Roseburg

Engineered Wood Products

Residential Design & Installation Guide

ROSEBURG FRAMING SYSTEM®

RFPI®-Joist • RigidLam® LVL • RigidLam® LVL Columns • RigidRim® Rimboard

CANADA - LIMIT STATES DESIGN

Conscientious Stewards Of Our Environment.

These five words are the foundation for every action Roseburg takes in its interactions with the environment. The phrase means not just taking care of the lands, but making them better for future generations. Harvesting a tree is easy; studying how our harvest activity impacts everything around it and finding ways to improve upon the environment is more difficult.

We have been up to the task.

We are not only in the business of producing quality wood products, but also in the business of conserving and enhancing the wonderful natural resources that each of us enjoys. Visit any of our harvest sites, and you'll see these words in action.

While using tractors and skidders may often be the easiest and least expensive alternative for removing logs, we look at other, more environmentally-friendly harvesting options such as helicopter logging to protect the soils that grow our trees. Often, you'll find us placing large, woody debris in streams to enhance the fish spawning habitat, or replacing old culverts with larger, better-placed culverts to provide better fish passage.

Roseburg was among the first in the industry to set aside some of its own land in order to study and improve upon fish habitat. Several years ago, we began working with Oregon State University and other agencies on a company-owned area near the Hinkle Creek Watershed to gain current research on the effects of logging on fish. We are now lobbying other companies to replicate the study on their own lands.

Finally, it's important to note that we are a highly self-sufficient manufacturer. We now own more than 600,000 acres of timberland, which supply the majority of wood fiber we need to produce our products. The ability to rely on our own forests gives us the flexibility to match our resources to our product mix. We take a great deal of pride in our partnership with the natural world. However, we don't go to all of this effort and expense simply because it makes us feel good; we do it because it's the right thing to do.

- We manage our natural resources in a responsible manner
- Our EWP products enable builders to use timber resources more efficiently
- We offer composite panels and plywood products that have no added urea formaldehyde
- We have biomass cogeneration plants which use wood waste material from our mills to produce clean energy for our plants and nearby communities
- We produce a broad array of products that are SCS and EPP certified
- Our integrated manufacturing facilities dramatically reduce vehicle carbon emissions
- We plant over 5 million tree seedlings annually
- We are progressively involved in stream research and enhancement

Design Support

The various charts and tables in this literature are based on accepted, typical residential loading conditions, on center spacing, deflection criteria and/or spans. This printed information allows the end user to identify and install properly sized Roseburg EWP without the need for specific design or engineering calculations. Design software; however, such as Simpson Strong-Tie® Component Solutions™, allows the user to input project-specific information into the software which may give a less restrictive solution than the generic information in the printed literature. Rest assured that both the literature and the Component Solutions™ software are based on the appropriate design properties listed in the current code reports. For additional assistance with specific product design questions, product availability, and territory sales manager locations, please visit our website at www.Roseburg.com, or contact us at 1-800-347-7260.

Important

All Roseburg Engineered Wood Products are intended and warranted for use in dry-service conditions (where the average equilibrium moisture content of solid-sawn lumber is less than 16%).

ENGINEERED WOOD PRODUCTS

Roseburg's engineered wood plants are located in Riddle, Oregon and Chester, South Carolina. These state-of-the-art facilities are focused on ensuring the highest quality standards are maintained.

Roseburg's signature trademarks of vertical integration capabilities and cutting-edge manufacturing practices help ensure that quality Engineered Wood Products are produced. Our production capacity, complete product offering, focus on service and product availability, commitment to the EWP business, and acceptability of the product by builders and homeowners all translate into significant advantages for our clients.

ROSEBURG FRAMING SYSTEM®

The Roseburg Framing System® consists of: RFPI® Joists used in floor and roof construction; RigidLam® LVL which is used for headers, beams, studs and columns; and RigidRim® Rimboard. All of the components are engineered to the industry's highest standards to help contractors build solid, durable, and better performing framing systems compared to ordinary dimension lumber.

As an acting member of APA–The Engineered Wood Association, Roseburg has adopted the Performance Standard for wood I-Joists, the Performance Standard for rimboard and the Performance Standard for laminated veneer lumber (LVL). Adherence to the strict APA quality standards assures Roseburg engineered wood product quality and consistency for the market. All engineered wood products described in this document meet the APA standards.

This guide emphasizes residential applications, including technical information on span ratings, installation details, cantilever designs, architectural specifications and engineering design properties. However, much of the basic information can be used for other construction applications. Review by a design professional is required for applications beyond the scope of this document. The Roseburg Framing System®, combined with other wood components produced by Roseburg, offers one of the most complete framing packages available from a single manufacturing supplier today.

WHAT DOES ROSEBURG'S EWP PROGRAM HAVE TO OFFER?

- Dependable supply of engineered wood
- Experienced sales, technical, engineering and customer service teams
- A commitment to quality and predictable performance
- A complete framing package with RFPI-Joists, RigidLam LVL, and RigidRim Rimboard

THE COMPANY

Since 1936, Roseburg has served the industry providing quality products for residential, commercial, industrial applications. Our natural resource base, state-of-the-art manufacturing facilities, talented and experienced associates, and reputation for quality products and service have been keys to our clients' success.

Integrated manufacturing, wide variety of wood products, and over 600,000 acres of forestlands throughout Southern Oregon, North Carolina and Virginia are assets that will support our strategic growth plans well into the 21st Century.

Software Tools

Roseburg offers a software tool that will aid you in generating accurate, professional layout drawings and member calculations. This software tool includes the Component Solutions™ (CS) EWP Studio Software Suite provided by Simpson Strong-Tie®.

As a supplier of connectors for engineered wood products, Simpson Strong-Tie has been involved in the structural building industry for decades. This experience has provided invaluable insights into the needs of designers and suppliers, resulting in the latest addition to the Simpson Strong-Tie® software product line for light-frame construction. Choose Simpson Strong-Tie® Component Solutions™ EWP Studio™ for your EWP design needs.

COMPONENT SOLUTIONS™ EWP STUDIO™

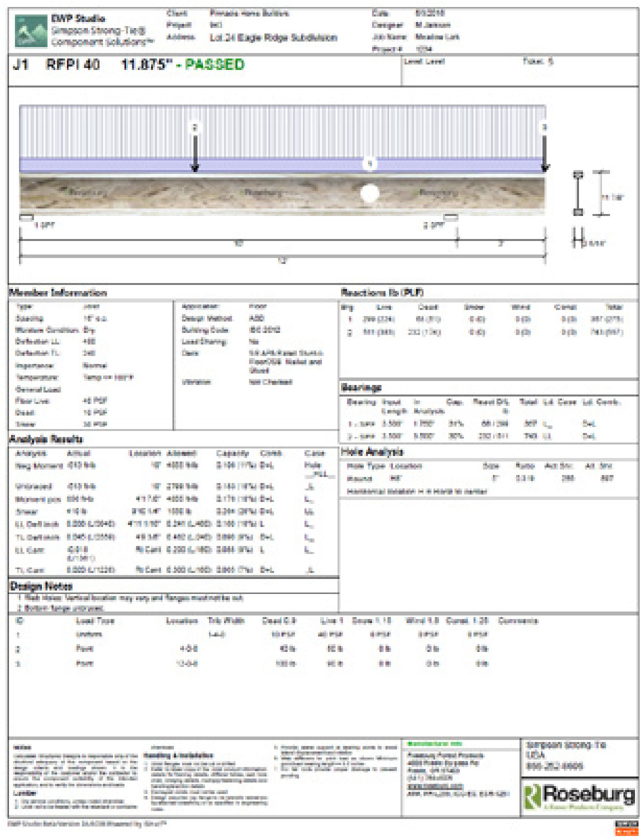
CS EWP Studio is a state-of-the art EWP analysis program. Whether you are looking for a single-member sizing utility or a robust layout and design solution, CS EWP Studio offers a wide range of tools and functions to meet your design, supply and reporting needs.

DESIGN TOOL

The Design tool is a powerful yet easy-to-use single-member sizing feature that enables you to size Roseburg engineered wood products for almost any structural condition. You provide a description of the spans, supports and loads of a specific sizing problem, and CS EWP Studio will deliver pass/fail information and even present you with a list of multiple product solutions. After selecting a product, you can print out a professional, easy-to-read calc sheet.

The program designs RFPI®-Joists at their optimum on-center spacing and RigidLam® LVL beams at their optimum depth. Rectangular or circular holes can be analyzed for RFPI Joists and circular holes can be analyzed for RigidLam® LVL at a given size and location. Cantilever reinforcements can be utilized for RFPI®-Joists used in load-bearing cantilever applications.

RigidLam® LVL columns and studs can be sized using any combination of axial and lateral loading and a variety of default and custom bracing conditions for individual stud and column members.



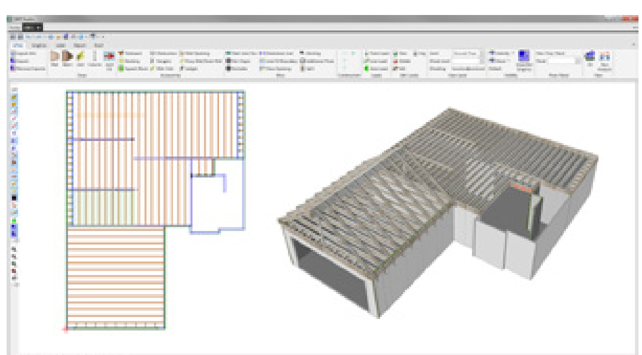
PLAN TOOL

The Plan tool is the complete automation system for Roseburg engineered wood products. The Plan tool software is available to qualified users who use the software to promote and support the sale of Roseburg engineered wood products. The Plan tool includes all of the analysis functionality within the Design tool as well as additional features for creating a 3D model, defining floor and roof systems, generating layouts, and reporting. With this effective tool, the designer describes the building geometry and specifies the framing layout while the software does the analysis, including the following:

- Developing loads throughout the structure
- Sizing all framing members for Roseburg engineered wood products
- Specifying hangers
- Generating placement plans
- Generating material cut lists and hanger schedules

Installing and updating CS EWP Studio is easy and can be done online. Check back occasionally to ensure you are using the most up-to-date version of the software.

Simpson Strong-Tie provides all training and software support necessary to successfully learn and implement these software programs. You can obtain more information about the Component Solutions™ programs at https://www.strongtie.com/products/connectors/ics/component-solutions-software or by contacting Simpson Strong-Tie at 1-866-252-8606.



Floor System Performance

It is always a good idea to consider the performance (i.e., vibration, bounce etc.) of **any floor system**. Currently, floor joists are designed using the CCMC design procedures for vibration controlled spans.

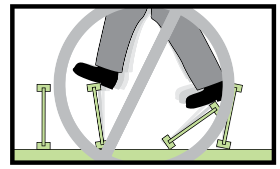
Floor performance can be enhanced by using the concepts of **fundamental natural frequency** and **damping** when designing floor systems. The **fundamental natural frequency** (FNF) is a measure of how the floor vibrates when you walk on it and is measured in cycles per second (called a Hertz or Hz). **Damping** is a measure of how quickly a floor stops vibrating and is expressed as a percent between 1 and 100 (most residential floors have a range between 5% – 25% damping).

Our bodies are extremely sensitive to vibrations below 9 Hz so the ideal floor would have a high FNF with high damping. Most problem floors have a combination of a low FNF (below 9 Hz) and a low damping (around 5%). The following list will help you determine the effect of different parameters on floor performance. **It is the combination and interaction of these parameters that determines how the floor "feels".**

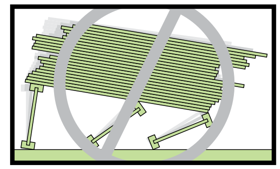
DESIGN PARAMETERS	EFFECT ON FNF	EFFECT ON DAMPING
Longer Spans	**significantly lowers**	little or no effect
Higher "L over" deflection limit (L/480 vs. L/360)	**significantly increases**	little or no effect
Using an absolute upper limit on live load deflection (Usually between 1/3" to 1/2" max)	**significantly increases**	little or no effect
Using deeper I-joists	increases	little or no effect
Reduced on-center spacing	increases	little or no effect
Adding perpendicular partition walls	little or no effect	**significantly increases**
Increasing overall weight of floor	**significantly lowers**	**significantly increases**
INSTALLATION PARAMETERS		
Unlevel bearings (walls, beams & hangers)	**significantly lowers**	**significantly lowers**
Direct applied sheet-rock ceiling	**significantly increases**	**significantly increases**
Thicker sub-floor	increases	increases
Screw & Glued sub-floor	increases	increases
T&G sub-floor	increases	increases
RETROFIT PARAMETERS		
I-joist mid span blocking (one row)	little or no effect	increases
2x4 flat on I-joist bottom (perpendicular)	little or no effect	increases
2x4 strong back on I-joist bottom (perpendicular) (vertical 2x4 nailed to side of flat 2x4)	increases	**significantly increases**

Safety & Construction Precautions

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



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



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

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

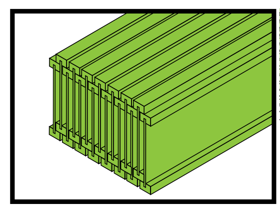
1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rimboard, and/or cross-bridging at joist ends.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.

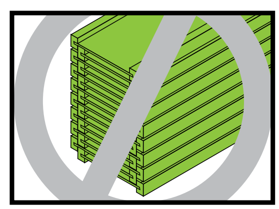
   Temporary bracing or struts must be 1 x 4 inch minimum, at least 8 feet long, spaced no more than 8 feet on center, and must be secured with a minimum of two 8d nails fastened to the top surface of each I-joist. Nail bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists. Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 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 J735 “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.

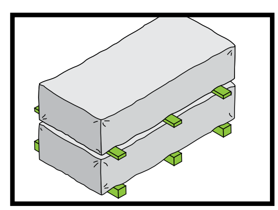
Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for RFPI®-Joists or RigidLam® LVL, failure to properly use allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation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

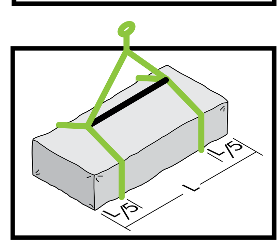
These are general recommendations and in some cases additional precautions may be required.

Storage & Handling Guidelines









- Do not drop I-joists or LVL off the delivery truck. Best practice is use of a forklift or boom.
- Store bundles upright on a smooth, level, well-drained supportive surface.
- 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.
- Always stack and handle I-joists in their upright position only.
- 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.
- Bundles should remain wrapped, strapped, and protected from the weather until time of installation.
- Do not lift I-joist bundles by top flange.
- 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.
- Take care to avoid forklift damage. Reduce forklift speed to avoid “bouncing” the load.
- 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.
- Do not stack LVL bundles on top of I-Joist bundles.
- NEVER USE A DAMAGED I-JOIST OR LVL. All field repairs must be approved by a Design Professional.

RFPI®-Joists Are Engineered to Make the Job Easier

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 money. I-joists are typically precut and shipped to the jobsite ready to install. This minimizes jobsite 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 than lumber, fewer pieces must be cut and handled on the jobsite, making I-joist installation less costly and less wasteful for the builder.

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.

LIGHTWEIGHT

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

DIMENSIONALLY STABLE

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

WEB HOLES

The OSB webs in Roseburg's I-joists permit holes to be easily cut on the jobsite 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 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 application not specifically detailed is subject to local approval.
4. I-joist end bearing length must be at least 1-3/4". Intermediate bearings of multiple span joists must be at least 3-1/2".
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 cross-bracing. 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 OSB 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 1/2 inch of true alignment.
10. Roseburg does not require mid-span blocking or bridging in RFPI floor or roof applications.
11. 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.
12. See table below 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.

RECOMMENDED NAIL SIZE & SPACING[a]

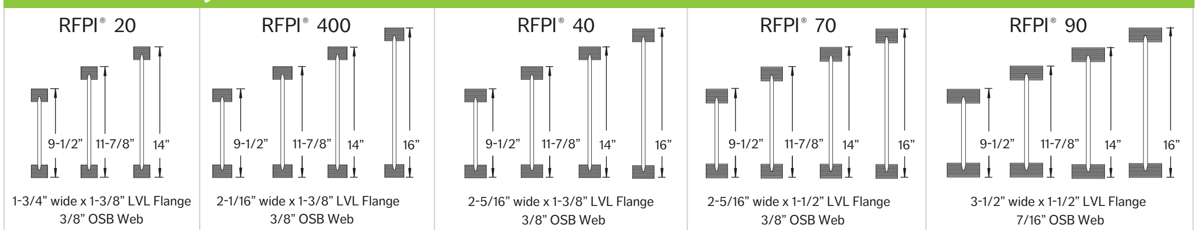
		Flange Face Nailing (in)[b][c]		Flange Edge Nailing (in)		
Flange Material	Fastener Diameter[d][e]	End Distance	Nail Spacing	End Distance	Nailed to one flange edge	Nailed to both flange edges[f]
LVL Flange I-Joist	dia. ≤ 0.128" (8d box or sinker, 10d box or sinker, 12d box)	3	2	3	3	6
	0.128"≤ dia. ≤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

Nailing Notes:

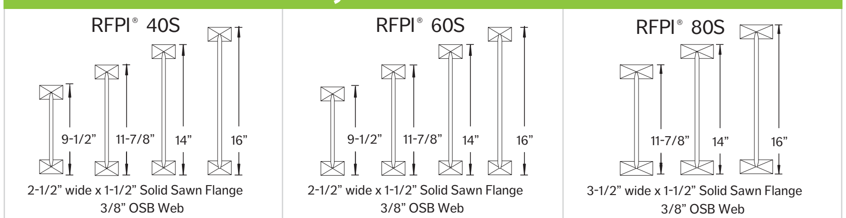
a. Nail spacings shown are guidelines for RFPI®-Joists used in conventional framing applications. For cases where horizontal diaphragm load capacity is required, refer to Table 4 of APA Product Report® PR-L259 for allowable diaphragm nail spacing. Refer to CSA O86-14 or CWC Wood Design Manual for factored diaphragm resistance.
b. For conventional framing, attach sheathing to RFPI-Joists in accordance with applicable building code or approved building plan. However, do not use nails larger or spaced closer than shown in the table above.
c. If more than one row of nails is required, rows must be offset by at least 1/2" and staggered.
d. 14 gauge staples may be substituted for 8d (2-1/2") nails if staples penetrate the joist at least 1".
e. 10d (3") box nails may be substituted for 8d (2-1/2") common nails.
f. Nails on opposing flange edges must be offset one-half the minimum spacing.
g. Maximum of 0.131" diameter (8d common)

RFPI®-Joist Design Properties

LVL FLANGE I-JOIST DIMENSIONS



SOLID SAWN FLANGE I-JOIST DIMENSIONS



FACTORED RESISTANCE VALUES (1)(2)(3)(4)(5) - STANDARD TERM

Joist Depth	Joist Series	EI(6) x 10^6 lb-in²	M_r(7) lb-ft	V_r(8) lbs	VLC(9) lbs/ft	K(10) x 10^6 lb	Weight plf
9-1/2"	RFPI 20	165	4,690	1,926	2,900	4.94	2.06
	RFPI 40S	193	4,426	1,768	2,900	4.94	2.56
	RFPI 400	193	5,563	1,926	2,900	4.94	2.29
	RFPI 40	215	6,254	2,099	2,900	4.94	2.56
	RFPI 60S	231	5,644	1,768	2,900	4.94	2.56
	RFPI 70	266	8,532	2,099	2,900	4.94	2.57
	RFPI 90	398	13,023	2,983	2,900	4.94	3.70
11-7/8"	RFPI 20	283	6,054	2,241	2,900	6.18	2.37
	RFPI 40S	330	5,686	2,241	2,900	6.18	2.83
	RFPI 400	330	7,177	2,336	2,900	6.18	2.60
	RFPI 40	366	8,075	2,447	2,900	6.18	2.81
	RFPI 60S	396	7,311	2,241	2,900	6.18	2.83
	RFPI 70	455	11,052	2,447	2,900	6.18	2.95
	RFPI 80S	547	11,593	2,510	2,900	6.18	3.79
	RFPI 90	676	16,873	3,236	2,900	6.18	4.17
14"	RFPI 20	420	7,202	2,541	2,900	7.28	2.60
	RFPI 40S	482	7,102	2,699	2,900	7.28	3.07
	RFPI 400	486	8,549	2,699	2,900	7.28	2.98
	RFPI 40	540	9,622	2,794	2,900	7.28	3.13
	RFPI 60S	584	8,803	2,699	2,900	7.28	3.07
	RFPI 70	672	13,181	2,794	2,900	7.28	3.21
	RFPI 80S	802	13,954	2,896	2,900	7.28	4.03
	RFPI 90	992	20,125	3,465	2,900	7.28	4.51
16"	RFPI 40S	657	8,233	3,109	2,900	8.32	3.31
	RFPI 400	665	9,780	3,109	2,900	8.32	3.19
	RFPI 40	737	11,002	3,109	2,900	8.32	3.34
	RFPI 60S	799	10,207	3,109	2,900	8.32	3.31
	RFPI 70	918	15,102	3,109	2,900	8.32	3.48
	RFPI 80S	1,092	16,183	3,267	2,900	8.32	4.26
	RFPI 90	1,350	23,060	3,678	2,900	8.32	4.80

1. Factored resistances are based on Limit States Design in accordance with CSA O86-14.
2. All resistance values include the resistance factor and reliability normalization factor (Kr).
3. Design values shall not be increased for load-sharing.
4. Duration of load, service and treatment factors = 1.0.
5. Full lateral support of compression flange is required.
6. Bending stiffness of the I-joist.
7. Factored Moment Resistance of a single I-joist.
8. Factored Shear Resistance of the I-joist.
9. Vertical Load Capacity when continuously supported.
10. Coefficient of shear deflection (K), used to calculate deflections for I-joist application. Equations 1 and 2 below are provided for uniform load and center point load conditions for simple spans.

Uniform Load:

$$[1]\ \delta = \frac{5\omega\ell^4}{384EI} + \frac{\omega\ell^2}{K}$$

Center-Point Load:

$$[2]\ \delta = \frac{P\ell^3}{48EI} + \frac{2P\ell}{K}$$

where:

δ = calculated deflection (in)
ω = uniform load (lb/in)
ℓ = design span (in)
P = concentrated load (lb)
EI = bending stiffness of the I-joist (lb-in²)
K = coefficient of shear deflection (lb)

RFPI®-Joist Factored Reaction Information

TABLE 1: FACTORED REACTION CAPACITIES WITH OR WITHOUT WEB STIFFENERS (W.S.)[a][b]

Joist Depth	Joist Series	End Reaction (lbs)				Intermediate Reaction (lbs)				Web Stiffener Nails [2]
		1-3/4" Bearing		4" Bearing		3-1/2" Bearing		5-1/4" Bearing		
		No W.S.	With W.S.	No W.S.	With W.S.	No W.S.	With W.S.	No W.S.	With W.S.	
9 -1/2"	RFPI-20	1,436	1,815	1,926	1,926	2,802	2,960	3,157	3,630	4-8d
	RFPI-40S	1,705	1,768	1,768	1,768	3,409	3,536	3,536	3,536	4-8d
	RFPI-400	1,618	1,926	1,926	1,926	3,394	3,551	3,630	3,851	4-8d
	RFPI-40	1,705	1,926	2,099	2,099	3,551	3,946	4,025	4,183	4-8d
	RFPI-60S	1,705	1,768	1,768	1,768	3,409	3,536	3,536	3,536	4-8d
	RFPI-70	1,768	2,099	2,099	2,099	3,686	3,946	4,025	4,183	4-8d
	RFPI-90	2,099	2,502	2,683	2,983	4,767	5,438	5,438	5,485	4-10d
11-7/8"	RFPI-20	1,499	1,934	2,241	2,241	3,054	3,212	3,370	3,843	4-8d
	RFPI-40S	1,894	2,115	2,241	2,241	3,946	4,143	4,199	4,483	4-8d
	RFPI-400	1,657	1,997	2,336	2,336	3,551	3,709	3,709	4,183	4-8d
	RFPI-40	1,894	2,210	2,447	2,447	3,929	4,143	4,199	4,530	4-8d
	RFPI-60S	1,894	2,115	2,241	2,241	3,946	4,143	4,199	4,483	4-8d
	RFPI-70	1,894	2,320	2,447	2,447	3,946	4,143	4,199	4,530	4-8d
	RFPI-80S	2,020	2,510	2,447	2,510	4,435	5,019	4,893	5,019	4-10d
	RFPI-90	2,210	2,754	2,975	3,236	5,296	5,485	5,485	5,801	4-10d
14"	RFPI-20	1,499	2,036	2,447	2,541	3,054	3,212	3,370	3,843	4-8d
	RFPI-40S	1,894	2,415	2,447	2,699	3,946	4,325	4,349	4,814	4-8d
	RFPI-400	1,657	2,060	2,447	2,699	3,551	3,709	3,709	4,183	4-8d
	RFPI-40	1,894	2,462	2,447	2,794	3,946	4,325	4,349	4,838	4-8d
	RFPI-60S	1,894	2,415	2,447	2,699	3,946	4,325	4,349	4,814	4-8d
	RFPI-70	1,894	2,510	2,447	2,794	3,946	4,325	4,349	4,838	4-8d
	RFPI-80S	2,020	2,762	2,447	2,896	4,767	5,303	5,067	5,682	4-10d
	RFPI-90	2,210	2,975	2,975	3,465	5,296	5,524	5,524	6,077	4-10d
16"	RFPI-40S	1,894	2,699	2,447	3,109	3,946	4,498	4,498	5,130	4-8d
	RFPI-400	1,657	2,115	2,447	3,109	3,551	3,709	3,709	4,183	4-8d
	RFPI-40	1,894	2,699	2,447	3,109	3,946	4,498	4,498	5,130	4-8d
	RFPI-60S	1,894	2,699	2,447	3,109	3,946	4,498	4,498	5,130	4-8d
	RFPI-70	1,894	2,699	2,447	3,109	3,946	4,498	4,498	5,130	4-8d
	RFPI-80S	2,020	2,999	2,447	3,267	4,767	5,564	5,225	6,314	4-10d
	RFPI-90	2,210	3,196	2,975	3,678	5,296	5,564	5,564	6,353	4-10d

Table 1 Notes:

a. The tabulated values are for the standard term of load duration (K_D = 1.0). All values are permitted to be adjusted for other load durations as permitted by the code provided that the adjusted values do not exceed the factored compressive resistance perpendicular to grain (Q_r) of the bearing plate supporting the I-joist in accordance with CSA O86. Interpolation between bearing lengths is permitted.

b. Number and size of nails required for web stiffeners. Refer to page 25 for web stiffener and nail installation requirements.

RFPI® - JOIST

Allowable Floor Clear Spans For RFPI®-Joists Standard Term

40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - GLUED SUBFLOOR & DIRECTLY APPLIED 1/2" GYPSUM CEILING

Joist Depth	Joist Series	Simple Span - 23/32" OSB Subfloor				Multiple Span - 23/32" OSB Subfloor			
		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	16'-7"	15'-8"	15'-1"	13'-11"	17'-4"	16'-4"	15'-9"	15'-1"
	RFPI 40S	17'-0"	16'-0"	15'-5"	14'-8"	17'-9"	16'-9"	16'-2"	15'-4"
	RFPI 400	17'-0"	16'-0"	15'-5"	14'-8"	17'-9"	16'-9"	16'-2"	15'-6"
	RFPI 40	17'-3"	16'-3"	15'-8"	15'-1"	18'-0"	17'-0"	16'-5"	15'-9"
	RFPI 60S	17'-5"	16'-5"	15'-10"	15'-3"	18'-3"	17'-2"	16'-7"	15'-11"
	RFPI 70	17'-10"	16'-10"	16'-2"	15'-7"	18'-9"	17'-7"	16'-11"	16'-3"
	RFPI 90	19'-4"	17'-11"	17'-3"	16'-6"	20'-5"	18'-11"	18'-0"	17'-3"
11-7/8"	RFPI 20	18'-9"	17'-7"	16'-11"	16'-3"	19'-9"	18'-5"	17'-8"	16'-7"
	RFPI 40S	19'-3"	17'-11"	17'-4"	16'-8"	20'-5"	18'-11"	18'-1"	17'-5"
	RFPI 400	19'-3"	17'-11"	17'-4"	16'-8"	20'-5"	18'-11"	18'-1"	17'-5"
	RFPI 40	19'-8"	18'-3"	17'-7"	16'-11"	20'-10"	19'-4"	18'-6"	17'-8"
	RFPI 60S	20'-0"	18'-7"	17'-10"	17'-1"	21'-2"	19'-8"	18'-9"	17'-10"
	RFPI 70	20'-7"	19'-1"	18'-2"	17'-5"	21'-9"	20'-2"	19'-3"	18'-3"
	RFPI 80S	21'-4"	19'-9"	18'-10"	17'-11"	22'-7"	20'-11"	19'-11"	18'-11"
	RFPI 90	22'-4"	20'-8"	19'-8"	18'-7"	23'-7"	21'-10"	20'-10"	19'-9"
14"	RFPI 20	20'-10"	19'-5"	18'-6"	17'-8"	22'-0"	20'-6"	19'-7"	16'-7"
	RFPI 40S	21'-5"	19'-11"	19'-0"	18'-1"	22'-7"	21'-1"	20'-1"	19'-1"
	RFPI 400	21'-5"	19'-11"	19'-0"	18'-1"	22'-8"	21'-1"	20'-2"	19'-2"
	RFPI 40	21'-11"	20'-4"	19'-5"	18'-5"	23'-2"	21'-6"	20'-6"	19'-6"
	RFPI 60S	22'-3"	20'-8"	19'-9"	18'-9"	23'-6"	21'-10"	20'-10"	19'-10"
	RFPI 70	22'-11"	21'-3"	20'-3"	19'-2"	24'-2"	22'-5"	21'-5"	20'-4"
	RFPI 80S	23'-9"	22'-0"	21'-0"	19'-10"	25'-1"	23'-3"	22'-2"	21'-0"
	RFPI 90	24'-10"	23'-0"	21'-10"	20'-8"	26'-3"	24'-4"	23'-2"	21'-11"
16"	RFPI 40S	23'-4"	21'-8"	20'-8"	19'-8"	24'-8"	22'-11"	21'-11"	20'-10"
	RFPI 400	23'-4"	21'-9"	20'-9"	19'-8"	24'-8"	23'-0"	21'-11"	19'-4"
	RFPI 40	23'-10"	22'-2"	21'-2"	20'-1"	25'-2"	23'-5"	22'-4"	21'-3"
	RFPI 60S	24'-3"	22'-6"	21'-6"	20'-5"	25'-7"	23'-10"	22'-9"	21'-6"
	RFPI 70	24'-11"	23'-2"	22'-1"	20'-11"	26'-4"	24'-6"	23'-4"	21'-6"
	RFPI 80S	25'-10"	24'-0"	22'-10"	21'-8"	27'-4"	25'-4"	24'-2"	22'-11"
	RFPI 90	27'-1"	25'-0"	23'-10"	22'-6"	28'-7"	26'-6"	25'-3"	23'-10"

40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - GLUED SUBFLOOR & NO DIRECTLY APPLIED CEILING

Joist Depth	Joist Series	Simple Span - 23/32" OSB Subfloor				Multiple Span - 23/32" OSB Subfloor			
		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	16'-1"	15'-2"	14'-8"	13'-11"	16'-10"	15'-10"	15'-3"	14'-8"
	RFPI 40S	16'-6"	15'-7"	15'-0"	14'-5"	17'-3"	16'-3"	15'-8"	15'-1"
	RFPI 400	16'-6"	15'-7"	15'-0"	14'-5"	17'-3"	16'-3"	15'-8"	15'-1"
	RFPI 40	16'-10"	15'-10"	15'-4"	14'-8"	17'-7"	16'-7"	16'-0"	15'-4"
	RFPI 60S	17'-1"	16'-1"	15'-6"	14'-10"	17'-10"	16'-9"	16'-2"	15'-6"
	RFPI 70	17'-6"	16'-5"	15'-10"	15'-2"	18'-3"	17'-2"	16'-7"	15'-11"
	RFPI 90	18'-11"	17'-7"	16'-11"	16'-3"	20'-0"	18'-5"	17'-8"	16'-11"
11-7/8"	RFPI 20	18'-1"	17'-0"	16'-5"	15'-9"	19'-1"	17'-9"	17'-1"	16'-5"
	RFPI 40S	18'-8"	17'-6"	16'-10"	16'-2"	19'-8"	18'-3"	17'-7"	16'-10"
	RFPI 400	18'-8"	17'-5"	16'-10"	16'-2"	19'-8"	18'-3"	17'-7"	16'-10"
	RFPI 40	19'-1"	17'-9"	17'-1"	16'-5"	20'-2"	18'-8"	17'-10"	17'-2"
	RFPI 60S	19'-5"	18'-0"	17'-4"	16'-8"	20'-6"	19'-0"	18'-1"	17'-5"
	RFPI 70	20'-0"	18'-6"	17'-9"	17'-0"	21'-2"	19'-7"	18'-8"	17'-9"
	RFPI 80S	20'-10"	19'-3"	18'-4"	17'-6"	22'-0"	20'-4"	19'-5"	18'-5"
	RFPI 90	21'-10"	20'-2"	19'-2"	18'-2"	23'-1"	21'-4"	20'-3"	19'-3"
14"	RFPI 20	20'-1"	18'-7"	17'-10"	17'-1"	21'-2"	19'-8"	18'-9"	16'-7"
	RFPI 40S	20'-8"	19'-2"	18'-4"	17'-6"	21'-10"	20'-3"	19'-4"	18'-4"
	RFPI 400	20'-9"	19'-2"	18'-4"	17'-6"	21'-10"	20'-3"	19'-4"	18'-4"
	RFPI 40	21'-2"	19'-8"	18'-9"	17'-10"	22'-5"	20'-9"	19'-9"	18'-9"
	RFPI 60S	21'-7"	20'-0"	19'-1"	18'-1"	22'-9"	21'-1"	20'-1"	19'-1"
	RFPI 70	22'-3"	20'-7"	19'-7"	18'-7"	23'-6"	21'-9"	20'-9"	19'-8"
	RFPI 80S	23'-2"	21'-5"	20'-4"	19'-4"	24'-6"	22'-7"	21'-6"	20'-5"
	RFPI 90	24'-3"	22'-5"	21'-4"	20'-2"	25'-8"	23'-8"	22'-6"	21'-4"
16"	RFPI 40S	22'-6"	20'-10"	19'-11"	18'-11"	23'-9"	22'-0"	21'-0"	19'-11"
	RFPI 400	22'-7"	20'-11"	19'-11"	18'-11"	23'-10"	22'-1"	21'-1"	19'-4"
	RFPI 40	23'-1"	21'-4"	20'-5"	19'-4"	24'-5"	22'-7"	21'-6"	20'-5"
	RFPI 60S	23'-6"	21'-9"	20'-9"	19'-8"	24'-10"	23'-0"	21'-11"	20'-9"
	RFPI 70	24'-3"	22'-5"	21'-4"	20'-3"	25'-7"	23'-8"	22'-7"	21'-5"
	RFPI 80S	25'-3"	23'-3"	22'-2"	21'-0"	26'-8"	24'-7"	23'-5"	22'-2"
	RFPI 90	26'-5"	24'-5"	23'-2"	21'-11"	28'-0"	25'-10"	24'-6"	23'-2"

Notes (applicable to spans on pages 10-11):

1. Allowable spans shown are based on uniformly loaded I-Joists with 1¾" end bearing lengths and 3½" intermediate bearing lengths without the use of web stiffeners. When longer bearing lengths or web stiffeners are used, longer spans may be permitted. For applications with any of these other conditions, an engineering analysis may be required using the design properties found in this guide. Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for other loading.
2. Design is to CSA O86-19 with the CCMC vibration concluding report dated September 4, 1997.
3. Simple Spans are for joists supported at each end only.
4. Multiple Spans are for continuous joists spanning over three or more supports, where the shortest span is at least 50% of the longest span.
5. Multiple span lengths shown require adequate bottom flange lateral bracing.
6. Spans listed are clear distances between the face of supports.
7. Web stiffeners are not required for spans listed but may be required for hangers.
8. Use in dry service conditions only.
9. Provide lateral support at points of bearing to prevent twisting of joists.
10. Spans are based on the controlling condition of: L/360 live load deflection, L/240 total load deflection or the CCMC floor vibration criteria.
11. Floor sheathing shall conform to CSA O325. Subfloor adhesive shall adhere to requirements of CGSB Standard CAN-CGSB-71.26-M88
12. Minimum bearing length to be 1-3/4" at ends and 3-1/2" at interior supports
13. The ends of multiple span joists must be anchored to resist a factored uplift force of 10 psf x joist spacing x largest span (due to pattern loading).

Allowable Floor Clear Spans For RFPI®-Joists Standard Term

40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - GLUED SUBFLOOR & DIRECTLY APPLIED 1/2" GYPSUM CEILING

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

40 PSF LIVE LOAD AND 10 PSF DEAD LOAD - GLUED SUBFLOOR & NO DIRECTLY APPLIED CEILING

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

See notes on page 10.

Layout Guide For 19.2" O.C. Spacing

1	19-3/16"	6	115-3/16"	11	211-3/16"
2	38-3/8"	7	134-3/8"	12	230-3/8"
3	57-5/8"	8	153-5/8"	13	249-5/8"
4	76-13/16"	9	172-13/16"	14	268-13/16"
5	96" (8')	10	192" (16')	15	288" (24')

Allowable Floor Uniform Load For RFPI®-Joists (PLF)

Joist Clear Span (ft)	**RFPI 20** (1-3/4" wide x 1-3/8" flanges)									**RFPI 40S** (2-1/2" wide x 1-1/2" flanges)											
	9-1/2"			**11-7/8"**			**14"**			**9-1/2"**			**11-7/8"**			**14"**			**16"**		
	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load
	L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total	
8	267	-	270	-	-	294	-	-	294	302	-	329	-	-	381	-	-	380	-	-	380
9	198	-	241	-	-	262	-	-	262	224	-	293	-	-	339	-	-	339	-	-	338
10	150	-	217	-	-	236	-	-	236	171	-	264	275	-	305	-	-	305	-	-	305
11	116	-	197	190	-	215	-	-	215	133	-	240	215	-	278	-	-	278	-	-	277
12	91	181	181	151	-	197	-	-	197	105	207	220	172	-	255	241	-	255	-	-	254
13	73	144	167	121	-	182	174	-	182	84	166	199	139	-	235	196	-	235	-	-	235
14	59	117	155	99	-	169	143	-	169	69	135	172	113	-	218	161	-	218	213	-	218
15	49	96	145	82	-	158	118	-	157	57	111	150	94	185	193	134	-	204	178	-	203
16	41	80	136	68	134	148	99	-	148	47	92	131	79	154	169	112	-	191	149	-	191
17	34	67	124	58	113	139	84	-	139	40	77	116	66	130	150	95	-	179	127	-	179
18	29	56	111	49	96	131	71	-	131	34	65	103	56	110	134	81	159	167	108	-	169
19	25	48	99	42	82	124	61	120	124	29	55	93	48	94	120	70	136	150	93	-	160
20	21	41	89	36	70	116	53	104	118	25	47	83	42	81	108	60	117	135	81	-	152
22	-	-	-	28	53	95	40	78	107	-	-	-	32	61	89	46	89	111	62	120	129
24	-	-	-	21	41	80	31	60	95	-	-	-	-	-	-	36	69	93	48	93	108
26	-	-	-	-	-	-	25	47	81	-	-	-	-	-	-	28	54	79	38	74	92
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	59	79
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Joist Clear Span (ft)	**RFPI 400** (2-1/16" wide x 1-3/8" flanges)												**RFPI 40** (2-5/16" wide x 1-3/8" flanges)											
	9-1/2"			**11-7/8"**			**14"**			**16"**			**9-1/2"**			**11-7/8"**			**14"**			**16"**		
	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load
	L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total	
8	302	-	327	-	-	342	-	-	342	-	-	342	327	-	343	-	-	379	-	-	380	-	-	380
9	224	-	292	-	-	305	-	-	305	-	-	304	244	-	305	-	-	338	-	-	339	-	-	339
10	171	-	263	-	-	275	-	-	275	-	-	274	187	-	275	298	-	304	-	-	305	-	-	305
11	133	-	239	215	-	250	-	-	250	-	-	249	145	-	250	234	-	277	-	-	278	-	-	277
12	105	207	219	172	-	229	-	-	229	-	-	229	115	228	230	187	-	254	-	-	255	-	-	254
13	84	166	203	139	-	212	197	-	212	-	-	211	93	183	212	151	-	234	215	-	235	-	-	235
14	69	135	188	113	-	197	162	-	197	-	-	196	76	149	197	124	-	218	177	-	218	-	-	218
15	57	111	176	94	-	183	135	-	183	179	-	183	62	123	184	103	203	203	147	-	204	195	-	204
16	47	92	165	79	154	172	113	-	172	151	-	171	52	102	172	86	170	190	124	-	191	165	-	191
17	40	77	147	66	130	162	96	-	162	128	-	161	44	85	162	73	143	179	105	-	180	140	-	179
18	34	65	131	56	110	153	82	-	153	109	-	152	37	72	148	62	122	169	90	-	170	120	-	169
19	29	56	118	48	94	145	70	137	145	94	-	144	32	62	132	53	104	160	77	151	161	103	-	160
20	25	48	106	42	81	137	61	119	137	82	-	137	28	53	119	46	90	152	67	131	152	90	-	152
22	19	36	87	32	61	113	46	90	113	63	122	124	21	40	98	35	68	127	51	99	138	69	134	138
24	-	-	-	25	47	95	36	70	95	49	95	114	16	30	82	27	52	107	40	77	127	54	104	126
26	-	-	-	20	37	80	29	55	80	39	75	105	-	-	-	22	41	91	32	61	108	43	83	116
28	-	-	-	-	-	-	23	44	-	31	60	94	-	-	-	18	32	78	26	48	93	35	66	107
30	-	-	-	-	-	-	-	-	-	26	49	82	-	-	-	-	-	-	21	39	81	28	54	92

Joist Clear Span (ft)	**RFPI 60S** (2-1/2" wide x 1-1/2" flanges)												**RFPI 70** (2-5/16" wide x 1-1/2" flanges)											
	9-1/2"			**11-7/8"**			**14"**			**16"**			**9-1/2"**			**11-7/8"**			**14"**			**16"**		
	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load
	L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total	
8	-	-	329	-	-	381	-	-	380	-	-	380	-	-	356	-	-	380	-	-	380	-	-	380
9	258	-	293	-	-	339	-	-	339	-	-	338	288	-	317	-	-	339	-	-	339	-	-	338
10	198	-	264	-	-	305	-	-	305	-	-	305	221	-	285	-	-	305	-	-	305	-	-	305
11	154	-	240	249	-	278	-	-	278	-	-	277	173	-	260	277	-	278	-	-	277	-	-	277
12	123	-	220	199	-	255	-	-	255	-	-	254	138	-	238	223	-	255	-	-	254	-	-	254
13	99	195	203	162	-	235	229	-	235	-	-	235	112	-	220	181	-	235	-	-	235	-	-	235
14	81	159	189	133	-	218	189	-	218	-	-	218	91	180	204	149	-	218	212	-	218	-	-	218
15	67	131	176	110	-	204	157	-	204	-	-	203	76	149	191	124	-	204	177	-	204	-	-	203
16	56	109	165	92	182	191	132	-	191	176	-	191	63	124	179	104	-	191	149	-	191	-	-	190
17	47	91	149	78	154	180	112	-	179	150	-	179	53	104	168	88	174	180	127	-	179	169	-	179
18	40	77	133	67	131	170	96	-	169	129	-	169	45	88	159	76	148	170	109	-	169	145	-	169
19	34	66	119	57	112	155	83	-	160	111	-	160	39	76	150	65	127	161	94	-	160	125	-	160
20	30	57	107	50	96	140	72	141	152	96	-	152	34	65	143	56	110	152	81	-	152	109	-	152
22	22	42	88	38	73	115	55	107	138	74	-	138	26	49	129	43	83	138	62	122	138	84	-	138
24	-	-	-	30	56	96	43	83	116	58	113	126	20	37	113	34	64	127	49	95	126	66	-	126
26	-	-	-	23	44	82	34	65	99	46	89	115	16	29	96	27	51	117	39	75	116	53	102	116
28	-	-	-	-	-	-	28	52	85	37	71	98	13	23	83	22	40	107	32	60	108	43	82	108
30	-	-	-	-	-	-	-	-	-	31	58	85	-	-	-	18	32	93	26	49	101	35	67	100

Allowable Floor Uniform Load For RFPI®-Joists (PLF)

Joist Clear Span (ft)	**RFPI 80S** (3-1/2" wide x 1-1/2" flanges)									**RFPI 90** (3-1/2" wide x 1-1/2" flanges)											
	11-7/8"			**14"**			**16"**			**9-1/2"**			**11-7/8"**			**14"**			**16"**		
	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load	Unfactored loads based on deflection		Factored Total Load
	L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total		L/480 Live	L/240 Total	
8	-	-	427	-	-	459	-	-	459	-	-	459	-	-	511	-	-	510	-	-	510
9	-	-	380	-	-	409	-	-	408	382	-	409	-	-	455	-	-	454	-	-	454
10	-	-	342	-	-	368	-	-	368	299	-	369	-	-	410	-	-	409	-	-	409
11	-	-	312	-	-	335	-	-	335	237	-	335	369	-	373	-	-	372	-	-	372
12	257	-	286	-	-	307	-	-	307	191	-	307	300	-	342	-	-	341	-	-	341
13	210	-	264	-	-	283	-	-	283	156	-	284	247	-	316	-	-	315	-	-	315
14	174	-	245	243	-	263	-	-	263	129	254	264	205	-	293	286	-	293	-	-	292
15	145	-	228	204	-	246	-	-	245	107	211	246	172	-	274	241	-	273	-	-	273
16	122	-	214	173	-	230	227	-	230	90	177	231	146	-	256	205	-	256	-	-	256
17	104	-	201	147	-	216	194	-	216	77	149	217	124	-	241	175	-	241	230	-	241
18	89	174	190	127	-	204	167	-	204	65	127	205	107	210	228	151	-	227	199	-	227
19	77	150	180	109	-	193	145	-	193	56	109	194	92	181	216	131	-	215	173	-	215
20	67	129	171	95	-	184	127	-	183	49	94	184	80	157	205	114	-	204	151	-	204
22	51	98	155	73	143	167	98	-	166	37	71	167	62	120	186	88	173	185	117	-	185
24	40	76	142	58	111	152	77	150	152	29	55	153	49	93	170	70	135	170	93	-	169
26	32	60	130	46	88	140	62	119	140	23	43	141	39	74	157	56	107	156	74	145	156
28	26	48	112	37	70	130	50	96	130	-	-	-	31	59	145	45	86	145	61	117	145
30	21	38	97	31	57	117	41	78	121	-	-	-	26	48	135	37	70	135	50	96	135

General Notes

1. Clear span is the distance between the face of the supports.
2. The loads have been calculated in accordance with CSA O86-14.
3. The two unfactored load columns are based on deflection only. The factored load column is based on strength only. All three columns must be checked. Where the unfactored load column is blank, the factored load column governs.
4. An L/480 live load deflection limit is recommended. For L/360 (minimum stiffness allowed by code), multiply the L/480 value by 1.33.
5. The load values are for standard term load duration and dry service conditions only. The dead load must not exceed the live load.
6. The load values above represent the worst case of uniformly loaded simple span or multiple span joists.
7. Use beam sizing software to analyze multiple span joists if the length of any span is less than half the length of an adjacent span.
8. Minimum required end bearing length is 1-3/4". Minimum required intermediate bearing length is 3-1/2".
9. Provide continuous lateral support for top flange. Provide lateral support at points of bearing to prevent twisting of joist.
10. Web stiffeners are not required for loads shown.
11. This table does not account for the added stiffness from glued or nailed sheathing.
12. Use beam sizing software to analyze conditions outside of the scope of this table such as cantilevers, concentrated loads, longer bearing lengths or the use of web stiffeners.

How To Use PLF Table:

1. Calculate actual unfactored live load, unfactored total load and factored total load in pounds per lineal foot (plf).
2. Select appropriate Clear Span.
3. Move across columns until an I-joist is located that meets or exceeds the actual unfactored live load, unfactored total load and factored total load. All three columns must be checked.

PSF TO PLF CONVERSION – LOAD IN POUNDS PER LINEAL FOOT (PLF)

O.C. Spacing		Load in Pounds per Square Foot (PSF)											
(in)	**(ft)**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**
12	1.00	20	25	30	35	40	45	50	55	60	65	70	75
16	1.33	27	33	40	47	53	60	67	73	80	87	93	100
19.2	1.60	32	40	48	56	64	72	80	88	96	104	112	120
24	2.00	40	50	60	70	80	90	100	110	120	130	140	150

O.C. spacing [ft] x load [PSF] = load [PLF]. See load development above.

Explanation Of Important EWP Terms

1. **Live Load, Dead Load & Total Load:** Most people would feel very uncomfortable in buildings if there were no consideration to deflection or sag even though they were designed to safely support their total design load. That's because all structures (buildings, bridges, floors, etc.) can safely deflect well beyond the limits that make us feel uncomfortable. Limiting deflection is considered a "serviceability" requirement because it is independent of strength. In floor design, limiting sag is also necessary to prevent cracking in the sheet rock (on the bottom of the joists) due to load being applied and removed during the day.

   To do this, it is necessary to define that portion of the load that varies and that portion of the load that is always present. By definition, Live Load is people, furniture and pets etc. that can be moved on and off the floor. Dead Load is defined as the weight of the floor system itself or any other load that is permanently attached to the floor. Together, the dead load and the live load make up the total load.

2. **L/360, L/480:** A method used to limit the maximum allowable deflection (or sag) when designing joists and beams. Specifically, the term L is the span of the joist or beam expressed in inches and the ratio L/480 would be the maximum allowable deflection the joist would be expected to deflect. It does not represent what the actual deflection of the joist is in the field, just the maximum value it would be allowed to deflect under full design load.

   The "L over" ratio is always associated with either live load or total load. The most common values are:

Floors:	Live Load – L/480 (or L/360)	Total Load – L/240
Roofs:	Live Load – L/240	Total Load – L/180

   For example, a typical residential floor (40 psf LL / 10 psf DL) with RFPI-Joists would be designed to an L/480 Live Load limit and an L/240 Total Load limit. For an 18' span, this would be equivalent to:

   $\frac{L}{480} = \frac{18' \times 12}{480} = \frac{216}{480} = 0.45"$ Allowable Live Load Deflection *And* $\frac{L}{240} = \frac{18' \times 12}{240} = \frac{216}{240} = 0.90"$ Allowable Total Load Deflection

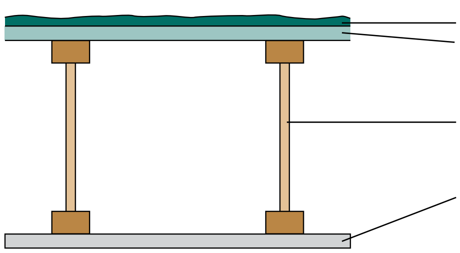
   The actual Live Load deflection of the floor system would be determined with a surveyor's transit taking readings before and after a true 40 psf load (i.e., cinder blocks) was applied. The deflection reading obtained in the field must be less than (or equal to) the 0.45". The same applies to the 0.9" under a true 50 psf load.

3. **PSF Load:** This is the design load, in pounds per square foot that is "applied" to the entire floor or roof area. By code, most residential floors must be designed to support a live load of 40 psf. The live load for roofs is determined by local code and depends on the amount of annual snow expected for that region where the house is.

   The design dead load psf is determined by the weight of each component of the floor or roof. A typical residential floor will have a dead load of 10 psf but depending on the components used, it can be as high as 20–24 psf. Dead load psf is based on standard material weights found in any of the National Model Building Codes. A typical method for calculating dead load is shown below:

Figure 1

DEAD LOAD CALCULATION FOR TYPICAL RESIDENTIAL FLOOR



CARPET & PAD	= 1.2 psf
T&G SUB-FLOOR	= 2.7 psf
Assume 11-7/8" **RFPI-20 I-Joist** @16" o.c. (2.37 plf ÷ 1.33')	= 1.8 psf
5/8" Sheet Rock **CEILING**	= 2.8 psf
MISCELLANEOUS (ductwork, wiring, etc.)	= 1.5 psf
TOTAL DEAD LOAD	**= 10 psf**

TYPICAL BUILDING MATERIAL WEIGHTS

Floors		
Hardwood - 1" thick	4.0	psf
Concrete - 1" thick		
Regular	12.0	psf
Lightweight	8.0-12.0	psf
Gypcrete - 3/4" thick	6.5	psf
Sheet vinyl	0.5	psf
Carpet and pad	1.0	psf
3/4" ceramic or quarry tile	10.0	psf
Linoleum or soft tile	1.5	psf
1/2" mortar bed	6.0	psf
1" mortar bed	12.0	psf

Ceilings		
Acoustical fiber tile	1.0	psf
1/2" gypsum board	2.2	psf
5/8" gypsum board	2.8	psf
Plaster - 1" thick	8.0	psf
Metal suspension system (including tile)	1.8	psf

Insulation - 1" Thick		
Polystyrene foam & Styrofoam	0.2	psf
Foamglass	0.8	psf
Rigid fiberglass	1.5	psf
Glass wool	0.1	psf
Rock wool	0.2	psf

Douglas-fir Sheathing		
1/2" plywood	1.5	psf
5/8" plywood	1.8	psf
3/4" plywood	2.3	psf
1/2" OSB	1.7	psf
5/8" OSB	2.0	psf
3/4" OSB	2.5	psf
7/8" OSB	2.9	psf

Miscellaneous		
Mechanical ducts	2.0-4.0	psf
Stucco - 1" thick	10.0	psf

Roofing Materials		
Asphalt shingles	2.5	psf
Wood shingles	2.0	psf
Clay tile	9.0-14.0	psf
Slate - 3/8" thick	15.0	psf

Weights of Douglas-Fir Framing - PSF

Nominal Size	Joist Spacing			
	12"	16"	19.2"	24"
2x4	1.4	1.1	0.9	0.7
2x6	2.2	1.7	1.4	1.1
2x8	2.9	2.2	1.8	1.5

Weights of Sprinkler Lines

Size of Pipe	Schedule 40		Schedule 10	
	Dry (plf)	Wet (plf)	Dry (plf)	Wet (plf)
1"	1.7	2.1	1.4	1.8
1-1/2"	2.7	3.6	2.1	3.1
2"	3.7	5.2	2.7	4.2

Web Hole Specifications

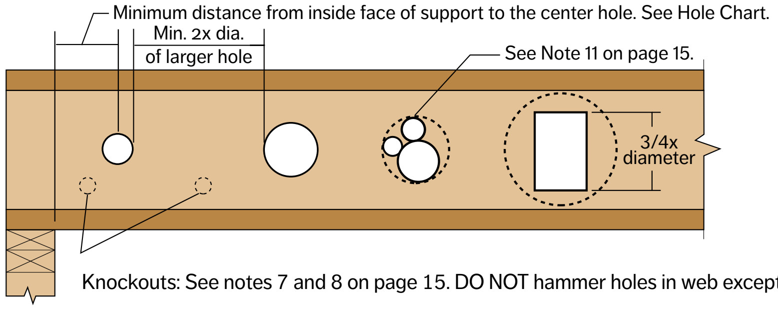
One of the benefits of using RFPI-Joists in residential floor and roof construction is that holes may be cut in the joist webs to accommodate electrical wiring, plumbing lines and other mechanical systems, therefore minimizing the depth of the floor system.

RULES FOR CUTTING HOLES IN RFPI-JOISTS

1. See chart on page 16 for allowable hole sizes and locations. The distance between the inside edge of the nearest support and the centerline of any hole shall not be less than that shown in the chart on page 16.
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 16.
7. Knockouts are pre-scored 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 16).
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.

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



RFPI-JOIST TYPICAL HOLES - See "HOW TO USE HOLE CHART" below and "Rules for Cutting Holes in RFPI Joists" on page 15

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

Joist Depth	Joist Series	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	0'-7"	0'-8"	2'-0"	3'-6"	5'-2"	5'-8"									
	RFPI 40S	0'-7"	1'-6"	2'-10"	4'-4"	5'-11"	6'-4"									
	RFPI 400	0'-7"	0'-10"	2'-3"	3'-10"	5'-6"	5'-11"									
	RFPI 40	0'-7"	0'-8"	1'-8"	3'-4"	5'-2"	5'-7"									
	RFPI 60S	0'-7"	1'-10"	3'-3"	4'-9"	6'-4"	6'-9"									
	RFPI 70	0'-7"	0'-8"	2'-0"	3'-8"	5'-6"	6'-0"									
	RFPI 90	0'-7"	0'-8"	0'-8"	1'-3"	3'-7"	4'-2"									
11-7/8"	RFPI 20	0'-7"	0'-8"	0'-8"	1'-8"	3'-1"	3'-5"	4'-6"	6'-1"	7'-2"						
	RFPI 40S	0'-7"	0'-8"	0'-10"	2'-2"	3'-7"	4'-0"	5'-1"	6'-9"	7'-10"						
	RFPI 400	0'-7"	0'-8"	0'-8"	1'-10"	3'-3"	3'-8"	4'-10"	6'-6"	7'-7"						
	RFPI 40	0'-7"	0'-8"	0'-8"	1'-6"	3'-0"	3'-5"	4'-7"	6'-4"	7'-6"						
	RFPI 60S	0'-7"	0'-8"	1'-1"	2'-6"	3'-11"	4'-3"	5'-5"	7'-1"	8'-2"						
	RFPI 70	0'-7"	0'-8"	0'-8"	1'-11"	3'-5"	3'-10"	5'-0"	6'-9"	7'-11"						
	RFPI 80S	0'-7"	0'-8"	0'-8"	2'-1"	3'-7"	4'-0"	5'-3"	7'-1"	8'-4"						
	RFPI 90	0'-7"	0'-8"	0'-8"	0'-9"	1'-6"	2'-0"	3'-6"	5'-8"	7'-1"						
14"	RFPI 20	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-10"	3'-2"	4'-3"	4'-11"	6'-10"	8'-4"			
	RFPI 40S	0'-7"	0'-8"	0'-8"	0'-9"	1'-6"	1'-10"	2'-11"	4'-5"	5'-4"	5'-11"	7'-8"	9'-0"			
	RFPI 400	0'-7"	0'-8"	0'-8"	0'-9"	1'-7"	1'-11"	3'-0"	4'-5"	5'-5"	6'-0"	7'-8"	9'-1"			
	RFPI 40	0'-7"	0'-8"	0'-8"	0'-9"	1'-5"	1'-9"	2'-10"	4'-4"	5'-4"	6'-0"	7'-9"	9'-2"			
	RFPI 60S	0'-7"	0'-8"	0'-8"	0'-9"	2'-0"	2'-4"	3'-5"	4'-11"	5'-11"	6'-6"	8'-3"	9'-7"			
	RFPI 70	0'-7"	0'-8"	0'-8"	0'-9"	1'-11"	2'-4"	3'-5"	4'-11"	5'-11"	6'-7"	8'-4"	9'-9"			
	RFPI 80S	0'-7"	0'-8"	0'-8"	0'-9"	1'-11"	2'-4"	3'-6"	5'-1"	6'-1"	6'-9"	8'-7"	10'-1"			
	RFPI 90	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	2'-0"	3'-10"	5'-0"	5'-9"	7'-10"	9'-6"			
16"	RFPI 40S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-2"	2'-7"	3'-6"	4'-0"	5'-7"	6'-9"	7'-2"	8'-11"	10'-4"
	RFPI 400	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	1'-7"	2'-6"	3'-0"	4'-6"	5'-8"	6'-1"	8'-0"	9'-8"
	RFPI 40	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-5"	2'-10"	3'-9"	4'-4"	5'-10"	7'-1"	7'-6"	9'-3"	10'-8"
	RFPI 60S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-7"	3'-0"	3'-11"	4'-6"	6'-0"	7'-3"	7'-8"	9'-5"	10'-11"
	RFPI 70	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-7"	3'-0"	3'-11"	4'-6"	6'-0"	7'-3"	7'-8"	9'-5"	10'-11"
	RFPI 80S	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-11"	3'-4"	4'-4"	4'-11"	6'-6"	7'-10"	8'-3"	10'-2"	11'-8"
	RFPI 90	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	2'-6"	3'-6"	4'-2"	5'-11"	7'-4"	7'-10"	9'-11"	11'-7"

How to Use Hole Chart

a. Read across the top of Hole Chart to the desired hole size.

b. 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 11-7/8" RFPI®-400 joist: From Hole Chart,

- For a 5-inch round hole, the minimum distance is 2'– 3".
- For a 6-inch round hole, the minimum distance is 3'– 9".
- Therefore the minimum distance for the 5½-inch round hole is 3'– 0" (halfway between 2'-3" and 3'-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 and 10 psf dead load. **Holes in conditions that fall outside of the hole chart parameters (including the use of web stiffeners, longer bearing lengths or other loading conditions) may still be acceptable. The most accurate method of determining the acceptability of a given hole is the use of appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for the actual condition.**
2. Hole location distance is measured from inside face of nearest support to center of hole.

Rectangular Duct Chases

A duct chase is a large rectangular hole that is often required within the web of an I-joist to provide passage for ventilation ducts. While rectangular holes can be cut in the webs of I-joists using the Rules For Cutting Holes in RFPI-Joists discussed on page 15, the size of rectangular holes generated by this method is often insufficient for this use. **The chart below have been generated specifically for duct chase applications.**

SIMPLE SPAN-MINIMUM DISTANCE FROM FACE OF NEAREST JOIST SUPPORT TO CENTER OF DUCT CHASE (1)(2)(3)

Joist Depth	Joist Series	Minimum Distance from Inside Face of Nearest Support to Center of Duct Chase (ft)								
		Duct Chase Length (in)								
		8	10	12	14	16	18	20	22	24
9-1/2”	RFPI-20	7'-4"	7'-8"	8'-0"	8'-3"					
	RFPI-40S	6'-7"	6'-11"	7'-3"	7'-7"	7'-11"	8'-3"			
	RFPI-400	7'-3"	7'-7"	7'-11"	8'-2"					
	RFPI-40	6'-10"	7'-2"	7'-6"	7'-10"	8'-2"	8'-5"			
	RFPI-60S	6'-11"	7'-3"	7'-7"	7'-11"	8'-4"	8'-5"			
	RFPI-70	7'-2"	7'-6"	7'-10"	8'-2"	8'-6"	8'-7"			
	RFPI-90	6'-11"	7'-3"	7'-7"	7'-11"	8'-3"	8'-7"	9'-0"	9'-4"	9'-7"
11-7/8”	RFPI-20	8'-7"	8'-11"	9'-1"						
	RFPI-40S	7'-11"	8'-3"	8'-7"	8'-11"	9'-1"	9'-5"			
	RFPI-400	8'-7"	8'-10"	9'-1"	9'-4"					
	RFPI-40	8'-1"	8'-5"	8'-9"	9'-1"	9'-2"	9'-7"			
	RFPI-60S	8'-2"	8'-6"	8'-10"	9'-2"	9'-4"	9'-9"			
	RFPI-70	8'-5"	8'-9"	9'-1"	9'-5"	9'-7"	10'-0"			
	RFPI-80S	7'-10"	8'-2"	8'-6"	8'-10"	9'-3"	9'-7"	9'-11"	10'-2"	10'-7"
	RFPI-90	8'-3"	8'-7"	8'-11"	9'-4"	9'-8"	10'-0"	10'-4"	10'-9"	11'-2"
14”	RFPI-20	9'-8"	10'-0"	10'-4"						
	RFPI-40S	8'-10"	9'-2"	9'-6"	9'-9"	10'-1"	10'-6"			
	RFPI-400	9'-6"	9'-10"	10'-2"	10'-8"					
	RFPI-40	9'-1"	9'-5"	9'-9"	10'-0"	10'-5"	10'-9"			
	RFPI-60S	9'-3"	9'-7"	10'-0"	10'-2"	10'-7"	11'-0"			
	RFPI-70	9'-7"	9'-11"	10'-3"	10'-6"	10'-11"	11'-5"			
	RFPI-80S	9'-1"	9'-5"	9'-9"	10'-2"	10'-6"	10'-10"	11'-3"	11'-7"	
	RFPI-90	9'-8"	10'-0"	10'-4"	10'-8"	11'-1"	11'-4"	11'-9"	12'-3"	
16“	RFPI-40S	9'-11"	10'-3"	10'-5"	10'-10"	11'-2"	11'-8"			
	RFPI-400	10'-7"	10'-11"	11'-5"						
	RFPI-40	10'-2"	10'-6"	10'-9"	11'-2"	11'-6"				
	RFPI-60S	10'-5"	10'-9"	11'-0"	11'-5"	11'-9"	12'-2"			
	RFPI-70	10'-9"	11'-0"	11'-4"	11'-9"	12'-3"				
	RFPI-80S	10'-4"	10'-8"	11'-0"	11'-4"	11'-7"	12'-0"	12'-5"	12'-11"	
	RFPI-90	10'-10"	11'-3"	11'-7"	11'-11"	12'-3"	12'-8"	13'-1"	13'-7"	

Chart Notes:

1. Chart is applicable to uniformly loaded **Simple Span** conditions only.
2. Duct chase location distance is measured from inside face of nearest support to center of duct chase.
3. Distances in this duct 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** 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 and 10 psf dead load. **Ducts in conditions that fall outside of the duct chart parameters (including multiple spans, 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 duct is the use of appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for the actual condition.**

Rules for Cutting Duct Chases in RFPI-Joists:

a. The maximum length of duct chase shall be as shown in the chart above.

b. I-joist top and bottom flanges must **NEVER** be cut, notched or otherwise modified.

c. The maximum depth of the duct chases 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 the bottom of the chase and the adjacent I-joist flange.

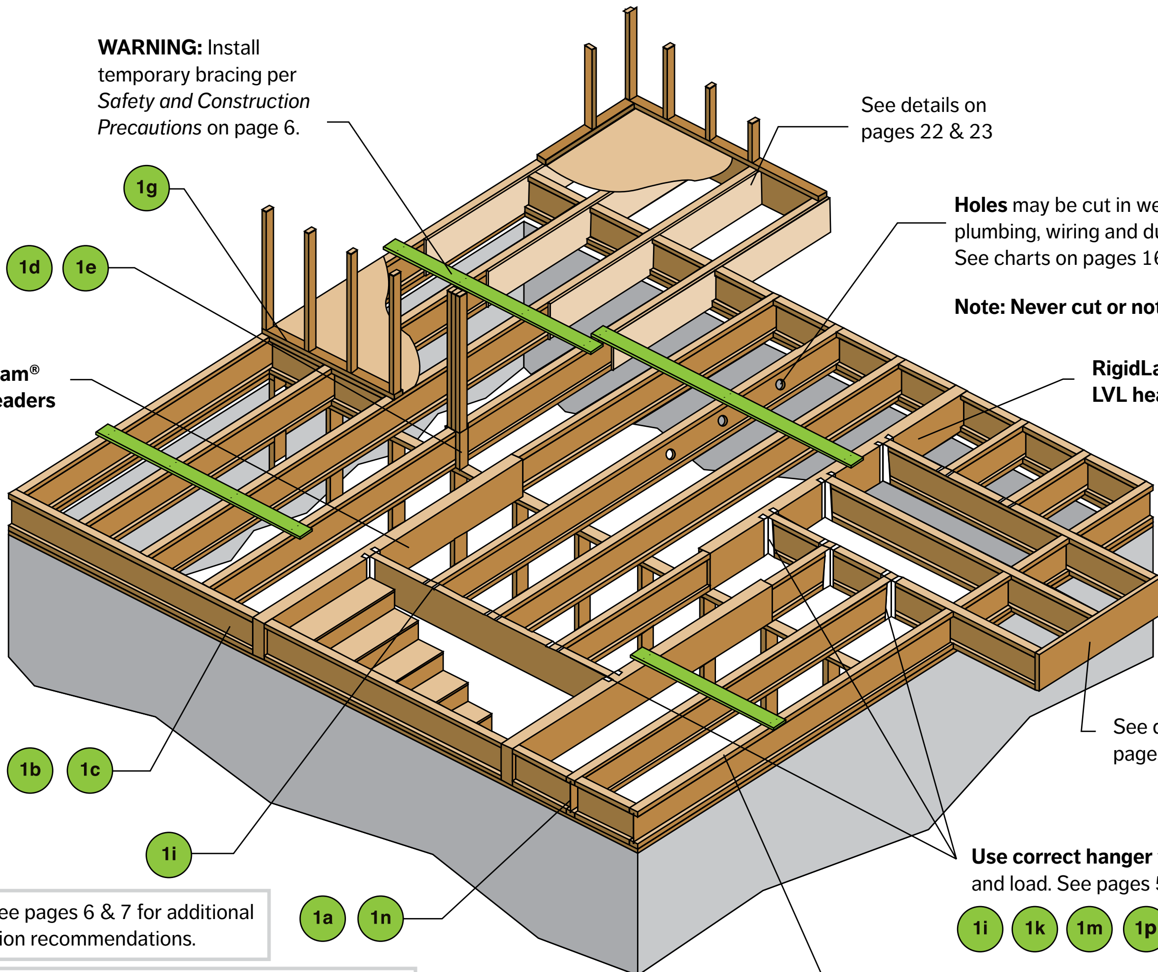
d. When a duct chase is being placed within the web of an I-joist in conjunction with additional holes, the edge of the holes shall not be placed any closer to the edge of the duct than two times the length of the duct. All holes must be sized in accordance with the chart on page 16.

e. A knockout is not considered a hole and may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes and duct chases.

f. All Duct Chases shall be cut in a workman-like manner in accordance with the restrictions listed above.

Floor Framing & Construction Details

Some framing elements such as blocking panels have been omitted for clarity.



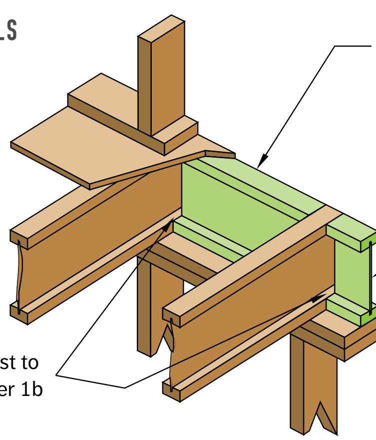
Note: See pages 6 & 7 for additional installation recommendations.

Note: Roseburg does not require mid-span blocking or bridging in RFPI floor or roof applications

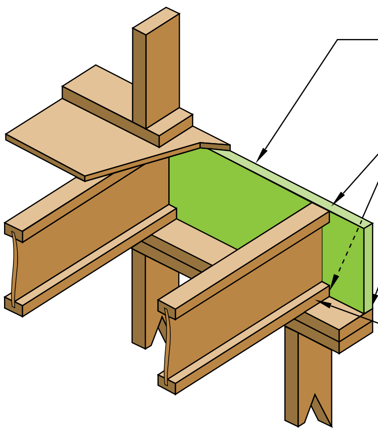
TYPICAL RFPI-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d (3”) box nails may be substituted for 8d (2-1/2”) common nails shown in details. If nails must be installed into the sides of LVL flanges, spacing shall not be closer than 3 inches o.c. for 8d (2-1/2”) common nails, and 4 inches o.c. for 10d (3”) common nails. Individual components not shown to scale for clarity.

1a BLOCKING PANELS



1b RIGIDRIM® RIMBOARD

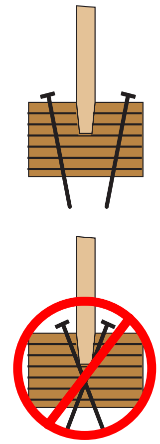


RigidRim® Rimboard
(see page 34 for design properties)

One 8d (2-1/2”) nail at top and bottom flange

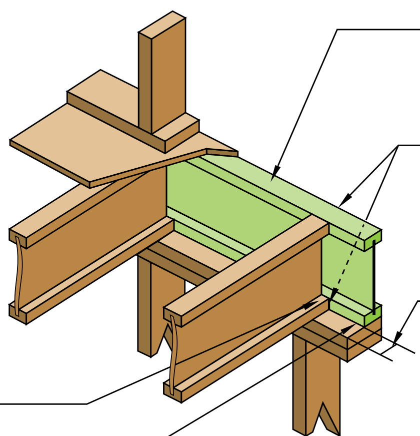
Attach RigidRim® Rimboard to top plate using 8d (2-1/2”) box toenails @ 6” o.c.

One 8d (2-1/2”) nail each side of the RFPI-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

Note: See pages 6 & 7 for additional installation recommendations.



RFPI® Rim Joist factored vertical load transfer = 2,900 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.

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

Attach I-joist to per 1b

Attach rim joist to top plate per 1a

BLOCKING PANELS

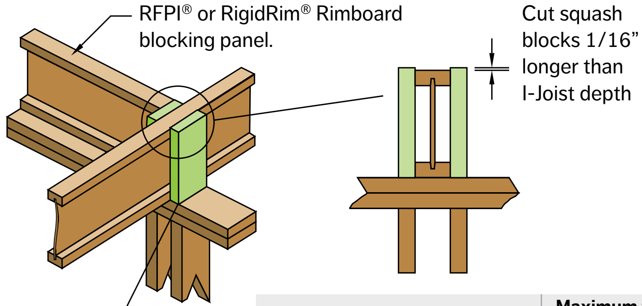
Blocking panels prevent floor joists from overturning and help transfer loads through the floor system into the structure below.

Due to differences in depth and possible shrinkage, common framing lumber set on edge is unacceptable as blocking. I-joist blocking panels must be cut to the proper length to fit between the I-joists, and their depth must match the depth of the I-joists.

Blocking panels may be used:

1. To stabilize I-joists laterally at supports, as shown in Figures 1a and 1g. Lateral support is required during installation and is necessary to obtain design carrying capacity.
2. To transmit factored vertical loads up to 2,900 plf per blocking panel in accordance with Figures 1a, 1c, 1f, and 1g.
3. For closures such as that shown in Figures 1a and 1e.
4. To transmit lateral forces to shear walls. Shear transfer nailing into the flanges must be specified by the building designer.
5. To provide lateral stability to walls.

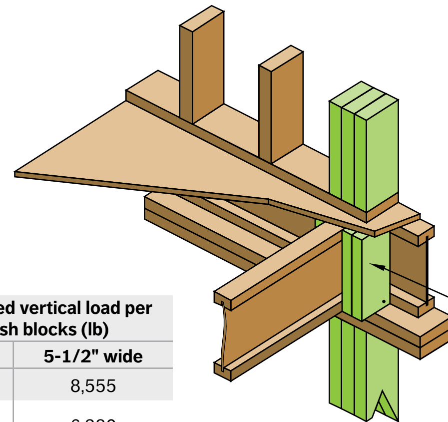
1d SQUASH BLOCK DETAIL



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

Pair of Squash Blocks	Maximum factored vertical load per pair of squash blocks (lb)	
	3-1/2" wide	5-1/2" wide
2x lumber	5,510	8,555
1-1/8” APA Rim Board, Rim Board Plus, or Rated Sturd-I-Floor 48 o.c.	4,060	6,380
1” APA Rim Board or Rated Sturd-I-Floor 32 o.c.	2,755	4,350

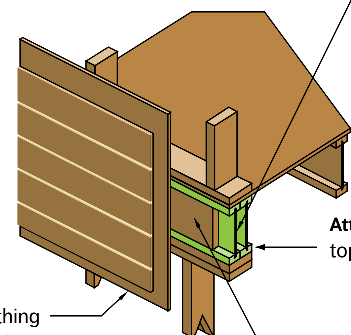
1e BEARING BLOCK DETAIL



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

1f RIM JOIST AT PARALLEL WALL

Use single I-joist for loads up to 2,900 plf, double I-joists for loads up to 5,800 plf (filler block not required)



Attach rim joist(s) to top plate per 1a

Wall sheathing as required

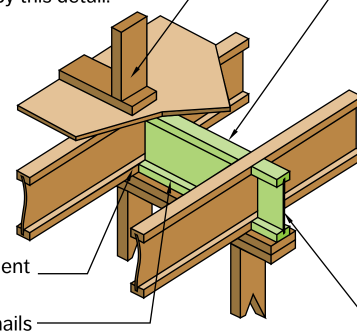
Provide backer for siding attachment unless nailable sheathing is used.

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

1g RFPI BLOCKING PANELS AT INTERIOR SUPPORT

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

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over supports.



Attach blocking to top plate per 1a

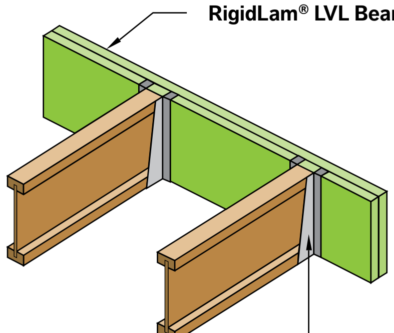
Joist attachment per detail 1b

8d (2-1/2”) nails at 6" o.c.

RFPI® blocking panel factored vertical load transfer = 2,900 plf maximum -or- RigidRim Rimboard (see Page 34 for design properties)

1i HANGER TO LVL BEAM DETAIL

RigidLam® LVL Beam



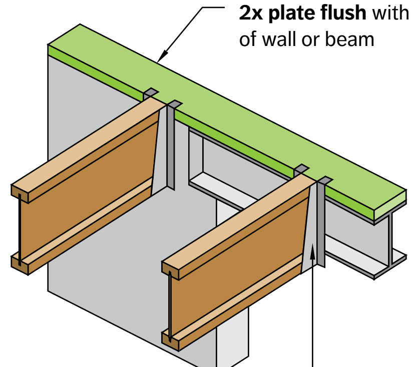
Top- or face-mounted hanger installed per hanger manufacturer’s recommendations

Note: Unless hanger sides laterally support the top flange, web stiffeners shall be used. (See Figure B on page 25)

See page 40 for nailing schedules for multiple ply LVL beams.

1k HANGER TO 2X PLATE DETAIL

2x plate flush with inside face of wall or beam

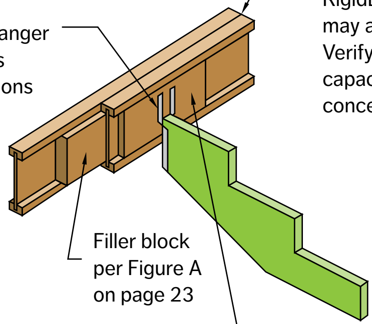


Top-mounted hanger installed per hanger manufacturer’s recommendations

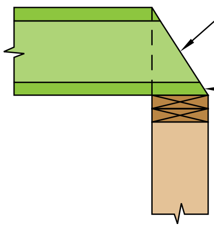
Note: Unless hanger sides laterally support the top flange, web stiffeners shall be used. (See Figure B on page 25)

1m STRINGER TO JOIST DETAIL

Maximum support capacity = 1,620 lb



1n BEVEL CUTS ON I-JOIST



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

Backer Block and Header Detail

Backer block required for face-mount hangers (both sides of I-joist) & when top mount hanger factored load exceeds 360 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 (3") common nails, clinched. See chart below 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 manufacturer 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 page 23 for filler block and double I-joist connection guidelines.

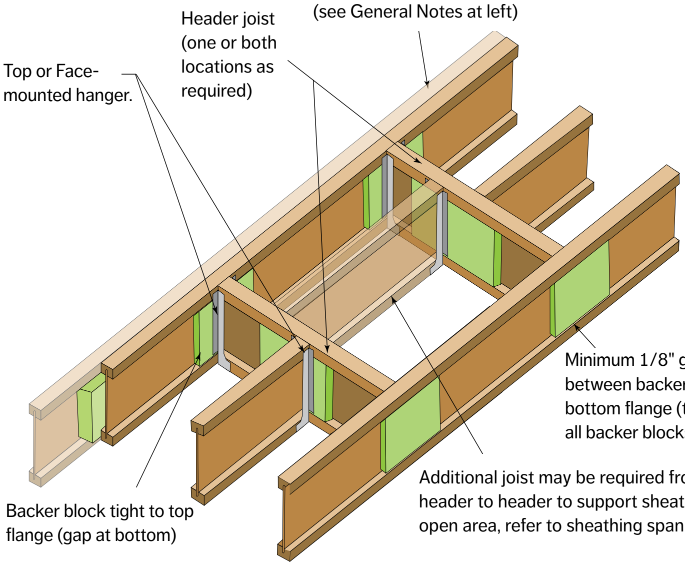
Before installing a backer block to a double I-joist, drive 4 additional 10d nails from both sides of double I-joist through the webs and filler block at backer block location. Clinch nails.

I-Joist Flange Width	Backer block Material Thickness Required[(a)(b)]	Max. factored load capacity using 16-10d com. nails
1-3/4"	23/32"	1,400 lbs
2-1/16"	7/8"	1,630 lbs
2-5/16"	1"	1,800 lbs
2-1/2"	1-1/8"	1,800 lbs
3-1/2"	1-1/2"	1,800 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)

1p HEADER DETAIL



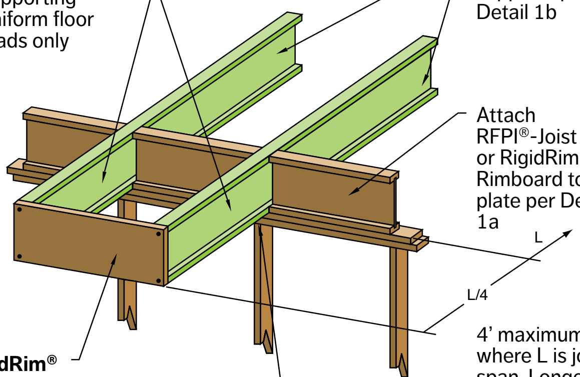
BACKER BLOCK DEPTH

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"

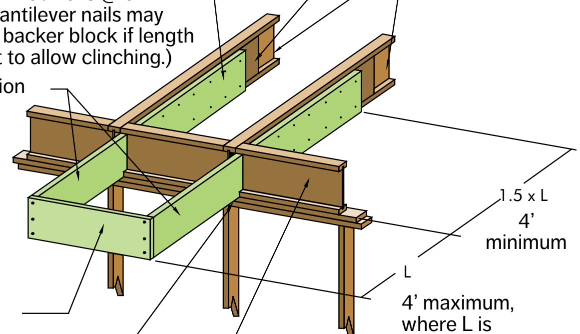
Cantilever Details

Please refer to note 6 on page 7.

RFPI®-JOIST INTERIOR CANTILEVER DETAIL



LUMBER CANTILEVER DETAIL FOR BALCONIES

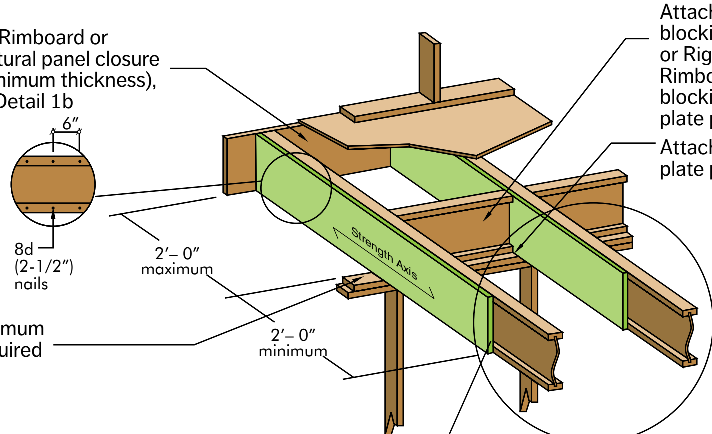


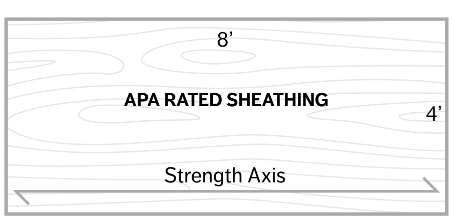
(1) See APA Technical Topic TT-125 for additional information regarding required size, grade and design considerations for lumber cantilevers.

CANTILEVER DETAIL FOR VERTICAL BUILDING OFFSET

METHOD 1

Sheathing Reinforcement One Side

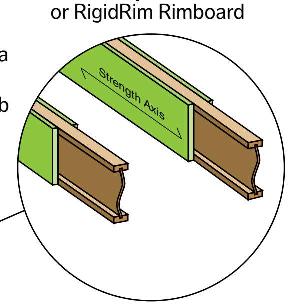




METHOD 2

Sheathing Reinforcement Two Sides

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

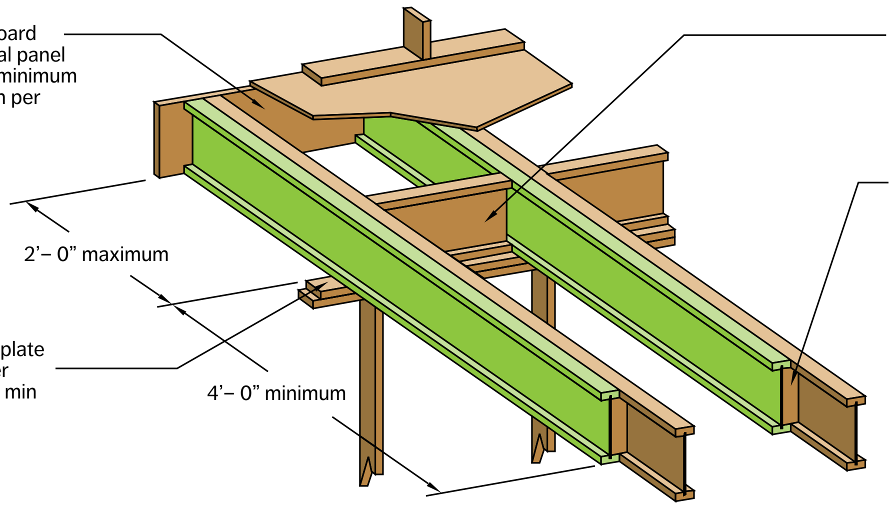


Use nailing pattern shown for Method 1 with opposite face nailing offset by 3"

CANTILEVER DETAIL FOR VERTICAL BUILDING OFFSET

ALTERNATIVE METHOD 2

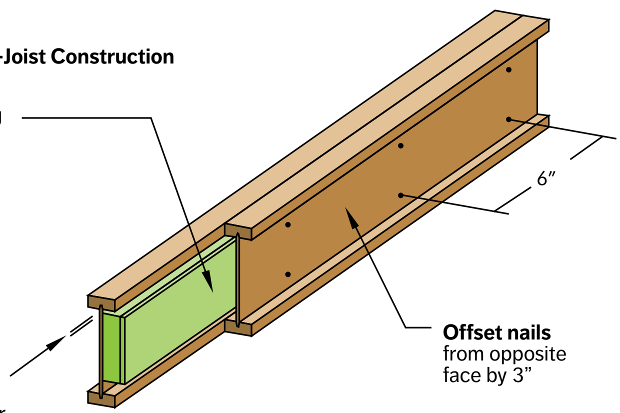
Double RFPI®-Joist



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 A

Double RFPI®-Joist Construction



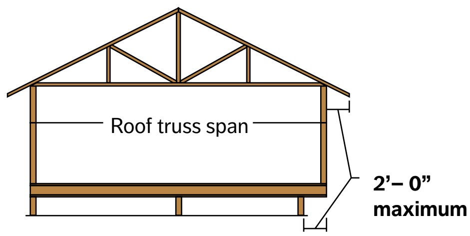
Notes:

1. Filler blocks do not function as web stiffeners. Install web stiffeners as required.
2. Support back of I-joist web during nailing to prevent damage to web/flange connection.
3. Leave a 1/8"-1/4" gap between top of filler block and bottom of top I-joist flange.
4. For side-loaded conditions or cantilever reinforcement, filler block is required between joists for full length of double member.
5. Nail joists together with two rows of 10d (3") nails at 6 inches o.c. (staggered) on each side of the double I-joist. Total of 8 nails per foot required.
6. Filler block thickness may be achieved by using multiple layers of structural wood panels.
7. The maximum load that may be applied to one side of the double joist using this detail is 860 lbs/ft

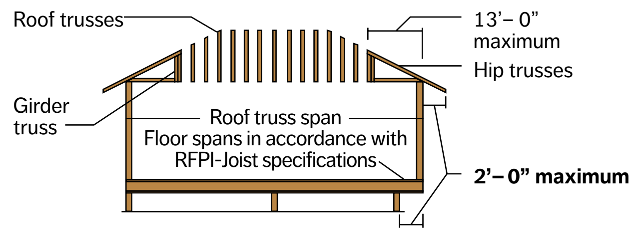
TABLE A: FILLER BLOCK REQUIREMENTS FOR DOUBLE RFPI®-JOIST CONSTRUCTION

Flange Width	Joist Depth	Joist Series	Recommended Min Filler Block Size
1-3/4"	9-1/2"	20	1-3/8" x 5-1/2"
	11-7/8"	20	1-3/8" x 5-1/2"
	14"	20	1-3/8" x 7-1/4"
2-1/16"	9-1/2"	400	1-3/4" x 5-1/2"
	11-7/8"	400	1-3/4" x 5-1/2"
	14"	400	1-3/4" x 7-1/4"
	16"	400	1-3/4" x 7-1/4"
2-5/16"	9-1/2"	40, 70	2" x 5-1/2"
	11-7/8"	40, 70	2" x 5-1/2"
	14"	40, 70	2" x 7-1/4"
	16"	40, 70	2" x 7-1/4"
2-1/2"	9-1/2"	40S, 60S	2-1/8" x 5-1/2"
	11-7/8"	40S, 60S	2-1/8" x 5-1/2"
	14"	40S, 60S	2-1/8" x 7-1/4"
	16"	40S, 60S	2-1/8" x 7-1/4"
3-1/2"	9-1/2"	90	3" x 5-1/2"
	11-7/8"	80S, 90	3" x 5-1/2"
	14"	80S, 90	3" x 7-1/4"
	16"	80S, 90	3" x 7-1/4"

RFPI®-Joist Cantilever Reinforcement



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' may be used.

RFPI®-JOIST CANTILEVER REINFORCEMENT METHODS ALLOWED

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

Cantilever Reinforcement Legend:

N = No reinforcement required.

1 = RFPI®-Joists reinforced with 22/32" Wood Structural panel or RigidRim® Rimboard on one side only (see Method 1 on Page 22).

2 = RFPI®-Joists reinforced with 22/32" Wood Structural panel or RigidRim® Rimboard on both sides or double I-joist (see Method 2 on Page 22 or alternate Method 2 on Page 23).

X = Try a deeper joist or closer spacing.

Note: For more information see pages 22 & 23

Notes:

- Maximum load shall be: Total unfactored roof load as shown in table (includes 15 psf unfactored roof dead load), 50 psf unfactored floor total load, and 80 plf unfactored 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.
- Table results are based on factored resistances and factored loads as follows: LL x 1.5 and DL x 1.25
- Table applies to joists 12" to 24" o.c. Use 12" o.c. requirements for o.c. spacings less than 12".
- For a given I-joist depth, table conservatively accounts for multiple I-joist series.
- For conditions other than those shown, software with the appropriate design properties, such as Simpson Strong-Tie® Component Solutions™ software, can be used to analyze specific I-joist series, applications and loading.

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.
- Birds mouth cuts for roof joists.
- When I-joists are designed to support concentrated factored loads greater than 2,175 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).

The use of web stiffeners or bearing lengths that are longer than the minimum required may result in allowable spans that are longer than those shown in this guide. The most accurate method of determining if a joist is adequate and if web stiffeners are required is to use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis for the actual conditions.

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

FIGURE B
RFPI-JOIST WEB STIFFENER REQUIREMENTS

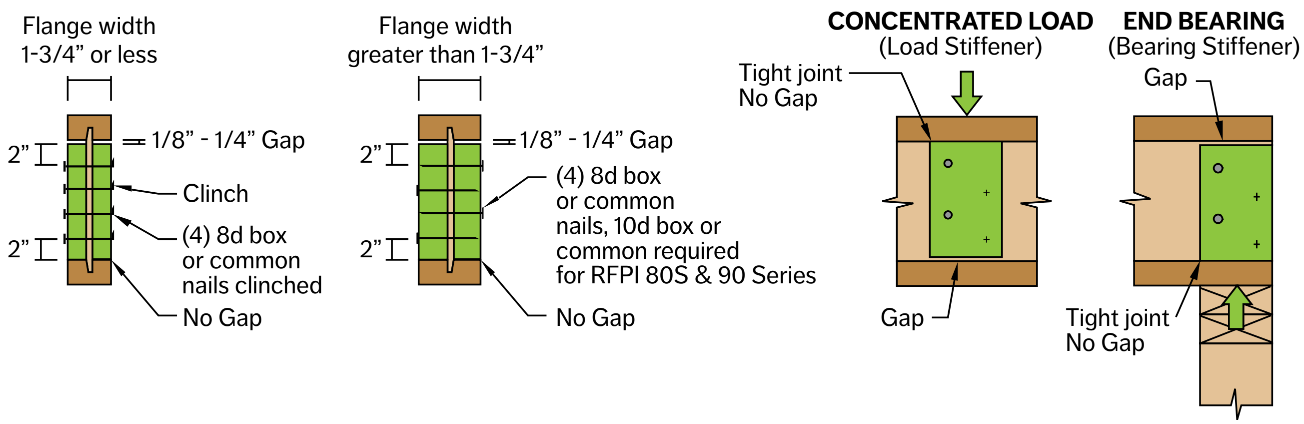
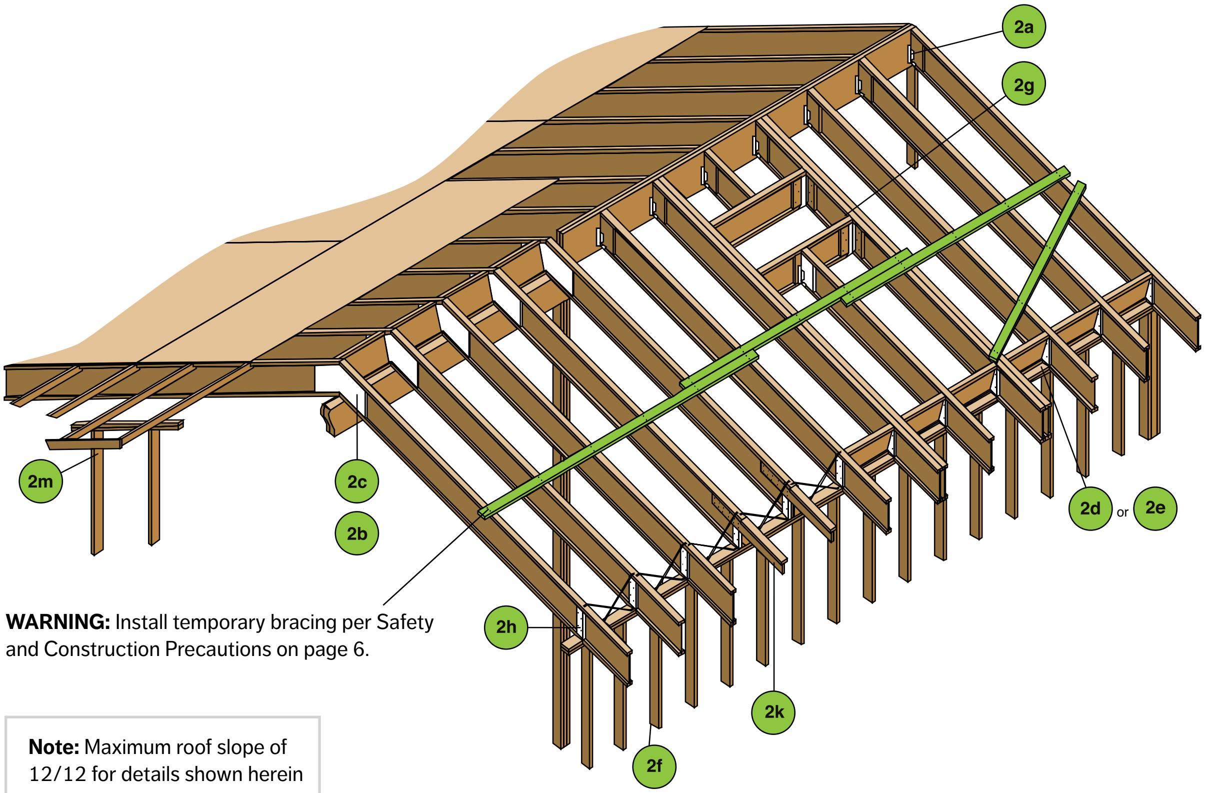


TABLE B: WEB STIFFENER SIZE REQUIRED	
RFPI®-Joist Flange Width	**Web Stiffener Size Each Side of Web**
1-3/4"	19/32" x 2-5/16" minimum width
2-1/16"	3/4" x 2-5/16" minimum width
2-5/16"	7/8" x 2-5/16" minimum width
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

Roof Framing & Construction Details



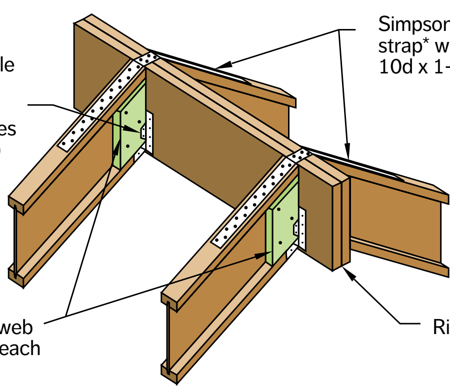
WARNING: Install temporary bracing per Safety and Construction Precautions on page 6.

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

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 (3") box nails may be substituted for 8d (2-1/2") common shown in details. If nails must be installed into the sides of LVL flanges, spacing shall not be closer than 3 inches o.c. for 8d (2-1/2") common nails, and 4 inches o.c. for 10d (3") common nails. Individual components not shown to scale for clarity.

2a RIDGE JOIST CONNECTION - 12/12 MAXIMUM SLOPE

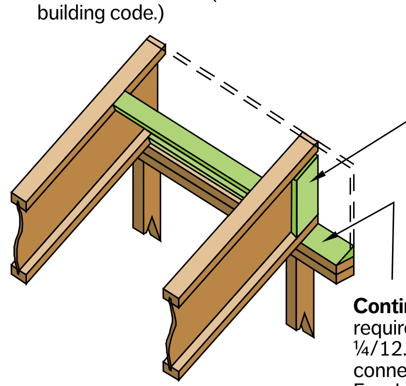


Uplift connections may be required.

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

2b UPPER END, BEARING ON WALL

RFPI®-Joist blocking panel, x-bracing, 23/32" APA Rated Sheathing 48/24, or proper depth of rimboard as continuous closure. (Validate use of x-bracing with local building code.)

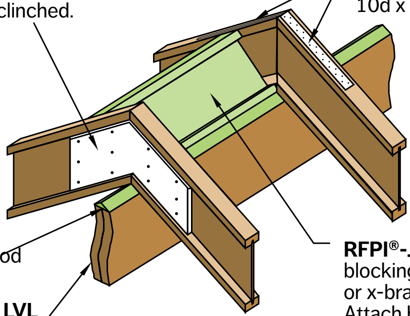


Continuous beveled wood plate required for slopes greater than ¼/12. Code recognized slope connectors may be substituted. For slopes greater than 4/12 connectors are required to resist lateral thrust.

Attach blocking panel (or Rimboard) to top plate with 8d (2-1/2") nails @ 6" o.c. (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

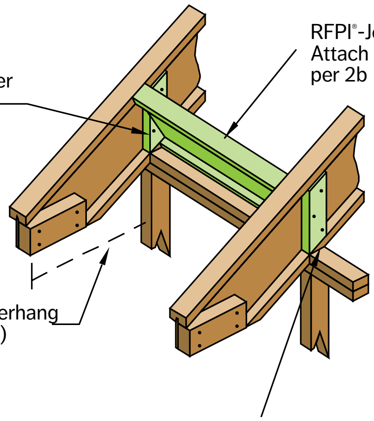
Uplift connections may be required.

2c RFPI®-JOISTS ABOVE RIDGE SUPPORT BEAM



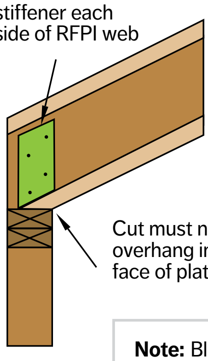
Uplift connections may be required.

2d BIRDSMOUTH CUT - LOW END OF RFPI®-JOIST ONLY

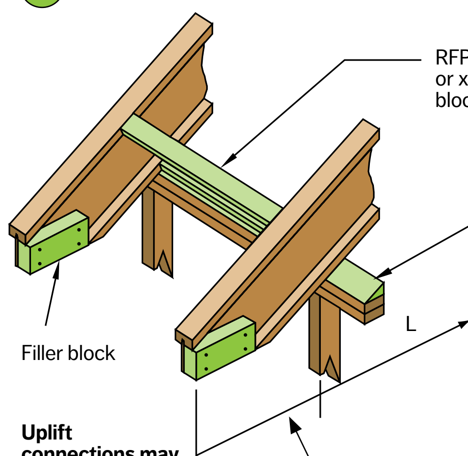


Uplift connections may be required.

2d sim. BIRDSMOUTH CUT, NO OVERHANG - LOW END OF RFPI®-JOIST ONLY

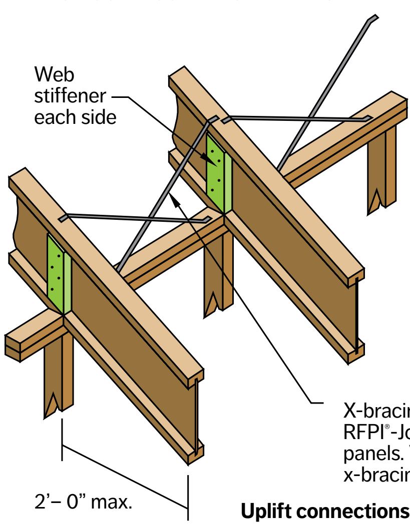


2e RFPI®-JOISTS ON BEVELED PLATE



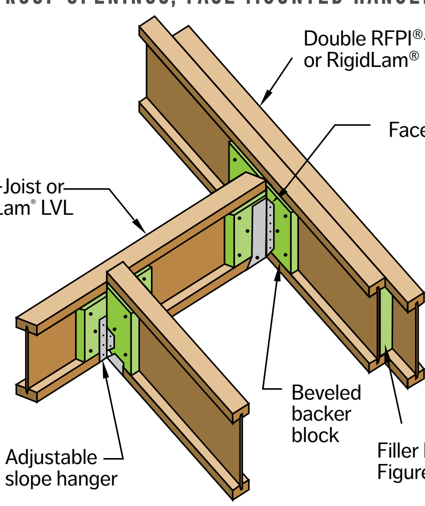
Uplift connections may be required.

2f BIRDSMOUTH CUT - LOW END OF RFPI®-JOIST ONLY



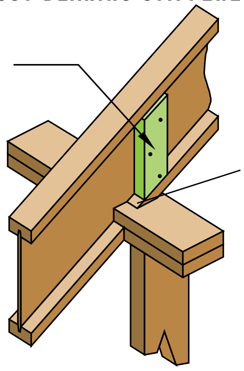
Uplift connections may be required.

2g ROOF OPENINGS, FACE MOUNTED HANGERS



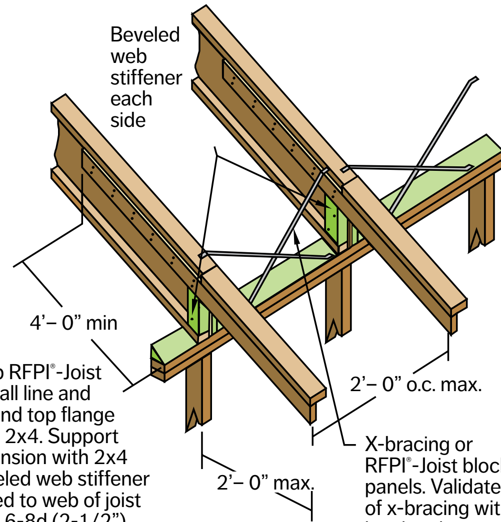
Uplift connections may be required.

2h BEVELED CUT BEARING STIFFENER



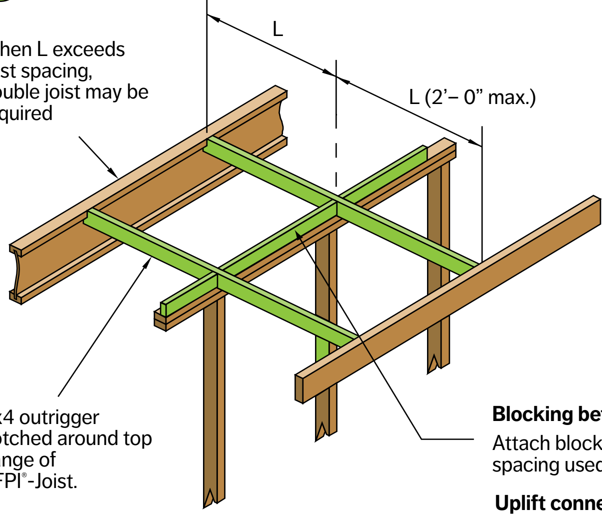
Uplift connections may be required.

2k OPTIONAL OVERHANG EXTENSIONS



Uplift connections may be required.

2m OVERHANG PARALLEL TO RFPI®-JOIST

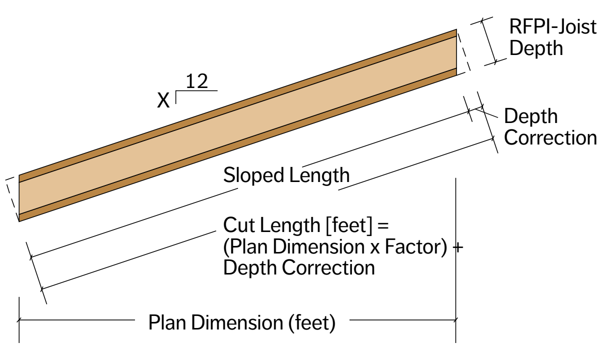


Blocking between outriggers.

Attach blocking to top plate with nail size and spacing used for roof sheathing edge nailing.

Uplift connections may be required.

Slope Length Conversion Chart



ALONG-THE-SLOPE SPANS & CUTTING LENGTHS FOR SLOPED ROOFS

Slope	Slope Factor	Joist Depth (in)			
		9-1/2"	11-7/8"	14"	16"
		Depth Correction (ft)			
1 in 12	1.00	0.07	0.08	0.10	0.11
2 in 12	1.01	0.13	0.16	0.19	0.22
2.5 in 12	1.02	0.16	0.21	0.24	0.28
3 in 12	1.03	0.20	0.25	0.29	0.33
3.5 in 12	1.04	0.23	0.29	0.34	0.39
4 in 12	1.05	0.26	0.33	0.39	0.44
4.5 in 12	1.07	0.30	0.37	0.44	0.50
5 in 12	1.08	0.33	0.41	0.49	0.56
6 in 12	1.12	0.40	0.49	0.58	0.67
7 in 12	1.16	0.46	0.58	0.68	0.78
8 in 12	1.20	0.53	0.66	0.78	0.89
9 in 12	1.25	0.59	0.74	0.88	1.00
10 in 12	1.30	0.66	0.82	0.97	1.11
11 in 12	1.36	0.73	0.91	1.07	1.22
12 in 12	1.41	0.79	0.99	1.17	1.33

Allowable Roof Uniform Load For RFPI®-Joists (PLF)

Joist Clear Span (ft)	RFPI 20 (1-3/4" wide x 1-3/8" flanges)									RFPI 40S (2-1/2" wide x 1-1/2" flanges)												RFPI 400 (2-1/16" wide x 1-3/8" flanges)											
	9-1/2"			11-7/8"			14"			9-1/2"			11-7/8"			14"			16"			9-1/2"			11-7/8"			14"			16"		
	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load
8	-	-	270	-	-	294	-	-	294	-	-	329	-	-	381	-	-	380	-	-	380	-	-	327	-	-	342	-	-	342	-	-	342
9	-	-	241	-	-	262	-	-	262	-	-	293	-	-	339	-	-	339	-	-	338	-	-	292	-	-	305	-	-	305	-	-	304
10	200	-	217	-	-	236	-	-	236	228	-	264	-	-	305	-	-	305	-	-	305	228	-	263	-	-	275	-	-	275	-	-	274
11	154	-	197	-	-	215	-	-	215	177	-	240	-	-	278	-	-	278	-	-	277	177	-	239	-	-	250	-	-	250	-	-	249
12	122	-	181	-	-	197	-	-	197	140	-	220	229	-	255	-	-	255	-	-	254	140	-	219	229	-	229	-	-	229	-	-	229
13	98	-	167	162	-	182	-	-	182	112	-	199	185	-	235	-	-	235	-	-	235	112	-	203	185	-	212	-	-	211	-	-	211
14	79	-	155	132	-	169	-	-	169	91	-	172	151	-	218	214	-	218	-	-	218	91	181	188	151	-	197	-	-	196	-	-	196
15	65	129	145	109	-	158	-	-	157	75	148	150	125	-	193	178	-	204	-	-	203	75	149	176	125	-	183	179	-	183	-	-	183
16	54	107	136	91	-	148	132	-	148	63	123	131	105	-	169	149	-	191	-	-	191	63	124	165	105	-	172	151	-	172	-	-	171
17	46	89	124	77	-	139	112	-	139	53	103	116	88	-	150	126	-	179	169	-	179	53	104	147	88	-	162	127	-	162	-	-	161
18	39	76	111	65	128	131	95	-	131	45	87	103	75	-	134	108	-	167	144	-	169	45	88	131	75	148	153	109	-	152	146	-	152
19	33	64	99	56	110	124	82	-	124	39	75	93	65	-	120	93	-	150	124	-	160	39	75	118	65	127	145	94	-	144	126	-	144
20	29	55	89	48	94	116	71	-	118	33	64	83	56	-	108	80	-	135	108	-	152	33	64	106	56	109	137	81	-	137	109	-	137
22	-	-	-	37	71	95	54	105	107	-	-	-	43	82	89	61	-	111	83	-	129	25	64	87	43	82	113	62	121	124	83	-	124
24	-	-	-	29	55	80	42	81	95	-	-	-	-	-	-	48	93	93	64	-	108	-	-	-	33	64	95	48	94	113	65	-	114
26	-	-	-	-	-	-	33	64	81	-	-	-	-	-	-	38	73	79	51	-	92	-	-	-	26	50	80	38	74	96	52	101	105
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	-	79	-	-	-	-	-	-	31	59	82	42	81	94
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	66	82

Joist Clear Span (ft)	RFPI 40 (2-5/16" wide x 1-3/8" flanges)												RFPI 60S (2-1/2" wide x 1-1/2" flanges)											
	9-1/2"			11-7/8"			14"			16"			9-1/2"			11-7/8"			14"			16"		
	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load
8	-	-	343	-	-	379	-	-	380	-	-	380	-	-	329	-	-	381	-	-	380	-	-	380
9	-	-	305	-	-	338	-	-	339	-	-	339	-	-	293	-	-	339	-	-	339	-	-	338
10	249	-	275	-	-	304	-	-	305	-	-	305	-	-	264	-	-	305	-	-	305	-	-	305
11	194	-	250	-	-	277	-	-	278	-	-	277	206	-	240	-	-	278	-	-	278	-	-	277
12	154	-	230	249	-	254	-	-	255	-	-	254	163	-	220	-	-	255	-	-	255	-	-	254
13	124	-	212	202	-	234	-	-	235	-	-	235	132	-	203	216	-	235	-	-	235	-	-	235
14	101	-	197	165	-	218	-	-	218	-	-	218	108	-	189	177	-	218	-	-	218	-	-	218
15	83	164	184	137	-	203	196	-	204	-	-	204	89	175	176	147	-	204	-	-	204	-	-	203
16	69	137	172	115	-	190	165	-	191	-	-	191	74	146	165	123	-	191	177	-	191	-	-	191
17	59	115	162	97	-	179	140	-	180	-	-	179	63	123	149	104	-	180	150	-	179	-	-	179
18	50	97	148	83	163	169	120	-	170	160	-	169	53	104	133	89	-	170	128	-	169	-	-	169
19	43	83	132	71	140	160	103	-	161	138	-	160	46	89	119	76	150	155	110	-	160	148	-	160
20	37	71	119	62	120	152	89	-	152	120	-	152	39	76	107	66	130	140	96	-	152	129	-	152
22	28	54	98	47	91	127	68	133	138	92	-	138	30	57	88	50	98	115	73	-	138	99	-	138
24	22	41	82	37	70	107	53	103	127	72	-	126	-	-	-	39	76	96	57	111	116	77	-	126
26	-	-	-	29	55	91	42	82	108	57	111	116	-	-	-	31	60	82	46	88	99	62	-	115
28	-	-	-	23	44	78	34	65	93	46	89	107	-	-	-	-	-	-	37	71	85	50	96	98
30	-	-	-	-	-	-	28	53	81	38	73	92	-	-	-	-	-	-	-	-	-	41	78	85

To Use PLF Table:

1. Calculate actual unfactored live load, unfactored total load and factored total load in pounds per lineal foot (plf).
2. Select appropriate Clear Span.
3. Move across columns until an I-joist is located that meets or exceeds the actual unfactored live load, unfactored total load and factored total load. All three columns must be checked.

General Notes:

1. Clear span is the distance between the face of the supports.
2. The loads have been calculated in accordance with CSA O86-14.
3. The two unfactored load columns are based on deflection only. The factored load column is based on strength only. All three columns must be checked. Where the unfactored load column is blank, the factored load column governs.
4. The load values are for standard term load duration and dry service conditions only. The dead load must not exceed the live load.
5. The load values above represent the worst case of uniformly loaded simple span or multiple span joists.
6. Use beam sizing software to analyze multiple span joists if the length of any span is less than half the length of an adjacent span.
7. Minimum end bearing length is 1-3/4". Minimum intermediate bearing length is 3-1/2".
8. Provide continuous lateral support for top flange. Provide lateral support at points of bearing to prevent twisting of joist.
9. Web stiffeners are not required.
10. This table does not account for the added stiffness from glued or nailed sheathing.
11. Use beam sizing software to analyze conditions outside of the scope of this table such as cantilevers and concentrated loads.

Joist Clear Span (ft)	RFPI 70 (2-5/16" wide x 1-1/2" flanges)									RFPI 80S (3-1/2" wide x 1-1/2" flanges)									RFPI 90 (3-1/2" wide x 1-1/2" flanges)											
	9-1/2"			11-7/8"			14"			11-7/8"			14"			16"			9-1/2"			11-7/8"			14"			16"		
	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load	Unfactored L/360 Live	Unfactored L/180 Total	Factored Total Load
8	-	-	356	-	-	380	-	-	380	-	-	427	-	-	459	-	-	459	-	-	459	-	-	511	-	-	510	-	-	510
9	-	-	317	-	-	339	-	-	339	-	-	380	-	-	409	-	-	408	-	-	409	-	-	455	-	-	454	-	-	454
10	-	-	285	-	-	305	-	-	305	-	-	342	-	-	368	-	-	368	-	-	369	-	-	410	-	-	409	-	-	409
11	231	-	260	-	-	278	-	-	277	-	-	312	-	-	335	-	-	335	316	-	335	-	-	373	-	-	372	-	-	372
12	184	-	238	-	-	255	-	-	254	-	-	286	-	-	307	-	-	307	255	-	307	-	-	342	-	-	341	-	-	341
13	149	-	220	-	-	235	-	-	235	-	-	264	-	-	283	-	-	283	208	-	284	-	-	316	-	-	315	-	-	315
14	122	-	204	199	-	218	-	-	218	232	-	245	-	-	263	-	-	263	171	-	264	274	-	293	-	-	293	-	-	292
15	101	-	191	166	-	204	-	-	204	193	-	228	-	-	246	-	-	245	143	-	246	230	-	274	-	-	273	-	-	273
16	84	166	179	139	-	191	-	-	191	163	-	214	-	-	230	-	-	230	120	-	231	194	-	256	-	-	256	-	-	256
17	71	140	168	118	-	180	169	-	180	139	-	201	196	-	216	-	-	216	102	200	217	166	-	241	234	-	241	-	-	241
18	61	119	159	101	-	170	145	-	170	119	-	190	169	-	204	-	-	204	87	171	205	142	-	228	201	-	227	-	-	227
19	52	102	150	87	-	161	125	-	161	102	-	180	146	-	193	-	-	193	75	147	194	123	-	216	175	-	215	-	-	215
20	45	87	143	75	147	152	109	-	152	89	-	171	127	-	184	169	-	183	65	127	184	107	-	205	152	-	204	202	-	204
22	34	66	129	57	112	138	83	-	138	68	132	155	98	-	167	130	-	166	50	96	167	82	161	186	118	-	185	157	-	185
24	27	51	113	45	87	127	65	-	127	53	103	142	77	149	152	103	-	152	39	74	153	65	125	170	93	-	170	124	-	169
26	21	40	96	36	68	117	52	101	117	42	81	130	61	118	140	82	-	140	31	58	141	52	99	157	74	144	156	99	-	156
28	17	32	83	29	55	107	42	81	108	34	65	112	50	95	130	67	129	130	25	46	126	42	80	145	60	117	145	81	-	145
30	-	-	-	24	44	93	34	66	101	28	52	97	41	77	117	55	105	121	21	37	109	34	65	135	50	95	135	67	129	135

Allowable Roof Clear Spans Standard Term

RFPI 20 (1-3/4" WIDE X 1-3/8" FLANGES)

Spacing (in)	Loads (psf)		9-1/2"		11-7/8"		14"	
			Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope
	LL	DL	6/12	12/12	6/12	12/12	6/12	12/12
12	20	10	21'-10"	20'-3"	26'-2"	24'-3"	29'-10"	27'-8"
		15	21'-10"	20'-0"	26'-2"	24'-0"	29'-10"	27'-5"
	30	10	19'-0"	17'-7"	22'-9"	21'-1"	26'-0"	24'-1"
		15	19'-0"	17'-7"	22'-9"	21'-1"	26'-0"	24'-1"
	40	10	17'-2"	16'-0"	20'-7"	19'-2"	23'-6"	21'-10"
		15	17'-2"	16'-0"	20'-7"	19'-2"	23'-6"	21'-10"
	50	10	15'-11"	14'-9"	19'-1"	17'-9"	21'-9"	20'-3"
		15	15'-11"	14'-9"	19'-1"	17'-9"	21'-9"	20'-3"
16	20	10	19'-9"	18'-4"	23'-8"	22'-0"	27'-1"	25'-1"
		15	19'-9"	18'-2"	23'-8"	21'-9"	27'-1"	24'-10"
	30	10	17'-2"	16'-0"	20'-7"	19'-2"	23'-6"	21'-10"
		15	17'-2"	16'-0"	20'-7"	19'-2"	23'-6"	21'-10"
	40	10	15'-6"	14'-5"	18'-8"	17'-4"	21'-4"	19'-10"
		15	15'-6"	14'-5"	18'-8"	17'-4"	21'-4"	19'-10"
	50	10	14'-4"	13'-4"	17'-3"	16'-1"	19'-8"	18'-4"
		15	14'-4"	13'-4"	17'-3"	16'-1"	18'-10"	17'-9"
19.2	20	10	18'-7"	17'-3"	22'-3"	20'-8"	25'-5"	23'-7"
		15	18'-7"	17'-1"	22'-3"	20'-5"	25'-5"	23'-4"
	30	10	16'-1"	15'-0"	19'-4"	18'-0"	22'-1"	20'-6"
		15	16'-1"	15'-0"	19'-4"	18'-0"	22'-1"	20'-6"
	40	10	14'-7"	13'-7"	17'-6"	16'-3"	20'-0"	18'-7"
		15	14'-7"	13'-7"	17'-6"	16'-3"	18'-7"	17'-5"
	50	10	13'-6"	12'-7"	16'-2"	15'-1"	16'-11"	16'-3"
		15	13'-6"	12'-7"	15'-8"	14'-9"	15'-8"	14'-9"
24	20	10	17'-2"	16'-0"	20'-7"	19'-2"	23'-6"	21'-10"
		15	17'-2"	15'-10"	20'-7"	18'-11"	23'-6"	21'-4"
	30	10	14'-11"	13'-10"	17'-11"	16'-8"	20'-5"	19'-0"
		15	14'-11"	13'-10"	17'-11"	16'-8"	18'-3"	16'-10"
	40	10	13'-6"	12'-7"	16'-2"	15'-1"	16'-3"	15'-6"
		15	13'-6"	12'-7"	14'-10"	13'-10"	14'-10"	13'-10"
	50	10	12'-4"	11'-7"	13'-6"	12'-11"	13'-6"	12'-11"
		15	11'-5"	10'-9"	12'-6"	11'-9"	12'-6"	11'-9"

Notes

1. The design is in accordance with CSA O86-14.
2. Spans listed represent the worst case of simple or multiple span.
3. Spans listed are clear horizontal distances between supports.
4. Web stiffeners are not required.
5. Use in dry service conditions only.
6. Provide continuous lateral support for top flange.
7. Provide lateral support at points of bearing to prevent twisting of joists.
8. Maximum deflection is limited to L/180 at total load, L/360 at live load.
9. Slope roof joists at least 1/4" in 12" to minimize ponding.
10. Provide vertical support at each bearing point, min. 1-3/4" at end supports, 3-1/2" at interior supports.
11. Use beam sizing software to analyze multiple span joists if the length of any span is less than half the length of an adjacent span.

RFPI 40S (2-1/2" WIDE X 1-1/2" FLANGES)

Spacing (in)	Loads (psf)		9-1/2"		11-7/8"		14"		16"	
			Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope
	LL	DL	6/12	12/12	6/12	12/12	6/12	12/12	6/12	12/12
12	20	10	23'-0"	21'-4"	27'-6"	25'-6"	31'-3"	29'-0"	34'-8"	32'-2"
		15	23'-0"	21'-1"	27'-6"	25'-3"	31'-3"	28'-8"	34'-8"	31'-10"
	30	10	20'-0"	18'-7"	23'-11"	22'-3"	27'-2"	25'-3"	30'-2"	28'-0"
		15	20'-0"	18'-7"	23'-11"	22'-3"	27'-2"	25'-3"	30'-2"	28'-0"
	40	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-4"	25'-5"
		15	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-4"	25'-5"
	50	10	16'-9"	15'-7"	20'-1"	18'-8"	22'-10"	21'-2"	25'-4"	23'-6"
		15	16'-9"	15'-7"	20'-1"	18'-8"	22'-10"	21'-2"	25'-4"	23'-6"
16	20	10	20'-10"	19'-4"	24'-11"	23'-2"	28'-4"	26'-3"	31'-5"	29'-2"
		15	20'-10"	19'-2"	24'-11"	22'-11"	28'-4"	26'-0"	30'-10"	28'-10"
	30	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-4"	25'-5"
		15	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-1"	25'-5"
	40	10	16'-4"	15'-3"	19'-7"	18'-3"	22'-3"	20'-9"	24'-9"	23'-0"
		15	16'-4"	15'-3"	19'-7"	18'-3"	22'-3"	20'-9"	24'-5"	23'-0"
	50	10	15'-1"	14'-1"	18'-2"	16'-11"	20'-7"	19'-2"	22'-11"	21'-4"
		15	15'-1"	14'-1"	18'-2"	16'-11"	20'-7"	19'-2"	22'-5"	21'-4"
19.2	20	10	19'-6"	18'-2"	23'-5"	21'-9"	26'-7"	24'-8"	29'-6"	27'-5"
		15	19'-6"	18'-0"	23'-4"	21'-6"	26'-7"	24'-5"	28'-2"	26'-9"
	30	10	17'-0"	15'-9"	20'-4"	18'-11"	23'-1"	21'-6"	25'-8"	23'-10"
		15	17'-0"	15'-9"	20'-4"	18'-11"	22'-11"	21'-6"	24'-9"	23'-9"
	40	10	15'-4"	14'-3"	18'-5"	17'-2"	20'-11"	19'-6"	23'-3"	21'-7"
		15	15'-4"	14'-3"	18'-5"	17'-2"	20'-8"	19'-6"	22'-3"	21'-7"
	50	10	14'-2"	13'-3"	17'-0"	15'-10"	19'-4"	18'-0"	21'-3"	20'-0"
		15	14'-2"	13'-3"	16'-11"	15'-10"	19'-0"	18'-0"	20'-4"	19'-2"
24	20	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-1"	25'-5"
		15	18'-1"	16'-8"	20'-10"	19'-10"	23'-4"	22'-2"	25'-2"	23'-11"
	30	10	15'-8"	14'-7"	18'-10"	17'-6"	21'-5"	19'-11"	23'-4"	22'-1"
		15	15'-8"	14'-7"	18'-4"	17'-6"	20'-6"	19'-8"	22'-1"	21'-2"
	40	10	14'-2"	13'-3"	17'-0"	15'-10"	19'-4"	18'-0"	20'-10"	20'-0"
		15	14'-2"	13'-3"	16'-6"	15'-10"	18'-6"	17'-10"	19'-3"	18'-0"
	50	10	13'-1"	12'-3"	15'-9"	14'-8"	17'-6"	16'-8"	17'-6"	16'-9"
		15	13'-1"	12'-3"	15'-2"	14'-8"	16'-2"	15'-3"	16'-2"	15'-3"

Allowable Roof Clear Spans Standard Term

RFPI 400 (2-1/16" WIDE X 1-3/8" FLANGES)

Spacing (in)	Loads (psf)		9-1/2"		11-7/8"		14"		16"	
			Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope
	LL	DL	6/12	12/12	6/12	12/12	6/12	12/12	6/12	12/12
12	20	10	23'-0"	21'-4"	27'-6"	25'-6"	31'-4"	29'-1"	34'-10"	32'-4"
		15	23'-0"	21'-1"	27'-6"	25'-3"	31'-4"	28'-9"	34'-10"	32'-0"
	30	10	20'-0"	18'-7"	23'-11"	22'-3"	27'-3"	25'-4"	30'-4"	28'-2"
		15	20'-0"	18'-7"	23'-11"	22'-3"	27'-3"	25'-4"	30'-4"	28'-2"
	40	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-5"	25'-6"
		15	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-5"	25'-6"
	50	10	16'-9"	15'-7"	20'-1"	18'-8"	22'-10"	21'-3"	25'-5"	23'-7"
		15	16'-9"	15'-7"	20'-1"	18'-8"	22'-10"	21'-3"	25'-5"	23'-7"
16	20	10	20'-10"	19'-4"	24'-11"	23'-2"	28'-5"	26'-4"	31'-7"	29'-3"
		15	20'-10"	19'-2"	24'-11"	22'-11"	28'-5"	26'-1"	31'-7"	29'-0"
	30	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-5"	25'-6"
		15	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-5"	25'-6"
	40	10	16'-4"	15'-3"	19'-7"	18'-3"	22'-4"	20'-9"	24'-10"	23'-1"
		15	16'-4"	15'-3"	19'-7"	18'-3"	22'-4"	20'-9"	24'-10"	23'-1"
	50	10	15'-1"	14'-1"	18'-2"	16'-11"	20'-8"	19'-3"	23'-0"	21'-5"
		15	15'-1"	14'-1"	18'-2"	16'-11"	20'-7"	19'-3"	21'-11"	20'-9"
19.2	20	10	19'-6"	18'-2"	23'-5"	21'-9"	26'-8"	24'-9"	29'-8"	27'-6"
		15	19'-6"	18'-0"	23'-5"	21'-6"	26'-8"	24'-6"	29'-8"	27'-3"
	30	10	17'-0"	15'-9"	20'-4"	18'-11"	23'-2"	21'-7"	25'-9"	23'-11"
		15	17'-0"	15'-9"	20'-4"	18'-11"	23'-2"	21'-7"	25'-9"	23'-11"
	40	10	15'-4"	14'-3"	18'-5"	17'-2"	21'-0"	19'-6"	23'-4"	21'-8"
		15	15'-4"	14'-3"	18'-5"	17'-2"	21'-0"	19'-6"	21'-8"	20'-3"
	50	10	14'-2"	13'-3"	17'-0"	15'-10"	19'-5"	18'-1"	19'-8"	18'-11"
		15	14'-2"	13'-3"	17'-0"	15'-10"	18'-3"	17'-3"	18'-3"	17'-3"
24	20	10	18'-1"	16'-10"	21'-8"	20'-2"	24'-8"	22'-11"	27'-5"	25'-6"
		15	18'-1"	16'-8"	21'-8"	19'-11"	24'-8"	22'-9"	27'-5"	24'-10"
	30	10	15'-8"	14'-7"	18'-10"	17'-6"	21'-5"	19'-11"	23'-10"	22'-2"
		15	15'-8"	14'-7"	18'-10"	17'-6"	21'-3"	19'-7"	21'-3"	19'-7"
	40	10	14'-2"	13'-3"	17'-0"	15'-10"	18'-11"	18'-0"	18'-11"	18'-0"
		15	14'-2"	13'-3"	17'-0"	15'-10"	17'-3"	16'-2"	17'-3"	16'-2"
	50	10	13'-1"	12'-3"	15'-8"	14'-8"	15'-8"	15'-1"	15'-8"	15'-1"
		15	13'-1"	12'-3"	14'-6"	13'-9"	14'-6"	13'-9"	14'-6"	13'-9"

RFPI 40 (2-5/16" WIDE X 1-3/8" FLANGES)

Spacing (in)	Loads (psf)		9-1/2"		11-7/8"		14"		16"	
			Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope	Low Slope	High Slope
	LL	DL	6/12	12/12	6/12	12/12	6/12	12/12	6/12	12/12
12	20	10	23'-10"	22'-1"	28'-6"	26'-5"	32'-5"	30'-1"	36'-0"	33'-5"
		15	23'-10"	21'-10"	28'-6"	26'-2"	32'-5"	29'-10"	36'-0"	33'-1"
	30	10	20'-9"	19'-3"	24'-9"	23'-0"	28'-3"	26'-3"	31'-4"	29'-1"
		15	20'-9"	19'-3"	24'-9"	23'-0"	28'-3"	26'-3"	31'-4"	29'-1"
	40	10	18'-9"	17'-5"	22'-5"	20'-10"	25'-7"	23'-9"	28'-5"	26'-5"
		15	18'-9"	17'-5"	22'-5"	20'-10"	25'-7"	23'-9"	28'-5"	26'-5"
	50	10	17'-4"	16'-2"	20'-9"	19'-4"	23'-8"	22'-0"	26'-3"	24'-5"
		15	17'-4"	16'-2"	20'-9"	19'-4"	23'-8"	22'-0"	26'-3"	24'-5"
16	20	10	21'-7"	20'-0"	25'-10"	23'-11"	29'-5"	27'-4"	32'-8"	30'-4"
		15	21'-7"	19'-10"	25'-10"	23'-9"	29'-5"	27'-0"	32'-8"	30'-0"
	30	10	18'-9"	17'-5"	22'-5"	20'-10"	25'-7"	23'-9"	28'-5"	26'-5"
		15	18'-9"	17'-5"	22'-5"	20'-10"	25'-7"	23'-9"	28'-5"	26'-5"
	40	10	16'-11"	15'-9"	20'-4"	18'-11"	23'-2"	21'-6"	25'-8"	23'-11"
		15	16'-11"	15'-9"	20'-4"	18'-11"	23'-2"	21'-6"	25'-8"	23'-11"
	50	10	15'-8"	14'-7"	18'-9"	17'-6"	21'-5"	19'-11"	23'-9"	22'-2"
		15	15'-8"	14'-7"	18'-9"	17'-6"	21'-5"	19'-11"	23'-9"	22'-2"
19.2	20	10	20'-3"	18'-10"	24'-3"	22'-6"	27'-7"	25'-8"	30'-8"	28'-6"
		15	20'-3"	18'-7"	24'-3"	22'-3"	27'-7"	25'-8"	30'-8"	28'-2"
	30	10	17'-7"	16'-4"	21'-1"	19'-7"	24'-0"	22'-4"	26'-8"	24'-9"
		15	17'-7"	16'-4"	21'-1"	19'-7"	24'-0"	22'-4"	26'-8"	24'-9"
	40	10	15'-11"	14'-10"	19'-0"	17'-9"	21'-9"	20'-3"	24'-1"	22'-5"
		15	15'-11"	14'-10"	19'-0"	17'-9"	21'-9"	20'-3"	24'-1"	22'-5"
	50	10	14'-8"	13'-8"	17'-7"	16'-5"	20'-1"	18'-8"	21'-11"	20'-9"
		15	14'-8"	13'-8"	17'-7"	16'-5"	20'-1"	18'-8"	20'-4"	19'-2"
24	20	10	18'-9"	17'-5"	22'-5"	20'-10"	25'-7"	23'-9"	28'-5"	26'-5"
		15	18'-9"	17'-3"	22'-5"	20'-8"	25'-7"	23'-6"	28'-5"	26'-1"
	30	10	16'-3"	15'-2"	19'-6"	18'-2"	22'-2"	20'-8"	24'-8"	22'-11"
		15	16'-3"	15'-2"	19'-6"	18'-2"	22'-2"	20'-8"	23'-8"	21'-10"
	40	10	14'-8"	13'-8"	17'-7"	16'-5"	20'-1"	18'-8"	21'-1"	20'-1"
		15	14'-8"	13'-8"	17'-7"	16'-5"	19'-3"	18'-0"	19'-3"	18'-0"
	50	10	13'-7"	12'-8"	16'-3"	15'-2"	17'-6"	16'-9"	17'-6"	16'-9"
		15	13'-7"	12'-8"	16'-1"	15'-2"	16'-2"	15'-3"	16'-2"	15'-3"

See notes on page 30.

Allowable Roof Clear Spans Standard Term

RFPI 60S (2-1/2" WIDE X 1-1/2" FLANGES)

Spacing (in)	Loads (psf) LL	Loads (psf) DL	9-1/2" Low Slope 6/12	9-1/2" High Slope 12/12	11-7/8" Low Slope 6/12	11-7/8" High Slope 12/12	14" Low Slope 6/12	14" High Slope 12/12	16" Low Slope 6/12	16" High Slope 12/12
12	20	10	24'-5"	22'-8"	29'-3"	27'-1"	33'-4"	30'-11"	37'-0"	34'-4"
		15	24'-5"	22'-5"	29'-3"	26'-10"	33'-4"	30'-7"	37'-0"	34'-0"
	30	10	21'-2"	19'-8"	25'-5"	23'-7"	29'-0"	26'-11"	32'-3"	29'-11"
		15	21'-2"	19'-8"	25'-5"	23'-7"	29'-0"	26'-11"	32'-3"	29'-11"
	40	10	19'-2"	17'-10"	23'-0"	21'-5"	26'-3"	24'-5"	29'-2"	27'-1"
		15	19'-2"	17'-10"	23'-0"	21'-5"	26'-3"	24'-5"	29'-2"	27'-1"
	50	10	17'-9"	16'-6"	21'-4"	19'-10"	24'-3"	22'-7"	27'-0"	25'-1"
		15	17'-9"	16'-6"	21'-4"	19'-10"	24'-3"	22'-7"	27'-0"	25'-1"
16	20	10	22'-1"	20'-6"	26'-6"	24'-7"	30'-2"	28'-0"	33'-6"	31'-2"
		15	22'-1"	20'-4"	26'-6"	24'-4"	30'-2"	27'-9"	33'-6"	30'-10"
	30	10	19'-2"	17'-10"	23'-0"	21'-5"	26'-3"	24'-5"	29'-2"	27'-1"
		15	19'-2"	17'-10"	23'-0"	21'-5"	26'-3"	24'-5"	29'-2"	27'-1"
	40	10	17'-4"	16'-2"	20'-10"	19'-5"	23'-9"	22'-1"	26'-5"	24'-7"
		15	17'-4"	16'-2"	20'-10"	19'-5"	23'-9"	22'-1"	26'-5"	24'-7"
	50	10	16'-1"	14'-11"	19'-3"	17'-11"	22'-0"	20'-5"	24'-5"	22'-9"
		15	16'-1"	14'-11"	19'-3"	17'-11"	22'-0"	20'-5"	24'-5"	22'-9"
19.2	20	10	20'-9"	19'-3"	24'-10"	23'-1"	28'-4"	26'-4"	31'-6"	29'-3"
		15	20'-9"	19'-1"	24'-10"	22'-10"	28'-4"	26'-1"	31'-5"	28'-11"
	30	10	18'-0"	16'-9"	21'-7"	20'-1"	24'-8"	22'-11"	27'-5"	25'-5"
		15	18'-0"	16'-9"	21'-7"	20'-1"	24'-8"	22'-11"	27'-5"	25'-5"
	40	10	16'-3"	15'-2"	19'-6"	18'-2"	22'-3"	20'-9"	24'-9"	23'-1"
		15	16'-3"	15'-2"	19'-6"	18'-2"	22'-3"	20'-9"	24'-1"	22'-7"
	50	10	15'-0"	14'-0"	18'-1"	16'-10"	20'-7"	19'-2"	21'-11"	21'-0"
		15	15'-0"	14'-0"	18'-1"	16'-10"	20'-4"	19'-2"	20'-4"	19'-2"
24	20	10	19'-2"	17'-10"	23'-0"	21'-5"	26'-3"	24'-5"	29'-2"	27'-1"
		15	19'-2"	17'-8"	23'-0"	21'-2"	26'-0"	24'-5"	28'-1"	26'-7"
	30	10	16'-8"	15'-6"	20'-0"	18'-7"	22'-9"	21'-2"	25'-4"	23'-7"
		15	16'-8"	15'-6"	20'-0"	18'-7"	22'-9"	21'-2"	23'-8"	21'-10"
	40	10	15'-0"	14'-0"	18'-1"	16'-10"	20'-7"	19'-2"	21'-1"	20'-1"
		15	15'-0"	14'-0"	18'-1"	16'-10"	19'-3"	18'-0"	19'-3"	18'-0"
	50	10	13'-11"	13'-0"	16'-8"	15'-7"	17'-6"	16'-9"	17'-6"	16'-9"
		15	13'-11"	13'-0"	16'-2"	15'-3"	16'-2"	15'-3"	16'-2"	15'-3"

RFPI 70 (2-5/16" WIDE X 1-1/2" FLANGES)

Spacing (in)	Loads (psf) LL	Loads (psf) DL	9-1/2" Low Slope 6/12	9-1/2" High Slope 12/12	11-7/8" Low Slope 6/12	11-7/8" High Slope 12/12	14" Low Slope 6/12	14" High Slope 12/12	16" Low Slope 6/12	16" High Slope 12/12
12	20	10	25'-7"	23'-9"	30'-7"	28'-5"	34'-11"	32'-5"	38'-9"	35'-11"
		15	25'-7"	23'-6"	30'-7"	28'-1"	34'-11"	32'-1"	38'-9"	35'-7"
	30	10	22'-3"	20'-8"	26'-8"	24'-9"	30'-4"	28'-2"	33'-9"	31'-4"
		15	22'-3"	20'-8"	26'-8"	24'-9"	30'-4"	28'-2"	33'-9"	31'-4"
	40	10	20'-1"	18'-8"	24'-1"	22'-5"	27'-6"	25'-7"	30'-6"	28'-4"
		15	20'-1"	18'-8"	24'-1"	22'-5"	27'-6"	25'-7"	30'-6"	28'-4"
	50	10	18'-7"	17'-4"	22'-4"	20'-9"	25'-5"	23'-8"	28'-3"	26'-3"
		15	18'-7"	17'-4"	22'-4"	20'-9"	25'-5"	23'-8"	28'-3"	26'-3"
16	20	10	23'-2"	21'-6"	27'-9"	25'-9"	31'-7"	29'-4"	35'-1"	32'-7"
		15	23'-2"	21'-3"	27'-9"	25'-6"	31'-7"	29'-1"	35'-1"	32'-3"
	30	10	20'-1"	18'-8"	24'-1"	22'-5"	27'-6"	25'-7"	30'-6"	28'-4"
		15	20'-1"	18'-8"	24'-1"	22'-5"	27'-6"	25'-7"	30'-6"	28'-4"
	40	10	18'-2"	16'-11"	21'-10"	20'-3"	24'-10"	23'-2"	27'-8"	25'-8"
		15	18'-2"	16'-11"	21'-10"	20'-3"	24'-10"	23'-2"	27'-8"	25'-8"
	50	10	16'-10"	15'-8"	20'-2"	18'-9"	23'-0"	21'-5"	25'-7"	23'-10"
		15	16'-10"	15'-8"	20'-2"	18'-9"	23'-0"	21'-5"	24'-5"	23'-1"
19.2	20	10	21'-9"	20'-2"	26'-0"	24'-2"	29'-8"	27'-7"	33'-0"	30'-8"
		15	21'-9"	20'-0"	26'-0"	23'-11"	29'-8"	27'-4"	33'-0"	30'-4"
	30	10	18'-10"	17'-7"	22'-7"	21'-1"	25'-10"	24'-0"	28'-8"	26'-8"
		15	18'-10"	17'-7"	22'-7"	21'-1"	25'-10"	24'-0"	28'-8"	26'-8"
	40	10	17'-1"	15'-11"	20'-5"	19'-1"	23'-4"	21'-9"	25'-11"	24'-2"
		15	17'-1"	15'-11"	20'-5"	19'-1"	23'-4"	21'-9"	24'-1"	22'-7"
	50	10	15'-9"	14'-8"	18'-11"	17'-7"	21'-7"	20'-1"	21'-11"	21'-0"
		15	15'-9"	14'-8"	18'-11"	17'-7"	20'-4"	19'-2"	20'-4"	19'-2"
24	20	10	20'-1"	18'-8"	24'-1"	22'-5"	27'-6"	25'-7"	30'-6"	28'-4"
		15	20'-1"	18'-6"	24'-1"	22'-5"	27'-6"	25'-3"	30'-6"	27'-8"
	30	10	17'-5"	16'-3"	20'-11"	19'-6"	23'-10"	22'-3"	26'-6"	24'-8"
		15	17'-5"	16'-3"	20'-11"	19'-6"	23'-8"	21'-10"	23'-8"	21'-10"
	40	10	15'-9"	14'-8"	18'-11"	17'-7"	21'-1"	20'-1"	21'-1"	20'-1"
		15	15'-9"	14'-8"	18'-11"	17'-7"	19'-3"	18'-0"	19'-3"	18'-0"
	50	10	14'-6"	13'-7"	17'-5"	16'-3"	17'-6"	16'-9"	17'-6"	16'-9"
		15	14'-6"	13'-7"	16'-2"	15'-3"	16'-2"	15'-3"	16'-2"	15'-3"

See notes on page 30.

Allowable Roof Clear Spans Standard Term

RFPI 80S (3-1/2" WIDE X 1-1/2" FLANGES)

Spacing (in)	Loads (psf)		11-7/8"		14"		16"	
	LL	DL	Low Slope 6/12	High Slope 12/12	Low Slope 6/12	High Slope 12/12	Low Slope 6/12	High Slope 12/12
12	20	10	32'-6"	30'-2"	37'-0"	34'-4"	41'-1"	38'-1"
		15	32'-6"	29'-11"	37'-0"	34'-0"	41'-1"	37'-8"
	30	10	28'-4"	26'-3"	32'-2"	29'-11"	35'-9"	33'-2"
		15	28'-4"	26'-3"	32'-2"	29'-11"	35'-9"	33'-2"
	40	10	25'-7"	23'-10"	29'-2"	27'-1"	32'-4"	30'-1"
		15	25'-7"	23'-10"	29'-2"	27'-1"	32'-4"	30'-1"
	50	10	23'-8"	22'-1"	26'-11"	25'-1"	29'-11"	27'-10"
		15	23'-8"	22'-1"	26'-11"	25'-1"	29'-11"	27'-10"
16	20	10	29'-6"	27'-4"	33'-6"	31'-2"	37'-2"	34'-6"
		15	29'-6"	27'-1"	33'-6"	30'-10"	37'-2"	34'-2"
	30	10	25'-7"	23'-10"	29'-2"	27'-1"	32'-4"	30'-1"
		15	25'-7"	23'-10"	29'-2"	27'-1"	32'-4"	30'-1"
	40	10	23'-2"	21'-7"	26'-4"	24'-6"	29'-3"	27'-3"
		15	23'-2"	21'-7"	26'-4"	24'-6"	29'-3"	27'-3"
	50	10	21'-5"	19'-11"	24'-4"	22'-8"	27'-1"	25'-2"
		15	21'-5"	19'-11"	24'-4"	22'-8"	27'-1"	25'-2"
19.2	20	10	27'-8"	25'-9"	31'-6"	29'-3"	34'-11"	32'-5"
		15	27'-8"	25'-5"	31'-6"	28'-11"	34'-11"	32'-1"
	30	10	24'-0"	22'-4"	27'-4"	25'-5"	30'-4"	28'-3"
		15	24'-0"	22'-4"	27'-4"	25'-5"	30'-4"	28'-3"
	40	10	21'-9"	20'-3"	24'-9"	23'-0"	27'-5"	25'-7"
		15	21'-9"	20'-3"	24'-9"	23'-0"	27'-5"	25'-7"
	50	10	20'-1"	18'-9"	22'-10"	21'-4"	25'-4"	23'-8"
		15	20'-1"	18'-9"	22'-10"	21'-4"	25'-7"	23'-3"
24	20	10	25'-7"	23'-10"	29'-2"	27'-1"	32'-4"	30'-1"
		15	25'-7"	23'-7"	29'-2"	26'-10"	32'-4"	29'-9"
	30	10	22'-3"	20'-8"	25'-3"	23'-7"	28'-1"	26'-2"
		15	22'-3"	20'-8"	25'-3"	23'-7"	28'-1"	26'-2"
	40	10	20'-1"	18'-9"	22'-10"	21'-4"	25'-4"	23'-8"
		15	20'-1"	18'-9"	22'-10"	21'-4"	25'-3"	21'-9"
	50	10	18'-6"	17'-4"	21'-1"	19'-8"	21'-2"	20'-4"
		15	18'-3"	17'-3"	19'-7"	18'-6"	19'-7"	18'-6"

RFPI 90 (3-1/2" WIDE X 1-1/2" FLANGES)

Spacing (in)	Loads (psf)		9-1/2"		11-7/8"		14"		16"	
	LL	DL	Low Slope 6/12	High Slope 12/12	Low Slope 6/12	High Slope 12/12	Low Slope 6/12	High Slope 12/12	Low Slope 6/12	High Slope 12/12
12	20	10	29'-2"	27'-1"	34'-11"	32'-5"	39'-8"	36'-10"	44'-0"	40'-10"
		15	29'-2"	26'-10"	34'-11"	32'-1"	39'-8"	36'-6"	44'-0"	40'-5"
	30	10	25'-5"	23'-7"	30'-4"	28'-2"	34'-6"	32'-1"	38'-4"	35'-7"
		15	25'-5"	23'-7"	30'-4"	28'-2"	34'-6"	32'-1"	38'-4"	35'-7"
	40	10	23'-0"	21'-4"	27'-5"	25'-7"	31'-3"	29'-1"	34'-8"	32'-3"
		15	23'-0"	21'-4"	27'-5"	25'-7"	31'-3"	29'-1"	34'-8"	32'-3"
	50	10	21'-3"	19'-9"	25'-5"	23'-8"	28'-11"	26'-11"	32'-1"	29'-10"
		15	21'-3"	19'-9"	25'-5"	23'-8"	28'-11"	26'-11"	32'-1"	29'-10"
16	20	10	26'-5"	24'-7"	31'-7"	29'-4"	36'-0"	33'-5"	39'-11"	37'-0"
		15	26'-5"	24'-4"	31'-7"	29'-1"	36'-0"	33'-1"	39'-11"	36'-8"
	30	10	23'-0"	21'-4"	27'-5"	25'-7"	31'-3"	29'-1"	34'-8"	32'-3"
		15	23'-0"	21'-4"	27'-5"	25'-7"	31'-3"	29'-1"	34'-8"	32'-3"
	40	10	20'-9"	19'-4"	24'-10"	23'-1"	28'-3"	26'-4"	31'-4"	29'-2"
		15	20'-9"	19'-4"	24'-10"	23'-1"	28'-3"	26'-4"	31'-4"	29'-2"
	50	10	19'-2"	17'-11"	22'-11"	21'-5"	26'-1"	24'-4"	29'-0"	27'-0"
		15	19'-2"	17'-11"	22'-11"	21'-5"	26'-1"	24'-4"	29'-0"	27'-0"
19.2	20	10	24'-10"	23'-1"	29'-8"	27'-7"	33'-9"	31'-5"	37'-5"	34'-10"
		15	24'-10"	22'-10"	29'-8"	27'-4"	33'-9"	31'-1"	37'-5"	34'-5"
	30	10	21'-6"	20'-1"	25'-9"	24'-0"	29'-4"	27'-3"	32'-6"	30'-3"
		15	21'-6"	20'-1"	25'-9"	24'-0"	29'-4"	27'-3"	32'-6"	30'-3"
	40	10	19'-5"	18'-2"	23'-3"	21'-8"	26'-6"	24'-8"	29'-5"	27'-5"
		15	19'-5"	18'-2"	23'-3"	21'-8"	26'-6"	24'-8"	29'-5"	27'-5"
	50	10	18'-0"	16'-9"	21'-6"	20'-1"	24'-6"	22'-10"	27'-2"	25'-4"
		15	18'-0"	16'-9"	21'-6"	20'-1"	24'-6"	22'-10"	27'-2"	25'-4"
24	20	10	23'-0"	21'-4"	27'-5"	25'-7"	31'-3"	29'-1"	34'-8"	32'-3"
		15	23'-0"	21'-2"	27'-5"	25'-3"	31'-3"	28'-9"	34'-8"	31'-11"
	30	10	19'-11"	18'-7"	23'-10"	22'-2"	27'-1"	25'-3"	30'-1"	28'-0"
		15	19'-11"	18'-7"	23'-10"	22'-2"	27'-1"	25'-3"	30'-1"	28'-0"
	40	10	18'-0"	16'-9"	21'-6"	20'-1"	24'-6"	22'-10"	27'-2"	25'-4"
		15	18'-0"	16'-9"	21'-6"	20'-1"	24'-6"	22'-10"	25'-11"	24'-3"
	50	10	16'-7"	15'-6"	19'-10"	18'-7"	22'-7"	21'-1"	23'-7"	22'-7"
		15	16'-7"	15'-6"	19'-10"	18'-7"	21'-10"	20'-7"	21'-10"	20'-7"

See notes on page 30.

RigidRim® OSB & LVL Rimboard Specifications

As a component of the Roseburg Framing System®, RigidRim® Rimboard allows your customers to quickly frame the perimeter of their floor system and is one of the most cost-effective methods to properly transfer vertical and horizontal loads around the I-joist and directly into the supporting walls. RigidRim Rimboard is dimensionally stable and resists shrinking and warping. It also provides a smooth nailing surface for the attachment of exterior sheathing, siding and ledgers. Refer to page 19 for additional framing information. RigidRim Rimboard is currently available in the following materials, thicknesses and grades*:

1-1/8” RigidRim® OSB Rimboard

1-1/8” RigidRim® Plus OSB Rimboard

1-1/2” & 1-3/4” 1.4E RigidRim® LVL Rimboard

*Not all products are available in all markets. Contact your Roseburg EWP representative for availability.

The RigidRim OSB Rimboard products are available in lengths up to 24 ft, and the 1.4E RigidRim LVL Rimboard is available in lengths up to 60 ft. All Rimboard products are available in all of the standard I-joist depths.

RigidRim Rimboard is manufactured in accordance with *ANSI/APA PRR 410 Standard for Performance-Rated Engineered Wood Rim Boards* which meets or exceeds the requirements given in the ICC-ES Acceptance Criteria for Wood-Based Rim Board Products, AC 124. Furthermore, the 1.4E LVL rimboard is included in ICC-ES code report ESR-1210. See Table 1 below for RigidRim Factored Resistances. All RigidRim Rimboard products have been tested in the edgewise bending orientation and therefore may be designed for applications to support loads over window and door openings. See Table 2 below for edgewise bending Specified Strengths. Refer to APA publication D340 CA *APA Performance-Rated Rim Board - Canadian Limit States Design* for additional information and allowable spans for OSB rimboard.

TABLE 1: RIGIDRIM RIMBOARD FACTORED RESISTANCES [1][2][3]

	Rimboard Thickness (in)	Horizontal Load (plf)	Vertical Load (plf)	1/2” Lag Screw Load (lbs)[4]	Post Load (lbs)
RigidRim® OSB	1-1/8”	219 (8d box or common)	7,033[5]/4,640[6]	584	5,075[7]
RigidRim® Plus OSB	1-1/8”	243 (8d box or common)	7,033[5]/4,640[6]	584	5,075[7]
1.4E RigidRim® LVL	1-1/2”	262 (8d box or common)	7,105[5]/NA[6]	667	5,075[5]
1.4E RigidRim® LVL	1-3/4”	262 (8d box or common)	7,975[5]/NA[6]	667	5,075[5]

1. All design properties assume:
   • Rimboard nailing of 8d (2-1/2”) nails @ 6” on-center
2. All design values, except Horizontal Load, are based on a Standard Term load duration and should be adjusted for other load durations in accordance with the applicable code. Horizontal Load may not be adjusted for duration of load.
3. The 16d (3-1/2”) (box or common) nails used to connect the bottom plate of a wall to the rimboard through the sheathing do not reduce the horizontal load capacity of the rimboard provided that the 8d (2-1/2”) nail spacing (sheathing to rim board) is 6” o.c. and the 16d (3-1/2”) nail spacing (bottom plate to sheathing to rimboard) is in accordance with the prescriptive requirements of the applicable code
4. Allowable load for lag screw installed perpendicular to wide face of rimboard.
5. Depth ≤ 16"
6. 16"< Depth ≤ 24". Allowable load for intermediate depths can be found in APA publication W345 CA.
7. Depth ≤ 24"

TABLE 2: RIGIDRIM RIMBOARD EDGEWISE SPECIFIED STRENGTHS

	Flexural Stress	Modulus of Elasticity	Horizontal Shear	Compression Perpendicular to Grain
RigidRim® OSB & RigidRim® Plus OSB	1,110 psi [1]	0.55×10^6 psi	502 psi	1,001 psi
1.4E RigidRim® LVL	4,158 psi [1]	1.4×10^6 psi	372 psi	1,019 psi

1. Specified edgewise bending stress is applicable only to a span of 4’ or less

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

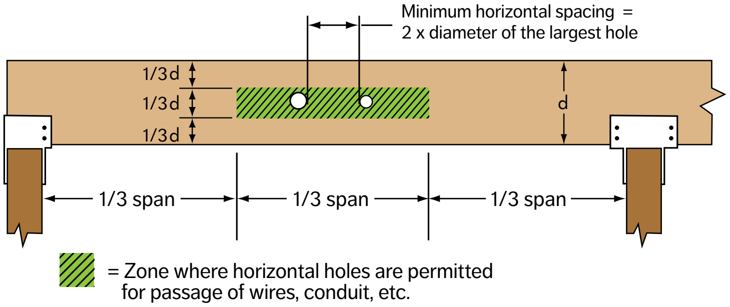
RigidLam LVL is coated with a wax-based moisture repellent sealer that is formulated specifically for LVL to provide temporary protection against moisture issues during normal storage and construction schedules. It is applied to all six sides of the LVL during the manufacturing process.

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 jobsite 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. Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or engineering analysis to analyze non-standard depths.
- 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.
- RigidLam LVL is manufactured without camber and therefore may be installed with either edge up or down.
- Do not install damaged RigidLam LVL.
- Do not walk on beams until they are fully braced, or serious injuries may result.

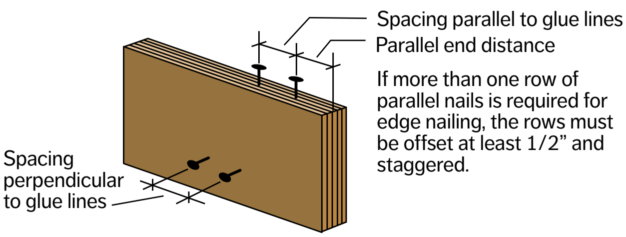
See additional notes on page 6

PERMISSIBLE HORIZONTAL ROUND HOLE LOCATION FOR RIGIDLAM® LVL BEAMS



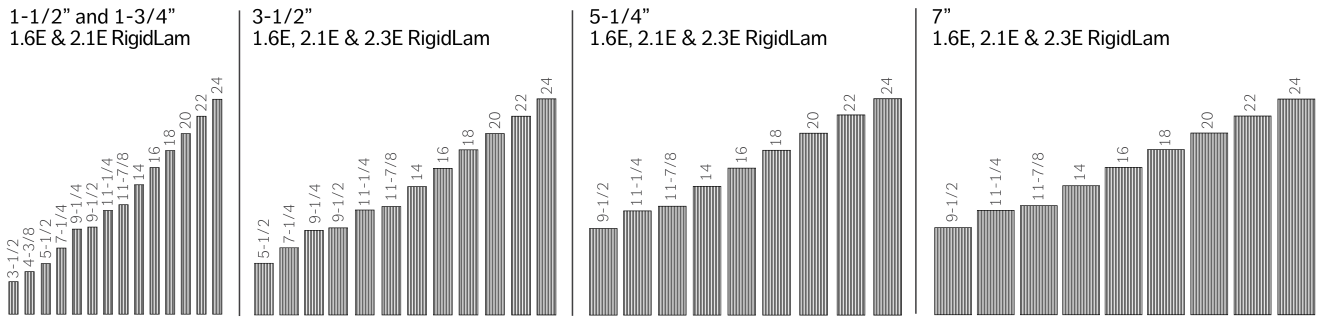
- For beam depths (d) of 4-3/8, 5-1/2, and 7-1/4 inches, the maximum hole diameter is 1, 1-1/8, and 1-1/2 inches, respectively.
- For deeper beams, the maximum hole diameter is 2 inches.
- Diagram applies for simple and multi-span applications with uniform loading.
- No more than 3 holes per span are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

MINIMUM NAIL SPACING FOR RIGIDLAM LVL BEAMS



Nail Size	Minimum Parallel Spacing	Minimum Parallel End Distance	Minimum Perpendicular Spacing
8d Box	2"	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 Sizes*



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

RigidLam® LVL - Specified Strengths[1,2,3]

		1.6E LVL	2.1E LVL	2.3E LVL
True Modulus of Elasticity (MOE)[2] – Edgewise or Flatwise	E (psi) =	1,600,000	2,100,000	2,300,000
Apparent Modulus of Elasticity (MOE)[2] – Edgewise or Flatwise	E (psi) =	1,500,000	2,000,000	2,200,000
Bending – Edgewise[4]	F_b edge (psi) =	4,158	5,729	5,729
Bending – Flatwise[5]	F_b flat (psi) =	4,064	5,013	5,729
Horizontal Shear - Edgewise	F_v edge (psi) =	409	539	539
Horizontal Shear - Flatwise	F_v flat (psi) =	198	223	221
Compression Perp. To Grain - Edgewise	$F_{c\ perp}$ edge (psi) =	1,047	1,365	1,365
Compression Perp. To Grain - Flatwise	$F_{c\ perp}$ flat (psi) =	1,177	1,177	1,177
Compression Parallel to Grain	$F_{c\ para}$ (psi) =	3,112	4,788	4,788
Tension Parallel to Grain[6]	F_t (psi) =	2,318	3,245	3,245
MOE for stability calculations	E_{min} (psi) =	1,325,714	1,740,000	1,905,714

1. These allowable design stresses apply to dry service conditions.
2. Specified design stresses are for standard term load duration and may be adjusted (with the exception of modulus of elasticity) using load duration factors in accordance with the code.
3. Tabulated values do not include the resistance factor Φ
4. The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (Fb) shall be modified by a depth factor, $K_{zb} = (12/d)^{1/8}$ for Douglas fir LVL (Mill #1055) or $K_{zb} = (12/d)^{1/5}$ for Southern Pine LVL (Mill #1125), where d is the LVL depth in inches. For depths less than 3-1/2 inches, multiply the tabulated value by 1.17 for DF LVL or 1.28 for SP LVL.
5. Tabulated F_b flat values are based on a thickness of 1-3/4". For other thicknesses, when loaded flatwise, multiply F_b flat by $(1.75/t)^{1/5}$, where t is the LVL thickness in inches. For thicknesses less than 1-3/4", use the tabulated value.
6. The specified tensile strength, f_t, is based on a standard length of 20'. For other lengths, multiply by $K_{Zt} = (20/L)^{1/9}$, where L = length (ft). For lengths less than 4', multiply by $K_{Zt} = 1.196$.

1.6E Grade RigidLam LVL - Factored Resistance Standard Term

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-1/2" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	1,693	2,600	4,364	6,891	7,245	9,947	11,008	14,989	19,253	24,012	29,256	34,980	41,179
Factored Shear Resistance (lb)	1,610	2,025	2,669	3,405	3,497	4,141	4,371	5,153	5,890	6,626	7,362	8,098	8,834
Moment of Inertia (in^4)	10	21	48	99	107	178	209	343	512	729	1,000	1,331	1,728
Weight (plf)	1.6	2.1	2.7	3.5	3.6	4.2	4.5	5.3	6.0	6.8	7.5	8.3	9.0

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-3/4" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	1,975	3,033	5,092	8,040	8,452	11,605	12,843	17,487	22,462	28,013	34,132	40,811	48,043
Factored Shear Resistance (lb)	1,879	2,362	3,114	3,972	4,080	4,831	5,100	6,012	6,871	7,730	8,589	9,448	10,307
Moment of Inertia (in^4)	12	24	56	115	125	208	244	400	597	851	1,167	1,553	2,016
Weight (plf)	1.9	2.4	3.2	4.0	4.2	4.9	5.2	6.1	7.0	7.9	8.8	9.6	10.5

SOUTHERN PINE RIGIDLAM LVL 1-PLY 1-1/2" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	1,826	2,757	4,532	7,027	7,373	9,995	11,017	14,817	18,842	23,292	28,156	33,426	39,093
Factored Shear Resistance (lb)	1,610	2,025	2,669	3,405	3,497	4,141	4,371	5,153	5,890	6,626	7,362	8,098	8,834
Moment of Inertia (in^4)	10	21	48	99	107	178	209	343	512	729	1,000	1,331	1,728
Weight (plf)	1.9	2.4	3.2	4.0	4.2	4.9	5.2	6.1	7.0	7.9	8.8	9.6	10.5

SOUTHERN PINE RIGIDLAM LVL 1-PLY 1-3/4" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,130	3,216	5,288	8,198	8,601	11,661	12,853	17,286	21,983	27,174	32,849	38,997	45,609
Factored Shear Resistance (lb)	1,879	2,362	3,114	3,972	4,080	4,831	5,100	6,012	6,871	7,730	8,589	9,448	10,307
Moment of Inertia (in^4)	12	24	56	115	125	208	244	400	597	851	1,167	1,553	2,016
Weight (plf)	2.2	2.8	3.7	4.7	4.8	5.7	6.1	7.1	8.2	9.2	10.2	11.2	12.3

Notes:

1. Calculations are in accordance with CSA Standard O86-14.
2. Values are valid for dry service conditions, standard term loading, no treatment, full lateral support of the compression edge, and lateral support at bearings to prevent lateral displacement or rotation.
3. 1-1/2" thick members 14" and deeper and 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.
4. For 2-ply, 3-ply and 4-ply LVL members, the values in the tables may be multiplied by 2, 3 and 4 respectively.

2.1E Grade RigidLam LVL - Factored Resistance Standard Term

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-1/2" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,332	3,582	6,013	9,495	9,982	13,705	15,168	20,652	26,528	33,084	40,310	48,197	56,738
Factored Shear Resistance (lb)	2,122	2,668	3,517	4,487	4,608	5,457	5,761	6,791	7,762	8,732	9,702	10,672	11,642
Moment of Inertia (in^4)	10	21	48	99	107	178	209	343	512	729	1,000	1,331	1,728
Weight (plf)	1.7	2.2	2.9	3.7	3.8	4.5	4.7	5.5	6.3	7.1	7.9	8.7	9.5

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-3/4" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,721	4,179	7,015	11,077	11,645	15,990	17,695	24,094	30,949	38,598	47,028	56,230	66,194
Factored Shear Resistance (lb)	2,476	3,113	4,103	5,235	5,377	6,367	6,721	7,923	9,055	10,187	11,319	12,451	13,583
Moment of Inertia (in^4)	12	24	56	115	125	208	244	400	597	851	1,167	1,553	2,016
Weight (plf)	2.0	2.5	3.3	4.3	4.4	5.2	5.5	6.5	7.4	8.3	9.2	10.2	11.1

SOUTHERN PINE RIGIDLAM LVL 1-PLY 1-1/2" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,516	3,798	6,245	9,682	10,158	13,772	15,179	20,415	25,962	32,093	38,795	46,055	53,864
Factored Shear Resistance (lb)	2,122	2,668	3,517	4,487	4,608	5,457	5,761	6,791	7,762	8,732	9,702	10,672	11,642
Moment of Inertia (in^4)	10	21	48	99	107	178	209	343	512	729	1,000	1,331	1,728
Weight (plf)	1.9	2.4	3.2	4.0	4.2	4.9	5.2	6.1	7.0	7.9	8.8	9.6	10.5

SOUTHERN PINE RIGIDLAM LVL 1-PLY 1-3/4" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,935	4,431	7,286	11,296	11,851	16,067	17,709	23,817	30,289	37,442	45,260	53,731	62,841
Factored Shear Resistance (lb)	2,476	3,113	4,103	5,235	5,377	6,367	6,721	7,923	9,055	10,187	11,319	12,451	13,583
Moment of Inertia (in^4)	12	24	56	115	125	208	244	400	597	851	1,167	1,553	2,016
Weight (plf)	2.2	2.8	3.7	4.7	4.8	5.7	6.1	7.1	8.2	9.2	10.2	11.2	12.3

Notes:

1. Calculations are in accordance with CSA Standard O86-14.
2. Values are valid for dry service conditions, standard term loading, no treatment, full lateral support of the compression edge, and lateral support at bearings to prevent lateral displacement or rotation.
3. 1-1/2" thick members 14" and deeper and 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.
4. For 2-ply, 3-ply and 4-ply LVL members, the values in the tables may be multiplied by 2, 3 and 4 respectively.

2.3E Grade RigidLam LVL - Factored Resistance Standard Term

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-1/2" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,332	3,582	6,013	9,495	9,982	13,705	15,168	20,652	26,528	33,084	40,310	48,197	56,738
Factored Shear Resistance (lb)	2,122	2,668	3,517	4,487	4,608	5,457	5,761	6,791	7,762	8,732	9,702	10,672	11,642
Moment of Inertia (in^4)	10	21	48	99	107	178	209	343	512	729	1,000	1,331	1,728
Weight (plf)	1.7	2.2	2.9	3.7	3.8	4.5	4.7	5.5	6.3	7.1	7.9	8.7	9.5

DOUGLAS FIR RIGIDLAM LVL 1-PLY 1-3/4" THICK

	Depth (in)												
Design Property - Edgewise	**4.375**	**5.5**	**7.25**	**9.25**	**9.5**	**11.25**	**11.875**	**14**	**16**	**18**	**20**	**22**	**24**
Factored Moment Resistance (ft-lb)	2,721	4,179	7,015	11,077	11,645	15,990	17,695	24,094	30,949	38,598	47,028	56,230	66,194
Factored Shear Resistance (lb)	2,476	3,113	4,103	5,235	5,377	6,367	6,721	7,923	9,055	10,187	11,319	12,451	13,583
Moment of Inertia (in^4)	12	24	56	115	125	208	244	400	597	851	1,167	1,553	2,016
Weight (plf)	2.0	2.5	3.3	4.3	4.4	5.2	5.5	6.5	7.4	8.3	9.2	10.2	11.1

Notes:

1. Calculations are in accordance with CSA Standard O86-14.
2. Values are valid for dry service conditions, standard term loading, no treatment, full lateral support of the compression edge, and lateral support at bearings to prevent lateral displacement or rotation.
3. 1-1/2" thick members 14" and deeper and 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.
4. For 2-ply, 3-ply and 4-ply LVL members, the values in the tables may be multiplied by 2, 3 and 4 respectively.

RigidLam® LVL Online Resources Are Available!

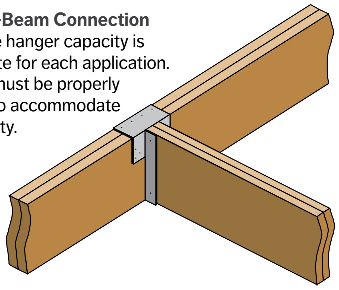
The following RigidLam LVL resources can be accessed online at www.roseburg.com:

- Additional PLF (pounds per lineal foot) Tables for Douglas-fir and Southern Pine LVL
- Quick Reference Tables for Douglas-fir and Southern Pine LVL
    - Floor beams
    - 1-story garage door headers
    - 2-story garage door headers
    - 1-story window & patio door headers
    - 2-story window & patio door headers
- RigidLam LVL Column Tables for Douglas-fir and Southern Pine
- RigidLam LVL Bearing Length Requirements

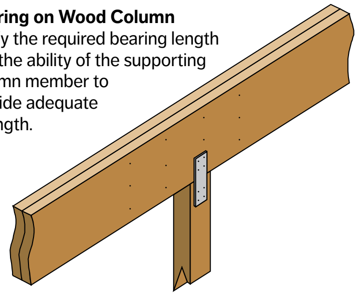
RigidLam LVL Bearing Details

Please refer to page 42 for LVL bearing length requirements.

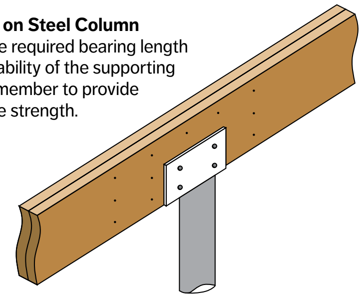
Beam-to-Beam Connection
Make sure hanger capacity is appropriate for each application. Hangers must be properly installed to accommodate full capacity.



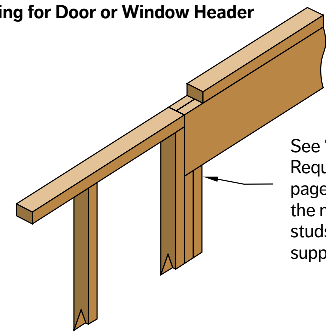
Bearing on Wood Column
Verify the required bearing length and the ability of the supporting column member to provide adequate strength.



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

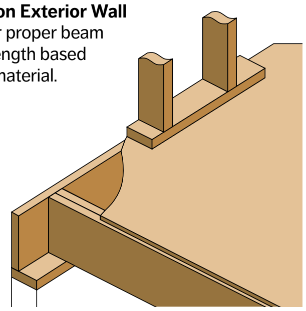


Bearing for Door or Window Header

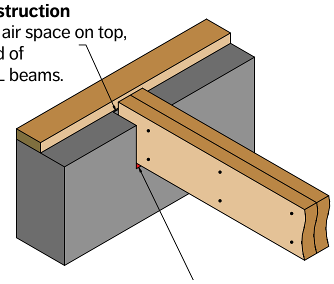


See "Bearing Length Requirements" on page 42 to determine the number of jack studs required to support header.

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.



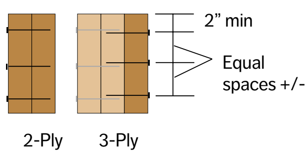
Provide moisture barrier between RigidLam LVL beams and concrete.

Fastening Recommendations For Multiple Ply Members

TOP LOADED MEMBERS - 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).

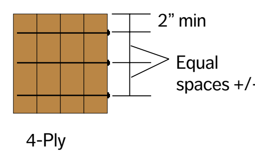


For 20", 22" or 24" deep members, nail plies together with 4 rows of 16dx3-1/2" com. nails at 12" o.c. (add 1 row for 16d sinkers).

TOP LOADED MEMBERS - 4 PLY

For 4-Ply Top Loaded members, it is recommended to connect the plies together with appropriate wood screws. See page 41 for approved 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 FACTORED UNIFORM LOAD APPLIED TO EITHER OUTSIDE PIECE - POUNDS PER LINEAL FOOT

1-1/2" Thick Pieces in Member	Nail Size	Nailed: 2 rows 10d common at 12" o.c.		Nailed: 3 rows 10d common at 12" o.c.		Bolted: 2 rows 1/2" bolts at 24" o.c.		Bolted: 2 rows 1/2" bolts at 12" o.c.		Bolted: 3 rows 1/2" bolts at 12" o.c.	
		1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL
2 - 1-1/2"	10d com. (0.148" x 3")	716	716	1,074	1,074	628	668	1,256	1,336	1,884	2,004
3 - 1-1/2"	10d com. (0.148" x 3")	537	537	806	806	471	501	942	1,002	1,413	1,503
4 - 1-1/2"	1/2" dia. bolts	-	-	-	-	419	445	837	891	1,256	1,336

1-3/4" Thick Pieces in Member	Nail Size	Nailed: 2 rows 16d common at 12" o.c.		Nailed: 3 rows 16d common at 12" o.c.		Bolted: 2 rows 1/2" bolts at 24" o.c.		Bolted: 2 rows 1/2" bolts at 12" o.c.		Bolted: 3 rows 1/2" bolts at 12" o.c.	
		1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL	1.6E LVL	2.1E & 2.3E LVL
2 - 1-3/4"	16d com. (0.162" x 3-1/2")	864	864	1,296	1,296	734	780	1,468	1,560	2,202	2,340
3 - 1-3/4"	16d com. (0.162" x 3-1/2")	648	648	972	972	551	585	1,101	1,170	1,652	1,755
4 - 1-3/4"	1/2" dia. bolts	-	-	-	-	489	520	979	1,040	1,468	1,560
2 - 3-1/2"	1/2" dia. bolts	-	-	-	-	1,466	1,560	2,932	3,120	4,398	4,680

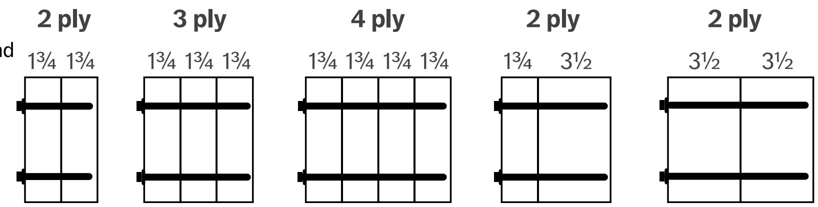
RIGIDLAM LVL EQUIVALENT SPECIFIC GRAVITY VALUES FOR FASTENER DESIGN

	Face: Douglas-fir 1.4E & 1.6E LVL	Face: Douglas-fir 2.1E & 2.3E LVL	Face: SP 1.6E & 2.1E LVL	Edge: Douglas-fir 1.4E & 1.6E LVL	Edge: Douglas-fir 2.1E & 2.3E LVL	Edge: SP 1.6E & 2.1E LVL
Withdrawal - nail	0.50	0.50	0.50	0.47	0.50	0.43
Dowel Bearing - nail	0.50	0.50	0.55	0.50	0.50	0.49
Dowel Bearing - bolt	0.47	0.50	0.55	Not applicable		

- Use appropriate software (e.g. Simpson Strong-Tie® Component Solutions™) or beam/header Quick Reference Tables 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.

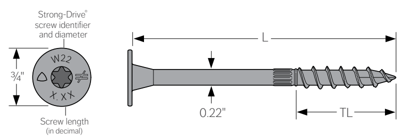
Fastening Recommendations For Multiple Ply LVL Members (cont.)

- The wood screws listed are approved for use in connecting multiple plies of RigidLam® LVL together and may be used as an alternative to the nailing or bolting guidelines on the previous page.
- Pre-drilling of the LVL members is not required for the screws listed below.
- Carefully review and adhere to the design and installation information available from each of the screw manufacturers listed below.



The diagrams above are for illustrative purposes only, screws may need to be applied to both sides. Refer to the manufacturers' information for the appropriate design and installation guidelines.

Simpson SDW Wood Screws



Model No.	L (in)	TL (in)	Head Stamp Length
SDW22338	3-3/8	1-9/16	3.37
SDW22500	5	1-9/16	5.00
SDW22634	6-3/4	1-9/16	6.75

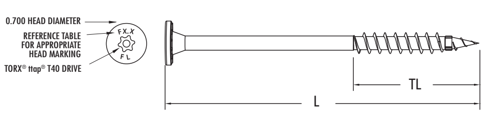
- Code Evaluation Report – IAPMO ER-0192
- For SDW design and installation information or hanger information, refer to the current Simpson Strong-Tie literature, www.strongtie.com or contact Simpson Strong-Tie at 800-999-5099.

MiTek WSWH Washer Head Structural Wood Screws

Model No.	L (in)	SH (in)	T (in)
WSWH338	3-3/8	1-1/8	2
WSWH5	5	2-3/4	2
WSWH634	6-3/4	4-1/2	2

- Code Evaluation Report: ICC-ES ESR-2761
- For WSWH design and installation information or hanger information, refer to the current MiTek Structural Product Catalog, www.MiTek.ca or contact MiTek at 800-268-3434.

FastenMaster FlatLOK™ Wood Screws



Product	L (in)	TL (in)	Head Marking
FL312	3-1/2	2	F3.5FL
FL005	5	2	F5.0FL
FL634	6-3/4	2	F6.75FL

- Code Evaluation Report – DrJ - TER 1501-08
- For FlatLOK design and installation information, refer to the current FastenMaster literature, www.fastenmaster.com or contact FastenMaster at 800-518-3569.

RigidLam LVL Bearing Length Requirements (in)

Total Factored Reaction (lbs)	1.6E RigidLam LVL				2.1E RigidLam LVL				2.3E RigidLam LVL			
	Beam Width				Beam Width				Beam Width			
	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"	1-3/4"	3-1/2"	5-1/4"	7"
2000	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
4000	2-3/4	1-1/2	1-1/2	1-1/2	2-1/4	1-1/2	1-1/2	1-1/2	2-1/4	1-1/2	1-1/2	1-1/2
6000	4-1/4	2-1/4	1-1/2	1-1/2	3-1/4	1-3/4	1-1/2	1-1/2	3-1/4	1-3/4	1-1/2	1-1/2
8000	5-1/2	2-3/4	2	1-1/2	4-1/4	2-1/4	1-1/2	1-1/2	4-1/4	2-1/4	1-1/2	1-1/2
10000	7	3-1/2	2-1/2	1-3/4	5-1/4	2-3/4	1-3/4	1-1/2	5-1/4	2-3/4	1-3/4	1-1/2
12000	8-1/4	4-1/4	2-3/4	2-1/4	6-1/2	3-1/4	2-1/4	1-3/4	6-1/2	3-1/4	2-1/4	1-3/4
14000	9-3/4	5	3-1/4	2-1/2	7-1/2	3-3/4	2-1/2	2	7-1/2	3-3/4	2-1/2	2
16000		5-1/2	3-3/4	2-3/4	8-1/2	4-1/4	3	2-1/4	8-1/2	4-1/4	3	2-1/4
18000		6-1/4	4-1/4	3-1/4	9-1/2	4-3/4	3-1/4	2-1/2	9-1/2	4-3/4	3-1/4	2-1/2
20000		7	4-3/4	3-1/2		5-1/4	3-1/2	2-3/4		5-1/4	3-1/2	2-3/4
22000		7-3/4	5-1/4	4		6	4	3		6	4	3
24000		8-1/4	5-1/2	4-1/4		6-1/2	4-1/4	3-1/4		6-1/2	4-1/4	3-1/4
26000		9	6	4-1/2		7	4-3/4	3-1/2		7	4-3/4	3-1/2
28000		9-3/4	6-1/2	5		7-1/2	5	3-3/4		7-1/2	5	3-3/4
30000			7	5-1/4		8	5-1/4	4		8	5-1/4	4
32000			7-1/2	5-1/2		8-1/2	5-3/4	4-1/4		8-1/2	5-3/4	4-1/4
34000			7-3/4	6		9	6	4-1/2		9	6	4-1/2
36000			8-1/4	6-1/4		9-1/2	6-1/2	4-3/4		9-1/2	6-1/2	4-3/4
38000			8-3/4	6-1/2			6-3/4	5			6-3/4	5
40000			9-1/4	7			7	5-1/4			7	5-1/4
42000			9-3/4	7-1/4			7-1/2	5-1/2			7-1/2	5-1/2
44000				7-3/4			7-3/4	6			7-3/4	6
46000				8			8-1/4	6-1/4			8-1/4	6-1/4
48000				8-1/4			8-1/2	6-1/2			8-1/2	6-1/2
50000				8-3/4			8-3/4	6-3/4			8-3/4	6-3/4

Notes:
1. The minimum required RigidLam LVL bearing length is 1-1/2".
2. Tabulated required bearing lengths are for standard term duration of load and are permitted to be adjusted for other load durations.
3. All beams require support across their full width and lateral support at bearing locations.
4. Tabulated bearing lengths are calculated as follows:
   Required Bearing Length (in) = Total Factored Reaction (lbs) ÷ (f x fc perp. x Beam Width)

Axial Factored Resistances (lbs) for 2.1E RigidLam LVL Columns

Column Size - Douglas Fir and Southern Pine RigidLam LVL						
Effective Column Length (ft)	**3-1/2" x 3-1/2"**	**3-1/2" x 5-1/4"**	**3-1/2" x 7"**	**5-1/4" x 5-1/4"**	**5-1/4" x 7"**	**7" x 7"**
6	20,885	31,330	41,770	57,290	76,390	105,340
7	17,230	25,845	34,460	54,065	72,085	102,750
8	14,150	21,225	28,300	50,245	66,995	99,465
9	11,620	17,435	23,245	46,015	61,355	95,500
10	9,565	14,350	19,135	40,680	54,240	90,915
11	7,895	11,845	15,795	35,755	47,675	85,825
12	6,540	9,810	13,085	31,390	41,855	80,370
13	5,440	8,160	10,880	27,565	36,750	73,720
14	4,545	6,820	9,090	24,220	32,295	67,010
15				21,305	28,405	60,845
16				18,760	25,015	55,230
17				16,545	22,060	50,130
18				14,615	19,485	45,515
19				12,930	17,240	41,345
20				11,460	15,280	37,580
21				10,180	13,575	34,185
22						31,115
23						28,345
24						25,840
25						23,580

Table is based on the following criteria:

1. Column is a single, one-piece member for dry-use applications only.
2. Column is assumed to have adequate bracing in all directions at both ends.
3. Loads are calculated per Section 5.1 of CWC "Wood Design Manual 2010" and CSA O86-14 for simple columns with axial loads only.
4. For side-loaded columns, see the CSA O86-14 provisions or consult with a design professional.
5. Table assumes the worst case of an eccentricity of 1/6 of either column dimension.
6. Table assumes column bearing to be on a steel plate that has been adequately sized for bearing on the material below.
7. When bearing on a 1-1/2" thick wood plate, axial factored loads (lbs) shall not exceed the following values:

Column size	3-1/2" x 3-1/2"	3-1/2" x 5-1/4"	3-1/2" x 7"	5-1/4" x 5-1/4"	5-1/4" x 7"	7" x 7"
D Fir-L plate	11,439	17,159	22,878	25,738	34,317	45,756
Hem-Fir plate	7,517	11,276	15,034	16,913	22,551	30,068
Spruce-Pine-Fir plate	8,661	12,991	17,322	19,487	25,983	34,644
Northern plate	5,720	8,579	11,439	12,869	17,159	22,878

2.1E RIGIDLAM LVL Specified Strengths(1)	
True Modulus of Elasticity	E = 2,100,000 psi
Bending edgewise	Fb = 5,729 psi(2)
Bending flatwise	Fb = 5,013 psi(3)
Compression Parallel to Grain	Fc = 4,788 psi

Notes:

1. These specified strengths are for standard term load duration and apply to dry service conditions.
2. The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (F_b) shall be modified by a depth factor, K_{zb} = $(12/d)^{1/8}$ for Douglas fir LVL (Mill #1055) or K_{zb} = $(12/d)^{1/5}$ for Southern Pine LVL (Mill #1125), where d is the LVL depth in inches. For depths less than 3-1/2 inches, multiply the tabulated value by 1.17 for DF LVL or 1.28 for SP LVL.
3. Tabulated F_b flat values are based on a thickness of 1-3/4". For other thicknesses, when loaded flatwise, multiply F_b flat by $(1.75/t)^{1/5}$, where t is the LVL thickness in inches. For thicknesses less than 1-3/4", use the tabulated value.

1-Ply 1-3/4" 2.1E RigidLam LVL - Douglas-fir Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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”
6	Unfactored Load (LL)	166	321	693	1326	1421	2175	-	-					
	Unfactored Load (TL)	248	479	1036	-	-	-	-	-					
	Total Factored Load	602	926	1,300	1,752	1,812	2,257	2,428	3,059					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12					
8	Unfactored Load (LL)	72	140	310	614	660	1,042	1,202	1,833					
	Unfactored Load (TL)	106	208	462	916	986	1,558	-	-					
	Total Factored Load	338	519	873	1,233	1,272	1,561	1,669	2,059					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8					
10	Unfactored Load (LL)	37	73	164	329	355	569	660	1,030					
	Unfactored Load (TL)	54	107	242	489	528	849	985	1,538					
	Total Factored Load	215	331	557	881	926	1,192	1,271	1,551					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2					
12	Unfactored Load (LL)		43	96	195	211	342	398	629					
	Unfactored Load (TL)		62	141	289	312	508	592	937					
	Total Factored Load		229	386	610	641	882	976	1,243					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8					
14	Unfactored Load (LL)		27	61	125	135	220	257	410					
	Unfactored Load (TL)		38	89	183	198	325	380	608					
	Total Factored Load		167	282	447	470	646	715	975					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9					
16	Unfactored Load (LL)			41	85	92	150	175	281					
	Unfactored Load (TL)			59	123	133	220	257	415					
	Total Factored Load			215	341	358	493	546	745					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9					
18	Unfactored Load (LL)			29	60	65	106	124	201					
	Unfactored Load (TL)			40	86	93	154	181	294					
	Total Factored Load			169	268	282	388	430	587					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7					
20	Unfactored Load (LL)				44	47	78	92	148					
	Unfactored Load (TL)				62	67	112	132	215					
	Total Factored Load				216	227	313	347	474					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3					
22	Unfactored Load (LL)				33	36	59	69	112					
	Unfactored Load (TL)				45	49	83	98	162					
	Total Factored Load				178	187	258	286	390					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7					
24	Unfactored Load (LL)				26	28	46	54	87					
	Unfactored Load (TL)				34	37	63	75	124					
	Total Factored Load				149	156	216	239	327					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3					
26	Unfactored Load (LL)						36	42	69					
	Unfactored Load (TL)						49	58	97					
	Total Factored Load						183	203	277					
	Min. end / Int. bearing						1.5 / 3.2	1.5 / 3.6	1.9 / 4.8					
28	Unfactored Load (LL)						29	34	55					
	Unfactored Load (TL)						38	45	76					
	Total Factored Load						157	174	238					
	Min. end / Int. bearing						1.5 / 3	1.5 / 3.3	1.8 / 4.5					
30	Unfactored Load (LL)							28	45					
	Unfactored Load (TL)							36	61					
	Total Factored Load							150	206					
	Min. end / Int. bearing							1.5 / 3.1	1.7 / 4.2					

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2” thick LVL members 14” and deeper and 1-3/4” thick LVL members 16” and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2” thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

2-Ply 1-3/4" 2.1E RigidLam LVL - Douglas-fir Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	333	641	1,385	2,652	2,842	4,350	-	-	-	-	-	-	-
	Unfactored Load (TL)	495	957	2,071	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	1,204	1,851	2,600	3,504	3,624	4,515	4,856	6,118	7,475	9,034	10,843	12,967	15,495
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	144	281	621	1,228	1,321	2,084	2,403	3,666	-	-	-	-	-
	Unfactored Load (TL)	212	416	925	1,833	1,972	3,115	-	-	-	-	-	-	-
	Total Factored Load	675	1,038	1,746	2,465	2,544	3,122	3,338	4,118	4,921	5,800	6,768	7,838	9,027
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	74	146	327	658	710	1,138	1,321	2,059	2,920	3,933	-	-	-
	Unfactored Load (TL)	108	214	484	979	1,056	1,697	1,970	3,076	-	-	-	-	-
	Total Factored Load	430	662	1,114	1,762	1,852	2,384	2,541	3,101	3,665	4,269	4,916	5,613	6,364
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	43	85	193	391	422	684	796	1,258	1,808	2,470	3,241	4,116	-
	Unfactored Load (TL)	61	123	282	578	624	1,015	1,183	1,874	2,697	-	-	-	-
	Total Factored Load	297	458	771	1,220	1,283	1,764	1,952	2,486	2,918	3,375	3,858	4,369	4,911
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	27	54	123	250	270	441	514	820	1,189	1,639	2,173	2,787	3,480
	Unfactored Load (TL)	37	76	177	367	397	650	760	1,217	1,769	2,443	-	-	-
	Total Factored Load	217	335	564	894	940	1,292	1,431	1,951	2,423	2,789	3,173	3,575	3,997
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)		36	83	169	183	300	350	562	820	1,138	1,519	1,963	2,470
	Unfactored Load (TL)		50	117	245	266	439	515	830	1,215	1,691	2,260	2,924	-
	Total Factored Load		255	430	682	717	986	1,092	1,490	1,916	2,376	2,693	3,024	3,368
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)		26	58	120	130	213	249	401	588	820	1,100	1,429	1,808
	Unfactored Load (TL)		33	81	171	186	309	363	589	867	1,213	1,631	2,123	2,690
	Total Factored Load		200	338	536	564	777	860	1,174	1,510	1,885	2,299	2,619	2,909
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)			43	88	95	156	183	296	435	609	820	1,070	1,359
	Unfactored Load (TL)			57	123	134	224	264	431	638	897	1,211	1,584	2,017
	Total Factored Load			272	432	455	627	694	948	1,219	1,523	1,858	2,224	2,559
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)			32	66	72	118	138	224	330	464	627	820	1,045
	Unfactored Load (TL)			41	91	99	167	197	323	481	679	921	1,210	1,546
	Total Factored Load			224	356	374	516	571	780	1,005	1,255	1,532	1,833	2,161
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)			25	51	55	91	107	174	257	361	489	641	820
	Unfactored Load (TL)			30	68	74	127	150	248	370	525	715	942	1,208
	Total Factored Load			187	297	313	431	478	653	841	1,051	1,283	1,537	1,811
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)				40	44	72	85	137	203	286	389	511	654
	Unfactored Load (TL)				52	57	98	116	193	290	413	564	746	959
	Total Factored Load				252	265	365	405	554	714	893	1,090	1,305	1,539
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)				32	35	58	68	110	164	231	314	413	530
	Unfactored Load (TL)				40	44	76	91	153	231	330	452	599	773
	Total Factored Load				215	227	313	347	476	613	767	937	1,122	1,323
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)				26	29	47	55	90	134	189	257	338	435
	Unfactored Load (TL)				31	34	60	72	122	186	267	367	487	630
	Total Factored Load				186	196	271	301	412	532	665	813	974	1,149
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2" thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

3-Ply 1-3/4" 2.1E RigidLam LVL - Douglas-fir Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	499	962	2,078	3,979	4,263	6,525	-	-	-	-	-	-	-
	Unfactored Load (TL)	743	1,436	3,107	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	1,807	2,777	3,900	5,256	5,436	6,772	7,283	9,177	11,213	13,552	16,265	19,450	23,243
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	216	421	931	1,841	1,981	3,126	3,605	5,499	-	-	-	-	-
	Unfactored Load (TL)	318	624	1,387	2,749	2,959	4,673	-	-	-	-	-	-	-
	Total Factored Load	1,013	1,558	2,618	3,698	3,816	4,682	5,007	6,177	7,381	8,701	10,152	11,757	13,541
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	112	219	491	987	1,065	1,707	1,981	3,089	4,379	5,899	-	-	-
	Unfactored Load (TL)	161	321	727	1,468	1,584	2,546	2,955	4,614	-	-	-	-	-
	Total Factored Load	646	994	1,671	2,643	2,778	3,576	3,812	4,652	5,497	6,403	7,374	8,419	9,546
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	65	128	289	586	633	1,025	1,194	1,887	2,712	3,705	4,861	6,174	-
	Unfactored Load (TL)	91	185	423	867	936	1,523	1,775	2,812	4,046	-	-	-	-
	Total Factored Load	446	687	1,157	1,830	1,924	2,645	2,929	3,729	4,378	5,062	5,787	6,554	7,367
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	41	81	184	375	405	661	771	1,230	1,783	2,459	3,259	4,181	5,221
	Unfactored Load (TL)	56	114	266	550	595	976	1,141	1,825	2,653	3,664	-	-	-
	Total Factored Load	326	502	846	1,340	1,410	1,938	2,146	2,926	3,635	4,184	4,759	5,362	5,995
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	28	55	124	254	275	449	526	843	1,230	1,707	2,279	2,945	3,705
	Unfactored Load (TL)	35	74	176	368	399	659	772	1,245	1,823	2,536	3,390	4,386	-
	Total Factored Load	248	382	645	1,022	1,075	1,480	1,638	2,235	2,874	3,564	4,040	4,536	5,052
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)		38	87	180	194	319	373	602	882	1,230	1,650	2,144	2,712
	Unfactored Load (TL)		50	121	257	278	463	544	883	1,300	1,820	2,447	3,185	4,035
	Total Factored Load		300	507	805	846	1,165	1,290	1,761	2,265	2,828	3,449	3,929	4,364
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)		28	64	132	142	234	275	444	652	913	1,230	1,605	2,039
	Unfactored Load (TL)		35	86	185	201	336	395	646	956	1,345	1,817	2,376	3,025
	Total Factored Load		241	408	649	682	940	1,041	1,421	1,829	2,285	2,787	3,336	3,839
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)			48	99	107	177	208	336	496	696	940	1,230	1,568
	Unfactored Load (TL)			62	136	148	250	295	485	721	1,019	1,382	1,814	2,319
	Total Factored Load			335	533	561	773	857	1,171	1,507	1,883	2,297	2,750	3,241
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)			37	77	83	137	161	261	385	542	733	962	1,230
	Unfactored Load (TL)			46	102	111	190	225	372	555	788	1,072	1,413	1,812
	Total Factored Load			280	446	469	647	717	980	1,262	1,577	1,925	2,305	2,717
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)			29	60	65	108	127	206	305	430	583	766	981
	Unfactored Load (TL)			34	78	85	147	174	290	435	620	846	1,119	1,439
	Total Factored Load			237	377	397	548	608	831	1,071	1,339	1,635	1,958	2,309
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)				49	53	87	102	166	245	346	470	619	795
	Unfactored Load (TL)				60	66	115	136	229	346	495	678	899	1,159
	Total Factored Load				323	340	470	521	713	920	1,150	1,405	1,683	1,985
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)				39	43	71	83	135	200	283	385	508	652
	Unfactored Load (TL)				46	51	90	108	183	278	400	550	731	945
	Total Factored Load				279	294	407	451	618	798	998	1,219	1,461	1,724
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2" thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

4-Ply 1-3/4" 2.1E RigidLam LVL - Douglas-fir Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	666	1,283	2,770	5,305	5,684	8,700	-	-	-	-	-	-	-
	Unfactored Load (TL)	991	1,914	4,142	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	2,409	3,702	5,200	7,008	7,248	9,029	9,711	12,236	14,951	18,069	21,686	25,934	30,991
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	288	561	1,242	2,455	2,642	4,168	4,806	7,331	-	-	-	-	-
	Unfactored Load (TL)	423	832	1,850	3,666	3,945	6,231	-	-	-	-	-	-	-
	Total Factored Load	1,350	2,077	3,491	4,930	5,088	6,243	6,676	8,235	9,841	11,601	13,537	15,677	18,055
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	149	293	655	1,316	1,419	2,277	2,642	4,119	5,839	7,866	-	-	-
	Unfactored Load (TL)	215	429	969	1,957	2,111	3,394	3,941	6,152	-	-	-	-	-
	Total Factored Load	861	1,325	2,228	3,523	3,705	4,768	5,083	6,202	7,330	8,537	9,832	11,225	12,728
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	87	171	385	782	844	1,367	1,592	2,517	3,616	4,940	6,481	8,232	-
	Unfactored Load (TL)	122	246	564	1,155	1,248	2,030	2,367	3,749	5,395	-	-	-	-
	Total Factored Load	595	916	1,542	2,440	2,566	3,527	3,905	4,972	5,837	6,750	7,715	8,738	9,823
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	55	108	245	500	540	881	1,029	1,640	2,378	3,279	4,345	5,574	6,961
	Unfactored Load (TL)	74	152	354	733	793	1,301	1,521	2,434	3,537	4,885	-	-	-
	Total Factored Load	434	670	1,129	1,787	1,879	2,585	2,862	3,901	4,847	5,579	6,346	7,150	7,994
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	37	73	165	339	366	599	701	1,124	1,640	2,277	3,038	3,926	4,940
	Unfactored Load (TL)	47	99	234	491	532	878	1,029	1,660	2,430	3,382	4,520	5,848	-
	Total Factored Load	330	510	860	1,363	1,434	1,973	2,185	2,979	3,832	4,752	5,387	6,048	6,736
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)	26	51	117	240	259	425	498	802	1,176	1,640	2,200	2,858	3,616
	Unfactored Load (TL)	31	67	161	342	371	617	725	1,177	1,734	2,427	3,263	4,246	5,380
	Total Factored Load	259	400	676	1,073	1,128	1,553	1,720	2,347	3,020	3,771	4,599	5,238	5,818
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)		37	85	176	190	312	366	592	870	1,218	1,640	2,139	2,718
	Unfactored Load (TL)		46	114	246	267	448	527	861	1,275	1,793	2,423	3,168	4,033
	Total Factored Load		322	544	865	910	1,253	1,388	1,895	2,439	3,046	3,716	4,448	5,119
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)		28	64	132	143	236	277	448	661	928	1,253	1,640	2,091
	Unfactored Load (TL)		32	83	182	197	333	393	647	962	1,358	1,843	2,419	3,092
	Total Factored Load		264	447	711	748	1,031	1,143	1,561	2,009	2,510	3,063	3,667	4,321
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)			50	102	111	183	214	348	513	722	978	1,283	1,640
	Unfactored Load (TL)			61	136	149	253	299	496	741	1,050	1,430	1,884	2,416
	Total Factored Load			373	594	625	862	956	1,306	1,682	2,103	2,566	3,073	3,622
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)			39	81	87	144	169	275	407	573	777	1,021	1,308
	Unfactored Load (TL)			45	104	113	195	232	386	580	826	1,129	1,492	1,918
	Total Factored Load			315	503	529	731	810	1,108	1,428	1,786	2,180	2,611	3,078
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)			31	65	70	116	136	221	327	462	627	826	1,060
	Unfactored Load (TL)			34	80	87	153	182	306	461	659	904	1,198	1,545
	Total Factored Load			270	431	453	627	695	951	1,226	1,534	1,873	2,244	2,646
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)			25	53	57	94	111	180	267	378	513	677	870
	Unfactored Load (TL)			25	62	68	121	144	245	371	533	733	975	1,260
	Total Factored Load			233	373	392	543	602	824	1,063	1,331	1,626	1,948	2,298
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2" thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

1-Ply 1-3/4" 2.1E RigidLam LVL - Southern Pine Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	166	321	693	1,326	1,421	2,175	-	-					
	Unfactored Load (TL)	247	478	1,035	-	-	-	-	-					
	Total Factored Load	649	942	1,300	1,751	1,811	2,257	2,427	3,058					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.7	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12					
8	Unfactored Load (LL)	72	140	310	614	660	1,042	1,202	1,833					
	Unfactored Load (TL)	106	208	462	916	986	1,557	-	-					
	Total Factored Load	364	550	906	1,232	1,272	1,560	1,668	2,058					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.9 / 4.8	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8					
10	Unfactored Load (LL)	37	73	164	329	355	569	660	1,030					
	Unfactored Load (TL)	54	107	242	489	527	848	985	1,537					
	Total Factored Load	232	351	578	898	942	1,191	1,270	1,550					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.8	2.4 / 5.9	2.5 / 6.2	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2					
12	Unfactored Load (LL)		43	96	195	211	342	398	629					
	Unfactored Load (TL)		61	141	288	312	507	591	937					
	Total Factored Load		243	400	622	652	885	976	1,242					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3.2	2 / 4.9	2.1 / 5.2	2.8 / 7	3.1 / 7.7	3.9 / 9.8					
14	Unfactored Load (LL)		27	61	125	135	220	257	410					
	Unfactored Load (TL)		38	88	183	198	325	380	608					
	Total Factored Load		177	293	455	478	649	715	963					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.7 / 4.2	1.8 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 8.9					
16	Unfactored Load (LL)			41	85	92	150	175	281					
	Unfactored Load (TL)			58	122	132	219	257	414					
	Total Factored Load			223	347	364	495	546	735					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3.7	1.6 / 3.9	2.1 / 5.3	2.3 / 5.8	3.1 / 7.8					
18	Unfactored Load (LL)			29	60	65	106	124	201					
	Unfactored Load (TL)			40	85	92	154	181	294					
	Total Factored Load			175	273	287	390	430	579					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3.3	1.5 / 3.4	1.9 / 4.7	2.1 / 5.1	2.8 / 6.9					
20	Unfactored Load (LL)				44	47	78	92	148					
	Unfactored Load (TL)				61	66	111	131	215					
	Total Factored Load				220	231	314	347	467					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3.1	1.7 / 4.2	1.9 / 4.6	2.5 / 6.2					
22	Unfactored Load (LL)				33	36	59	69	112					
	Unfactored Load (TL)				45	49	83	98	161					
	Total Factored Load				181	190	258	285	385					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7					
24	Unfactored Load (LL)				26	28	46	54	87					
	Unfactored Load (TL)				34	37	63	74	123					
	Total Factored Load				151	159	216	238	322					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.2					
26	Unfactored Load (LL)						36	42	69					
	Unfactored Load (TL)						48	57	96					
	Total Factored Load						183	202	273					
	Min. end / Int. bearing						1.5 / 3.2	1.5 / 3.6	1.9 / 4.8					
28	Unfactored Load (LL)						29	34	55					
	Unfactored Load (TL)						38	45	76					
	Total Factored Load						157	173	234					
	Min. end / Int. bearing						1.5 / 3	1.5 / 3.3	1.8 / 4.5					
30	Unfactored Load (LL)							28	45					
	Unfactored Load (TL)							35	60					
	Total Factored Load							150	203					
	Min. end / Int. bearing							1.5 / 3.1	1.7 / 4.2					

Notes:
1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2" thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:
1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

2-Ply 1-3/4" 2.1E RigidLam LVL - Southern Pine Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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”
6	Unfactored Load (LL)	333	641	1,385	2,652	2,842	4,350	-	-	-	-	-	-	-
	Unfactored Load (TL)	495	957	2,070	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	1,299	1,884	2,599	3,503	3,623	4,513	4,854	6,116	7,474	9,032	10,841	12,964	15,493
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.7	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	144	281	621	1,228	1,321	2,084	2,403	3,666	-	-	-	-	-
	Unfactored Load (TL)	211	415	924	1,832	1,972	3,114	-	-	-	-	-	-	-
	Total Factored Load	728	1,101	1,812	2,464	2,543	3,120	3,336	4,116	4,919	5,798	6,766	7,836	9,025
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.9 / 4.8	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	74	146	327	658	710	1,138	1,321	2,059	2,920	3,933	-	-	-
	Unfactored Load (TL)	107	214	484	978	1,055	1,696	1,969	3,075	-	-	-	-	-
	Total Factored Load	464	702	1,156	1,796	1,884	2,383	2,540	3,099	3,663	4,266	4,914	5,610	6,361
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.8	2.4 / 5.9	2.5 / 6.2	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	43	85	193	391	422	684	796	1,258	1,808	2,470	3,241	4,116	-
	Unfactored Load (TL)	61	123	282	577	623	1,014	1,182	1,873	2,696	-	-	-	-
	Total Factored Load	321	485	800	1,243	1,305	1,771	1,953	2,484	2,916	3,373	3,855	4,366	4,909
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.2	2 / 4.9	2.1 / 5.2	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	27	54	123	250	270	441	514	820	1,189	1,639	2,173	2,787	3,480
	Unfactored Load (TL)	37	76	176	366	396	649	759	1,216	1,767	2,441	-	-	-
	Total Factored Load	234	355	586	910	955	1,297	1,431	1,926	2,421	2,787	3,170	3,572	3,994
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.8 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 8.9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)		36	83	169	183	300	350	562	820	1,138	1,519	1,963	2,470
	Unfactored Load (TL)		49	117	245	265	438	513	829	1,214	1,689	2,258	2,922	-
	Total Factored Load		270	446	694	729	990	1,092	1,471	1,873	2,317	2,691	3,021	3,365
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.7	1.6 / 3.9	2.1 / 5.3	2.3 / 5.8	3.1 / 7.8	4 / 9.9	4.9 / 12.2	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)		26	58	120	130	213	249	401	588	820	1,100	1,429	1,808
	Unfactored Load (TL)		33	80	170	185	308	361	587	865	1,212	1,629	2,121	2,688
	Total Factored Load		212	351	546	573	779	859	1,158	1,475	1,826	2,210	2,616	2,906
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.4	1.9 / 4.7	2.1 / 5.1	2.8 / 6.9	3.5 / 8.8	4.4 / 10.9	5.3 / 13.2	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)			43	88	95	156	183	296	435	609	820	1,070	1,359
	Unfactored Load (TL)			57	122	133	223	262	429	636	895	1,210	1,582	2,014
	Total Factored Load			282	440	462	628	693	935	1,191	1,475	1,785	2,121	2,483
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	1.9 / 4.6	2.5 / 6.2	3.2 / 7.9	3.9 / 9.8	4.7 / 11.8	5.6 / 14.1	6.6 / 16.4
22	Unfactored Load (LL)			32	66	72	118	138	224	330	464	627	820	1,045
	Unfactored Load (TL)			41	90	98	166	195	322	479	677	919	1,207	1,544
	Total Factored Load			232	362	380	517	570	769	981	1,215	1,471	1,748	2,047
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.2	3.6 / 8.9	4.3 / 10.8	5.1 / 12.8	6 / 14.9
24	Unfactored Load (LL)			25	51	55	91	107	174	257	361	489	641	820
	Unfactored Load (TL)			30	67	73	125	149	246	369	523	713	940	1,205
	Total Factored Load			193	302	317	432	477	644	821	1,017	1,232	1,464	1,715
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.2	2.6 / 6.6	3.3 / 8.2	3.9 / 9.9	4.7 / 11.7	5.5 / 13.7
26	Unfactored Load (LL)				40	44	72	85	137	203	286	389	511	654
	Unfactored Load (TL)				51	56	97	115	192	289	411	562	744	957
	Total Factored Load				256	268	366	404	546	696	863	1,046	1,244	1,457
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.4 / 6.1	3 / 7.5	3.6 / 9.1	4.3 / 10.8	5.1 / 12.6
28	Unfactored Load (LL)				32	35	58	68	110	164	231	314	413	530
	Unfactored Load (TL)				39	43	75	90	151	229	328	450	597	770
	Total Factored Load				219	230	314	346	468	598	741	898	1,068	1,252
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.7	2.8 / 7	3.4 / 8.5	44,661	4.7 / 11.7
30	Unfactored Load (LL)				26	29	47	55	90	134	189	257	338	435
	Unfactored Load (TL)				30	33	59	71	121	184	265	365	485	628
	Total Factored Load				189	199	271	300	406	518	643	779	927	1,087
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.1 / 5.3	2.6 / 6.5	3.2 / 7.9	3.7 / 9.4	4.4 / 11

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2” thick LVL members 14” and deeper and 1-3/4” thick LVL members 16” and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2” thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

3-Ply 1-3/4" 2.1E RigidLam LVL - Southern Pine Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	499	962	2,078	3,979	4,263	6,525	-	-	-	-	-	-	-
	Unfactored Load (TL)	742	1,435	3,106	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	1,948	2,826	3,899	5,254	5,434	6,770	7,281	9,174	11,210	13,548	16,261	19,446	23,239
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.7	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	216	421	931	1,841	1,981	3,126	3,605	5,499	-	-	-	-	-
	Unfactored Load (TL)	317	623	1,386	2,748	2,957	4,671	-	-	-	-	-	-	-
	Total Factored Load	1,092	1,651	2,718	3,696	3,815	4,680	5,005	6,174	7,378	8,697	10,149	11,753	13,537
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.9 / 4.8	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	112	219	491	987	1,065	1,707	1,981	3,089	4,379	5,899	-	-	-
	Unfactored Load (TL)	161	321	726	1,467	1,582	2,544	2,954	4,612	-	-	-	-	-
	Total Factored Load	696	1,053	1,735	2,693	2,826	3,574	3,810	4,649	5,495	6,400	7,371	8,415	9,542
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.8	2.4 / 5.9	2.5 / 6.2	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	65	128	289	586	633	1,025	1,194	1,887	2,712	3,705	4,861	6,174	-
	Unfactored Load (TL)	91	184	422	865	935	1,521	1,773	2,810	4,044	-	-	-	-
	Total Factored Load	481	728	1,200	1,865	1,957	2,656	2,929	3,726	4,375	5,059	5,783	6,550	7,363
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.2	2 / 4.9	2.1 / 5.2	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	41	81	184	375	405	661	771	1,230	1,783	2,459	3,259	4,181	5,221
	Unfactored Load (TL)	55	113	265	549	594	974	1,139	1,823	2,650	3,661	-	-	-
	Total Factored Load	351	532	878	1,365	1,433	1,946	2,146	2,890	3,632	4,181	4,756	5,358	5,991
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.8 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 8.9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	28	55	124	254	275	449	526	843	1,230	1,707	2,279	2,945	3,705
	Unfactored Load (TL)	35	73	175	367	397	657	770	1,243	1,820	2,534	3,387	4,383	-
	Total Factored Load	267	405	669	1,041	1,093	1,485	1,638	2,206	2,809	3,476	4,037	4,532	5,048
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.6 / 3.9	2.1 / 5.3	2.3 / 5.8	3.1 / 7.8	4 / 9.9	4.9 / 12.2	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)		38	87	180	194	319	373	602	882	1,230	1,650	2,144	2,712
	Unfactored Load (TL)		49	120	255	277	461	542	881	1,298	1,817	2,444	3,182	4,031
	Total Factored Load		318	526	819	860	1,169	1,289	1,737	2,213	2,739	3,314	3,925	4,359
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.4	1.9 / 4.7	2.1 / 5.1	2.8 / 6.9	3.5 / 8.8	4.4 / 10.9	5.3 / 13.2	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)		28	64	132	142	234	275	444	652	913	1,230	1,605	2,039
	Unfactored Load (TL)		34	85	183	199	334	394	644	954	1,342	1,814	2,373	3,022
	Total Factored Load		255	423	660	693	942	1,040	1,402	1,787	2,212	2,677	3,182	3,725
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	1.9 / 4.6	2.5 / 6.2	3.2 / 7.9	3.9 / 9.8	4.7 / 11.8	5.6 / 14.1	6.6 / 16.4
22	Unfactored Load (LL)			48	99	107	177	208	336	496	696	940	1,230	1,568
	Unfactored Load (TL)			61	135	147	248	293	483	719	1,016	1,379	1,811	2,315
	Total Factored Load			347	542	569	775	855	1,154	1,471	1,822	2,206	2,622	3,070
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.2	3.6 / 8.9	4.3 / 10.8	5.1 / 12.8	6 / 14.9
24	Unfactored Load (LL)			37	77	83	137	161	261	385	542	733	962	1,230
	Unfactored Load (TL)			45	101	110	188	223	370	553	785	1,069	1,410	1,808
	Total Factored Load			290	453	476	648	715	966	1,231	1,526	1,848	2,197	2,572
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.2	2.6 / 6.6	3.3 / 8.2	3.9 / 9.9	4.7 / 11.7	5.5 / 13.7
26	Unfactored Load (LL)			29	60	65	108	127	206	305	430	583	766	981
	Unfactored Load (TL)			33	77	84	145	172	288	433	617	844	1,115	1,435
	Total Factored Load			245	383	403	549	606	819	1,045	1,295	1,569	1,865	2,185
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.4 / 6.1	3 / 7.5	3.6 / 9.1	4.3 / 10.8	5.1 / 12.6
28	Unfactored Load (LL)				49	53	87	102	166	245	346	470	619	795
	Unfactored Load (TL)				59	64	113	135	227	344	492	675	895	1,156
	Total Factored Load				328	345	470	519	702	897	1,112	1,347	1,603	1,878
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.7	2.8 / 7	3.4 / 8.5	44,661	4.7 / 11.7
30	Unfactored Load (LL)				39	43	71	83	135	200	283	385	508	652
	Unfactored Load (TL)				45	50	89	106	181	276	397	547	728	942
	Total Factored Load				284	298	407	450	608	777	964	1,169	1,391	1,630
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.1 / 5.3	2.6 / 6.5	3.2 / 7.9	3.7 / 9.4	4.4 / 11

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional for a specific application.
9. Allowable loads for single or multiple ply 1-1/2" thick LVL members can be obtained by multiplying the table values by 0.85. Required bearing lengths are the same.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

4-Ply 1-3/4" 2.1E RigidLam LVL - Southern Pine Floor and/or Snow Load Tables (PLF) - L360 LL L/240 TL

ALLOWABLE UNIFORM LOADS - POUNDS PER LINEAL FOOT

Span (ft)	Depth =	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"
6	Unfactored Load (LL)	666	1,283	2,770	5,305	5,684	8,700	-	-	-	-	-	-	-
	Unfactored Load (TL)	990	1,913	4,141	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	2,598	3,769	5,199	7,005	7,245	9,026	9,708	12,233	14,947	18,064	21,681	25,928	30,985
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.7	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2/25.5	12.2/30.5
8	Unfactored Load (LL)	288	561	1,242	2,455	2,642	4,168	4,806	7,331	-	-	-	-	-
	Unfactored Load (TL)	423	831	1,848	3,664	3,943	6,229	-	-	-	-	-	-	-
	Total Factored Load	1,456	2,202	3,624	4,928	5,086	6,240	6,673	8,232	9,838	11,596	13,532	15,671	18,049
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.9 / 4.8	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	149	293	655	1,316	1,419	2,277	2,642	4,119	5,839	7,866	-	-	-
	Unfactored Load (TL)	214	428	968	1,955	2,110	3,392	3,938	6,150	-	-	-	-	-
	Total Factored Load	928	1,404	2,313	3,591	3,768	4,765	5,080	6,199	7,326	8,533	9,827	11,220	12,723
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.8	2.4 / 5.9	2.5 / 6.2	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	87	171	385	782	844	1,367	1,592	2,517	3,616	4,940	6,481	8,232	-
	Unfactored Load (TL)	121	245	563	1,154	1,247	2,028	2,364	3,746	5,391	-	-	-	-
	Total Factored Load	641	971	1,601	2,487	2,609	3,542	3,905	4,968	5,833	6,745	7,711	8,733	9,817
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.2	2 / 4.9	2.1 / 5.2	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	55	108	245	500	540	881	1,029	1,640	2,378	3,279	4,345	5,574	6,961
	Unfactored Load (TL)	73	151	353	731	791	1,299	1,519	2,431	3,534	4,882	-	-	-
	Total Factored Load	468	709	1,171	1,821	1,911	2,594	2,861	3,853	4,843	5,575	6,341	7,144	7,988
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.8 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 8.9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	37	73	165	339	366	599	701	1,124	1,640	2,277	3,038	3,926	4,940
	Unfactored Load (TL)	46	98	233	489	530	876	1,027	1,657	2,427	3,378	4,516	5,844	-
	Total Factored Load	356	540	892	1,388	1,457	1,980	2,183	2,941	3,745	4,634	5,382	6,042	6,730
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.6 / 3.9	2.1 / 5.3	2.3 / 5.8	3.1 / 7.8	4 / 9.9	4.9 / 12.2	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)	26	51	117	240	259	425	498	802	1,176	1,640	2,200	2,858	3,616
	Unfactored Load (TL)	30	66	160	340	369	615	723	1,175	1,731	2,423	3,259	4,242	5,375
	Total Factored Load	279	424	701	1,092	1,146	1,558	1,719	2,317	2,951	3,652	4,419	5,233	5,812
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.4	1.9 / 4.7	2.1 / 5.1	2.8 / 6.9	3.5 / 8.8	4.4 / 10.9	5.3 / 13.2	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)		37	85	176	190	312	366	592	870	1,218	1,640	2,139	2,718
	Unfactored Load (TL)		45	113	244	265	446	525	859	1,272	1,790	2,419	3,164	4,029
	Total Factored Load		340	564	880	924	1,257	1,386	1,870	2,382	2,949	3,570	4,242	4,966
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	1.9 / 4.6	2.5 / 6.2	3.2 / 7.9	3.9 / 9.8	4.7 / 11.8	5.6 / 14.1	6.6 / 16.4
22	Unfactored Load (LL)		28	64	132	143	236	277	448	661	928	1,253	1,640	2,091
	Unfactored Load (TL)		31	82	180	196	331	391	644	959	1,355	1,839	2,415	3,087
	Total Factored Load		279	463	723	759	1,034	1,141	1,539	1,962	2,430	2,941	3,496	4,094
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.2	3.6 / 8.9	4.3 / 10.8	5.1 / 12.8	6 / 14.9
24	Unfactored Load (LL)			50	102	111	183	214	348	513	722	978	1,283	1,640
	Unfactored Load (TL)			60	135	147	251	297	493	737	1,047	1,426	1,879	2,411
	Total Factored Load			386	604	634	864	954	1,287	1,642	2,034	2,463	2,929	3,430
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.2	2.6 / 6.6	3.3 / 8.2	3.9 / 9.9	4.7 / 11.7	5.5 / 13.7
26	Unfactored Load (LL)			39	81	87	144	169	275	407	573	777	1,021	1,308
	Unfactored Load (TL)			44	102	112	193	229	384	577	823	1,125	1,487	1,914
	Total Factored Load			326	511	537	732	808	1,092	1,393	1,726	2,091	2,487	2,913
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.4 / 6.1	3 / 7.5	3.6 / 9.1	4.3 / 10.8	5.1 / 12.6
28	Unfactored Load (LL)			31	65	70	116	136	221	327	462	627	826	1,060
	Unfactored Load (TL)			32	78	86	151	180	303	458	656	900	1,194	1,541
	Total Factored Load			279	437	459	627	693	936	1,195	1,482	1,796	2,137	2,504
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.7	2.8 / 7	3.4 / 8.5	44,661	4.7 / 11.7
30	Unfactored Load (LL)			25	53	57	94	111	180	267	378	513	677	870
	Unfactored Load (TL)			23	60	66	118	142	242	368	530	729	970	1,256
	Total Factored Load			241	378	397	543	599	811	1,036	1,285	1,558	1,854	2,173
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.1 / 5.3	2.6 / 6.5	3.2 / 7.9	3.7 / 9.4	4.4 / 11

Notes:

1. The values shown are the maximum uniform factored and unfactored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the maximum L/240 (TL) and Total Factored Load.
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2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
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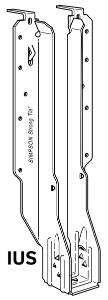
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

I-Joist Framing Connectors
Factored Resistance (lbs)- Standard Term

SIMPSON Strong-Tie® 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	1,690	3-1/2"	9-1/2"	MIU3.56/9	3,230
	11-7/8"	IUS1.81/11.88	1,820		11-7/8"	MIU3.56/11	3,230
	14"	IUS1.81/14	1,820		14"	MIU3.56/14	3,485
	16"	IUS1.81/16	1,935		16"	MIU3.56/16	3,485
2-1/16"	9-1/2"	IUS2.06/9.5	1,690	4-1/8"	9-1/2"	MIU4.28/9	3,230
	11-7/8"	IUS2.06/11.88	1,820		11-7/8"	MIU4.28/11	3,230
	14"	IUS2.06/14	1,820		14"	MIU4.28/14	3,485
	16"	IUS2.06/16	1,935		16"	MIU4.28/16	3,485
2-5/16"	9-1/2"	IUS2.37/9.5	1,690	4-5/8"	9-1/2"	MIU4.75/9	3,230
	11-7/8"	IUS2.37/11.88	1,820		11-7/8"	MIU4.75/11	3,230
	14"	IUS2.37/14	1,820		14"	MIU4.75/14	3,485
	16"	IUS2.37/16	1,935		16"	MIU4.75/16	3,485
2-1/2"	9-1/2"	IUS2.56/9.5	1,690	5"	9-1/2"	MIU5.12/9	3,230
	11-7/8"	IUS2.56/11.88	1,820		11-7/8"	MIU5.12/11	3,230
	14"	IUS2.56/14	1,820		14"	MIU5.12/14	3,485
	16"	IUS2.56/16	1,935		16"	MIU5.12/16	3,485
3-1/2"	9-1/2"	IUS3.56/9.5	1,685	7"	9-1/2"	HU410-2	4,225
	11-7/8"	IUS3.56/11.88	1,685		11-7/8"	HU412-2	4,225
	14"	IUS3.56/14	1,685		14"	HU414-2	4,690
	16"	IUS3.56/16	1,685		16"	HU414-2	4,690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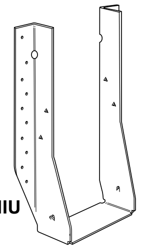
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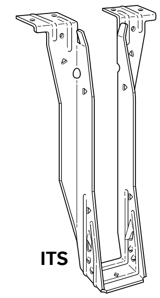
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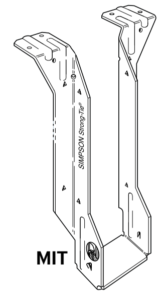
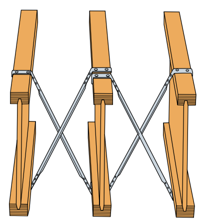

MIT

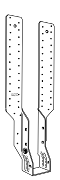
TENSION BRIDGING FOR I-JOIST

Joist Height	Joist Spacing (in)								
	12	16	19.2	24	30	32	36	42	48
9-1/2"	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
11-7/8"	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
14"	TB27	TB27	TB27	TB36	TB36	TB42	TB42	TB48	TB54
16"	TB27	TB27	TB30	TB36	TB42	TB42	TB42	TB48	TB54



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	1,690	3-1/2"	9-1/2"	MIT49.5	2,420
	11-7/8"	ITS1.81/11.88	1,690		11-7/8"	MIT411.88	2,420
	14"	ITS1.81/14	1,690		14"	MIT414	2,420
	16"	ITS1.81/16	1,690		16"	MIT416	2,420
2-1/16"	9-1/2"	ITS2.06/9.5	1,690	4-1/8"	9-1/2"	MIT4.28/9.5	2,420
	11-7/8"	ITS2.06/11.88	1,690		11-7/8"	MIT4.28/11.88	2,420
	14"	ITS2.06/14	1,690		14"	MIT4.28/14	2,420
	16"	ITS2.06/16	1,690		16"	BA4.28/16	4,030
2-5/16"	9-1/2"	ITS2.37/9.5	1,690	4-5/8"	9-1/2"	MIT359.5-2	2,420
	11-7/8"	ITS2.37/11.88	1,690		11 7/8"	MIT3511.88-2	2,420
	14"	ITS2.37/14	1,690		14"	MIT3514-2	2,420
	16"	ITS2.37/16	1,690		16"	MIT4.75/16	2,420
2-1/2"	9-1/2"	ITS2.56/9.5	1,690	5"	9-1/2"	MIT39.5-2	2,420
	11-7/8"	ITS2.56/11.88	1,690		11-7/8"	MIT311.88-2	2,420
	14"	ITS2.56/14	1,690		14"	MIT314-2	2,420
	16"	ITS2.56/16	1,690		16"	MIT5.12/16	2,420
3-1/2"	9-1/2"	ITS3.56/9.5	1,690	7"	9-1/2"	HB7.12/9.5	5,945
	11-7/8"	ITS3.56/11.88	1,690		11-7/8"	HB7.12/11.88	5,945
	14"	ITS3.56/14	1,690		14"	HB7.12/14	5,945
	16"	ITS3.56/16	1,690		16"	HB7.12/16	5,945


THAI Series

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	2,220	3-1/2"	9-1/2"	SUR/L410	2,875
	11-7/8"	SUR/L1.81/11	2,220		11-7/8"	SUR/L410	2,875
	14"	SUR/L1.81/14	2,220		14"	SUR/L414	2,895
	16"	SUR/L1.81/14	2,220		16"	SUR/L414	2,895
2-1/16"	9-1/2"	SUR/L2.1/9	2,805	4-1/8"	9-1/2"	HSUR/L4.28/9	2,350
	11-7/8"	SUR/L2.1/11	2,805		11-7/8"	HSUR/L4.28/11	2,965
	14"	SUR/L2.1/14	2,805		14"	HSUR/L4.28/11	2,965
	16"	SUR/L2.1/14	2,805		16"	HSUR/L4.28/11	2,965
2-5/16"	9-1/2"	SUR/L2.37/9	2,805	4-5/8"	9-1/2"	HSUR/L4.75/9	2,350
	11-7/8"	SUR/L2.37/11	2,805		11-7/8"	HSUR/L4.75/11	2,965
	14"	SUR/L2.37/14	2,805		14"	HSUR/L4.75/14	2,965
	16"	SUR/L2.37/14	2,805		16"	HSUR/L4.75/16	2,965
2-1/2"	9-1/2"	SUR/L2.56/9	2,805	5"	9-1/2"	HSUR/L5.12/9	2,350
	11-7/8"	SUR/L2.56/11	2,805		11-7/8"	HSUR/L5.12/11	2,965
	14"	SUR/L2.56/14	2,805		14"	HSUR/L5.12/14	2,965
	16"	SUR/L2.56/14	2,805		16"	HSUR/L5.12/16	2,965
3-1/2"	9-1/2"	SUR/L410	2,875	7"	9-1/2"	HU410-2X	2,745
	11-7/8"	SUR/L410	2,875		11-7/8"	HU412-2X	2,745
	14"	SUR/L414	2,895		14"	HU414-2X	3,050
	16"	SUR/L414	2,895		16"	HU414-2X	3,050

HU4-X are special order. Specify angle and direction.

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	1,735	3-1/2"	9-1/2"-14"	THAI422	1,735
2-1/16"	9-1/2"-14"	THAI2.06/22	1,735	4-1/8"	9-1/2"-14"	THAI-2	2,800
2-5/16"	9-1/2"-14"	THAI3522	1,735	4-5/8"	9-1/2"-14"	THAI-2	2,800
2-1/2"	9-1/2"-14"	THAI322	1,735	5"	9-1/2"-14"	THAI-2	2,800
3-1/2"	9-1/2"-14"	THAI422	1,735	7"	-	-	-

THAI-2 are special order. Specify width.

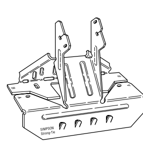
FIELD SLOPE AND SKEW

Single I-Joist				Double I-Joist			
Width	Depth	Hanger	Down Load	Width	Depth	Hanger	Down Load
1-3/4"	9-1/2"-14"	LSSR1.81Z	1,200	3-1/2"	9-1/2"-14"	LSSR410Z	1,835
2-1/16"	9-1/2"-14"	LSSR2.1Z	1,200	4-1/8"	9-1/2"-14"	LSU4.28	2,030
2-5/16"	9-1/2"-14"	LSSR2.37Z	1,200	4-5/8"	9-1/2"-14"	LSU3510-2	2,030
2-1/2"	9-1/2"-14"	LSSR2.56Z	1,200	5"	9-1/2"-14"	LSU5.12	1,845
3-1/2"	9-1/2"-14"	LSSR410Z	1,835	7"	-	-	-

Orange highlighted hangers require web stiffeners at I-joist ends.

VARIABLE PITCH - SINGLE I-JOISTS

Width	Depth	Hanger	Down Load
1-3/4"	ALL	VPA25	1,555
2-1/16"	ALL	VPA2.1	1,855
2-5/16"	ALL	VPA35	1,855
2-1/2"	ALL	VPA3	1,855
3-1/2"	ALL	VPA4	1,855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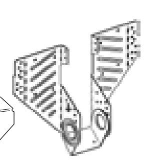
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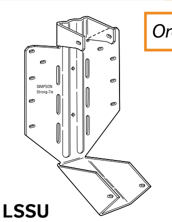

LSSU

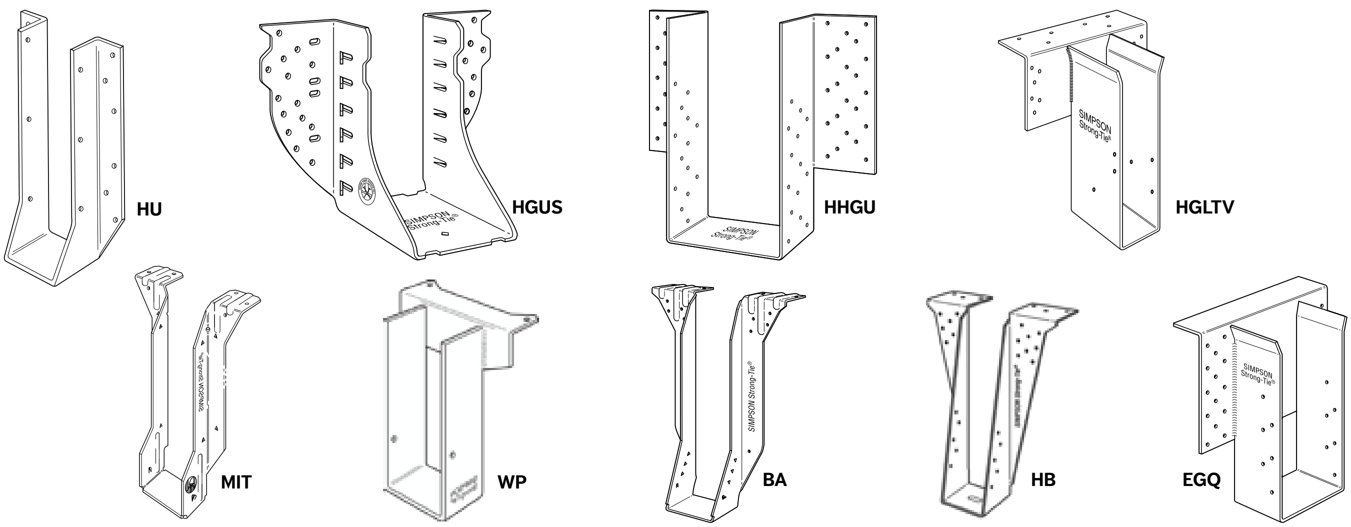
LVL Framing Connectors
Factored Resistance (lbs)- Standard Term

SIMPSON Strong-Tie® 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	Down Load	Depth	Hanger	Down Load	Depth	Hanger	Down Load	Depth	Hanger	Down Load
9-1/4"	HU9 HUS1.81/10	4,830 6,405	9-1/4"	HHUS410 HGUS410	9,855 14,015	9-1/4"	HHUS5.50/10 HGUS5.50/10	10,155 14,645	9-1/4"	HHUS7.25/10 HGUS7.25/10	10,155 15,760
9-1/2"	HU9 HUS1.81/10	4,830 6,405	9-1/2"	HHUS410 HGUS410	9,855 14,015	9-1/2"	HHUS5.50/10 HGUS5.50/10	10,155 14,645	9-1/2"	HHUS7.25/10 HGUS7.25/10	10,155 15,760
11-1/4"	HU11 HUS1.81/10	4,830 6,405	11-1/4"	HHUS410 HGUS412	9,855 14,995	11-1/4"	HHUS5.50/10 HGUS5.50/12	10,155 14,995	11-1/4"	HHUS7.25/10 HGUS7.25/12	10,155 16,110
11-7/8"	HU11 HUS1.81/10	4,830 6,405	11-7/8"	HHUS410 HGUS412	9,855 14,995	11-7/8"	HHUS5.50/10 HGUS5.50/12	10,155 14,995	11-7/8"	HHUS7.25/10 HGUS7.25/12	10,155 16,110
14"	HU14 HUS1.81/10	5,255 6,405	14"	HHUS410 HGUS414	9,855 16,400	14"	HHUS5.50/10 HGUS5.50/14	10,155 16,400	14"	HGUS7.25/14 HGU7.25-SDS2.5	18,200 20,320
16"	HU14 HUS1.81/10	5,255 6,405	16"	HHUS410 HGUS414	9,855 16,400	16"	HGUS5.50/14 HGU5.50-SDS2.5	16,400 20,320	16"	HGUS7.25/14 HHGU7.25-SDS2.5	18,200 26,665
18"	- -	- -	18"	HHUS410 HGUS414	9,855 16,400	18"	HGUS5.50/14 HGU5.50-SDS2.5	16,400 20,320	18"	HGUS7.25/14 HHGU7.25-SDS2.5	18,200 26,665

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	Down Load	Depth	Hanger	Down Load	Depth	Hanger	Down Load	Depth	Hanger	Down Load
9-1/4"	-	-	9-1/4"	BA3.56/9.25 HB3.56/9.25	4,535 9,335	9-1/4"	HB5.50/9.25 HGLTV5.37 H=9.25	9,335 13,070	9-1/4"	HB7.12/9.25 HGLTV7.12 H=9.25	9,335 13,070
9-1/2"	MIT9.5 BA1.81/9.5	3,490 4,535	9-1/2"	BA3.56/9.5 HB3.56/9.5	4,535 9,335	9-1/2"	HB5.50/9.5 HGLTV5.37 H=9.5	9,335 13,070	9-1/2"	HB7.12/9.5 HGLTV7.12 H=9.5	9,335 13,070
11-1/4"	BA1.81/11.25	4,535	11-1/4"	BA3.56/11.25 HB3.56/11.25	4,535 9,335	11-1/4"	HB5.50/11.25 HGLTV5.37 H=11.25	9,335 13,070	11-1/4"	-	-
11-7/8"	MIT11.88 BA1.81/11.88	3,490 4,535	11-7/8"	BA3.56/11.88 HB3.56/11.88	4,535 9,335	11-7/8"	HB5.50/11.88 HGLTV5.37 H=11.88	9,335 13,070	11-7/8"	HGLTV7.12 H=11.88 EGQ7.25-SDS3	13,070 27,305
14"	MIT1.81/14 BA1.81/14	3,490 4,535	14"	BA3.56/14 HGLTV3.514	4,535 13,070	14"	HB5.50/14 EGQ5.37-SDS3	9,335 27,305	14"	HGLTV7.12 H=14 EGQ7.25-SDS3	13,070 27,305
16"	MIT1.18/16 BA1.81/16	3,490 4,535	16"	BA3.56/16 HGLTV3.516	4,535 13,070	16"	HB5.50/16 EGQ5.37-SDS3	9,335 27,305	16"	HGLTV7.12 H=16 EGQ7.25-SDS3	13,070 27,305
18"	- -	- -	18"	HB3.56/18 HGLTV3.518	9,335 13,070	18"	HGLTV5.518 EGQ5.37-SDS3	13,070 27,305	18"	HGLTV7.12 H=18 EGQ7.25-SDS3	13,070 27,305

EGQ Hanger specify height

General Notes

1. Loads shown for I-Joist Framing Connectors are based on SPF species supports and are generally conservative for Douglas Fir, Southern Pine and all LVL supports. Loads shown for LVL Framing Connectors are based on RigidLam® LVL beam-to-beam connections. For other support conditions, refer to Simpson Strong-Tie's current Wood Construction Connectors catalogue in Limit State Design. Joist or beam reaction should be checked by a qualified designer to ensure proper hanger selection.
2. Refer to current Wood Construction Connectors catalogue to verify loads and fastener size and quantity.
3. Loads shown are standard duration. Other load durations may apply. Refer to the current version of Wood Construction Connectors catalogue for allowable increases.
4. 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.

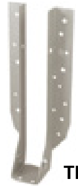
I-Joist Framing Connectors
Factored Resistance (lbs)- Standard Term

MiTek®

FACE MOUNT HANGERS

Single I-Joists				Double I-Joists			
Width	Depth	MiTek Hanger	Down Load	Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2"	IHFL17925	2,425	3-1/2"	9-1/2"	IHF35925	4,280
	11-7/8"	IHFL17112	3,310		11-7/8"	IHF35112	4,280
	14"	IHFL1714	3,310		14"	IHF3514	4,280
	16"	IHFL1714	3,310		16"	IHF3516	4,280
2-1/16"	9-1/2"	IHFL20925	2,425	4-1/8"	9-1/2"	IHF20925-2	4,280
	11-7/8"	IHFL20112	3,310		11-7/8"	IHF20112-2	4,280
	14"	IHFL2014	3,310		14"	IHF2014-2	4,280
	16"	IHFL2016	3,310		16"	IHF2014-2	4,280
2-5/16"	9-1/2"	IHFL23925	2,425	4-5/8"	9-1/2"	IHF23925-2	4,280
	11-7/8"	IHFL23112	3,310		11-7/8"	THF23118-2	5,380
	14"	IHFL2314	3,310		14"	THF23140-2	5,245
	16"	IHFL2316	3,310		16"	THF23160-2	5,245
2-1/2"	9-1/2"	THFI2595	1,845	5"	9-1/2"	IHF25925-2	4,280
	11-7/8"	THFI25118	1,845		11-7/8"	IHF25112-2	4,280
	14"	IHFL2514	3,310		14"	THF25140-2	5,245
	16"	IHFL2516	3,310		16"	THF25160-2	5,245
3-1/2"	9-1/2"	IHFL35925	3,310	7"	9-1/2"	HD7100	4,180
	11-7/8"	IHFL35112	3,310		11-7/8"	HD7120	4,710
	14"	IHFL3514	3,310		14"	HD7140	6,430
	16"	IHFL3516	3,310		16"	HD7160	4,710

MiTek Notes: (1) Loads assume maximum nailing schedule for single I-Joists.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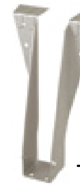
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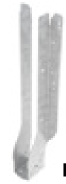
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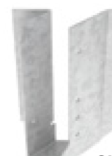
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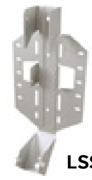

LSSH

TOP FLANGE HANGERS

Single I-Joists				Double I-Joists			
Width	Depth	MiTek Hanger	Down Load	Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2"	THO17950	1,585	3-1/2"	9-1/2"	THO35950	2,620
	11-7/8"	THO17118	1,665		11-7/8"	THO35118	2,620
	14"	TFL1714	1,960		14"	THO35140	3,385
	16"	TFL1716	1,960		16"	THO35160	3,385
2-1/16"	9-1/2"	TFL2095	1,960	4-1/8"	9-1/2"	THO20950-2	3,320
	11-7/8"	TFL20118	1,960		11-7/8"	THO20118-2	3,665
	14"	TFL2014	1,960		14"	THO20140-2	4,610
	16"	TFL2016	1,960		16"	THO20160-2	4,610
2-5/16"	9-1/2"	TFL2395	1,960	4-5/8"	9-1/2"	THO23950-2	4,570
	11-7/8"	TFL23118	1,960		11-7/8"	THO23118-2	4,570
	14"	TFL2314	1,960		14"	THO23140-2	5,545
	16"	TFL2316	1,960		16"	THO23160-2	5,545
2-1/2"	9-1/2"	TFL2595	1,960	5"	9-1/2"	THO25950-2	4,570
	11-7/8"	TFL25118	1,960		11-7/8"	THO25118-2	4,570
	14"	TFL2514	1,960		14"	THO25140-2	5,545
	16"	TFL2516	1,960		16"	THO25160-2	5,545
3-1/2"	9-1/2"	THO35950	2,620	7"	9-1/2"	BPH7195	4,340
	11-7/8"	THO35118	2,620		11-7/8"	BPH71118	4,305
	14"	THO35140	3,385		14"	BPH7114	4,305
	16"	THO35160	3,385		16"	BPH7116	4,305

MiTek Notes: For I-Joists, consult MiTek for joist limitations.

ADJUSTABLE HEIGHT HANGERS

Single I-Joists				Double I-Joists			
Width	Depth	MiTek Hanger	Down Load	Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2"	MSH1722	2,750	3-1/2"	9-1/2"	MSH422	2,525
	11-7/8"	MSH1722	2,750		11-7/8"	MSH422	2,525
	14"	MSH1722	2,750		14"	MSH422	2,525
	16"	MSH1722	2,750		16"	MSH422	2,525
2-1/16"	9-1/2"	MSH2022	2,750	4-1/8"	9-1/2"	--	--
	11-7/8"	MSH2022	2,750		11-7/8"	--	--
	14"	MSH2022	2,750		14"	--	--
	16"	MSH2022	2,750		16"	--	--
2-5/16"	9-1/2"	MSH2322	2,750	4-5/8"	9-1/2"	MSH2322-2	2,830
	11-7/8"	MSH2322	2,750		11-7/8"	MSH2322-2	2,830
	14"	MSH2322	2,750		14"	MSH2322-2	2,830
	16"	MSH2322	2,750		16"	MSH2322-2	2,830
2-1/2"	9-1/2"	MSH322	2,750	5"	9-1/2"	MSH2622-2	2,830
	11-7/8"	MSH322	2,750		11-7/8"	MSH2622-2	2,830
	14"	MSH322	2,750		14"	MSH2622-2	2,830
	16"	MSH322	2,750		16"	MSH2622-2	2,830
3-1/2"	9-1/2"	MSH422	2,525	7"	9-1/2"	MSH422-2	5,230
	11-7/8"	MSH422	2,525		11-7/8"	MSH422-2	5,230
	14"	MSH422	2,525		14"	MSH422-2	5,230
	16"	MSH422	2,525		16"	MSH422-2	5,230

SKEWED 45° HANGERS

Single I-Joists				Double I-Joists			
Width	Depth	MiTek Hanger	Down Load	Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2"	SKH1720L/R	2,700	3-1/2"	9-1/2"	SKH410L/R[1]	3,240
	11-7/8"	SKH1724L/R	3,645		11-7/8"	SKH410L/R[1]	3,240
	14"	SKH1724L/R	3,645		14"	SKH414L/R[1]	6,845
	16"	SKH1724L/R	3,645		16"	SKH414L/R[1]	6,845
2-1/16"	9-1/2", 11-7/8"	SKH2020L/R	2,700	4-1/8"	9-1/2", 11-7/8"	SKH2020L/R-2[1]	4,175
	14", 16"	SKH2024L/R	3,645		14", 16"	SKH2024L/R-2[1]	3,885
2-5/16"	9-1/2", 11-7/8"	SKH2320L/R	2,700	4-5/8"	9-1/2", 11-7/8"	SKH2320L/R-2[1]	4,175
	14", 16"	SKH2324L/R	3,645		14", 16"	SKH2324L/R-2[1]	3,885
2-1/2"	9-1/2", 11-7/8"	SKH2520L/R	2,700	5"	9-1/2", 11-7/8"	SKH2520L/R-2[1]	4,175
	14", 16"	SKH2524L/R	3,645		14", 16"	SKH2524L/R-2[1]	3,885
3-1/2"	9-1/2"	SKH410L/R[1]	3,240	7"	9-1/2"	HD7100_SK45L/R_BV[1,2]	4,180
	11-7/8"	SKH410L/R[1]	3,240		11-7/8"	HD7120_SK45L/R_BV[1,2]	4,710
	14"	SKH414L/R[1]	6,845		14"	HD7140_SK45L/R_BV[1,2]	6,430
	16"	SKH414L/R[1]	6,845		16"	HD7160_SK45L/R_BV[1,2]	4,710

MiTek Notes: (1) Bevel cut required on end of joist to achieve design loads. (2) Hangers are special order and loads assume maximum nailing schedule. Consult MiTek for pricing and lead times.

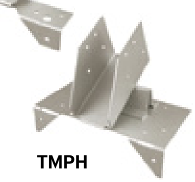
FIELD SLOPE AND SKEW

Single I-Joists				Double I-Joists			
Width	Depth	MiTek Hanger	Down Load	Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2" - 14"	LSSH179	2,020	3-1/2"	9-1/2" - 14"	LSSH35	2,195
	16"	LSSH179[1]	2,020		16"	LSSH35[1]	2,195
2-1/16"	9-1/2" - 14"	LSSH20	1,685	4-1/8"	9-1/2" - 14"	--	--
	16"	LSSH20[1]	1,685		16"	--	--
2-5/16"	9-1/2" - 14"	LSSH23	1,685	4-5/8"	9-1/2" - 14"	--	--
	16"	LSSH23[1]	1,685		16"	--	--
2-1/2"	9-1/2" - 14"	LSSH25	1,830	5"	9-1/2" - 14"	--	--
	16"	LSSH25[1]	1,830		16"	--	--
3-1/2"	9-1/2" - 14"	LSSH35	2,195	7"	9-1/2" - 14"	--	--
	16"	LSSH35[1]	2,195		16"	--	--

MiTek Notes: (1) Supplemental lateral support connection recommended when hanger height is less than 60% of joist height.

VARIABLE PITCH HANGERS

Single I-Joists			
Width	Depth	MiTek Hanger	Down Load
1-3/4"	9-1/2" - 16"	TMP175	1,270
		TMPH175[1]	4,100
2-1/8"	9-1/2" - 16"	TMP21	1,425
		TMPH21[1]	4,100
2-5/16"	9-1/2" - 16"	TMP23	2,175
		TMPH23[1]	4,100
2-1/2"	9-1/2" - 16"	TMP25	2,175
		TMPH25[1]	4,100
3-1/2"	9-1/2" - 16"	TMP4	2,175
		TMPH4[1]	4,100


TMP

TMPH

MiTek Notes: (1) TMPH design values are based on a 6/12 Pitch.

Blue highlighted areas require web stiffeners at joist ends.

LVL Framing Connectors
Factored Resistance (lbs)- Standard Term

MiTek

FACE MOUNT HANGERS

Single Ply - 1-3/4" wide			Double Ply - 3-1/2" wide			Triple Ply - 5-1/4" wide			Quadruple Ply - 7" wide		
Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load
9-1/4", 9-1/2", 11-1/4"	HD17925[2]	5,585	9-1/4", 9-1/2	THD410	10,625	9-1/4", 9-1/2	THD610	11,705	9-1/4", 9-1/2	THD7210	11,705
	HUS179[1]	9,625		THDH410[1]	12,470		THDH610[1]	12,470		THDH7210[1]	12,470
11-7/8"	HD17112[2]	7,715	11-1/4", 11-7/8"	THD410	10,625	11-1/4", 11-7/8"	THD610	11,705	11-1/4", 11-7/8"	THD7210	11,705
	HUS179[1]	9,625		THDH412[1]	14,330		THDH612[1]	14,725		THDH7212[1]	12,470
14"	HD1714[2]	7,715	14"	THD410	10,625	14"	THD610	11,705	14"	THD7210	11,705
	HUS179[1]	9,625		THDH414[1]	17,720		THDH614[1]	17,720		THDH7214[1]	17,720
16"	HD1714[2]	7,715	16"	THD412	10,625	16"	THD612	11,705	16"	THD7210[3]	11,705
	--	--		THDH414[1]	17,720		THDH614[1]	17,720		THDH7214[1]	17,720
18"	HD1714[2]	7,715	18"	THD412	10,625	18"	THD612	11,705	18"	THD7210[3]	11,705
	--	--		THDH414[1]	17,720		THDH614[1]	17,720		THDH7214[1]	17,720

MiTek Notes: (1) Joist nails need to be toe nailed at a 30° to 45° angle to achieve listed loads. (2) Loads assume maximum nailing schedule. (3) Install framing angles, one on each side, when hanger height is less than 60% of joist height for lateral stability.


HUS


HD


THD


THDH


HLBH


PHXU

TOP FLANGE HANGERS

Single Ply - 1-3/4" wide			Double Ply - 3-1/2" wide			Triple Ply - 5-1/4" wide			Quadruple Ply - 7" wide		
Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load	Depth	MiTek Hanger	Down Load
9-1/4"	BPH17925	4,890	9-1/4"	HBPH35925	11,005	9-1/4"	HBPH55925	10,405	9-1/4"	HBPH71925	10,405
	PHXU17925	6,370		HLBH35925	15,295		HLBH55925	15,295		HLBH71925	15,295
9-1/2"	BPH1795	4,890	9-1/2"	HBPH3595	11,005	9-1/2"	HBPH5595	10,405	9-1/2"	HBPH7195	10,405
	PHXU1795	6,370		HLBH3595	15,295		HLBH5595	15,295		HLBH7195	15,295
11-1/4"	BPH17112	4,890	11-1/4"	HBPH35112	11,005	11-1/4"	HBPH55112	10,405	11-1/4"	HBPH71112	10,405
	PHXU17112	6,370		HLBH35112	15,295		HLBH55112	15,295		HLBH71112	15,295
11-7/8"	BPH17118	4,890	11-7/8"	HBPH35118	11,005	11-7/8"	HBPH55118	10,405	11-7/8"	HBPH71118	10,405
	PHXU17118	6,370		HLBH35118	15,295		HLBH55118	15,295		HLBH71118	15,295
14"	BPH1714	4,890	14"	HBPH3514	11,005	14"	HBPH5514	10,405	14"	HBPH7114	10,405
	PHXU1714	6,370		HLBH3514	15,295		HLBH5514	15,295		HLBH7114	15,295
16"	BPH1716	4,890	16"	HBPH3516	11,005	16"	HBPH5516	10,405	16"	HBPH7116	10,405
	PHM1716	5,090		HLBH3516	15,295		HLBH5516	15,295		HLBH7116	15,295
18"	--	--	18"	HBPH3518	11,005	18"	HBPH5518	10,405	18"	HBPH7118	10,405
	--	--		HLBH3518	15,295		HLBH5518	15,295		HLBH7118	15,295

General Notes

1. Loads shown for I-Joist Framing Connectors are based on SPF species supports and are conservative for Douglas Fir, Southern Pine and all LVL supports. Loads shown for LVL Framing Connectors are based on RigidLam® LVL beam-to-beam connections. For other support conditions refer to the current MiTek Structural Products Catalogue. Joist or beam reaction should be checked by a qualified designer to ensure proper hanger selection.
2. Refer to current MiTek full line hanger catalog to verify allowable loads and fastener size and quantity.
3. Loads shown are gravity (floor) loads. Other load durations may apply. Refer to the current MiTek full line hanger catalog for allowable increases.
4. Top Flange Hanger configurations and thickness of top flange needs to be considered for flush frame conditions.

All hangers listed are manufactured by MiTek®. For more information refer to the current MiTek literature, www.mitek.ca or contact MiTek at 800-268-3434.

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CODE REPORT INDEX

Roseburg EWP Code Reports	Product
ICC ESR-1251 *(with LABC/LARC supplement, CBC/CRC supplement including DSA & OSHPD, and FBC supplement)*	I-JOIST
ICC ESR-1210 *(with LABC/LARC supplement, CBC/CRC supplement including DSA & OSHPD, and FBC supplement)*	LVL & LVL Rim
APA PR-L259 (U.S.) and APA PR-L259C (Canada)	I-JOIST
APA PR-L289 (U.S.) and APA PR-L289C (Canada)	LVL
APA PR-L270	LVL STUDS
Florida FL2440	I-JOIST & LVL
CCMC 13323-R (Canada)	I-JOIST
CCMC 13310-R (Canada)	LVL

The code reports listed above are available at Roseburg.com, in the Engineered Wood Products section under Code Reports.

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