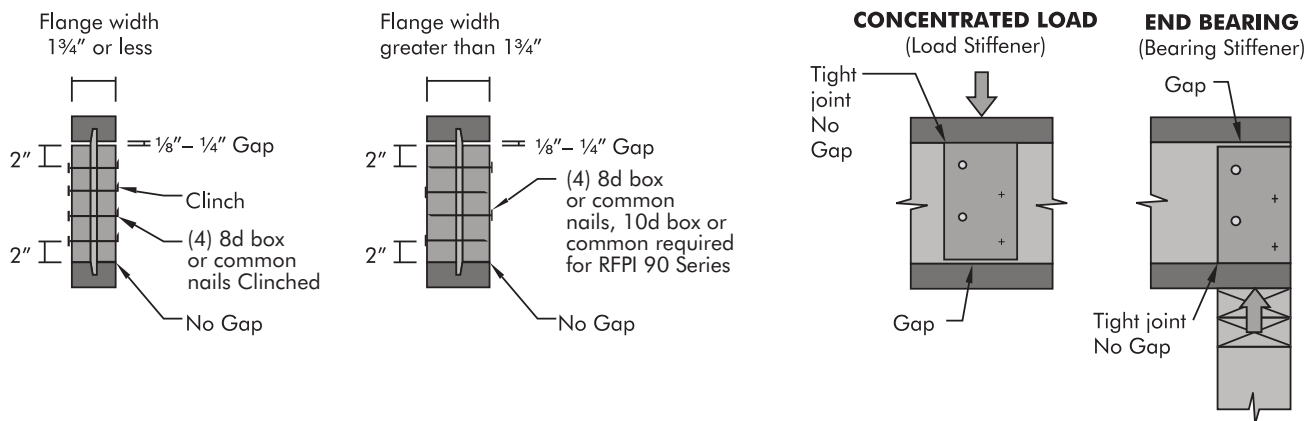


TABLE B

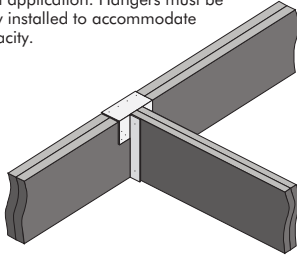
WEB STIFFENER SIZE REQUIRED

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"	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

RigidLam LVL Bearing Details Please refer to page 43 for LVL bearing length requirements.

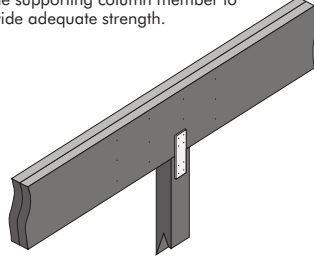
BEAM-TO-BEAM CONNECTION

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



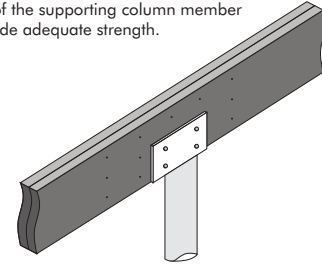
BEARING ON WOOD COLUMN

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

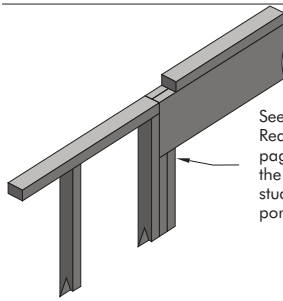


BEARING ON STEEL COLUMN

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



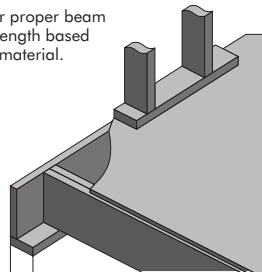
BEARING FOR DOOR OR WINDOW HEADER



See "Bearing Length Requirements" on page 43 to determine the number of jack studs required to support header.

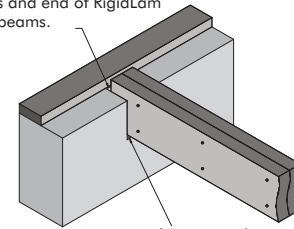
BEARING ON EXTERIOR WALL

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.

Fastening Recommendations For Multiple Ply Members

TOP LOADED MEMBERS

- 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).



2" min recommended
Equal spaces +/-

SIDE LOADED MEMBERS

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

1-1/2" Thick Pieces in Member	Nail Size	Nailed				Bolted					
		2 rows 10d common at 12" o.c.		3 rows 10d common 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.	
		1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL
2 - 1-1/2"	10d com. (0.148" x 3")	465	465	700	700	395	435	795	870	1190	1305
3 - 1-1/2"	10d com. (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 Pieces in Member	Nail Size	Nailed				Bolted					
		2 rows 16d common at 12" o.c.		3 rows 16d common 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.	
		1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL
2 - 1-3/4"	16d com. (0.162" x 3-1/2")	560	560	845	845	460	505	925	1015	1390	1520
3 - 1-3/4"	16d com. (0.162" x 3-1/2")	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

RECOMMENDED FASTENER DESIGN INFORMATION IN TERMS OF EQUIVALENT SPECIFIC GRAVITY FOR HEADER GRADES OF 1.5E AND 2.0E RIGIDLAM LVL

	Face		Edge	
	1.5E LVL	2.0E LVL	1.5E LVL	2.0E LVL
Withdrawal - nail	0.50	0.50	0.47	0.50
Dowel Bearing - nail	0.50	0.50	0.47	0.50
Dowel Bearing - bolt	0.47	0.50	Not applicable	

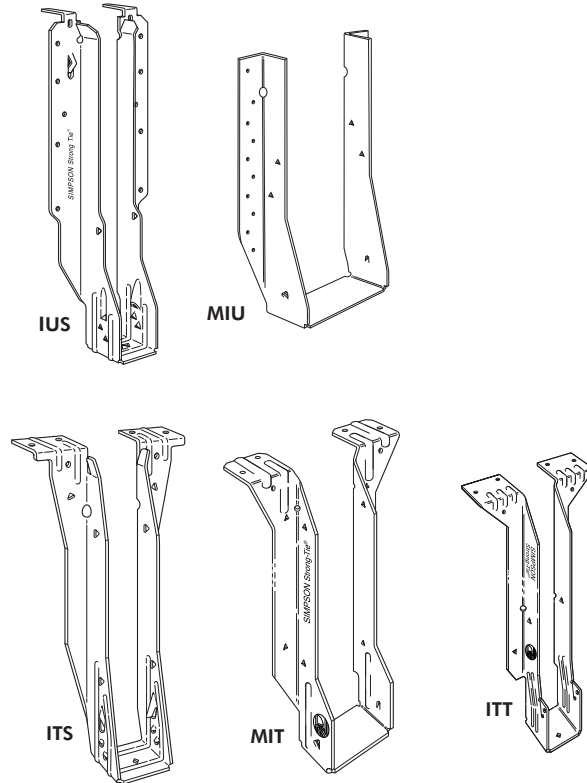
- Use RFP-KeyBeam® sizing software or beam/header charts or plf load tables to size the beam.
- The table values apply to common (A307) bolts. Bolt holes must be centered at least two inches from the top and bottom edges of the beam. Bolt holes must be the same diameter as the bolts. Washers must be 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.

I-Joist Framing Connectors



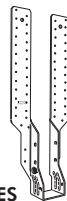
FACE MOUNT HANGERS

Single I-Joist				Double I-Joist			
Width	Depth	Hanger	Down Load	Width	Depth	Hanger	Down Load
1-3/4"	9-1/2"	IUS1.81/9.5	935	3-1/2"	9-1/2"	MIU3.56/9	2270
	11-7/8"	IUS1.81/11.88	1170		11-7/8"	MIU3.56/11	2840
	14"	IUS1.81/14	1405		14"	MIU3.56/14	3125
	16"	IUS1.81/16	1640		16"	MIU3.56/16	3410
2-1/16"	9-1/2"	IUS2.06/9.5	935	4-1/8"	9-1/2"	MIU4.28/9	2270
	11-7/8"	IUS2.06/11.88	1170		11-7/8"	MIU4.28/11	2840
	14"	IUS2.06/14	1405		14"	MIU4.28/14	3125
	16"	IUS2.06/16	1640		16"	MIU4.28/16	3410
2-5/16"	9-1/2"	IUS2.37/9.5	935	4-5/8"	9-1/2"	MIU4.75/9	2270
	11-7/8"	IUS2.37/11.88	1170		11-7/8"	MIU4.75/11	2840
	14"	IUS2.37/14	1405		14"	MIU4.75/14	3125
	16"	IUS2.37/16	1640		16"	MIU4.75/16	3410
2-1/2"	9-1/2"	IUS2.56/9.5	935	5"	9-1/2"	MIU5.12/9	2270
	11-7/8"	IUS2.56/11.88	1170		11-7/8"	MIU5.12/11	2840
	14"	IUS2.56/14	1405		14"	MIU5.12/14	3125
	16"	IUS2.56/16	1640		16"	MIU5.12/16	3410
3-1/2"	11-7/8"	IUS3.56/11.88	1405	7"	11-7/8"	HU412-2	2950
	14"	IUS3.56/14	1405		14"	HU414-2	3485
	16"	IUS3.56/16	1640		16"	HU414-2	3485



TOP FLANGE HANGERS

Single I-Joist				Double I-Joist			
Width	Depth	Hanger	Down Load	Width	Depth	Hanger	Down Load
1-3/4"	9-1/2"	ITS1.81/9.5	1520	3-1/2"	9-1/2"	MIT49.5	2305
	11-7/8"	ITS1.81/11.88	1520		11-7/8"	MIT411.88	2305
	14"	ITS1.81/14	1520		14"	MIT414	2305
	16"	ITS1.81/16	1520		16"	MIT416	2305
2-1/16"	9-1/2"	ITS2.06/9.5	1520	4-1/8"	9-1/2"	MIT4.28/9.5	2305
	11-7/8"	ITS2.06/11.88	1520		11-7/8"	MIT4.28/11.88	2305
	14"	ITS2.06/14	1520		14"	MIT4.28/14	2305
	16"	ITS2.06/16	1520		16"	LBV4.28/16	2460
2-5/16"	9-1/2"	ITS2.37/9.5	1520	4-5/8"	9-1/2"	MIT359.5-2	2305
	11-7/8"	ITS2.37/11.88	1520		11-7/8"	MIT3511.88-2	2305
	14"	ITS2.37/14	1520		14"	MIT3514-2	2305
	16"	ITS2.37/16	1520		16"	MIT4.75/16	2305
2-1/2"	9-1/2"	ITS2.56/9.5	1520	5"	9-1/2"	MIT39.5-2	2305
	11-7/8"	ITS2.56/11.88	1520		11-7/8"	MIT311.88-2	2305
	14"	ITS2.56/14	1520		14"	MIT314-2	2305
	16"	ITS2.56/16	1520		16"	MIT5.12/16	2305
3-1/2"	11-7/8"	ITS3.56/11.88	1520	7"	11-7/8"	B7.12/11.88	3800
	14"	ITS3.56/14	1520		14"	B7.12/14	3800
	16"	ITS3.56/16	1520		16"	B7.12/16	3800



THA SERIES

ADJUSTABLE HEIGHT HANGERS

Single I-Joist				Double I-Joist			
Width	Depth	Hanger	Down Load	Width	Depth	Hanger	Down Load
1-3/4"	9-1/2"-14"	THAI1.81/22	1715	3-1/2"	9-1/2"-14"	THAI422	1715
2-1/16"	9-1/2"-14"	THAI2.1/22	1715	4-1/8"	9-1/2"-14"	THAI-2	2020
2-5/16"	9-1/2"-14"	THAI3522	1715	4-5/8"	9-1/2"-14"	THAI-2	2020
2-1/2"	9-1/2"-14"	THAI322	1715	5"	9-1/2"-14"	THAI-2	2020
3-1/2"	9-1/2"-14"	THAI422	1715	7"	9-1/2"-14"	THAI-2	2020

THAI-2 are special order. Specify width

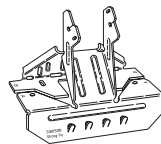
SKewed 45 HANGERS

Single I-Joist				Double I-Joist			
Width	Depth	Hanger	Down Load	Width	Depth	Hanger	Down Load
1-3/4"	9-1/2"	SUR/L1.81/9	1595	3-1/2"	9-1/2"	SUR/L410	1860
	11-7/8"	SUR/L1.81/11	2130		1-7/8"	SUR/L410	1860
	14"	SUR/L1.81/14	2500		14"	SUR/L414	2395
	16"	SUR/L1.81/14	2500		16"	SUR/L414	2395
2-1/16"	9-1/2"	SUR/L2.1/9	2015	4-1/8"	9-1/2"	HSUR/L4.28/9	1655
	11-7/8"	SUR/L2.1/11	2305		11-7/8"	HSUR/L4.28/11	2210
	14"	SUR/L2.1/11	2305		14"	HSUR/L4.28/11	2210
	16"	SUR/L2.1/11	2305		16"	HSUR/L4.28/11	2210
2-5/16"	9-1/2"	SUR/L2.37/9	2015	4-5/8"	9-1/2"	HSUR/L4.75/9	1655
	11-7/8"	SUR/L2.37/11	2305		11-7/8"	HSUR/L4.75/11	2210
	14"	SUR/L2.37/14	2590		14"	HSUR/L4.75/14	2760
	16"	SUR/L2.37/14	2590		16"	HSUR/L4.75/16	3050
2-1/2"	9-1/2"	SUR/L2.56/9	2015	5"	9-1/2"	HSUR/L5.12/9	1655
	11-7/8"	SUR/L2.56/11	2305		11-7/8"	HSUR/L5.12/11	2210
	14"	SUR/L2.56/14	2590		14"	HSUR/L5.12/14	2760
	16"	SUR/L2.56/14	2590		16"	HSUR/L5.12/16	3050
3-1/2"	11-7/8"	SUR/L410	1860	7"	11-7/8"	HU412-2X	2360
	14"	SUR/L414	2395		14"	HU414-2X	2790
	16"	SUR/L414	2395		16"	HU414-2X	2790

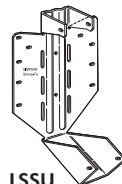
HU4-X are special order. Specify angle and direction

VARIABLE PITCH - SINGLE I-JOISTS

Single I-Joist			
Width	Depth	Hanger	Down Load
1-3/4"	ALL	VPA25	1050
2-1/16"	ALL	VPA2.1	1230
2-5/16"	ALL	VPA35	1230
2-1/2"	ALL	VPA3	1230
3-1/2"	ALL	VPA4	1230



VPA



LSSU

Highlighted hangers require web stiffeners at I-joist ends

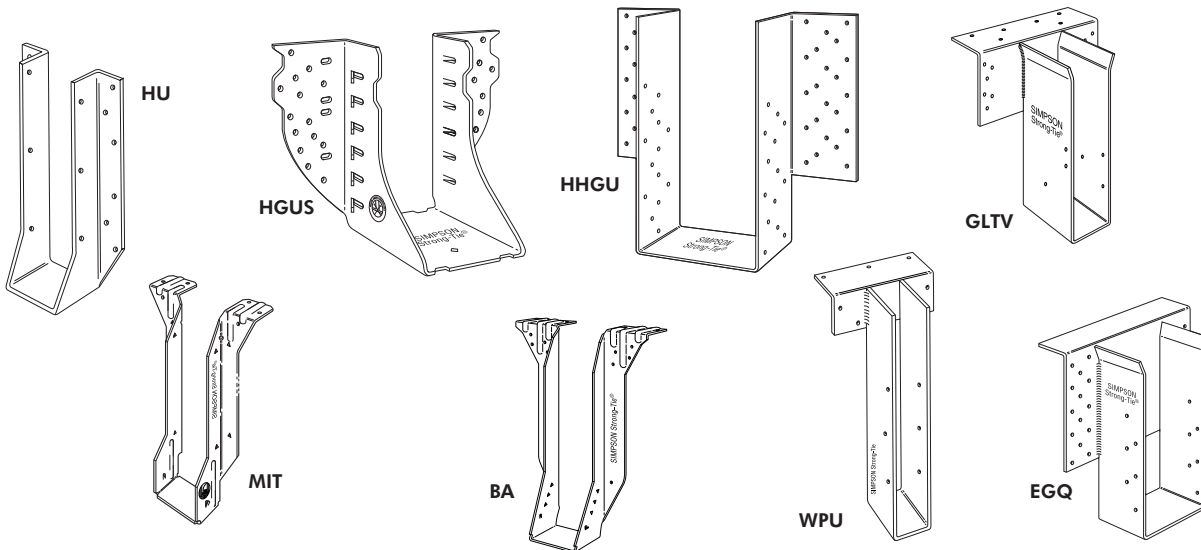
LVL Framing Connectors



FACE MOUNT LVL HANGERS

Single Ply-1-3/4" wide			Double Ply-3-1/2" wide			Triple Ply-5-1/4" wide			Quadruple Ply-7" wide		
Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)
9-1/4"	HU9	3215	9-1/4"	HHUS410	5190	9-1/4"	HHUS5.50/10	5190	9-1/4"	HHUS7.25/10	5190
	HUS1.81/10	4900		HGUS410	8780		HGUS5.50/10	8780		HGUS7.25/10	8780
9-1/2"	HU9	3215	9-1/2"	HHUS410	5190	9-1/2"	HHUS5.50/10	5190	9-1/2"	HHUS7.25/10	5190
	HUS1.81/10	4900		HGUS410	8780		HGUS5.50/10	8780		HGUS7.25/10	8780
11-1/4"	HU11	4020	11-1/4"	HHUS410	5190	11-1/4"	HHUS5.50/10	5190	11-1/4"	HHUS7.25/10	5190
	HUS1.81/10	4900		HGUS412	9155		HGUS5.50/12	9155		HGUS7.25/12	9835
11-7/8"	HU11	4020	11-7/8"	HHUS410	5190	11-7/8"	HHUS5.50/10	5190	11-7/8"	HHUS7.25/10	5190
	HUS1.81/10	4900		HGUS412	9155		HGUS5.50/12	9155		HGUS7.25/12	9835
14"	HU14	4540	14"	HHUS410	5190	14"	HHUS5.50/10	5190	14"	HGUS7.25/14	11110
	HUS1.81/10	4900		HGUS414	10015		HGUS5.50/14	10015		HGU7.25-SDS	14145
16"	HU14	4540	16"	HHUS410	5190	16"	HGUS5.50/14	10015	16"	HGUS7.25/14	11110
	HUS1.81/10	4900		HGUS414	10015		HGUS5.50-SDS	14145		HHGU7.25-SDS	17845
18"	-	-	18"	HHUS410	5190	18"	HGUS5.50/14	10015	18"	HGUS7.25/14	11110
	-	-		HGUS414	10015		HGUS5.50-SDS	14145		HHGU7.25-SDS	17845

HGU AND HHGU Hangers specify height



TOP FLANGE LVL HANGERS

Single Ply-1-3/4" wide			Double Ply-3-1/2" wide			Triple Ply-5-1/4" wide			Quadruple Ply-7" wide		
Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)	Depth	Hanger	Load (100%)
9-1/4"	LBV1.81/9.25	2910	9-1/4"	LBV3.56/9.25	2910	9-1/4"	HB5.50/9.25	5815	9-1/4"	HB7.12/9.25	5815
	WPU1.81/9.25	4700		HB3.56/9.25	5815		GLTV5.50/9.25	7500		GLTV49.25-2	7500
9-1/2"	MIT9.5	2550	9-1/2"	LBV3.56/9.5	2910	9-1/2"	HB5.50/9.5	5815	9-1/2"	HB7.12/9.5	5815
	LBV1.81/9.5	2910		HB3.56/9.5	5815		GLTV5.59	7500		GLTV49.5-2	7500
11-1/4"	LBV1.81/11.25	2910	11-1/4"	BA3.56/11.25	4715	11-1/4"	HB5.50/11.25	5815	11-1/4"	HB7.12/11.25	5815
	WPU1.81/11.25	4700		HB3.56/11.25	5815		GLTV5.50/11.25	7500		HGLTV411.25-2	10500
11-7/8"	MIT11.88	2550	11-7/8"	BA3.56/11.88	4715	11-7/8"	HB5.50/11.88	5815	11-7/8"	GLTV411.88-2	7500
	BA1.81/11.88	4715		HB3.56/11.88	5815		HGLTV5.511	10500		EGQ7.25-SDS	19800
14"	MIT1.81/14	2550	14"	BA3.56/14	4715	14"	HB5.50/14	5815	14"	GLTV414-2	7500
	LBV1.81/14	2910		GLTV3.514	7500		EGQ5.50-SDS	19800		EGQ7.25-SDS	19800
16"	MIT1.81/16	2550	16"	BA3.56/16	4715	16"	HB5.50/16	5815	16"	HGLTV416-2	10500
	B1.81/16	4135		GLTV3.516	7500		EGQ5.50-SDS	19800		EGQ7.25-SDS	19800
18"	-	-	18"	HB3.56/18	5815	18"	HGLTV5.518	10500	18"	HGLTV418-2	10500
	-	-		HGLTV3.518	10500		EGQ5.50-SDS	19800		EGQ7.25-SDS	19800

EGQ Hanger specify height

GENERAL NOTES


1. Loads listed for all hangers (except Top Flange LVL Hangers) are the lowest hanger/header/fastener limitations assuming header material is Douglas Fir-Larch, Southern Pine, or LVL manufactured in the United States. Top Flange LVL Hanger loads assume header material is LVL. Joist reaction should be checked by a qualified designer to ensure proper hanger selection.
2. Loads shown are gravity (floor) loads. Other load durations may apply. Refer to the current version of Wood Construction Connectors for allowable increases.
3. Top Flange Hanger configurations and thickness of top flange need to be considered for flush frame conditions.

All hangers listed are manufactured by Simpson Strong-Tie® Co., Inc. For additional information, refer to the current Simpson Strong-Tie literature, www.strongtie.com or contact Simpson Strong-Tie at 800-999-5099.

Description

AdvanTech® Flooring and Sheathing panels are high-performance structural panels specifically engineered to provide more water resistance and stability than plywood. In addition, AdvanTech comes with a 50-year limited warranty. AdvanTech panels are warranted not to require sanding due to moisture absorption during installation.

Basic Uses

AdvanTech  is the first structural-use panel with proprietary design capacities, which are superior to the design capacities of commodity PS-2 panels. They are used in both residential and commercial construction for floor, roof and wall sheathing applications. AdvanTech Flooring panels are used for both single-layer and sub-floor applications as well as roof sheathing. AdvanTech Sheathing panels are used for roof and wall sheathing as well as sub-flooring in two-layer systems.

*THE AdvanTech® FLOORING AND SHEATHING LIMITED WARRANTY**

FOR THE BUILDER AND CONTRACTOR:

Huber Engineered Woods (HEW) warrants to the original retail purchaser that its AdvanTech flooring and sheathing will not delaminate¹ nor require sanding due to moisture absorption during installation.

FOR THE CONSUMER:

Peace of mind. The AdvanTech flooring and sheathing panels used in your home are guaranteed to be free of manufacturing defects for a period of 50 years from the date of manufacture.

Floor Coverings

- Carpet and pad: May be installed directly over AdvanTech and Huber Blue flooring panels.
- Vinyl: A minimum 1/4" underlayment is recommended. Follow finished flooring manufacturer instructions.
- Hardwood floors: May be applied directly over 23/32" AdvanTech flooring panels. For Huber Blue flooring, the National Wood Flooring Association (NWFA) and the National Oak Flooring Manufacturers Association (NOFMA) recognize the use of 23/32" OSB subfloor under hardwood flooring. For installation of the hardwood flooring follow the recommendations of the manufacturer.
- Ceramic tile: Underlayment is required per ANSI Standard A-108 with noted exception of 1-1/4" cement mortar application method.
- Lightweight concrete: May be applied over AdvanTech and Huber Blue flooring following lightweight concrete manufacturer's instructions.



www.Huberwood.com

Defining Innovation

4 x 8 Sheets	Code
3/4" T&G Subfloor	ADVAN4834
5/8" T & G	ADVAN4858TG
1/2" Square Edge	ADVAN4812

Description

ZIP System® structural roof and wall panels with built-in protective barriers and the specially designed ZIP System tape eliminate the need for housewrap and felt. Simply install the panels, tape the seams and you're done. ZIP System now comes with a 30 year limited warranty and 180-day panel guarantee. ZIP System roof and wall panels are made with the same resins used in AdvanTech® flooring and installs up to 40% faster than traditional housewrap and felt. .



ZIP System Roof Sheathing – With a 180-day panel guarantee, ZIP System Roof Sheathing quickly cuts off water from entering your project. An integrated barrier provides moisture resistance if shingles are damaged or blow off in a storm. ZIP System Roof eliminates H-clips and the panels and tape lie flat under roof coverings for a consistent roofline. ZIP System roof sheathing is recognized by IBC & IRC (ESR-1473) as a structural roof panel and underlayment all in one, FL DCA Product Approval Number 5930-R1.



ZIP System Wall Sheathing – a code recognized water-resistive barrier that keeps water out during and after construction, ZIP System Wall sheathing eliminates the risk of water becoming trapped between housewrap and sheathing. ZIP System Wall limits air leakage through walls, protecting the R-value of insulation, which contributes to increased energy efficiency. ZIP System Wall is specially engineered to allow moisture vapor to travel through the panel, allowing walls to breathe and dry out. ZIP System wall sheathing is recognized by IBC & IRC (ESR-1474) as a structural wall panel and water-resistive barrier all in one, FL DCA Product Approval Number 6565-R2



ZIP System Tape – Using ZIP System tape can help reduce air leaks as recommended by the Seal and Insulate with ENERGY STAR® effort. ZIP System tape provides moisture resistance for seams, valleys and ridges and is code recognized as window and door flashing tape when used with ZIP System wall sheathing (ESR-2227).

4 x 8 Sheets	Code
7/16" Zip Wall	ZIPWALL716
1/2" Sq Edge Roof	ZIPROOF12
5/8" Sq Edge Roof	ZIPROOF58
90' Zip Tape	ZIPWALLTAPE





Cut Callbacks with Proper Spacing

Spacing Recommendations for APA Rated Sheathing, APA Rated Sturd-I-Floor®, and APA Rated Siding.

Wood structural panels (plywood and OSB), like all wood products, will expand or shrink slightly with changes in moisture content. If expansion is prevented by tightly butted panel joints, buckling can occur. And that can mean costly, time-consuming callbacks. To assure best performance, follow these panel spacing and nailing recommendations.

Spacing Hint. A 10d box nail may be used to gauge 1/8-inch spacing between panels. Spacer-type panel edge clips may also be used for roof sheathing applications.

NOTES:

Panel spacing is an APA **RECOMMENDATION**, to provide installers with a means of minimizing the potential for panel buckling; however, it is not a requirement. Some manufacturers may require a space at the time of installation. Panel buckling may be an aesthetic or serviceability issue but is not a structural deficiency. There is no reason to expect this recommended space to be maintained when the panel becomes acclimated. Gaps that were initially present may have closed due to normal moisture-related expansion. If the flatness of sheathing or flooring panels is acceptable, APA would generally recommend that any finish flooring, siding or roofing be installed as planned regardless of whether gaps are present.

Edge Joints: 1/8" spacing is recommended at all panel edge joints unless otherwise recommended by the manufacturer.

End Joints: 1/8" spacing is recommended at all panel end joints unless otherwise recommended by the manufacturer.

EXAMPLES OF TONGUE-AND-GROOVE (T&G) JOINTS*

1/8" space

Approximately 1/16" space

In Glued Floor Systems, use adhesives conforming with AFG-01 or ASTM D3498.

* T&G profiles and installation recommendations can vary among APA members. Check with individual manufacturer for specific recommendations – otherwise, APA recommends 1/8" spacing at all panel edges.



