Georgia-Pacific

Engineered Lumber

Residential Floor & Roof Systems Product Guide

WOOD I BEAM®

GP LAM®
with FiberGuard™

FiberStrong®
Rim Board

Edition VIII

Build on the strength of

Today's home designs call for advanced building materials like Georgia-Pacific engineered lumber. The strength of engineered lumber makes it the right choice for floor and roof systems, as well as beams and headers.

Residential building trends, including large open spaces and high ceilings, create a demand for products that provide higher strength and greater stability over longer spans. Georgia-Pacific Wood I Beam™ joists and other engineered lumber products outperform conventional lumber in these applications, helping to ensure a solid floor system and maintain structural integrity.

Engineered lumber helps eliminate the need for supporting posts in basements, garages and bonus rooms. Since most pipes, duct and wires can pass through the web of Wood I Beam joists, engineered lumber makes it possible for you to maximize ceiling heights, even in basements.

When home designs feature walls of windows, grand front entrances, and even wider doorways from room to room, engineered lumber products like GP Lam® LVL headers provide the strength and support required to handle the heavy loads.

Engineered Lumber is an important part of every flooring system that is sturdy enough to support heavy furniture like pool tables, pianos or china cabinets.

Take a closer look at the advantages offered by GP engineered lumber:

Strength

Georgia-Pacific engineered lumber is manufactured to take advantage of the natural strengths found in wood. GP combines high-grade wood fiber with specifically formulated resins to produce virtually defect-free engineered lumber. This manufacturing process enables GP engineered lumber to resist shrinking, twisting and warping. As a result, engineered lumber is more consistent and has more load-carrying capacity and spanning ability than regular sawn lumber.

The Georgia-Pacific family of engineered lumber products includes:

- *Wood I Beam™ joists*
- *FiberStrong® rim board*
- *GP Lam® LVL*

Easy installation

Every piece is consistently true to size. Even though it's extremely strong, GP engineered lumber is lightweight and easy to cut. Plus, wiring and plumbing pass easily through the web of Wood I Beam joists for more clearance and higher ceilings.

Environmentally sound

Engineered lumber makes more efficient use of trees because it is made using smaller, computer-evaluated lumber and plywood veneers. Engineered lumber requires between 40 to 50% less wood fiber than the equivalent conventional lumber.

engineered lumber.

Consistently high quality
GP engineered lumber is manufactured to exacting standards. It resists shrinking, crowning, twisting and warping, which means quieter floors and fewer callbacks. Plus, all Wood I Beam™ joists and GP Lam® LVL are backed by a lifetime limited warranty.*

Cost effective
The advantages of GP engineered lumber go beyond superior performance. You'll find engineered lumber is the lowest total cost solution in the marketplace. The GP Value Length method of ordering and shipping materials minimizes waste in labor and materials. Now, you can think like a framer instead of an engineer with a selection of standard sizes that can be trimmed on site to meet the needs of the job. "Jigsaw puzzle" job packs with dozens of lengths are eliminated, helping to greatly reduce the need for handling and cutting before joists get to the job.

Dependable delivery and availability
BlueLinx maintains an extensive inventory that's ready to be delivered through the largest distribution network in the U.S. What does that mean to you? The quality engineered lumber you need is on your job site, when you need it.

Customer & technical support
BlueLinx provides the solutions to help you stay on top of current building practices and resolve day-to-day issues. Call us at 1-888-502-BLUE.

Simple-to-use software
Georgia-Pacific's exclusive FASTBeam® software helps you make the most of engineered lumber.

FASTBeam analyzes a variety of load conditions to determine the optimum joist or beam based on cost, availability, size and spacing while dramatically reducing the time it takes to spec plans.

Wood I Beam™ Joists

Details

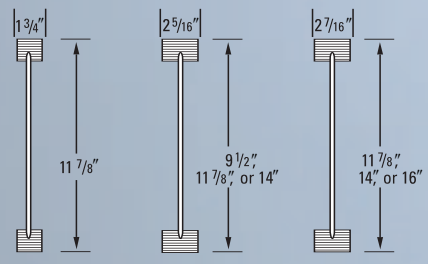
GP Lam® LVL

*See manufacturer's warranty for terms, conditions and limitations. To receive a copy of the manufacturer's warranty call 1-888-502-BLUE.

Wood I Beam™ Joists

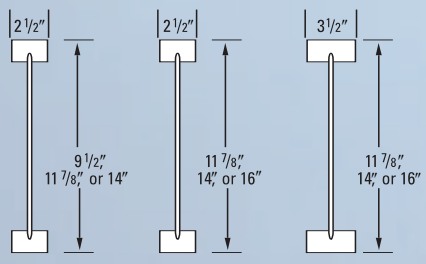
WOOD I BEAM®

GPI Series



GPI 20 GPI 40 GPI 65

WI Series



WI 40 WI 60 WI 80

All Wood I Beam joists have an enhanced OSB web

NOTE: WI series joists have solid sawn lumber flanges. GPI series joists have LVL flanges. Not all products are available at all distribution centers; contact BlueLinx for availability.

LIFETIME LIMITED WARRANTY

Greater load-carrying capacity, firmer-feeling floors

Lightweight and cost effective, WI and GPI Series Wood I Beam™ joists are the builder's choice for residential floor and roof systems. A wide selection of sizes and flange choices make it easy to specify the materials that are right for the homes you build, whether you're building production homes or custom plans.

Each joist features an enhanced OSB web with high-grade solid sawn lumber or GP Lam® LVL flanges. The wider flanges offered by the 40, 60, 65 and 80 series joists provide broader gluing and nailing surfaces for floor and roof sheathing, helping to save time and money for builders. Occupants enjoy the benefits of firm, level floors and smooth, flat ceilings.

More stable floors

When used as part of a flooring system, Wood I Beam joists can help floors stay quiet over time, reducing bothersome and costly callbacks. Conventional lumber can shrink, twist and warp as the moisture found naturally in the wood evaporates. Floors can bow, nails pull away from the joists, and the floor decking slides up and down against the nails, creating annoying squeaks.

In contrast, Wood I Beam joists are more stable by design. The wide flange helps reduce vibration, creating a firmer feeling floor.

Wood I Beam joists features & benefits

- All series of Wood I Beam joists have an enhanced OSB web.
- GPI 20 series have 1¾″ LVL flange width and are available in 11⅞″ depth.
- GPI 40 series have 2⅝″ LVL flange width and are available in 9½″, 11⅞″ and 14″ depths.
- GPI 65 series have 2⅞″ LVL flange width and are available in 11⅞″, 14″ and 16″ depths.
- WI 40 series have 2½″ Lumber flange width and are available in 9½″, 11⅞″ and 14″ depths.
- WI 60 series have 2½″ Lumber flange width and are available in 11⅞″, 14″ and 16″ depths.
- WI 80 series have 3½″ Lumber flange width and are available in 11⅞″, 14″ and 16″ depths. Deeper depths available by special order.
- All joists are available in value lengths of 24′, 28′, 32′, 36′, 40′, 44′ and 48′.
- Lengths up to 60′ may be special ordered.
- Lifetime Limited Warranty.*

*See manufacturer's warranty for terms, conditions and limitations. To receive a copy of the manufacturer's warranty call 1-888-502-BLUE.

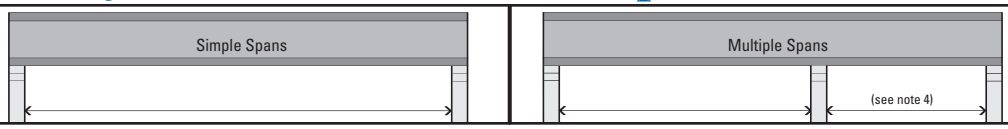
System Performance

The ultimate goal in the design of a floor or roof system is the end user's safety and satisfaction. **Although joists used at spans indicated in this guide meet or exceed minimum code criteria and will safely support the loads imposed on them, judgement must be used to adequately meet user expectation levels.** These expectations may vary from one user to another.

- The specifier should consider the meaning of a given deflection limit in terms of allowable deflection and the effects this could have on the system. For example, L/360 (span/360) for a 30′ span is 1″ of deflection. L/240 would be 1½″ and L/180 would be 2″ of deflection. Consideration might also be given to cases in which a joist with a long span parallels a short span or a foundation end wall. For example, a 30′ span with up to 1″ of allowable live load deflection could be adjacent to an end wall with no deflection, causing a noticeable difference in floor levels under full design load.
- **A stiffer floor will result from using a live load deflection limit of L/480** versus the code minimum L/360. A roof system with less total load deflection than the code required L/180 may be achieved by using a criterion of L/240.
- In addition to more stringent deflection limits, several other factors may improve overall floor performance. **Reducing joist spacing and/or increasing the subfloor thickness will lessen deflection between adjacent joists and increase load sharing. For increased floor stiffness, BlueLinx recommends gluing the subfloor to the joists** before nailing or screwing rather than nailing alone. For additional stiffness, glue tongue and groove joints. Surfaces must be clean and dry before gluing.
- As with any construction, it is essential to follow proper installation procedures. Joists must be plumb and anchored securely to supports before system sheathing is attached. Supports for multiple span joists must be level. To minimize settlement when using hangers, joists should be firmly seated in the hanger bottoms. Leave a 1/16″ gap between joist end and header.
- **Vibrations may occur in floor systems with very little dead load**, as in large empty rooms. A ceiling attached to the bottom of the joists will generally dampen vibration as will interior partition walls running perpendicular to the joists. If a ceiling will not be attached to the bottom of the joists, vibration can be minimized by nailing a continuous 2 x 4 perpendicular to the bottom of the joists at midspan running from end wall to end wall. Where future finishing of the ceiling is likely, x-bridging or Wood I Beam blocking panels may be used in place of the 2 x 4.

GPI and WI Series Joists–Residential Floor Span Charts

Span Illustrations



40 PSF Live Load + 10 PSF Dead Load — Improved Performance[1] (L/480)

Joist	Joist Depth	Spacing (Simple Span) 12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	Spacing (Multiple Span) 12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
GPI 20	11⅞″	20′-05″	18′-08″	17′-08″	16′-06″	22′-02″	20′-03″	19′-01″	17′-05″
GPI 40	9½″	18′-00″	16′-06″	15′-07″	14′-06″	19′-07″	17′-10″	16′-10″	15′-06″
	11⅞″	21′-06″	19′-08″	18′-07″	17′-04″	23′-04″	21′-04″	19′-09″	17′-08″
	14″	24′-04″	22′-03″	21′-00″	19′-05″	26′-06″	23′-09″	21′-08″	19′-04″
GPI 65	11⅞″	23′-03″	21′-03″	20′-00″	18′-08″	25′-03″	23′-00″	21′-09″	20′-03″
	14″	26′-05″	24′-02″	22′-09″	21′-03″	28′-09″	26′-02″	24′-08″	20′-08″
	16″	29′-04″	26′-09″	25′-03″	23′-07″	31′-11″	29′-01″	25′-11″	20′-08″
WI 40	9½″	18′-00″	16′-05″	15′-06″	14′-06″	19′-07″	17′-11″	16′-04″	14′-07″
	11⅞″	21′-05″	19′-07″	18′-06″	16′-08″	23′-05″	20′-05″	18′-07″	16′-07″
	14″	24′-04″	22′-03″	20′-06″	18′-04″	25′-11″	22′-05″	20′-05″	18′-03″
WI 60	11⅞″	22′-07″	20′-08″	19′-06″	18′-02″	24′-08″	22′-06″	21′-02″	19′-07″
	14″	25′-09″	23′-06″	22′-02″	20′-08″	28′-00″	25′-07″	24′-01″	19′-09″
	16″	28′-06″	26′-00″	24′-07″	22′-10″	31′-01″	28′-04″	24′-09″	19′-09″
WI 80	11⅞″	24′-11″	22′-08″	21′-04″	19′-10″	27′-01″	24′-08″	23′-03″	21′-07″
	14″	28′-03″	25′-09″	24′-03″	22′-07″	30′-10″	28′-00″	26′-05″	23′-11″
	16″	31′-04″	28′-06″	26′-10″	25′-00″	34′-02″	31′-01″	29′-03″	23′-11″

40 PSF Live Load + 20 PSF Dead Load — Improved Performance[1] (L/480)

Joist	Joist Depth	Spacing (Simple Span) 12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	Spacing (Multiple Span) 12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
GPI 20	11⅞″	20′-05″	18′-08″	17′-08″	15′-11″	22′-02″	19′-05″	17′-09″	15′-05″
GPI 40	9½″	18′-00″	16′-06″	15′-07″	14′-02″	19′-07″	17′-04″	15′-10″	14′-02″
	11⅞″	21′-06″	19′-08″	18′-01″	16′-02″	22′-10″	19′-09″	18′-00″	16′-01″
	14″	24′-04″	21′-09″	19′-10″	17′-09″	25′-01″	21′-08″	19′-09″	17′-01″
GPI 65	11⅞″	23′-03″	21′-03″	20′-00″	18′-08″	25′-03″	23′-00″	21′-06″	17′-02″
	14″	26′-05″	24′-02″	22′-09″	21′-03″	28′-09″	25′-11″	21′-06″	17′-02″
	16″	29′-04″	26′-09″	25′-03″	22′-03″	31′-11″	25′-11″	21′-06″	17′-02″
WI 40	9½″	18′-00″	16′-05″	14′-11″	13′-04″	18′-11″	16′-04″	14′-11″	13′-03″
	11⅞″	21′-05″	18′-08″	17′-01″	15′-03″	21′-06″	18′-07″	17′-00″	15′-02″
	14″	23′-09″	20′-06″	18′-09″	16′-09″	23′-08″	20′-05″	18′-08″	16′-05″
WI 60	11⅞″	22′-07″	20′-08″	19′-06″	17′-11″	24′-08″	21′-11″	20′-00″	16′-05″
	14″	25′-09″	23′-06″	22′-00″	19′-08″	27′-10″	24′-01″	20′-07″	16′-05″
	16″	28′-06″	26′-00″	23′-09″	19′-10″	30′-00″	24′-09″	20′-07″	16′-05″
WI 80	11⅞″	24′-11″	22′-08″	21′-04″	19′-10″	27′-01″	24′-08″	22′-09″	18′-02″
	14″	28′-03″	25′-09″	24′-03″	21′-02″	30′-10″	28′-00″	24′-11″	19′-11″
	16″	31′-04″	28′-06″	26′-06″	21′-02″	34′-02″	30′-00″	24′-11″	19′-11″

NOTES:

1. These span charts are based on uniform loads, as noted above; live load deflection is limited to L/480 **for better performance.** Floor performance is greatly influenced by the stiffness of the floor joists. Experience has shown that joists designed to the code minimum live load deflection (L/360) will result in a floor which may not meet the expectations of some end users. BlueLinx strongly recommends floor spans for Wood I Beam joists in accordance with those given above, which are based on L/480 live load deflection. (One-third stiffer than required by code.)
2. Spans are clear distances between supports, and are based on composite action with glued-nailed APA Rated Sheathing or Sturd-I-Floor of minimum thickness 19/32″ (40/20 or 20 oc) for joist spacing of 19.2″ or less, or 23/32″ (48/24 or 24 oc) for a joist spacing of 24″. Adhesive must meet APA AFG-01 or ASTM D3498. Apply a continuous line of glue (about ¼″ diameter) to top flange of joists. All surfaces must be clean and dry. If sheathing is nailed only (not recommended), reduce spans by 12.″
3. **Minimum end bearing length is 1¾.″ Minimum intermediate bearing length is 3½.″**
4. For multiple-span joists: End spans must be at least 40% of the adjacent span. Spans shown above cover a broad range of applications. It may be possible to exceed these spans by analyzing a specific application with GP FASTBeam® selection software.
5. For loading other than that shown above, refer to Uniform Load Tables, use FASTBeam software, or contact BlueLinx Engineered Lumber Technical Services.
6. Not all products are available at all distribution centers; contact BlueLinx for availability.

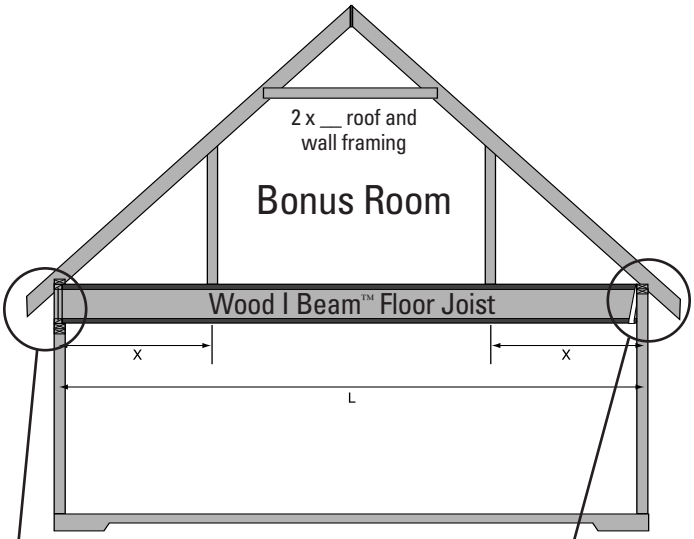
Bonus Room Floor Joist Selection Guide

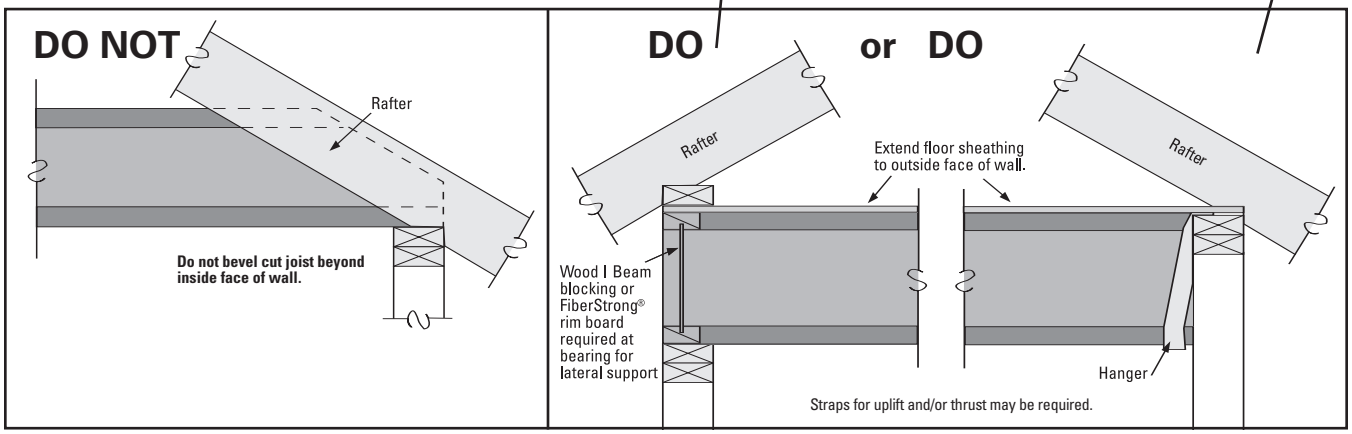
L (Span)	X (Kneewall Location)	WI Joists (Series – Depth)				GPI 65 (Depth)			
		Spacing				Spacing			
		12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	12″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
20′	4′	60-11⅞″	60-14″	60-16″	80-16″	11⅞″	14″	14″	16″
	5′	60-14″	60-14″	60-16″	80-16″	11⅞″	14″	16″	16″
	6′	60-14″	60-14″	60-16″	80-16″	11⅞″	14″	14″	16″
22′	4′	60-14″	60-16″	80-16″	80-16″	14″	16″	16″	Call BlueLinx
	5′	60-14″	60-16″	80-16″	Call BlueLinx	14″	16″	16″	Call BlueLinx
	6′	60-14″	60-16″	80-16″	Call BlueLinx	14″	16″	16″	Call BlueLinx
24′	4′	60-16″	80-16″	Call BlueLinx	Call BlueLinx	16″	16″*	Call BlueLinx	Call BlueLinx
	5′	60-16″	80-16″	Call BlueLinx	Call BlueLinx	16″	Call BlueLinx	Call BlueLinx	Call BlueLinx
	6′	60-16″	80-16″	Call BlueLinx	Call BlueLinx	16″	Call BlueLinx	Call BlueLinx	Call BlueLinx
	7′	60-16″	80-16″	Call BlueLinx	Call BlueLinx	16″	Call BlueLinx	Call BlueLinx	Call BlueLinx
26′	4′	80-16″	Call BlueLinx	Call BlueLinx	Call BlueLinx	16″	Call BlueLinx	Call BlueLinx	Call BlueLinx
	5′	80-16″	Call BlueLinx	Call BlueLinx	Call BlueLinx	16″*	Call BlueLinx	Call BlueLinx	Call BlueLinx
	6′	80-16″	Call BlueLinx	Call BlueLinx	Call BlueLinx	16″*	Call BlueLinx	Call BlueLinx	Call BlueLinx
	7′	80-16″	Call BlueLinx	Call BlueLinx	Call BlueLinx	16″*	Call BlueLinx	Call BlueLinx	Call BlueLinx

*Under these conditions, live load deflection meets building code, but does not meet L/480. Worst case is L/467.

Design Parameters:

1. Glued and nailed floor sheathing.
2. Deflection limits: L/240 total load, L/480 live load, unless noted otherwise.
3. Roof loads of 30 PSF live load at 115% (snow load).
4. Roof dead load of 12 PSF (asphalt shingles).
5. Roof rafter slope between 8/12 and 12/12.
6. Kneewall weight of 40 PLF.
7. Attic storage load of 20 PSF live load (outside the kneewalls).
8. Floor live load of 40 PSF (between the kneewalls).
9. Attic and floor dead load of 10 PSF.
10. Straight gable roof framing. No hip framing is permitted.
11. For other conditions, including holes, use FASTBeam® software or call BlueLinx.





Performance Based Joist Selection Guide

Determine span, select desired performance level, choose joist option.

Performance Criteria	Live Load Deflection	Total Load Deflection	Max Joist Spacing	Recommended Sheathing/Sturd-I-Floor®
1. Code allowed minimum*	L/360	L/240	24″	23/32″ 48/24 APA® Rated Sheathing (glue is recommended)
2. Improved performance	L/480	L/360	19.2″ (24″ for WI 80)	23/32″ Plywood Sturd-I-Floor® 24″ oc or 48/24 APA Rated Sheathing, glued and nailed
3. High performance	L/600	L/480	16″ (19.2″ for WI 80)	7/8″ Plywood Sturd-I-Floor, glued and nailed

Product Selection Guide based on joist span. Determine span, select desired performance level, choose joist option.
Products above the bold line in each column are limited to 1/2″ live load deflection when fully loaded.

Floor Span	Joist	1. CODE ALLOWED MINIMUM* Depth	Spacing	2. IMPROVED PERFORMANCE Depth	Spacing	3. HIGH PERFORMANCE Depth	Spacing
14′	GPI 20	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	40 Series	9 1/2″	24″ o.c.	9 1/2″	19.2″ o.c.	9 1/2″	16″ o.c.
	WI 60	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
15′	GPI 20	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	40 Series	11 7/8″	24″ o.c.	9 1/2″	19.2″ o.c.	9 1/2″	16″ o.c.
	WI 60	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
16′	GPI 20	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	40 Series	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 60	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
17′	GPI 20	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	40 Series	14″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 60	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
18′	GPI 20	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.	11 7/8″	12″ o.c.
	40 Series	14″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 60	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
19′	GPI 20	11 7/8″	19.2″ o.c.	11 7/8″	12″ o.c.	11 7/8″*	12″ o.c.
	40 Series	14″	19.2″ o.c.	14″	19.2″ o.c.	14″	16″ o.c.
	WI 60	14″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	GPI 65	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.	11 7/8″	16″ o.c.
	WI 80	11 7/8″	24″ o.c.	11 7/8″	24″ o.c.	11 7/8″	19.2″ o.c.
20′	40 Series	NOTE: Please refer to "Improved Performance" or "High Performance"		14″	19.2″ o.c.	14″	16″ o.c.
	WI 60			14″	19.2″ o.c.	14″	16″ o.c.
	GPI 65			11 7/8″	19.2″ o.c.	14″	16″ o.c.
	WI 80			14″	24″ o.c.	14″	19.2″ o.c.
21′	40 Series			14″	16″ o.c.	14″	12″ o.c.
	WI 60			14″	19.2″ o.c.	14″	16″ o.c.
	GPI 65			14″	19.2″ o.c.	14″	16″ o.c.
	WI 80			14″	24″ o.c.	14″	19.2″ o.c.
22′	40 Series			14″	16″ o.c.	14″	12″ o.c.
	WI 60			14″	19.2″ o.c.	16″	16″ o.c.
	GPI 65			14″	19.2″ o.c.	16″	16″ o.c.
	WI 80			14″	24″ o.c.	16″	19.2″ o.c.
23′	40 Series			14″	12″ o.c.	Does not work	
	WI 60			16″	19.2″ o.c.	16″	16″ o.c.
	GPI 65			16″	19.2″ o.c.	16″	19.2″ o.c.
	WI 80			16″	24″ o.c.	16″	19.2″ o.c.
24′	WI 60			16″	19.2″ o.c.	16″	16″ o.c.
	GPI 65			16″	19.2″ o.c.	16″	16″ o.c.
	WI 80			16″	24″ o.c.	16″	19.2″ o.c.

*Not Recommended. Experience suggests the end user may not be satisfied with the minimum system performance.

NOTES:

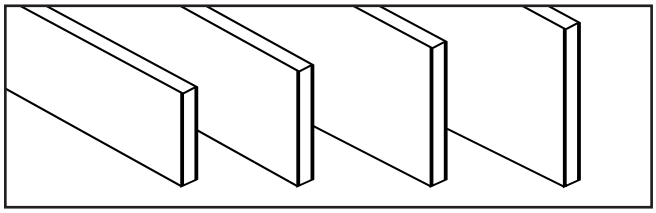
1. Table assumes normal residential loads of 40 PSF live load and 10 PSF dead load except for "High Performance" column. High Performance system is based on 40 PSF live load, 20 PSF dead load.
2. Table assumes simple span applications.
3. If load bearing walls from above do not stack directly to walls or beams below, call BlueLinx.
4. Many combinations of series, depth and on-center spacing can provide desired performance levels; the recommendations in this table are based on performance, costs and installation factors. For other options contact BlueLinx.

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′)

FiberStrong® Rim Board

Sizes and Weights



Depth	9 1/2″	11 7/8″	14″	16″
Weight (plf)	3.0	3.7	4.4	5.0

Thickness 1 1/8″ Length 12′

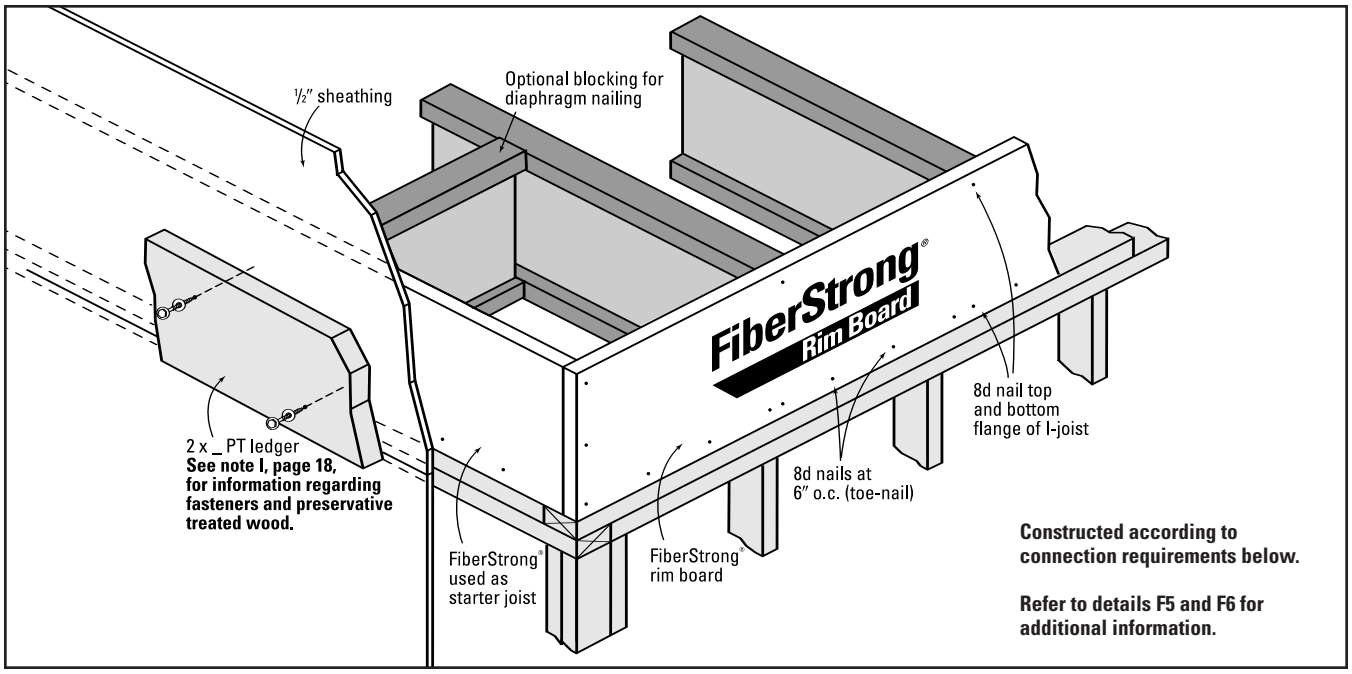
Capacities

Vertical Load:
Rim or starter joist = 4850 plf.

Horizontal load (lateral seismic or wind):
200 plf using a load duration factor of 160%

1/2″ lag or through bolt attaching ledger to rim board:
350 lbs. lateral load per bolt

Lateral loads for nails in wide face of rim board:
Design per 1997 NDS using Douglas Fir-Larch values



Connection Requirements

To joist: Face-nail rim board to each joist with two (2) 8d nails, one each into top and bottom flange.

To plate: Toe-nail rim board to wall plate with 8d nails at 6″ oc or 16d nails at 12″ oc. See note I, page 19 for information regarding fasteners and preservative treated wood.

Subfloor: Attach floor sheathing to rim board per building code or structural panel manufacturer's specifications (closest on-center nail spacing is 6″). For shear transfer (lateral seismic or wind) of up to 200 PLF, use 8d at 6″ oc.

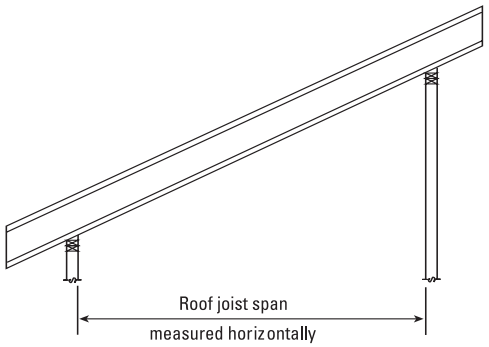
To rim: Face-nail rim boards together at corners with three (3) 8d nails.

Ledger: To attach a ledger use ½″ through bolts with nuts and washers or ½″ lag screws (minimum length of 4″) with washers. Maintain 2″ edge distances on ledger and rim board. For lag screws, drill 5/16″ lead holes in rim board and ½″ holes in ledger. Caulk holes with high quality caulking immediately before inserting the bolts or lag screws. Caution: The lag screw should be inserted in a lead hole by turning with a wrench, not by driving with a hammer. Over-torquing can significantly reduce the lateral resistance of the lag screw and should therefore be avoided. See note I, page 19 for information regarding fasteners and preservative treated wood.

Approved Applications

FiberStrong rim board has been tested and approved as a rim board and starter joist by APA-EWS. FiberStrong rim board is not recommended as a structural joist, rafter, header or ledger. For such applications, consider Wood I Beam™ joists or GP Lam® LVL or contact BlueLinx. GP Lam LVL may be substituted for FiberStrong rim board in all rim board and rim joist applications shown in this product guide.

Roof Joist Maximum Span Chart–125% (Non-Snow)



1. **Roof joists to be sloped min. ¼″ in 12″.** No camber provided.
2. Maximum deflection is limited to L/180 at total load, L/240 at live load.
3. **Maximum slope is limited to 12″ in 12″** for use of these tables.
4. Tables may be used for simple and multiple spans.
5. End spans of multiple-span joists must be at least 40% of the adjacent span.
6. For other loading conditions or on-center spacings, refer to Uniform Load Tables or use GP FASTBeam® selection software.
7. Minimum end bearing length is 1¾″. Minimum intermediate bearing length is 3½″.
8. Spans shown below cover a broad range of applications. It may be possible to exceed these spans by analyzing a specific application using FASTBeam software.

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Non-Snow 125% Live 20 Dead 10	GPI 20	11⅞″	26′-03″	24′-08″	22′-10″	24′-09″	23′-03″	21′-06″	23′-11″	22′-06″	20′-10″
	GPI 40	9½″	23′-04″	21′-11″	20′-03″	22′-00″	20′-08″	19′-01″	21′-03″	20′-00″	18′-06″
		11⅞″	27′-11″	26′-03″	24′-03″	26′-04″	24′-09″	22′-11″	25′-06″	23′-11″	22′-02″
		14″	31′-08″	29′-09″	27′-07″	29′-11″	28′-01″	26′-00″	28′-11″	27′-02″	25′-03″
	GPI 65	11⅞″	30′-07″	28′-08″	26′-07″	28′-10″	27′-01″	25′-01″	27′-11″	26′-03″	24′-04″
		14″	34′-10″	32′-08″	30′-03″	32′-10″	30′-10″	28′-07″	31′-10″	29′-11″	27′-08″
		16″	38′-08″	36′-04″	33′-08″	36′-06″	34′-04″	31′-09″	35′-04″	33′-03″	30′-09″
	WI 40	9½″	23′-04″	21′-11″	20′-03″	22′-00″	20′-08″	19′-01″	21′-03″	20′-00″	18′-06″
		11⅞″	27′-11″	26′-03″	23′-10″	26′-04″	24′-09″	22′-11″	25′-06″	23′-11″	22′-02″
		14″	31′-08″	29′-04″	26′-03″	29′-11″	28′-01″	25′-07″	28′-11″	27′-02″	25′-03″
	WI 60	11⅞″	29′-08″	27′-10″	25′-09″	28′-00″	26′-03″	24′-04″	27′-01″	25′-05″	23′-07″
		14″	33′-09″	31′-09″	29′-05″	31′-10″	29′-11″	27′-09″	30′-10″	29′-00″	26′-10″
		16″	37′-06″	35′-03″	32′-08″	35′-05″	33′-03″	30′-10″	34′-03″	32′-03″	29′-10″
	WI 80	11⅞″	33′-00″	31′-00″	28′-08″	31′-01″	29′-03″	27′-01″	30′-02″	28′-04″	26′-03″
		14″	37′-06″	35′-03″	32′-07″	35′-05″	33′-03″	30′-10″	34′-03″	32′-03″	29′-10″
		16″	41′-07″	39′-01″	36′-02″	39′-03″	36′-11″	34′-02″	38′-00″	35′-09″	33′-01″

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Non-Snow 125% Live 20 Dead 15	GPI 20	11⅞″	24′-10″	23′-04″	21′-07″	23′-04″	21′-11″	20′-04″	22′-04″	20′-11″	19′-05″
	GPI 40	9½″	22′-01″	20′-09″	19′-02″	20′-09″	19′-06″	18′-00″	19′-10″	18′-07″	17′-03″
		11⅞″	26′-05″	24′-10″	23′-00″	24′-10″	23′-04″	21′-07″	23′-09″	22′-03″	20′-08″
		14″	30′-00″	28′-02″	25′-08″	28′-02″	26′-06″	24′-06″	26′-11″	25′-04″	23′-06″
	GPI 65	11⅞″	28′-11″	27′-02″	25′-02″	27′-02″	25′-06″	23′-08″	26′-00″	24′-05″	22′-07″
		14″	33′-00″	30′-11″	28′-08″	31′-00″	29′-01″	26′-11″	29′-07″	27′-10″	25′-09″
		16″	36′-08″	34′-05″	31′-10″	34′-05″	32′-04″	29′-11″	32′-11″	30′-11″	28′-08″
	WI 40	9½″	22′-01″	20′-09″	19′-02″	20′-09″	19′-06″	18′-00″	19′-10″	18′-07″	17′-03″
		11⅞″	26′-05″	24′-08″	22′-00″	24′-10″	23′-04″	21′-04″	23′-09″	22′-03″	20′-08″
		14″	29′-08″	27′-01″	24′-02″	28′-02″	26′-03″	23′-06″	26′-11″	25′-04″	23′-06″
	WI 60	11⅞″	28′-01″	26′-04″	24′-05″	26′-04″	24′-09″	22′-11″	25′-02″	23′-08″	21′-11″
		14″	32′-00″	30′-00″	27′-10″	30′-00″	28′-03″	26′-02″	28′-09″	27′-00″	25′-00″
		16″	35′-06″	33′-04″	30′-08″	33′-04″	31′-04″	29′-00″	31′-11″	30′-00″	27′-09″
	WI 80	11⅞″	31′-03″	29′-04″	27′-02″	29′-04″	27′-07″	25′-06″	28′-01″	26′-04″	24′-05″
		14″	35′-06″	33′-04″	30′-10″	33′-04″	31′-04″	29′-00″	31′-11″	30′-00″	27′-09″
		16″	39′-05″	37′-00″	34′-03″	37′-00″	34′-09″	32′-02″	35′-05″	33′-03″	30′-10″

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Non-Snow 125% Live 20 Dead 20	GPI 20	11⅞″	23′-08″	22′-03″	20′-07″	22′-02″	20′-10″	19′-04″	21′-00″	19′-09″	18′-03″
	GPI 40	9½″	21′-00″	19′-09″	18′-03″	19′-08″	18′-06″	17′-02″	18′-08″	17′-06″	16′-03″
		11⅞″	25′-02″	23′-08″	21′-10″	23′-07″	22′-02″	20′-06″	22′-04″	21′-00″	19′-05″
		14″	28′-08″	26′-09″	23′-11″	26′-10″	25′-02″	23′-01″	25′-05″	23′-10″	22′-01″
	GPI 65	11⅞″	27′-07″	25′-11″	24′-00″	25′-10″	24′-03″	22′-06″	24′-06″	23′-00″	21′-04″
		14″	31′-05″	29′-06″	27′-04″	29′-05″	27′-08″	25′-07″	27′-11″	26′-03″	24′-03″
		16″	34′-11″	32′-10″	30′-05″	32′-09″	30′-09″	28′-06″	31′-00″	29′-02″	27′-00″
	WI 40	9½″	21′-00″	19′-09″	18′-00″	19′-08″	18′-06″	17′-02″	18′-08″	17′-06″	16′-03″
		11⅞″	25′-02″	23′-00″	20′-07″	23′-07″	22′-02″	19′-10″	22′-04″	21′-00″	19′-05″
		14″	27′-08″	25′-03″	22′-07″	26′-09″	24′-05″	21′-10″	25′-05″	23′-10″	21′-09″
	WI 60	11⅞″	26′-09″	25′-02″	23′-03″	25′-01″	23′-07″	21′-10″	23′-09″	22′-04″	20′-08″
		14″	30′-06″	28′-08″	26′-06″	28′-07″	26′-10″	24′-10″	27′-01″	25′-05″	23′-07″
		16″	33′-11″	31′-10″	28′-07″	31′-09″	29′-10″	27′-07″	30′-01″	28′-03″	26′-02″
	WI 80	11⅞″	29′-09″	27′-11″	25′-10″	27′-11″	26′-02″	24′-03″	26′-05″	24′-10″	23′-00″
		14″	33′-10″	31′-10″	29′-05″	31′-09″	29′-10″	27′-07″	30′-01″	28′-03″	26′-02″
		16″	37′-07″	35′-03″	32′-08″	35′-02″	33′-01″	30′-07″	33′-04″	31′-04″	29′-00″

Roof Joist Maximum Span Chart–115% (Snow)

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Snow 115% Live 25 Dead 15	GPI 20	11⅞″	23′-09″	22′-04″	20′-08″	22′-04″	21′-00″	19′-05″	20′-09″	19′-05″	18′-00″
	GPI 40	9½″	21′-01″	19′-10″	18′-04″	19′-10″	18′-08″	17′-03″	18′-05″	17′-03″	16′-00″
		11⅞″	25′-03″	23′-06″	21′-00″	23′-09″	22′-04″	20′-05″	22′-00″	20′-08″	19′-02″
		14″	28′-03″	25′-09″	23′-00″	27′-00″	25′-01″	22′-05″	25′-00″	23′-06″	21′-07″
	GPI 65	11⅞″	27′-08″	26′-00″	24′-00″	26′-01″	24′-06″	22′-08″	24′-02″	22′-08″	21′-00″
		14″	31′-06″	29′-07″	27′-05″	29′-08″	27′-11″	25′-10″	27′-06″	25′-10″	23′-11″
		16″	35′-00″	32′-11″	29′-10″	33′-00″	31′-00″	28′-08″	30′-07″	28′-09″	26′-07″
	WI 40	9½″	21′-01″	19′-05″	17′-04″	19′-10″	18′-08″	16′-11″	18′-05″	17′-03″	16′-00″
		11⅞″	24′-03″	22′-02″	19′-09″	23′-07″	21′-07″	19′-03″	22′-00″	20′-08″	18′-07″
		14″	26′-08″	24′-04″	21′-09″	25′-11″	23′-08″	21′-02″	25′-00″	22′-10″	20′-05″
	WI 60	11⅞″	26′-10″	25′-02″	23′-03″	25′-03″	23′-09″	22′-00″	23′-05″	22′-00″	20′-04″
		14″	30′-07″	28′-07″	25′-07″	28′-10″	27′-01″	24′-11″	26′-08″	25′-01″	23′-03″
		16″	33′-09″	30′-10″	27′-06″	32′-00″	30′-00″	26′-10″	29′-08″	27′-10″	25′-09″
	WI 80	11⅞″	29′-10″	28′-00″	25′-11″	28′-01″	26′-05″	24′-05″	26′-01″	24′-06″	22′-08″
		14″	33′-11″	31′-10″	29′-06″	32′-00″	30′-00″	27′-10″	29′-08″	27′-10″	25′-09″
		16″	37′-08″	35′-04″	32′-09″	35′-06″	33′-04″	30′-10″	32′-10″	30′-11″	28′-07″

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Snow 115% Live 30 Dead 15	GPI 20	11⅞″	22′-10″	21′-05″	19′-06″	21′-06″	20′-03″	18′-09″	20′-00″	18′-09″	17′-05″
	GPI 40	9½″	20′-03″	19′-00″	17′-05″	19′-01″	17′-11″	16′-07″	17′-09″	16′-08″	15′-05″
		11⅞″	24′-03″	22′-02″	19′-10″	22′-11″	21′-06″	19′-04″	21′-03″	20′-00″	18′-06″
		14″	26′-08″	24′-04″	21′-09″	26′-00″	23′-09″	21′-02″	24′-02″	22′-08″	20′-06″
	GPI 65	11⅞″	26′-07″	24′-11″	23′-01″	25′-01″	23′-07″	21′-10″	23′-04″	21′-11″	20′-03″
		14″	30′-03″	28′-05″	26′-04″	28′-07″	26′-10″	24′-10″	26′-07″	24′-11″	23′-01″
		16″	33′-08″	31′-07″	26′-06″	31′-09″	29′-10″	27′-05″	29′-06″	27′-09″	25′-08″
	WI 40	9½″	20′-01″	18′-04″	16′-04″	19′-01″	17′-11″	16′-00″	17′-09″	16′-08″	15′-05″
		11⅞″	22′-11″	20′-11″	18′-08″	22′-04″	20′-05″	18′-02″	21′-03″	19′-09″	17′-08″
		14″	25′-02″	22′-11″	20′-06″	24′-07″	22′-05″	20′-00″	23′-09″	21′-08″	19′-04″
	WI 60	11⅞″	25′-09″	24′-02″	22′-00″	24′-04″	22′-10″	21′-02″	22′-07″	21′-03″	19′-08″
		14″	29′-05″	27′-00″	24′-01″	27′-09″	26′-01″	23′-07″	25′-09″	24′-02″	22′-05″
		16″	31′-10″	29′-01″	25′-04″	30′-10″	28′-05″	25′-04″	28′-07″	26′-11″	24′-07″
	WI 80	11⅞″	28′-08″	26′-11″	24′-11″	27′-01″	25′-05″	23′-06″	25′-02″	23′-07″	21′-10″
		14″	32′-07″	30′-07″	28′-04″	30′-10″	28′-11″	26′-09″	28′-07″	26′-10″	24′-11″
		16″	36′-02″	34′-00″	30′-08″	34′-02″	32′-01″	29′-08″	31′-09″	29′-10″	27′-07″

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Snow 115% Live 40 Dead 15	GPI 20	11⅞″	21′-04″	19′-09″	17′-08″	20′-02″	18′-11″	17′-04″	18′-10″	17′-08″	16′-04″
	GPI 40	9½″	18′-11″	17′-07″	15′-09″	17′-11″	16′-10″	15′-05″	16′-08″	15′-08″	14′-06″
		11⅞″	22′-00″	20′-01″	17′-11″	21′-06″	19′-08″	17′-07″	20′-00″	18′-09″	17′-01″
		14″	24′-01″	22′-00″	19′-08″	23′-08″	21′-07″	19′-03″	22′-09″	21′-00″	18′-09″
	GPI 65	11⅞″	24′-10″	23′-03″	21′-06″	23′-06″	22′-01″	20′-05″	21′-11″	20′-07″	19′-01″
		14″	28′-03″	26′-07″	21′-07″	26′-09″	25′-02″	22′-05″	25′-00″	23′-05″	21′-09″
		16″	31′-05″	27′-01″	21′-07″	29′-09″	27′-11″	22′-05″	27′-09″	26′-01″	24′-02″
	WI 40	9½″	18′-02″	16′-07″	14′-10″	17′-10″	16′-03″	14′-06″	16′-08″	15′-08″	14′-01″
		11⅞″	20′-09″	18′-11″	16′-10″	20′-04″	18′-06″	16′-07″	19′-09″	18′-00″	16′-01″
		14″	22′-09″	20′-09″	18′-06″	22′-04″	20′-04″	18′-02″	21′-09″	19′-10″	17′-08″
	WI 60	11⅞″	24′-01″	22′-03″	19′-11″	22′-10″	21′-05″	19′-06″	21′-03″	20′-00″	18′-06″
		14″	26′-09″	24′-05″	20′-08″	26′-00″	23′-11″	21′-05″	24′-03″	22′-09″	20′-10″
		16″	28′-10″	25′-11″	20′-08″	28′-03″	25′-10″	21′-06″	26′-11″	25′-01″	22′-05″
	WI 80	11⅞″	26′-09″	25′-02″	22′-10″	25′-04″	23′-10″	22′-00″	23′-08″	22′-03″	20′-07″
		14″	30′-06″	28′-07″	25′-00″	28′-10″	27′-01″	25′-01″	26′-11″	25′-03″	23′-05″
		16″	33′-10″	31′-04″	25′-00″	32′-00″	30′-01″	25′-03″	29′-10″	28′-00″	23′-11″

Load (PSF)	Joist	Joist Depth	Slope of 4/12 or less			Slope of over 4/12 through 8/12			Slope of over 8/12 through 12/12		
			16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.	16″ o.c.	19.2″ o.c.	24″ o.c.
Snow 115% Live 50 Dead 15	GPI 20	11⅞″	19′-11″	18′-02″	16′-03″	19′-01″	17′-10″	15′-11″	17′-10″	16′-09″	15′-06″
	GPI 40	9½″	17′-09″	16′-03″	14′-06″	16′-11″	15′-11″	14′-03″	15′-10″	14′-11″	13′-09″
		11⅞″	20′-03″	18′-05″	16′-06″	19′-11″	18′-02″	16′-02″	19′-00″	17′-09″	15′-10″
		14″	22′-02″	20′-03″	18′-01″	21′-10″	19′-11″	17′-09″	21′-04″	19′-05″	17′-04″
	GPI 65	11⅞″	23′-04″	21′-11″	18′-03″	22′-03″	20′-10″	19′-00″	20′-10″	19′-06″	18′-01″
		14″	26′-07″	22′-10″	18′-03″	25′-04″	23′-10″	19′-00″	23′-08′	22′-03″	20′-07″
		16″	27′-06″	22′-10″	18′-03″	28′-02″	23′-10″	19′-00″	26′-04″	24′-09″	21′-00″
	WI 40	9½″	16′-09″	15′-03″	13′-07″	16′-05″	15′-00″	13′-05″	15′-10″	14′-08″	13′-01″
		11⅞″	19′-01″	17′-05″	15′-06″	18′-09″	17′-01″	15′-03″	18′-04″	16′-08″	14′-11″
		14″	20′-11″	19′-01″	17′-01″	20′-07″	18′-09″	16′-09″	20′-01″	18′-04″	16′-05″
	WI 60	11⅞″	22′-05″	20′-06″	17′-06″	21′-07″	20′-02″	18′-00″	20′-02″	18′-11″	17′-06″
		14″	24′-08″	21′-11″	17′-06″	24′-03″	22′-01″	18′-02″	23′-00″	21′-07″	19′-03″
		16″	26′-04″	21′-11″	17′-06″	26′-01″	22′-10″	18′-02″	25′-06″	23′-03″	19′-03″
	WI 80	11⅞″	25′-02″	23′-07″	19′-04″	24′-00″	22′-06″	20′-01″	22′-05″	21′-01″	19′-06″
		14″	28′-08″	26′-06″	21′-02″	27′-04″	25′-08″	21′-06″	25′-06″	24′-00″	20′-06″
		16″	31′-08″	26′-06″	21′-02″	30′-04″	26′-11″	21′-06″	28′-04″	25′-08″	20′-06″

General Notes, Allowable Uniform Loads–Floor and Roof

1. Table values are based on clear distance between supports and may be used for simple or multiple spans. End spans of multiple span joists must be at least 40% of adjacent span.
2. Uniform loads shown below cover a broad range of applications. It may be possible to exceed these loads by analyzing a specific application using GP FASTBeam® software. For cases with cantilevers or point loads, use FASTBeam software or contact BlueLinx.
3. Both live and total loads must be checked—live load against the Live row and total load against the Total row. When no value is shown in the Live row, total load will govern.
4. Verify that the deflection criteria herein are accepted by local codes and authorities.
5. Provide lateral support at bearing points and continuous lateral support along the compression flange of each joist.
6. Minimum end bearing length is 1¾". Minimum intermediate bearing length is 3½".
7. For double joists, double the table values and connect joists per detail F11.
8. For proper installation procedures, refer to appropriate sections in this publication.

GPI and WI Series Joists Allowable Uniform Loads–Floor

Pounds per lineal foot (PLF)

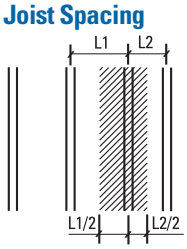
Joist	Depth	Joist Span:		6′	7′	8′	9′	10′	11′	12′	13′	14′	15′	16′	17′	18′	19′	20′	21′	22′	23′	24′	25′	26′	27′	28′	29′	30′
GPI 20	11⅞"	Live	L/600						148	117	94	77	64	53	45	38	33	28	24	21	19							
			L/480							146	118	96	79	66	56	48	41	35	31	27	24							
		Total	L/240	301	259	228	203	183	167	153	142	132	123	115	104	93	82	70	61	53	47							
GPI 40	9½"	Live	L/600				180	137	106	84	67	55	45	38	32	27												
			L/480					171	133	105	84	69	57	47	40	34												
		Total	L/240	321	275	240	214	192	175	160	141	122	107	94	79	68												
	11⅞"	Live	L/600						172	137	111	91	75	63	53	45	39	34	29	26	22							
			L/480								139	113	94	79	66	56	48	42	36	32	28							
		Total	L/240	334	288	253	226	204	185	170	157	146	137	121	108	96	86	78	71	64	56							
	14"	Live	L/600									129	107	90	76	65	56	48	42	37	32	29	26	23	20			
			L/480										134	112	95	81	70	60	52	46	41	36	32	28	26			
		Total	L/240	334	288	253	226	204	185	170	157	146	137	128	121	114	104	94	85	78	71	65	60	56	51			
GPI 65	11⅞"	Live	L/600								140	115	95	80	68	58	50	43	38	33	29							
			L/480									143	119	100	85	72	62	54	47	41	36							
		Total	L/240	336	289	254	226	204	186	171	158	147	137	129	121	115	109	103	94	82	73							
	14"	Live	L/600										136	115	97	83	72	62	54	48	42	37	33	30	27			
			L/480													104	90	78	68	60	53	47	42	37	33			
		Total	L/240	336	289	254	226	204	186	171	158	147	137	129	121	115	109	103	98	94	90	86	83	74	67			
	16"	Live	L/600													111	96	84	73	64	57	51	45	40	36	33	30	27
			L/480																92	80	71	63	56	50	45	41	37	33
		Total	L/240	336	289	254	226	204	186	171	158	147	137	129	121	115	109	103	98	94	90	86	83	80	77	74	71	67
WI 40	9½"	Live	L/600				180	137	106	84	67	55	45	38	32	27												
			L/480						133	105	84	69	57	47	40	34												
		Total	L/240	278	239	210	187	169	154	141	125	108	94	83	74	66												
	11⅞"	Live	L/600						172	137	111	91	75	63	53	45	39	34	29	26	22							
			L/480								139	113	94	79	66	56	48	42	36	32	28							
		Total	L/240	322	277	243	217	196	178	164	151	140	122	108	96	85	77	69	63	57	53							
	14"	Live	L/600									129	107	90	76	65	56	48	42	37	32	29	26	23	20			
			L/480											112	95	81	70	60	52	46	41	36	32	28	26			
		Total	L/240	322	277	243	217	196	178	164	151	141	131	123	115	103	92	84	76	69	63	58	54	50	46			
WI 60	11⅞"	Live	L/600							160	129	106	88	74	63	53	46	40	35	30	27							
			L/480									133	110	92	78	67	57	50	43	38	33							
		Total	L/240	322	277	243	217	196	178	164	151	141	131	123	116	110	104	96	86	76	67							
	14"	Live	L/600										126	106	90	77	66	57	50	44	39	34	31	27	25			
			L/480												112	96	83	72	63	55	48	43	38	34	31			
		Total	L/240	322	277	243	217	196	178	164	151	141	131	123	116	110	104	99	94	90	86	80	74	68	61			
	16"	Live	L/600													103	89	77	67	59	52	46	41	37	33	30	27	25
			L/480															96	84	74	65	58	52	46	41	37	34	31
		Total	L/240	322	277	243	217	196	178	164	151	141	131	123	116	110	104	99	94	90	86	83	79	76	73	69	64	60
WI 80	11⅞"	Live	L/600									139	116	98	83	71	61	53	47	41	36							
			L/480											122	104	89	77	67	58	51	45							
		Total	L/240	355	306	269	240	216	197	181	167	155	145	136	128	121	115	109	104	99	90							
	14"	Live	L/600											138	118	101	88	76	67	59	52	46	41	37	33			
			L/480													127	109	95	83	73	65	58	51	46	41			
		Total	L/240	389	335	294	262	236	215	198	183	170	159	149	140	133	126	119	114	109	104	100	96	92	83			
	16"	Live	L/600														116	101	89	78	69	62	55	49	44	40	36	33
			L/480																111	98	87	77	69	62	55	50	45	41
		Total	L/240	389	335	294	262	236	215	198	183	170	159	149	140	133	126	119	114	109	104	100	96	92	89	86	83	80

NOTES:
1. Refer to General Notes above.
2. Table does not include additional stiffness from composite action with glue-nailed or nailed decking.
3. L/480 live load deflection is recommended (See System Performance narrative.) For L/360 (minimum code deflection) multiply L/480 value times 1.33.
4. Total load deflection is limited to L/240.

PSF to PLF Conversion Load in lbs. per lineal foot (PLF)

o.c. spacing	spacing factor	LOAD IN LBS. PER SQUARE FOOT (PSF)											
		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	34	40	47	54	60	67	74	80	87	94	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

Joist Spacing



Calculating Uniformly Distributed Load (plf):

$\left(\frac{L1(ft.)}{2} + \frac{L2(ft.)}{2}\right)$ x LL(psf) = LL(plf)

$\left(\frac{L1(ft.)}{2} + \frac{L2(ft.)}{2}\right)$ x TL(psf) = TL(plf)

Check resulting loads against those in the appropriate chart.

GPI and WI Series Joists Allowable Uniform Loads–Roof

Pounds per lineal foot (PLF)

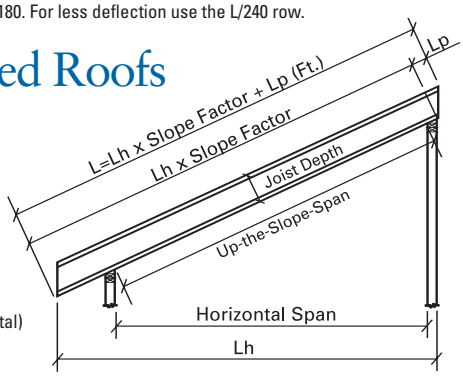
Joist	Depth	Joist Span:		6′	7′	8′	9′	10′	11′	12′	13′	14′	15′	16′	17′	18′	19′	20′	21′	22′	23′	24′	25′	26′	27′	28′	29′	30′
GPI 20	11⅞″	Live	L/240											133	112	95	82	70	61	53	47	42	37	33	29	27	24	
		Total	115%	346	298	262	234	211	192	176	163	151	141	133	120	107	96	87	79	71	63	55	49	44	39	35	32	
			125%	376	324	285	254	229	209	192	177	165	154	144	131	117	105	94	82	71	63	55	49	44	39	35	32	
GPI 40	9½″	Live	L/240								168	137	113	94	79	68	58	50	43	38	33	29	26	23				
		Total	115%	369	316	277	246	221	201	184	163	141	123	108	96	86	77	67	58	51	44	39	35	31				
			125%	401	344	301	267	240	218	200	177	153	133	117	104	90	77	67	58	51	44	39	35	31				
	11⅞″	Live	L/240												133	113	97	84	73	64	56	50	44	39	35	32	29	26
		Total	115%	385	331	291	259	234	213	196	181	168	157	140	124	111	99	90	82	74	68	63	58	53	47	42	38	35
			125%	418	360	316	282	254	232	213	197	183	171	152	135	120	108	98	89	81	74	66	59	53	47	42	38	35
	14″	Live	L/240																105	92	81	72	64	57	51	46	42	38
		Total	115%	385	331	291	259	234	213	196	181	168	157	147	139	131	119	108	98	89	82	75	69	64	59	55	52	48
			125%	418	360	316	282	254	232	213	197	183	171	160	151	143	130	117	106	97	89	82	75	70	65	60	55	50
GPI 65	11⅞″	Live	L/240														125	108	94	82	73	64	57	51	46	41	37	34
		Total	115%	386	333	292	260	235	214	197	182	169	158	148	139	132	125	119	113	108	97	86	76	68	61	55	50	45
			125%	420	362	318	283	255	233	214	197	184	171	161	152	143	136	129	123	110	97	86	76	68	61	55	50	45
	14″	Live	L/240																		105	94	83	74	67	60	54	49
		Total	115%	386	333	292	260	235	214	197	182	169	158	148	139	132	125	119	113	108	103	99	95	92	88	80	73	66
			125%	420	362	318	283	255	233	214	197	184	171	161	152	143	136	129	123	117	112	108	103	99	89	80	73	66
	16″	Live	L/240																						91	82	74	67
		Total	115%	386	333	292	260	235	214	197	182	169	158	148	139	132	125	119	113	108	103	99	95	92	88	85	82	79
			125%	420	362	318	283	255	233	214	197	184	171	161	152	143	136	129	123	117	112	108	103	100	96	92	89	86
WI 40	9½″	Live	L/240										113	94	79	68	58	50	43	38	33	29	26	23				
		Total	115%	320	275	242	216	194	177	163	144	124	109	96	85	76	68	62	56	51	44	39	35	31				
			125%	347	299	263	234	211	193	177	157	135	118	104	92	82	74	67	58	51	44	39	35	31				
	11⅞″	Live	L/240															84	73	64	56	50	44	39	35	32	29	26
		Total	115%	370	319	280	249	225	205	188	174	161	141	124	110	98	88	80	72	66	60	56	51	47	44	41	38	35
			125%	402	346	304	271	245	223	205	189	175	153	135	120	107	96	87	79	72	66	60	56	52	47	42	38	35
	14″	Live	L/240																			72	64	57	51	46	42	38
		Total	115%	370	319	280	249	225	205	188	174	162	151	142	132	118	106	96	87	80	73	67	62	57	53	49	46	43
			125%	402	346	304	271	245	223	205	189	176	164	154	144	129	116	104	95	86	79	73	67	62	58	54	50	47
WI 60	11⅞″	Live	L/240													133	115	99	86	76	67	59	53	47	42	38	34	31
		Total	115%	370	319	280	249	225	205	188	174	162	151	142	134	126	120	110	100	91	84	77	70	63	56	50	46	41
			125%	402	346	304	271	245	223	205	189	176	164	154	145	137	130	120	109	99	89	79	70	63	56	50	46	41
	14″	Live	L/240																	110	97	86	76	68	61	55	50	45
		Total	115%	370	319	280	249	225	205	188	174	162	151	142	134	126	120	114	108	104	99	92	85	79	73	68	64	59
			125%	402	346	304	271	245	223	205	189	176	164	154	145	137	130	124	118	113	108	101	93	86	80	74	67	60
	16″	Live	L/240																					92	83	75	68	61
		Total	115%	370	319	280	249	225	205	188	174	162	151	142	134	126	120	114	108	104	99	95	91	88	85	79	74	69
			125%	402	346	304	271	245	223	205	189	176	164	154	145	137	130	124	118	113	108	103	99	95	92	86	80	75
WI 80	11⅞″	Live	L/240															133	116	102	90	80	71	64	57	51	47	42
		Total	115%	408	352	309	275	248	226	208	192	179	167	157	147	139	132	126	120	114	109	105	95	85	76	69	62	56
			125%	444	382	336	299	270	246	226	209	194	181	170	160	151	144	137	130	124	119	107	95	85	76	69	62	56
	14″	Live	L/240																			115	103	92	83	74	67	61
		Total	115%	447	385	338	301	272	248	227	210	195	183	171	161	153	145	137	131	125	120	115	110	106	102	97	90	81
			125%	486	418	367	328	296	269	247	228	212	198	186	175	166	157	149	142	136	130	125	120	115	110	99	90	81
	16″	Live	L/240																							100	91	82
		Total	115%	447	385	338	301	272	248	227	210	195	183	171	161	153	145	137	131	125	120	115	110	106	102	98	95	92
			125%	486	418	367	328	296	269	247	228	212	198	186	175	166	157	149	142	136	130	125	120	115	111	107	103	100

NOTES:

1. Refer to General Notes on the previous page.
2. All roof joists to be sloped ¼″ in 12″ minimum.
3. Use of this table for horizontal spans should be limited to roof slopes of 2″ per foot or less. For greater slopes, convert horizontal span to up-the-slope span using the chart below.
4. Total load deflection is limited to L/180. For less deflection use the L/240 row.

Up-the-Slope Spans & Cutting Lengths for Sloped Roofs

Slope	Slope Factor	Joist Depth 9½″	11⅞″	14″	16″
		Amount to Increase Length for Plumb Cut (Lp in feet)			
2½ in 12	1.021	0.165	0.206	0.243	0.278
3 in 12	1.031	0.198	0.247	0.292	0.333
3½ in 12	1.042	0.231	0.289	0.340	0.389
4 in 12	1.054	0.264	0.330	0.389	0.444
4½ in 12	1.068	0.297	0.371	0.438	0.500
5 in 12	1.083	0.330	0.412	0.486	0.556
6 in 12	1.118	0.396	0.495	0.583	0.667
7 in 12	1.158	0.462	0.577	0.681	0.778
8 in 12	1.202	0.528	0.660	0.778	0.889
9 in 12	1.250	0.594	0.742	0.875	1.000
10 in 12	1.302	0.660	0.825	0.972	1.111
11 in 12	1.357	0.726	0.907	1.069	1.222
12 in 12	1.414	0.792	0.990	1.167	1.333



EXAMPLE:
7/12 slope and 20′-0″ horizontal span, 2′-0″ overhang (horizontal) one end, 2x4 walls

Up-the-slope span: 20′ x 1.158 = 23.16′, use 24′ joist span column to check load capacity.

Overall length: Lh = 2′ + 3.5″/12 + 20′ + 3.5″/12 = 22.583′
If a 14″ joist will be used, Lp = 0.681 feet.
L = (22.583′x 1.158) + 0.681′ = 26.832′ = 26′-10″

Design Properties For Wood I Beam™ Joists

Joist	Joist Depth	EI (10^6 inch^2 lbs)	Allowable Moment[a,b] (ft-lbs)	Allowable Shear[b] (lbs)	Allowable Reactions		C (10^6 ft-lbs/in)	Weight[e] (lbs/ft)
					End[b,c] (lbs)	Intermediate[b,d] (lbs)		
GPI 20	11 7/8"	274	3870	1435	1100	2340	0.515	2.6
GPI 40	9 1/2"	193	3090	1200	1120	2600	0.412	2.9
	11 7/8"	330	3990	1460	1225	2600	0.515	3.1
	14"	482	4790	1715	1250	2600	0.607	3.5
GPI 65	11 7/8"	434	6325	1495	1230	2610	0.515	3.1
	14"	640	7605	1740	1335	2610	0.607	3.5
	16"	877	8755	2000	1345	2610	0.693	3.7
WI 40	9 1/2"	193	2735	1120	1080	2160	0.412	2.6
	11 7/8"	330	3545	1420	1200	2500	0.515	2.9
	14"	482	4270	1710	1200	2500	0.607	3.3
WI 60	11 7/8"	396	4900	1420	1200	2500	0.515	3.2
	14"	584	5895	1710	1200	2500	0.607	3.4
	16"	799	6835	1970	1200	2500	0.693	3.7
WI 80	11 7/8"	547	6940	1420	1280	2760	0.515	3.9
	14"	802	8360	1710	1280	3020	0.607	4.2
	16"	1092	9690	1970	1280	3020	0.693	4.5

NOTES:

a. Allowable moment may not be increased for any code allowed repetitive member use factor.

b. Allowable moment, shear, and reaction values are for normal duration loading and may be increased for other load durations in accordance with code.

c. Allowable end reaction is based on a minimum bearing length of 1¾" without bearing stiffeners. For a bearing length of 4", the allowable end reaction may be set equal to the tabulated shear value. Interpolation of the end reaction between 1¾" and 4" bearing is permitted. For end reaction values over 1,550 lbs., bearing stiffeners are required.

d. Allowable intermediate reaction is based on a minimum bearing length of 3½".

e. Weight of joists for dead load calculations. For shipping weights contact BlueLinx.

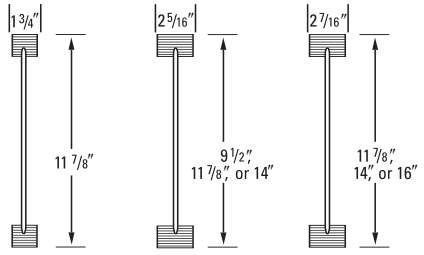
$$\text{APPROXIMATE DEFLECTION* (Inches)} = \frac{22.5 \times W \times L^4}{EI} + \frac{W \times L^2}{C}$$

W = Uniform Load (lbs/foot)
L = Span (feet)
EI = Stiffness Constant
C = Shear Deflection Constant

*Constants have been adjusted to maintain unit consistency.

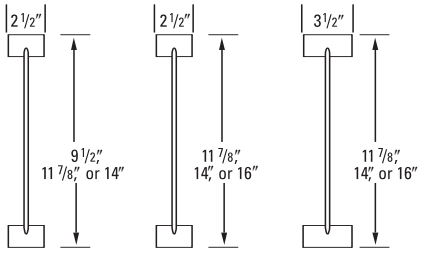
Wood I Beam Joist Cross Sections

GPI Series



GPI 20 GPI 40 GPI 65

WI Series



WI 40 WI 60 WI 80

All Wood I Beam joists have an enhanced OSB web

Wood I Beam™ Architectural Specifications

Part 1—General

1.0—Description:

A. Work in this section includes, but is not limited to: Prefabricated Wood I Beam GPI 20, GPI 40, GPI 65, WI 40, WI 60 and WI 80 ceiling, floor, and roof joists with enhanced OSB webs and lumber flanges (WI) or LVL flanges (GPI).
B. Related work specified elsewhere: Rough carpentry.

1.1—Submittals:

A. Product data:
Submit manufacturer's descriptive literature indicating material composition, thicknesses, dimensions, loading and fabrication details.
B. Shop drawings or installation guide:
Manufacturer's literature indicating installation details. Include locations and details of bearing, blocking, bridging, and cutting and drilling of webs for work by others.

1.2—Quality Assurance:

A. Certification:
All Georgia-Pacific Wood I Beam joists have been qualified to ASTM D5055 by APA-The Engineered Wood Association.

1.3—Delivery, Storage and Handling:

A. Delivery:
Deliver materials to the job site in manufacturer's original packaging, containers and bundles with manufacturer's brand name and identification intact and legible.
B. Storage and handling:
Store and handle materials to protect against contact with damp and wet surfaces, exposure to weather, breakage and damage. Provide air circulation under covering and around stacks of materials. Individual joists shall be handled in the upright position.

1.4—Limitations:

A. Loads:
Concentrated loads shall not be applied to the bottom flange.
B. Cutting:
Except for cutting to length and birdsmouth cuts, top and bottom flanges of Wood I Beam floor and roof joists shall not be cut, drilled or notched.
C. Wood I Beam joists are for use in covered, dry conditions only.

Part 2.0—Products

2.1—Prefabricated Wood Beams and Joists:

A. Acceptable products:
1. Georgia-Pacific Corporation, WI 40.
2. Georgia-Pacific Corporation, WI 60.
3. Georgia-Pacific Corporation, WI 80.
4. Georgia-Pacific Corporation, GPI 20.
5. Georgia-Pacific Corporation, GPI 40.
6. Georgia-Pacific Corporation, GPI 65.

B. Characteristics:
1. Flanges:
High-grade lumber flanges.
a. WI 40: 2½″.
b. WI 60: 2½″.
c. WI 80: 3½″.
LVL flanges.
a. GPI 20: 1¾″.
b. GPI 40: 2 5/16″.
c. GPI 65: 2 5/16″.
2. Webs:
⅜″ thick APA Rated enhanced OSB.
3. Beam depths:
a. GPI 20: 11⅞″ as required for loading, deflection and span.
b. GPI 40 or WI 40: 9½″, 11⅞″ and 14″ as required for loading, deflection and span.
c. WI 60: 11⅞″, 14″ and 16″ as required for loading, deflection and span.
d. GPI 65: 11⅞″, 14″ and 16″ as required for loading, deflection and span.
e. WI 80: 11⅞″, 14″ and 16″ as required for loading, deflection and span.
4. Beam length:
As required for span and bearing.

2.2—Accessories:

A. Nails:
8d, 10d, and 12d box, sinker, and common nails.
B. Bracing and blocking:
1. Bearing stiffeners: 2x4 or combination of ⅜″, ½″ or ⅝″ Plywood Sturd-I-Floor® or OSB.
2. Band joists and continuous closure at load-bearing walls: per standard approved Wood I Beam details.
3. Lateral support at intermediate supports of multiple span joists: Wood I Beam blocking.
C. Joist hangers:
1. Model numbers are shown for United Steel Products and Simpson Strong-Tie® connectors. Contact BlueLinx for other acceptable connectors.

Part 3—Execution

3.0—General:

A. Provide Wood I Beam floor and roof joists where indicated on drawings using hangers and accessories specified.
B. Install Wood I Beam joists in accordance with manufacturer's recommendations.
C. Install and brace Wood I Beam floor and roof joists to prevent dominoing of system and buckling of top flange.

3.2—Accessories:

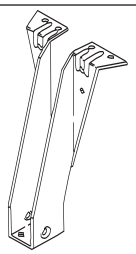
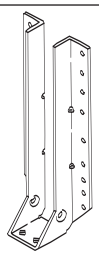
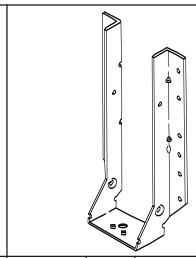
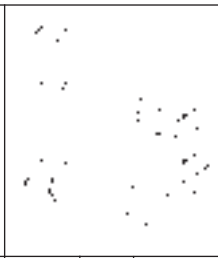
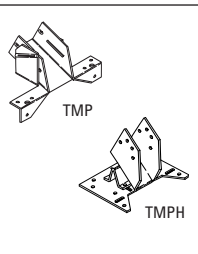
Install accessories where indicated and in accordance with manufacturer's instructions.

NOTE:

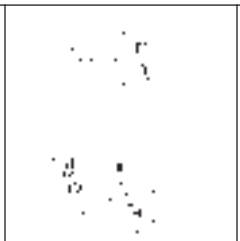
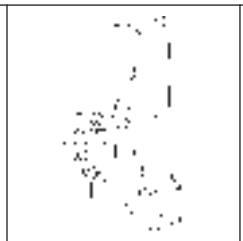
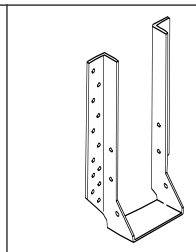
GP engineered lumber products may support mold growth if exposed to certain conditions, including moisture, dampness, condensation, humidity, water or wet conditions. Mold, mildew, fungi, algae, moss, bacterial growth, decay, rot or similar conditions are not manufacturing or product defects and Georgia-Pacific and BlueLinx assume no responsibility or liability for such conditions, regardless of cause.

The user is responsible for proper installation of GP engineered lumber products. The products must be installed in strict conformity with Georgia-Pacific's instructions and all applicable building code requirements and other regulations. In addition, if not specifically covered by Georgia-Pacific's installation instructions or construction detail illustrations, the products must be installed in accordance with generally accepted design and construction practices. When installing engineered lumber products, the user should also consider the effects of local climate and geography. Georgia-Pacific and BlueLinx do not warrant and are not responsible for any finished structure or system that GP engineered lumber products may be incorporated into or other building components that may be used with these products.

Framing Connectors for Wood I Beam™ Joists

USP Lumber Connectors™*																				
Joist	Joist Depth	Top Mount	Cpcy[1,2] Lbs- 100%	Nailing[7] H	Nailing[7] J	Face Mount	Cpcy[1,3] Lbs- 100%	Nailing[7] H	Nailing[7] J	Double Face Mount	Cpcy[1,3,4] Lbs- 100%	Nailing[7] H	Nailing[7] J	Field Sloped & Skewed	Cpcy[1,3,5] Lbs- 115%	Nailing[7] H	Nailing[7] J	Variable Pitch	Cpcy[1,6] Lbs- 115%	Nailing[7] P	Nailing[7] J
GPI 20	11⅞″	TH017118	1305	10d x 1½″	10d x 1½″	THF17112	1795	10d	10d x 1½″	THF35112	1795	10d	10d x 1½″	LSSH179	1290	10d	10d x 1½″	TMP175	1150	10d	10d x 1½″
GPI 40	9½″	THO23950	1625	10d x 1½″	10d x 1½″	THF23925	1345	10d	10d x 1½″	THF23925-2	1575	10d	10d x 11½″	LSSH23	1290	10d	10d x 1½″	TMP23	1970	10d	10d x 1½″
	11⅞″	THO23118	1835	10d x 1½″	10d x 1½″	THF23118	1570	10d	10d x 1½″	THF23118-2	1800	10d	10d x 1½″	LSSH23	1290	10d	10d x 1½″	TMP23	1970	10d	10d x 1½″
	14″	THO23140	2715	10d x 1½″	10d x 1½″	THF23140	2025	10d	10d x 1½″	THF23140-2	2370	10d	10d x 1½″	LSSH23	1290	10d	10d x 1½″	TMP23	1970	10d	10d x 1½″
WI 40, 60 & GPI 65	9½″	THO25950	1625	10d x 1½″	10d x 1½″	THF25925	1345	10d	10d x 1½″	THF25925-2	1350	10d	10d	LSSH25	1825	16d	10d x 1½″	TMP25	1970	10d	10d x 1½″
	11⅞″	THO25118	1835	10d x 1½″	10d x 1½″	THF25112	1570	10d	10d x 1½″	THF25925-2	1350	10d	10d	LSSH25	1825	16d	10d x 1½″	TMP25	1970	10d	10d x 1½″
	14″	THO25140	2400	10d x 1½″	10d x 1½″	THF25140	2015	10d	10d x 1½″	THF25112-2	1800	10d	10d	LSSH25	1825	16d	10d x 1½″	TMP25	1970	10d	10d x 1½″
	16″	THO25160	2400	10d x 1½″	10d x 1½″	THF25160	2465	10d	10d x 1½″	THF25112-2	1800	10d	10d	LSSH25	1825	16d	10d x 1½″	TMP25	1970	10d	10d x 1½″
WI 80	11⅞″	THO35118	2050	10d x 1½″	10d x 1½″	THF35112	1550	10d	10d x 1½″	HD7120	2175	16d	10d	LSSH35	1920	16d	10d x 1½″	TMP4	1970	10d	10d x 1½″
	14″	THO35140	2100	10d x 1½″	10d x 1½″	THF35140	1940	10d	10d x 1½″	HD7140	2720	16d	10d	LSSH35	1920	16d	10d x 1½″	TMP4	1970	10d	10d x 1½″
	16″	THO35160	2100	10d x 1½″	10d x 1½″	THF35157	2135	10d	10d x 1½″	HD7140	2720	16d	10d	LSSH35	1920	16d	10d x 1½″	TMP4	1970	10d	10d x 1½″

*BlueLinx stocks a full line of USP lumber connectors.

Simpson Strong-Tie® Connectors																				
Joist	Joist Depth	Top Mount	Cpcy[1,2] Lbs- 100%	Nailing[7] H	Nailing[7] J	Face Mount	Cpcy[1,3] Lbs- 100%	Nailing[7] H	Nailing[7] J	Double Face Mount	Cpcy[1,3,4] Lbs- 100%	Nailing[7] H	Nailing[7] J	Field Sloped & Skewed	Cpcy[1,3,5] Lbs- 115%	Nailing[7] H	Nailing[7] J	Variable Pitch	Cpcy[1] Lbs- 115%	Nailing[7] P	Nailing[7] J
GPI 20	11⅞″	ITT11.88	1050	10d x 1½″	10d x 1½″	IUT11	960	10d	10d x 1½″	MIU3.56/11	2415	10d	10d x 1½″	LSSUI25	1275	10d	10d x 1½″	VPA25	870	10d	10d x 1½″
GPI 40	9½″	ITT359.5	1050	10d x 1½″	10d x 1½″	IUT3510	890	10d	10d x 1½″	MIU4.75/9	1930	10d	10d x 1½″	LSSUI35	1275	10d	10d x 1½″	VPA35	1020	10d	10d x 1½″
	11⅞″	ITT3511.88	1050	10d x 1½″	10d x 1½″	IUT3512	1110	10d	10d x 1½″	MIU4.75/11	2415	10d	10d x 1½″	LSSUI35	1275	10d	10d x 1½″	VPA35	1020	10d	10d x 1½″
	14″	ITT3514	1050	10d x 1½″	10d x 1½″	IUT3514	1555	10d	10d x 1½″	MIU4.75/14	2655	10d	10d x 1½″	LSSUI35	1275	10d	10d x 1½″	VPA35	1020	10d	10d x 1½″
WI 40, 60 & GPI 65	9½″	ITT39.5	1050	10d x 1½″	10d x 1½″	IUT310	890	10d	10d x 1½″	MIU5.12/9	1930	10d	10d x 1½″	LSSUH310	1345	10d	10d x 1½″	VPA3	1020	10d	10d x 1½″
	11⅞″	ITT311.88	1050	10d x 1½″	10d x 1½″	IUT312	1110	10d	10d x 1½″	MIU5.12/11	2415	10d	10d x 1½″	LSSUH310	1345	10d	10d x 1½″	VPA3	1020	10d	10d x 1½″
	14″	ITT314	1050	10d x 1½″	10d x 1½″	IUT314	1400	10d	10d x 1½″	MIU5.12/14	2655	10d	10d x 1½″	LSSUH310	1345	10d	10d x 1½″	VPA3	1020	10d	10d x 1½″
	16″	MIT316	1230	10d x 1½″	10d x 1½″	IUT314[4]	1400	10d	10d x 1½″	MIU5.12/16	2900	10d	10d x 1½″	LSSUH310	1345	10d	10d x 1½″	VPA3	1020	10d	10d x 1½″
WI 80	11⅞″	ITT411.88	1050	10d x 1½″	10d x 1½″	IUT412	960	10d	10d x 1½″	HU412-2	1855	16d	16d	LSSU410	1610	16d	10d x 1½″	VPA4	1025	10d	10d x 1½″
	14″	ITT414	1050	10d x 1½″	10d x 1½″	IUT414	1345	10d	10d x 1½″	HU414-2	2320	16d	16d	LSSU410	1610	16d	10d x 1½″	VPA4	1025	10d	10d x 1½″
	16″	MIT416	1230	10d x 1½″	10d x 1½″	IUT416	1535	10d	10d x 1½″	HU414-2	2320	16d	16d	LSSU410	1610	16d	10d x 1½″	VPA4	1025	10d	10d x 1½″

NOTES:

1. Capacity is for the stated duration of load—100% floor loading—115% roof snow loading. Connector capacity depends on the model selected, quantity and size of nails used, and the size and type of fastener support. Douglas Fir-Larch or Southern Pine web filler material has been assumed for all I-joist series and depths except for all WI 80 depths where S-P-F has been used. Higher capacities may be available based on different header materials; please refer to appropriate reference/design guide from the connector manufacturer for expanded design information. Some connector/header/fastener combinations may not meet maximum joist reaction capacities and a qualified engineer should be consulted. VPA and TMP connectors are based on S-P-F wood plates. Clinch nails across grain when possible.
2. Top mount hanger capacities shown are based on the same series and depth of Wood I Beam™ joists carried. To achieve design capacity shown, use 10d nails for single 1¾″ thick GP Lam® LVL beams and 16d nails for double 1¾″ thick (3½″) GP LVL, Douglas Fir-Larch or Southern Pine glulam beams. Refer to detail F12.
3. Hangers' capacities are based on the lesser value of single 1¾″ thick GP Lam LVL, Douglas Fir-Larch or Southern Pine Glulam beams or the same series and depth of Wood I Beam joists carried. Refer to detail F13 and R1.
4. Bearing stiffeners required for Wood I Beam applications. Refer to detail F13.
5. Beveled bearing stiffeners are required. Refer to detail R8. Maximum slope is 12/12. A tie strap is required for all Wood I Beam applications with 16″ joist depths or slopes of 7/12 and greater. Refer to detail R1.
6. TMP connectors may be used for slopes of 1/12 through 6/12. For greater slopes use TMPH series connectors with bearing stiffeners.
7. Nailing key. "H" column indicates size of nails to connect hanger to supporting header. "J" column indicates nails to attach the hanger to the joist. "P" indicates nails to connect to plate. Fill all nail holes as required by hanger manufacturer. 10d x 1½" is 9 gauge x 1½", 10d is 9 gauge x 3", 16d is 8 gauge x 3½".

NOTE: Model numbers shown are for United Steel Products Company, Inc. 1-800-328-5934 (East) & 1-800-227-0470 (West) and Simpson Strong-Tie® Company, Inc. 1-800-999-5099. Some locations carry similar products produced by other manufacturers. Contact your local building material retailer for conversion information and details. Other designs are available for specialized applications.

Wood I Beam™ Details

Dead Load Material Weights

Pounds per square foot (PSF)

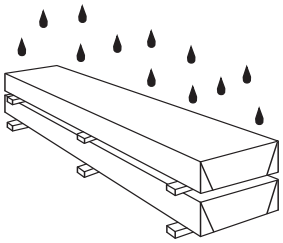
Material	PSF
Sheathing and Decking	
11/32″ Plytanium™ Plywood	1.1
15/32″ Plytanium Plywood	1.5
19/32″ Plytanium Plywood	1.8
23/32″ Plytanium Plywood	2.2
1/8″ Plytanium Plywood	2.6
1 1/8″ Plytanium Plywood	3.4
3/8″ OSB	1.3
7/16″ OSB	1.5
1/2″ OSB	1.7
19/32″ OSB	2.0
23/32″ OSB	2.6
1x decking	2.3
2x decking	4.3
3x decking	7.0
18 gage metal deck	3.0
20 gage metal deck	2.5
Ceilings	
1/2″ gypsum board	2.2
5/8″ gypsum board	2.8
Metal suspension system with acoustical tile	1.8
Wood suspension system with acoustical tile	2.5
1″ plaster with lath	8.0
Roofing	
2-15 lb. and 1-90 lb. rolled	1.7
3-15 lb. and 1-90 lb. rolled	2.2
3 ply and gravel	5.5
4 ply and gravel	6.0
5 ply and gravel	6.5
Single ply membrane	2.0
and gravel	5.5
Asphalt shingles	2.5
Tough-Glass®	2.1
Tough-Glass® Plus	2.4
Summit®	2.5
Summit® III	3.0
Wood shingles	3.0
Asbestos-cement shingles	4.0
Clay tile (minimum)	10.0
Concrete tile (Monier®)	9.5
Spanish tile	19.0

Material	PSF
Miscellaneous	
Mechanical ducts	2.0-4.0
Skylight, metal frame 3/8″ glass	8.0
Stucco	10.0
Floor Fill	
1 1/2″ lightweight concrete	14.0
1 1/2″ regular concrete	18.0
3/4″ GYP-CRETE	6.5
Floor Finish	
Hardwood (nominal 1″)	4.0
Carpet and pad	2.0
Linoleum or soft tile	1.5
3/4″ ceramic or quarry tile (without mortar)	10.0
1/2″ mortar bed	+ 6.0
1″ mortar bed	+ 12.0
2x Framing (12″ on center)	
2x4 (for 16″ o.c. divide by 1.33)	1.4
2x6 (for 16″ o.c. divide by 1.33)	2.2
2x8 (for 16″ o.c. divide by 1.33)	2.9
2x10 (for 16″ o.c. divide by 1.33)	3.7
2x12 (for 16″ o.c. divide by 1.33)	4.4
GPI (for 19.2″ o.c. divide by 1.6)	2.9–3.7
WI (for 19.2″ o.c. divide by 1.6)	2.6–4.5
See page 14 for weight per lineal foot	
Interior Walls (wood or steel studs)	
5/8″ gypsum each side	8.0
5/8″ gypsum one side plaster one side	12.0
Plaster both sides	20.0
Exterior Walls (2x6 studs with insulation)	
5/8″ gypsum and wood siding	10.0
5/8″ gypsum and cement siding	12.0
5/8″ gypsum and stucco	18.0
Windows, glass, frame and sash	8.0
5/8″ gypsum and brick veneer	48.0
Note: Wall weights are per square foot of wall Multiply weight times wall height for plf.	
Insulation (per 1″ thickness)	
Rigid	1.5
Batts	.5

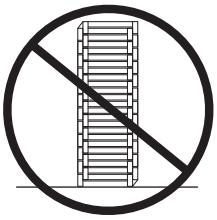
BlueLinx Technical Services recommends 1-2.0 PSF for miscellaneous dead loads.

Storage and Handling

- Wood I Beam™ joists and FiberStrong® rim board shall not be stored in direct contact with the ground and should be protected from weather. Provide air circulation under covering and around stacks of materials.
- Bundles should be stored level.
- Do not open bundles until time of installation. Use care when handling bundles and individual components to prevent injury to handlers or damage by forklifts or cranes.
- Stack and handle Wood I Beam joists in the upright position. Stack and handle FiberStrong rim board flatwise.
- Twisting of joists, or applying loads to the joist when flat can damage the joist.
- Damaged products should not be used.

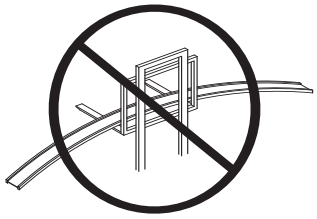


Protect products from sun and water. Use support blocks at 10′ on-center to keep bundles out of water.



DO NOT store Wood I Beam joists flat.

DO NOT lift Wood I Beam joists by top flange.



DO NOT lift Wood I Beam joists in the flat orientation.

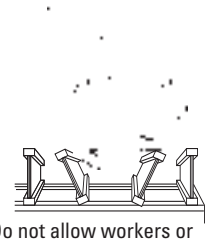
Safety Warning

Handlers and installers should use appropriate personal protective equipment such as gloves and goggles.

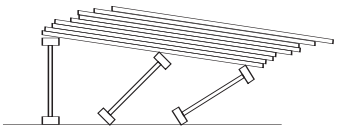
Wood I Beam joists will not support workers or other loads until properly installed and braced. To minimize risk of injury, each Wood I Beam joist shall be properly fastened as it is erected. Continuous closure and/or blocking panels must be installed and attached prior to installing floor or roof sheathing. Lateral restraint, such as an existing deck or braced end wall, must be established at the ends of the bay. Alternatively, a temporary or permanent deck (sheathing) may be nailed to the first 4 feet of joists at the end of the bay.

Rows of temporary bracing at right angles to joists must be fastened with a minimum of two 8d nails (10d box nails if net thickness of bracing exceeds 1″) to the upper surface of each parallel joist and the established lateral restraint. Bracing should be 1x4 minimum and at least 8′ long with on-center spacing not to exceed 10′. Ends of adjoining bracing should lap over at least two joists. Stack building materials over main beams or walls only.

The following can result in serious accidents: improper storage or installation, failure to follow applicable building codes, failure to follow proper load tables, failure to use acceptable hole sizes and locations, or failure to use bearing stiffeners when required. Installation notes must be followed carefully.



Do not allow workers or loads on Wood I Beam joists until properly installed and braced as outlined above.



Stack building materials over main beams or walls only.

Installation Notes

A. Engineered lumber must not be installed in direct contact with concrete or masonry construction and shall be used in covered, dry use conditions only, where the in-service moisture content does not exceed 16%.

B. Except for cutting to length and birdsmouth cuts, top and bottom flanges of Wood I Beam™ joists shall not be cut, drilled or notched.

C. Concentrated loads shall only be applied to the upper surface of the top flange, not suspended from the bottom flange. Contact BlueLinx for exceptions.

D. When nailing sheathing to top flange, follow sheathing manufacturer's nailing recommendations, but maintain spacing in the ranges shown below:

Sheathing Nail Spacing Requirements						
Nail Size	GPI 20		GPI 40, GPI 65		WI 40, WI 60, WI 80	
	Min.	Max.	Min.	Max.	Min.	Max.
8d Box, 8d Common	3″	16″	2″	24″	4″	24″
10d Box, 12d Box	3″	16″	2″	24″	4″	24″
10d Common, 12d Common	4½″	16″	3″	24″	4″	24″

NOTES:

1. If more than one row of nails is required, rows must be offset by at least ½″ (¾″ for WI joists) and staggered.
2. 14 gauge staples may be substituted for 8d nails if staples penetrate the joist flange at least 1″.
3. Do not use nails larger than those shown above when attaching sheathing to flanges of Wood I Beam joists.

Example: When using 8d common nails and GPI 20 series joists, space no closer (min.) than 3″ o.c. and no farther (max.) than 16″ o.c.

E. End bearing length must be at least 1¾″. Intermediate bearings of multiple span joists shall be at least 3½″.

F. Wood I Beam joists must be supported on walls, beams, or in hangers. They may not be supported by a non-structural ridge board or by toenailing into a beam.

G. Wood I Beam joists must be restrained against rotation at the ends of joists by use of rim joists, blocking panels, or cross bridging. The top flange of a Wood I Beam joist must be laterally supported and kept straight within ½″ of true alignment. Plytanium™ Plywood or OSB subfloor nailed to the top flange (per Note D) is adequate to provide lateral support.

H. When nail type is not specified in this guide, use common, box or sinker.

I. To help safeguard the structural integrity of connections with preservative treated wood, use only hot-dipped galvanized or stainless steel fasteners, connectors and hardware.

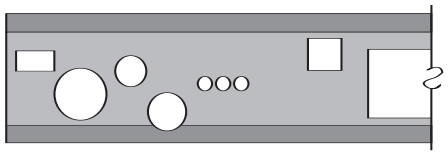
As a minimum requirement, hot-dipped galvanized coated fasteners should conform to ASTM Standard A153 and hot-dipped galvanized coated connectors should conform to ASTM Standard A653 (Class G-185). In demanding applications, or in highly corrosive environments, stainless steel fasteners and connectors should be utilized and may, in fact, be required by building codes.

Most commonly available electroplated galvanized fasteners do not have a sufficient coating of zinc and are not recommended. Aluminum should not be used in direct contact with preservative treated wood. Never mix galvanized steel with stainless steel in the same connection.

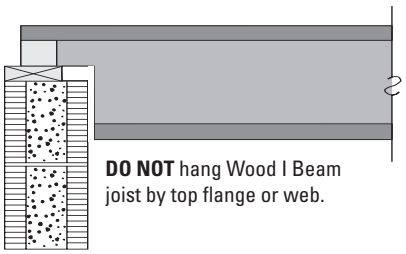
J. Certain applications of staple-up radiant heating may cause additional deflection in I-joists with solid-sawn flanges due to unequal drying within the floor cavity. Contact BlueLinx for additional information.

K. GP Wood I Beam joists are manufactured without camber or specific vertical orientation. They may be installed with the identifying stamps on the side faces reading right side up or upside down.

Installation Don'ts

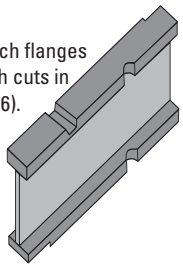


DO NOT violate hole chart rules. See pages 30 and 31.

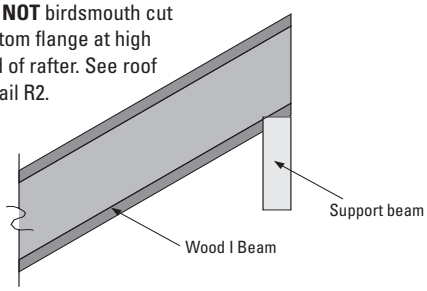


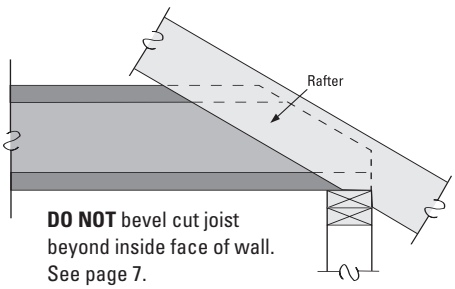
DO NOT hang Wood I Beam joist by top flange or web.

DO NOT cut or notch flanges (except birdsmouth cuts in roof details R4 & R6).



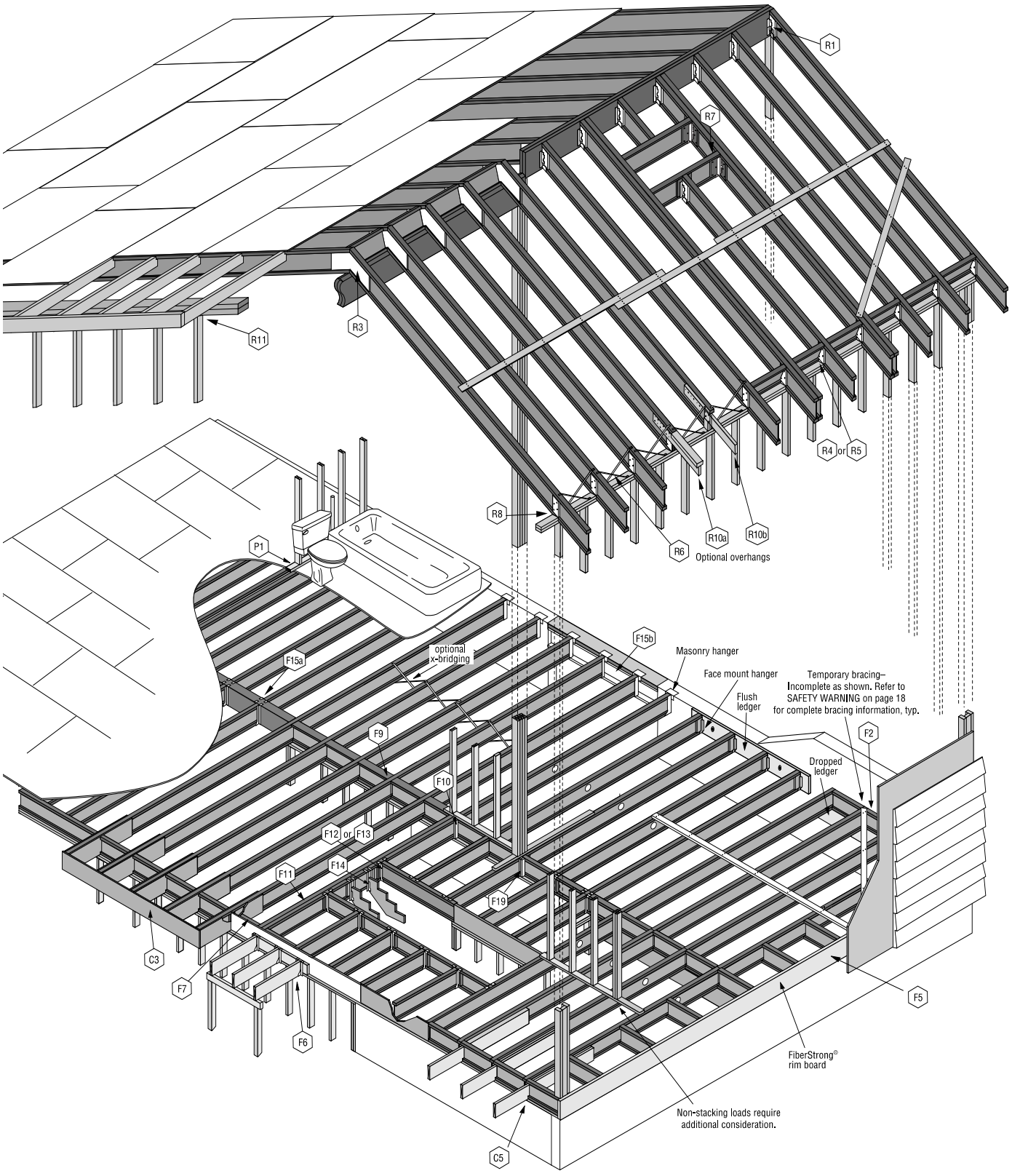
DO NOT birdsmouth cut bottom flange at high end of rafter. See roof detail R2.





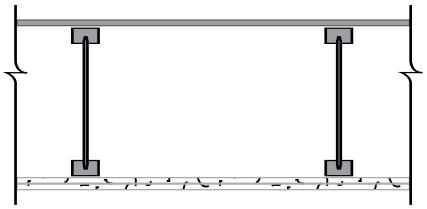
DO NOT bevel cut joist beyond inside face of wall. See page 7.

Typical Framing



Fire Rated Assemblies for Wood I Beam™ Joists

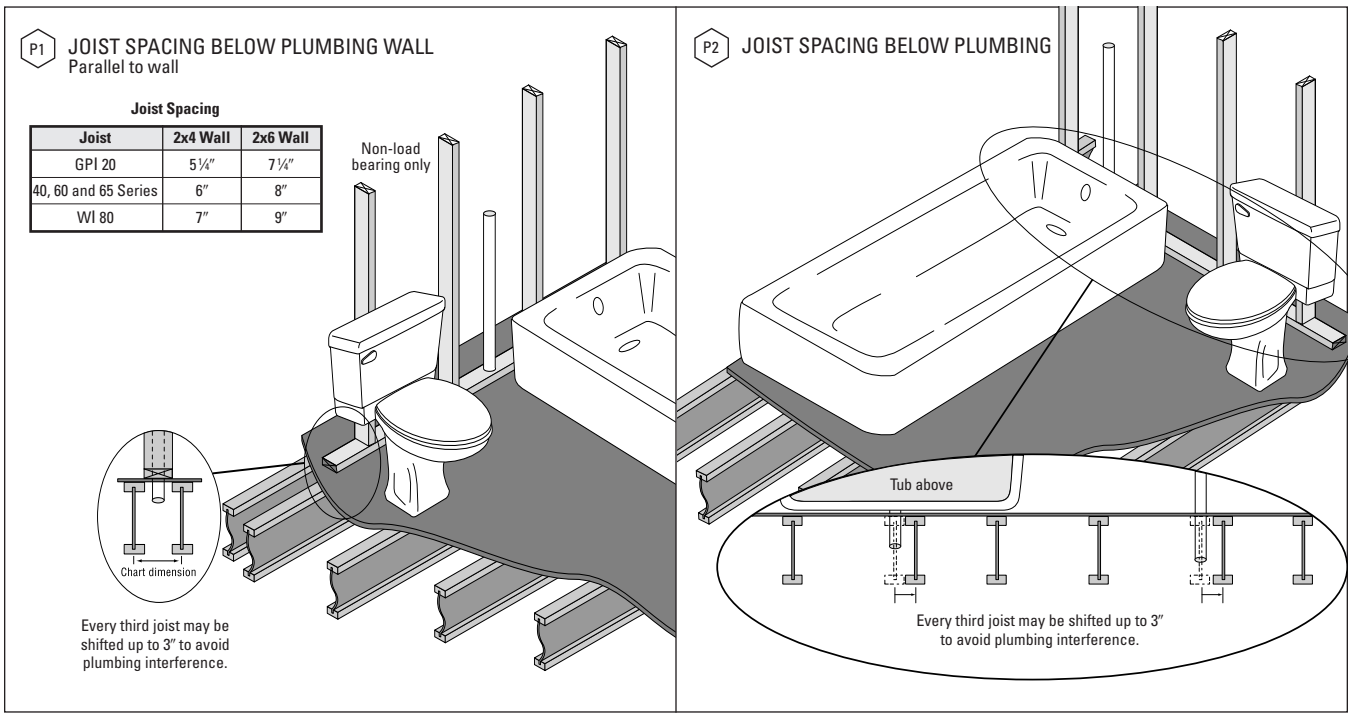
For alternate assemblies, including a two-hour rated system, contact BlueLinx.



One-Hour Fire-Resistive Floor-Ceiling Assembly
(Applicable to all Wood I Beam joists)
Floor—23/32″ APA Rated Sturd-I-Floor® T&G wood structural panel, face grain perpendicular to joists, glued-nailed to joists with ¼″ bead of exterior construction adhesive and 8d common nails spaced per code requirements. Maximum joist spacing 24″ o.c.
Ceiling—Two layers ⅝″ Type X gypsum wallboard applied with long dimension perpendicular to joists—base layer attached to bottom flange of joists with 1¼″ Type S drywall screws, 24″ o.c., face layer attached to joists through base layer with 1⅞″ Type S drywall screws 12″ o.c. at joints and intermediate joists and 1½″ Type G drywall screws 12″ o.c. placed 2″ back on either side of end joints. Joints offset 24″ from base layer end and edge joints.

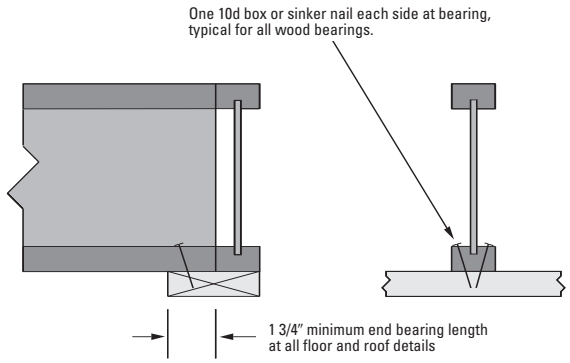
One-Hour Fire-Resistive Floor-Ceiling Assembly
(Applicable to WI series joists only)
Floor—23/32″ APA Rated Sturd-I-Floor T&G wood structural panel, face grain perpendicular to joists, glued-nailed to joists with ¼″ bead of construction adhesive and 8d common nails spaced per code requirements. T&G joints glued with ¼″ bead of construction adhesive. Maximum joist spacing 24″ o.c.; minimum bearing on supports 2″.
Furring—25 gauge steel resilient or hat channels, perpendicular to I-joists in continuous rows spaced up to 16″ o.c. (up to 24″ oc if joist spacing does not exceed 16″ o.c.), attached to bottom flange of each I-joist with one 1⅝″ Type S (resilient channel) or two 1″ Type S drywall screws (hat channel). Center channel splices under I-joists and overlap a minimum of 2¼″. Install additional channels midway between adjacent continuous channels, at locations of end joints in base layer. Ends of these channels must extend a minimum of 6″ beyond the edge joints of adjoining gypsum wallboard panels.
Ceiling—Two layers ⅝″ Type X gypsum applied with long dimension perpendicular to channels—base layer attached to channels with 1⅛″ Type S drywall screws 24″ o.c. face layer attached to channels through base layer with 1⅛″ Type S drywall screws 12″ o.c. joints offset at least 24″ from base layer end and edge joints, end joints centered on channels. At end joints, also attach face layer to base layer with 1½″ type G screws 12″ o.c. spaced 2″ from joint.

Plumbing Details



Floor Details

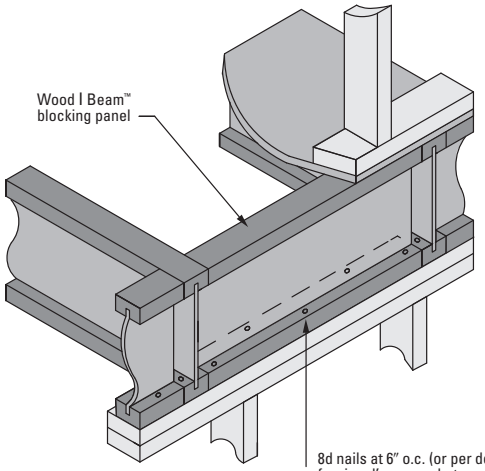
F1 ATTACHMENT AT END BEARING



To avoid splitting flange, start nails at least 1 1/2" from end. Drive nails at an angle to prevent splitting of bearing plate.

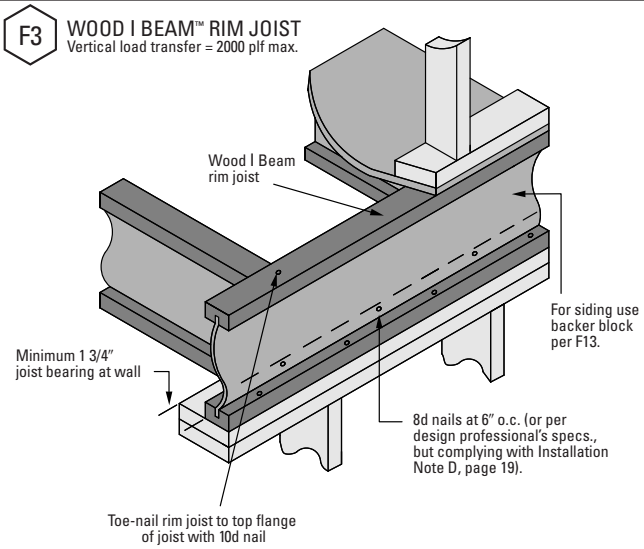
F2 BLOCKING PANEL, EXTERIOR

Vertical load transfer = 2000 plf max.



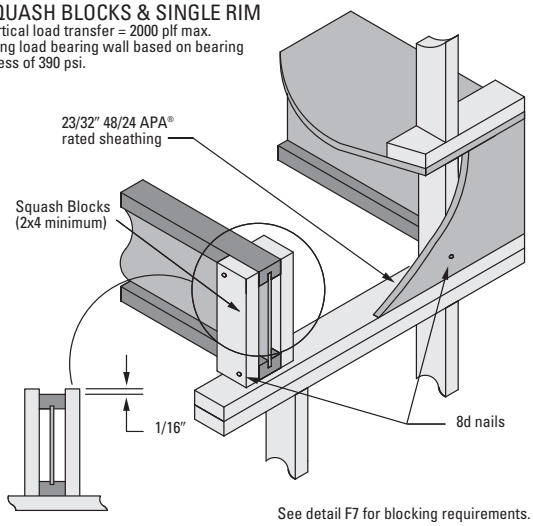
F3 WOOD I BEAM™ RIM JOIST

Vertical load transfer = 2000 plf max.



F4 SQUASH BLOCKS & SINGLE RIM

Vertical load transfer = 2000 plf max. along load bearing wall based on bearing stress of 390 psi.

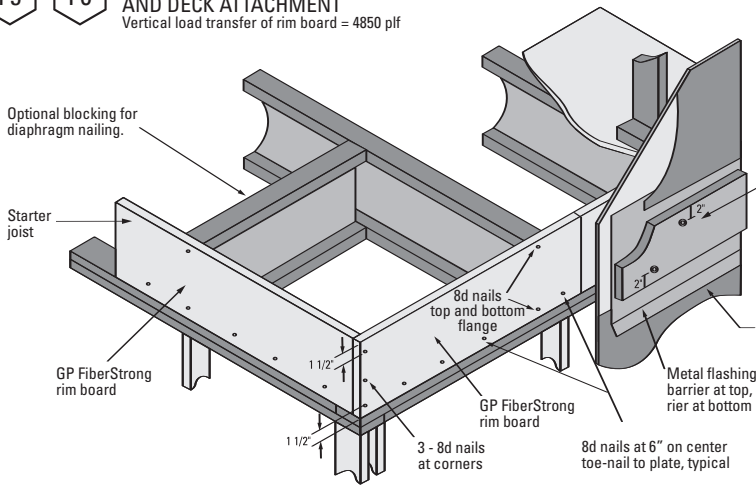


See detail F7 for blocking requirements.

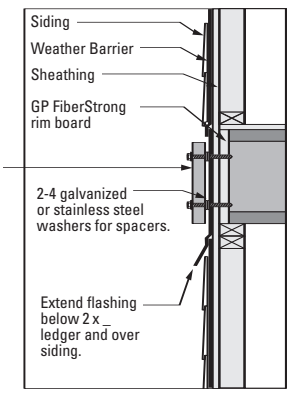
Check local building code for appropriate detail in areas of high lateral load.

F5 F6 FIBERSTRONG® RIM CLOSURE AND DECK ATTACHMENT

Vertical load transfer of rim board = 4850 plf



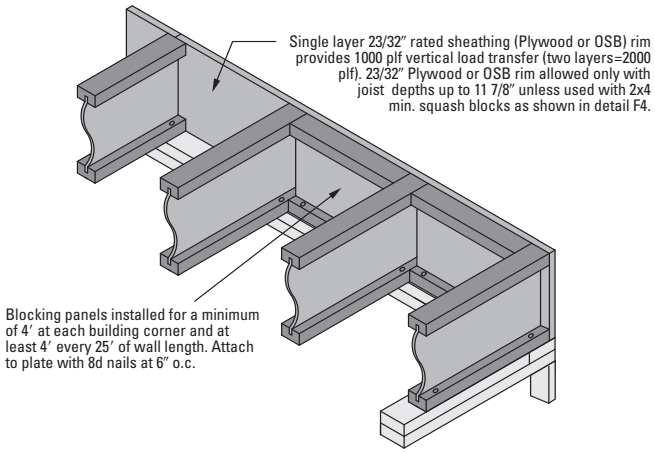
2 x _ PT ledger attached with 1/2" diameter through-bolts with washers and nuts or 1/2" lag screws with a nominal length of 4" or more. 350 pounds per bolt. Bolt/lag screw spacing to be determined by design vertical and lateral load. Lower fastener may alternately be located in wall plate. Use high quality caulk to fill holes and between spacers and flashing.



CAUTION: The lag screw should be inserted in a lead hole by turning with a wrench, not by driving with hammer. Over-torquing can significantly reduce the lateral resistance of the screw and therefore should be avoided.

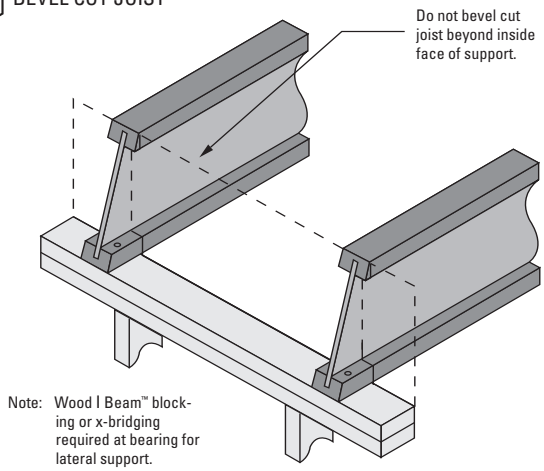
Floor Details

F7 BLOCKING PANELS USED FOR BRACING



Check local building code for appropriate detail in areas of high lateral load.

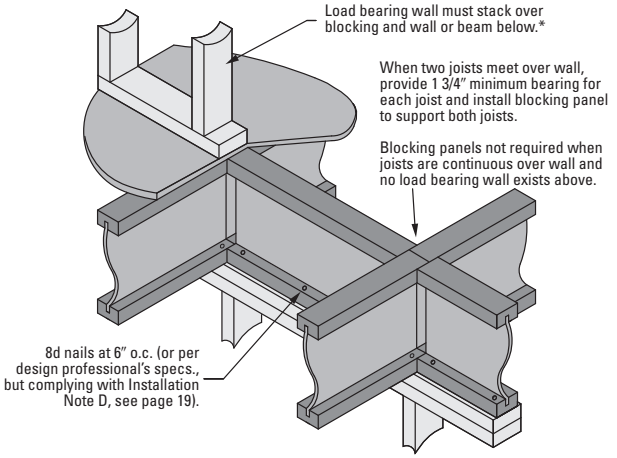
F8 BEVEL CUT JOIST



Check local building code for appropriate detail in areas of high lateral load.

F9 BLOCKING PANEL, INTERIOR

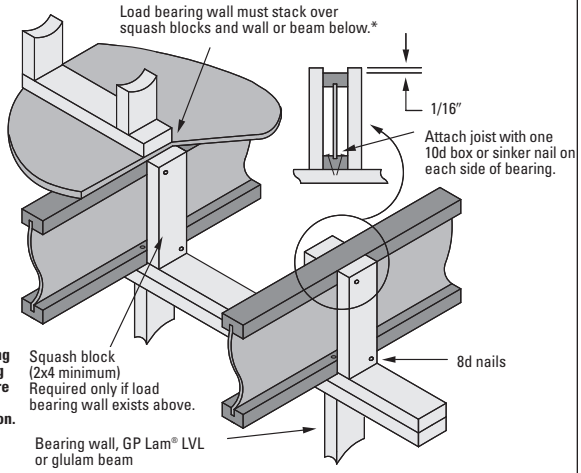
Vertical load transfer = 2000 plf max. along load bearing wall.



***Non-stacking load bearing walls require additional consideration.**

F10 SQUASH BLOCKS AT INTERIOR BEARING

Vertical load transfer = 2000 plf max along load bearing wall.

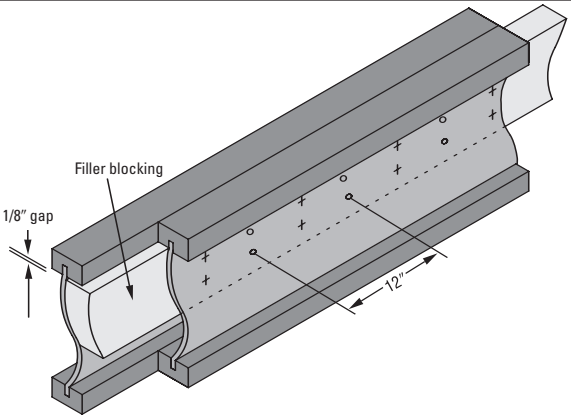


Check local building code for appropriate detail in areas of high lateral load.

F11 DOUBLE JOIST CONSTRUCTION

Double GP Wood I Beam joists are not required to be attached together when all load is evenly distributed from above to both joists, such as when a parallel bearing wall is directly centered over the double joist.

Joist	Joist Depth	Regular Filler Blocking Use in details F12, C4 & R7	Full-depth Filler Blocking Use in details F13 & F14
GPI 20	11 ⅞″	2x6	2x8
GPI 40	9 ½″	2x6 + ⅜″ OSB/Plywood	2x6 + ⅜″ OSB/Plywood
	11 ⅞″	2x6 + ⅜″ OSB/Plywood	2x8 + ⅜″ OSB/Plywood
	14″	2x8 + ⅜″ OSB/Plywood	2x10 + ⅜″ OSB/Plywood
GPI 65 WI 40 WI 60	9 ½″	2x6 + ⅝″ OSB/Plywood	2x6 + ⅝″ OSB/Plywood
	11 ⅞″	2x6 + ⅝″ OSB/Plywood	2x8 + ⅝″ OSB/Plywood
	14″	2x8 + ⅝″ OSB/Plywood	2x10 + ⅝″ OSB/Plywood
	16″	2x8 + ⅝″ OSB/Plywood	2x12 + ⅝″ OSB/Plywood
WI 80	11 ⅞″	(2) 2x8	(2) 2x8
	14″	(2) 2x8	(2) 2x10
	16″	(2) 2x8	(2) 2x12



1. Support back of web during nailing to prevent damage to web-flange connection.
2. Leave ⅛″ gap between top of filler blocking and bottom of top flange.
3. Block solid between joists. Filler need not be one continuous length, but must extend the entire length of span.
4. Place joists together and nail from each side with 2 rows of 10d nails at 12″ o.c., clinched when possible. Stagger rows from opposite sides by 6″.

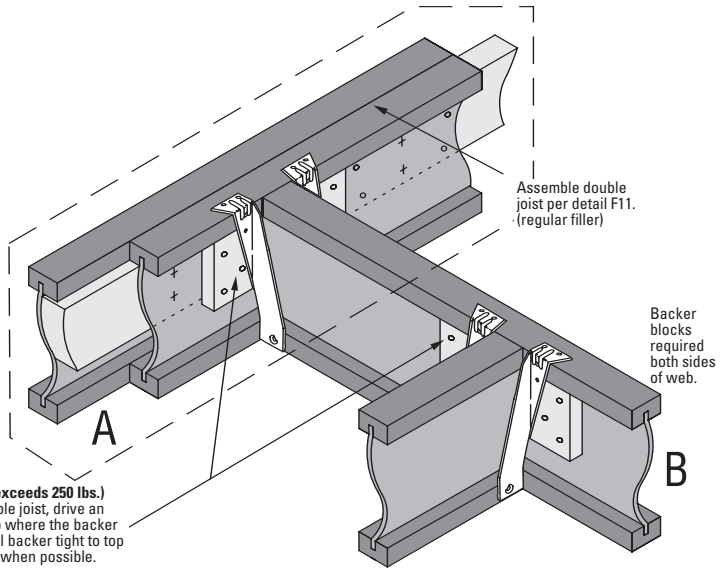
Floor Details

F12 FLOOR OPENING, TOP MOUNT HANGERS

Backer Blocks*

Joist	Joist Depth	Material	Depth
GPI 20	11⅞"	23/32"	5½"
GPI 40	9½", 11⅞"	⅞"	6"
	14"	⅞"	7¼"
GPI 65, WI 40, WI 60	9½", 11⅞"	½" + ½"	6"
	14", 16"	½" + ½"	7¼"
WI 80	11⅞", 14", 16"	2x8	7¼"

*Block must be long enough to permit required nailing without splitting.



Backer Block (use if hanger load exceeds 250 lbs.)
Before installing a backer to a double joist, drive an additional (3) 10d nails into the web where the backer will fit. Clinch when possible. Install backer tight to top flange. Use (10) 10d nails, clinched when possible.

F13 FLOOR OPENING, FACE MOUNT HANGERS

Assemble double joist per detail F11. (full-depth filler)

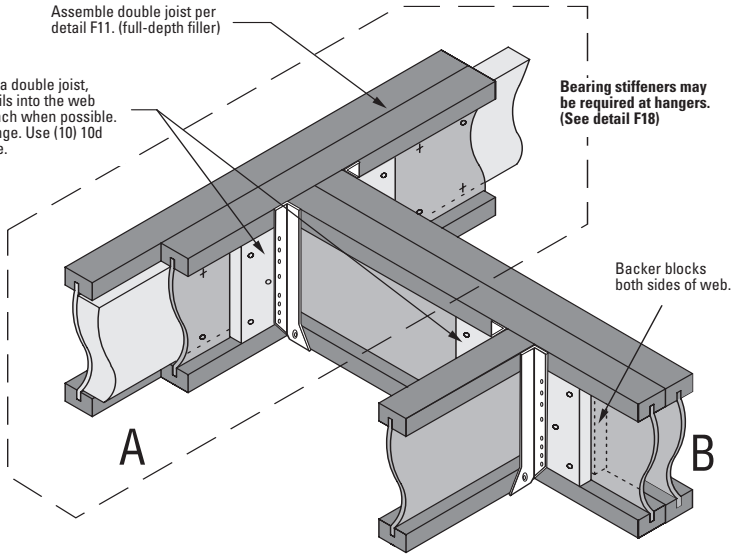
Backer Block
Before installing a backer to a double joist, drive an additional (3) 10d nails into the web where the backer will fit. Clinch when possible. Install backer tight to top flange. Use (10) 10d nails, clinched when possible.

Bearing stiffeners may be required at hangers. (See detail F18)

Backer Blocks*

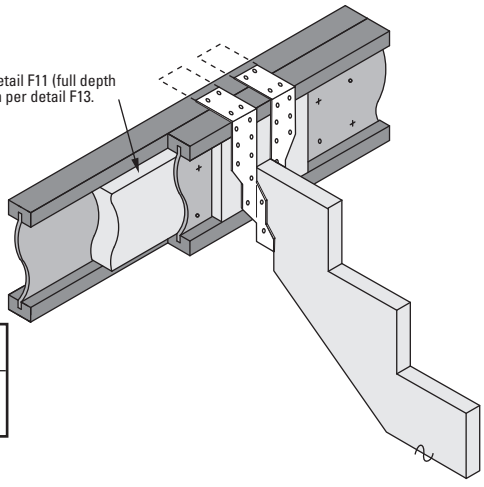
Joist	Joist Depth	Material	Depth
GPI 20	11⅞"	23/32"	8¾"
GPI 40	9½", 11⅞", 14"	⅞"	6¼", 8¾", 10¾"
GPI 65, WI 40, WI 60	9½", 11⅞", 14", 16"	½" + ½"	6¼", 8¾", 10¾",12¾"
WI 80	11⅞", 14", 16"	1½" net	8¾", 10¾", 12¾"

*Block must be long enough to permit required nailing without splitting. Backer depth to equal joist depth minus 3¼".



F14 STRINGER TO JOIST CONNECTION

Double Wood I Beam™ construction per detail F11 (full depth filler). Backer blocking size and installation per detail F13.

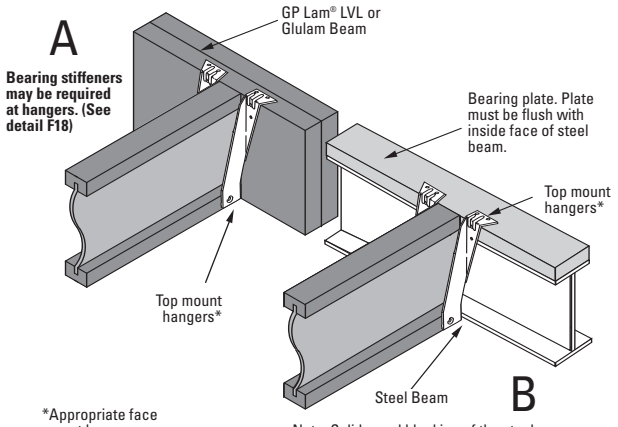


Hangers for 14′ (max) Stringer	Nailing Requirement
United Steel Products MSH 218 OR Simpson Strong-Tie® THA 218	Minimum (12) 10d nails into double joists or single or double LVL header. Minimum (4) 10d x 1½" nails into stringer.

For stringers longer than 14′ or stringer reaction greater than 700 lbs., call BlueLinx.

Floor Details

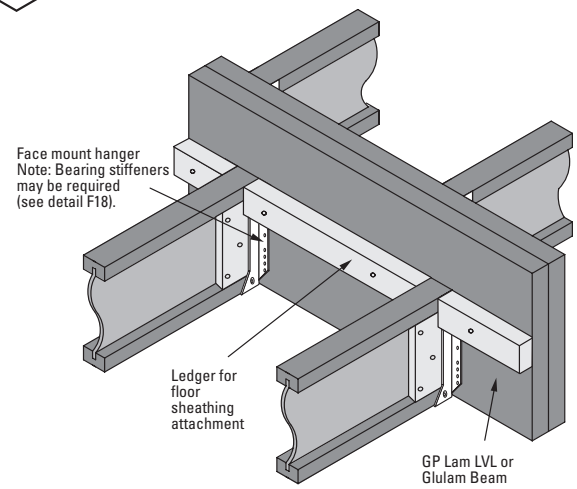
F15 JOIST TO BEAM CONNECTION



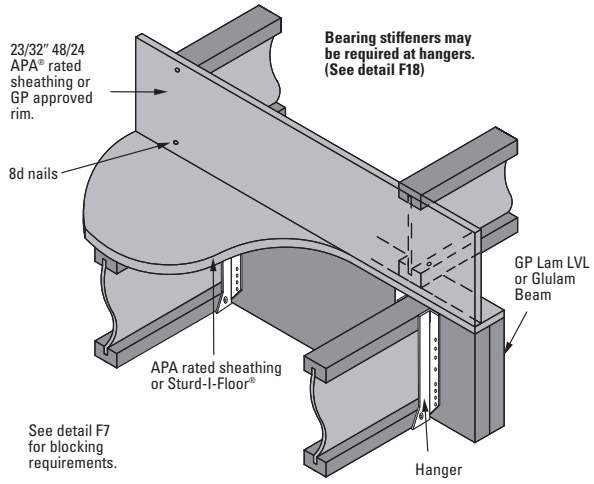
*Appropriate face mount hangers may be substituted.

Note: Solid wood blocking of the steel beam required for face mount hangers on steel beam.

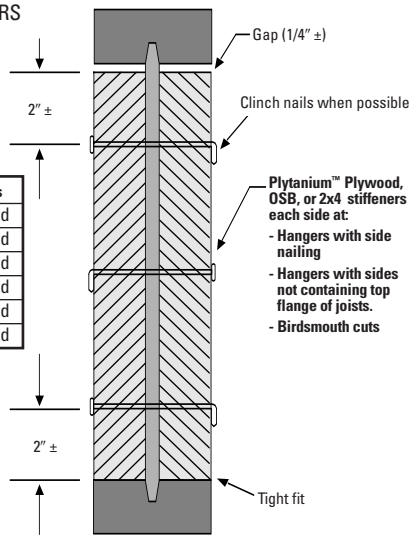
F16 JOIST TO BEAM CONNECTION, STEP DOWN



F17 JOIST TO BEAM CONNECTION, STEP DOWN



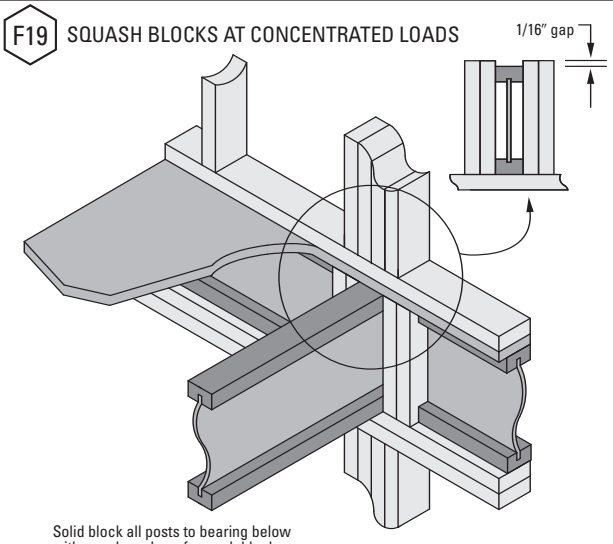
F18 BEARING STIFFENERS



Joist	Stiffener Size	Nails
GPI 20	5/8" × 2 5/16"	(3) 10d
GPI 40	1/2" + 1/2" × 2 5/16"	(3) 10d
GPI 65	1/2" + 1/2" × 2 5/16"	(3) 10d
WI 40	1/2" + 1/2" × 2 5/16"	(3) 10d
WI 60	1/2" + 1/2" × 2 5/16"	(3) 10d
WI 80	1 1/2" × 2 5/16"	(3) 12d

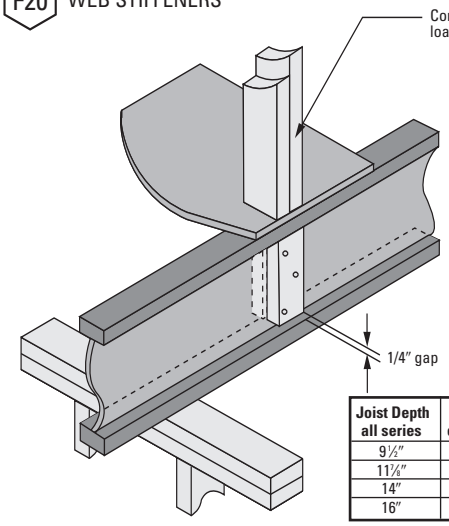
Minimum stiffener width is 2 5/16"

F19 SQUASH BLOCKS AT CONCENTRATED LOADS



Solid block all posts to bearing below with equal number of squash blocks

F20 WEB STIFFENERS



Use when concentrated loads exceed the values in the chart below. Install stiffeners per detail F18 but tight against top flange and gap at bottom. Verify adequacy of joist to carry concentrated load.

Joist Depth all series	Web stiffeners required if concentrated load exceeds
9 1/4"	1120 lbs
11 7/8"	1420 lbs
14"	1500 lbs
16"	1500 lbs

Cantilever Reinforcement Requirements for GPI or WI Joists

Joist Depth	Roof Truss Span	ROOF LOADINGS															
		TL = 35 psf LL not to exceed 20 psf Joist spacing				TL = 45 psf LL not to exceed 30 psf Joist spacing				TL = 55 psf LL not to exceed 40 psf Joist spacing				TL = 65 psf LL not to exceed 50 psf Joist spacing			
		12″	16″	19.2″	24″	12″	16″	19.2″	24″	12″	16″	19.2″	24″	12″	16″	19.2″	24″
9½″	26′	0	0	0	1	0	1	1	2	1	2	X	X	2	X	X	X
	28′	0	0	1	1	0	1	2	X	1	2	X	X	2	X	X	X
	30′	0	0	1	2	0	1	2	X	1	2	X	X	2	X	X	X
	32′	0	1	1	2	1	1	2	X	2	X	X	X	2	X	X	X
	34′	0	1	1	2	1	2	2	X	2	X	X	X	X	X	X	X
	36′	0	1	1	2	1	2	X	X	2	X	X	X	X	X	X	X
11⅞″	26′	0	0	0	0	0	0	0	1	0	1	1	2	1	1	2	X
	28′	0	0	0	1	0	0	1	1	0	1	1	2	1	2	2	X
	30′	0	0	0	1	0	0	1	1	0	1	2	2	1	2	2	X
	32′	0	0	0	1	0	0	1	2	1	1	2	X	1	2	X	X
	34′	0	0	0	1	0	1	1	2	1	1	2	X	1	2	X	X
	36′	0	0	0	1	0	1	1	2	1	2	2	X	1	2	X	X
	38′	0	0	1	1	0	1	1	2	1	2	2	X	2	X	X	X
14″	26′	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	2
	28′	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	2
	30′	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	2
	32′	0	0	0	1	0	0	1	1	0	1	1	2	0	1	1	2
	34′	0	0	0	1	0	0	1	1	0	1	1	2	0	1	2	2
	36′	0	0	0	1	0	0	1	1	0	1	1	2	1	1	2	X
	38′	0	0	0	1	0	0	1	1	0	1	1	2	1	1	2	X
	40′	0	0	0	1	0	1	1	2	0	1	1	2	1	1	2	X
16″	26′	0	0	0	1	0	0	0	1	0	0	1	1	0	1	1	1
	28′	0	0	0	1	0	0	0	1	0	0	1	2	0	1	1	2
	30′	0	0	0	1	0	0	0	1	0	0	1	2	0	1	1	2
	32′	0	0	0	1	0	0	1	1	0	1	1	2	0	1	1	2
	34′	0	0	0	1	0	0	1	2	0	1	1	2	0	1	1	2
	36′	0	0	0	1	0	0	1	2	0	1	1	2	0	1	2	X
	38′	0	0	0	1	0	0	1	2	0	1	1	2	1	1	2	X
	40′	0	0	0	1	0	1	1	2	0	1	1	2	1	1	2	X
	42′	0	0	1	1	0	1	1	2	0	1	1	X	1	1	2	X

0 - No reinforcement is required. See Detail C1.

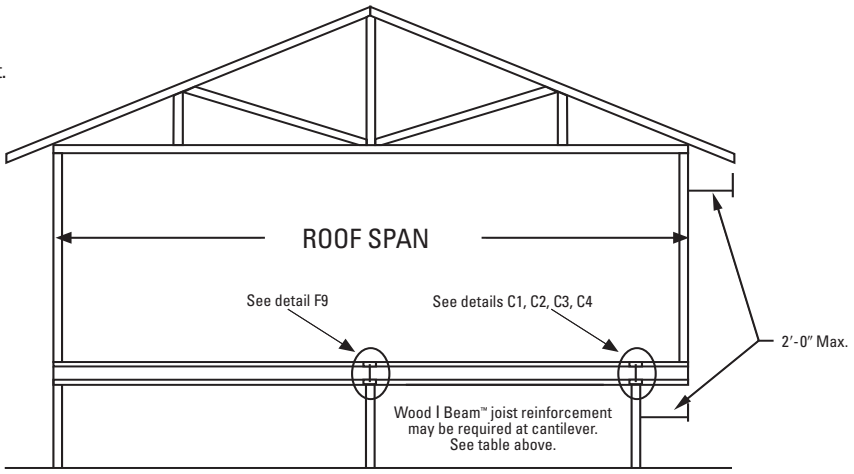
1 - Single Reinforcement is required. See Detail C2.

2 - Double Reinforcement is required. See Detail C3 or C4.

X - Joist does not work. Select closer spacing or deeper joist.

NOTES:

1. Assumes floor load of 40 psf live load at L/480, 10 psf dead load and maximum joist simple spans.
2. Assumes exterior wall load of 80 plf. Wall load based on 3′-0″ maximum width window or door openings. For larger openings, or multiple 3′-0″ width openings spaced less than 6′-0″ oc, additional joists beneath the opening's cripple studs may be required.
3. Roof loads use a load duration factor of 115%.
4. This table was designed to cover a broad range of applications. It may be possible to exceed these limitations by analyzing a specific application using GP FASTBeam® selection software.
5. For stick-built roofs braced to interior supports, with loadings shown above, this table will be conservative. Use GP FASTBeam software to check for a more economical design.

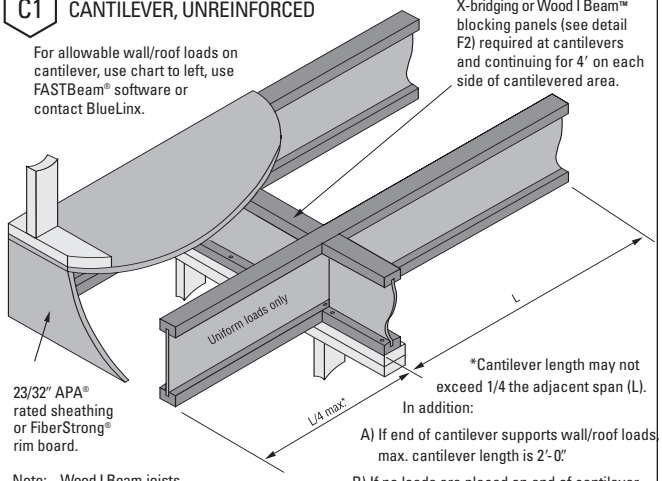


Cantilever Details

C1 CANTILEVER, UNREINFORCED

For allowable wall/roof loads on cantilever, use chart to left, use FASTBeam® software or contact BlueLinx.

X-bridging or Wood I Beam™ blocking panels (see detail F2) required at cantilevers and continuing for 4′ on each side of cantilevered area.



23/32″ APA® rated sheathing or FiberStrong® rim board.

*Cantilever length may not exceed 1/4 the adjacent span (L).

In addition:

A) If end of cantilever supports wall/roof loads, max. cantilever length is 2′-0″.

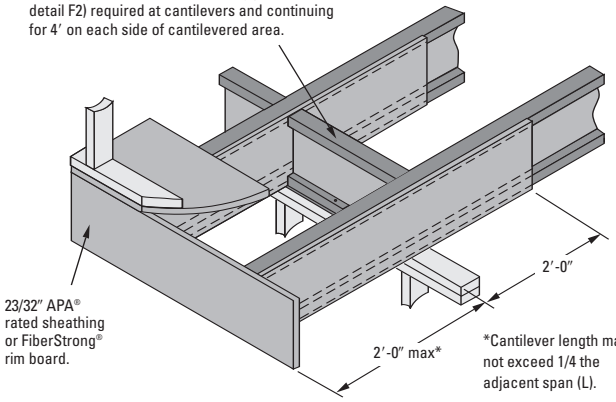
B) If no loads are placed on end of cantilever, max. cantilever length is 4′-0″.

Note: Wood I Beam joists shall be protected from the weather.

For other conditions contact BlueLinx.

C2 CANTILEVER, REINFORCED Single Sheathing (Option I)

X-bridging or Wood I Beam blocking panels (see detail F2) required at cantilevers and continuing for 4′ on each side of cantilevered area.



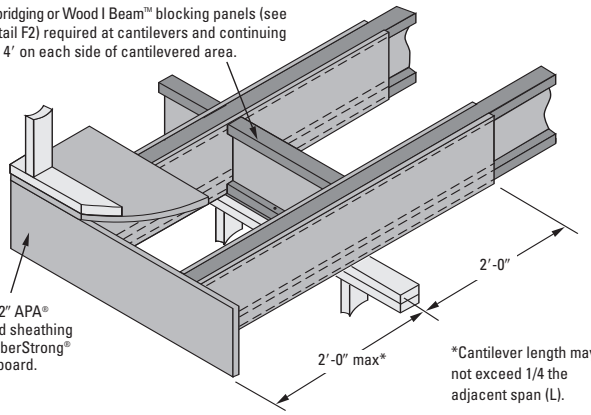
23/32″ APA® rated sheathing or FiberStrong® rim board.

*Cantilever length may not exceed 1/4 the adjacent span (L).

Note: FiberStrong® rim board or 48/24 APA rated sheathing (face grain horizontal) required one side of joist. Depth must match the full depth of the joist. Nail to joist flange with 8d nails at 6″ o.c.

C3 CANTILEVER, REINFORCED Double Sheathing (Option II)

X-bridging or Wood I Beam™ blocking panels (see detail F2) required at cantilevers and continuing for 4′ on each side of cantilevered area.

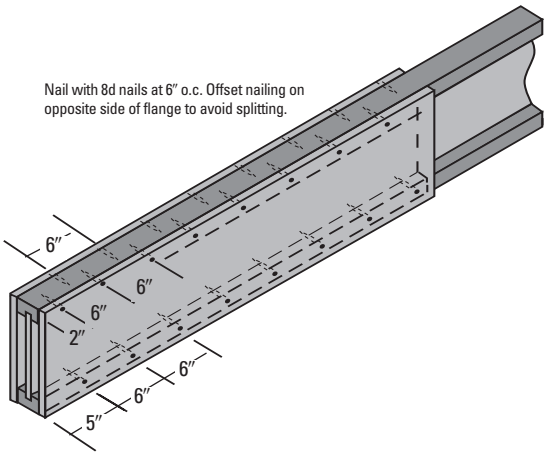


23/32″ APA® rated sheathing or FiberStrong® rim board.

*Cantilever length may not exceed 1/4 the adjacent span (L).

DOUBLE REINFORCEMENT NAILING PATTERN

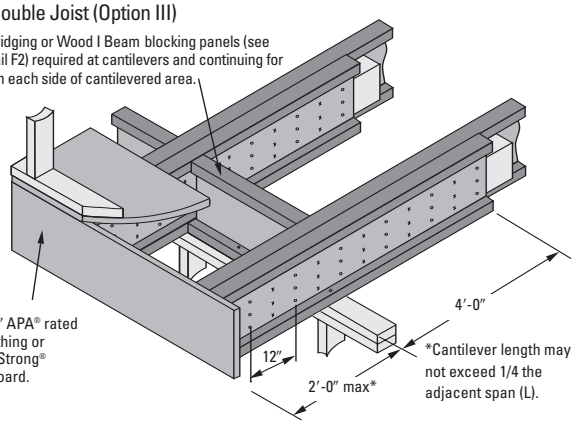
Nail with 8d nails at 6″ o.c. Offset nailing on opposite side of flange to avoid splitting.



Note: FiberStrong rim board or 48/24 APA rated sheathing (face grain horizontal) required both sides of joist. Depth must match the full depth of the joist. Nail to joist flanges with 8d nails at 6″ o.c. Offset nailing on opposite sides of flange to avoid splitting.

C4 CANTILEVER, REINFORCED Double Joist (Option III)

X-bridging or Wood I Beam blocking panels (see detail F2) required at cantilevers and continuing for 4′ on each side of cantilevered area.



23/32″ APA® rated sheathing or FiberStrong® rim board.

*Cantilever length may not exceed 1/4 the adjacent span (L).

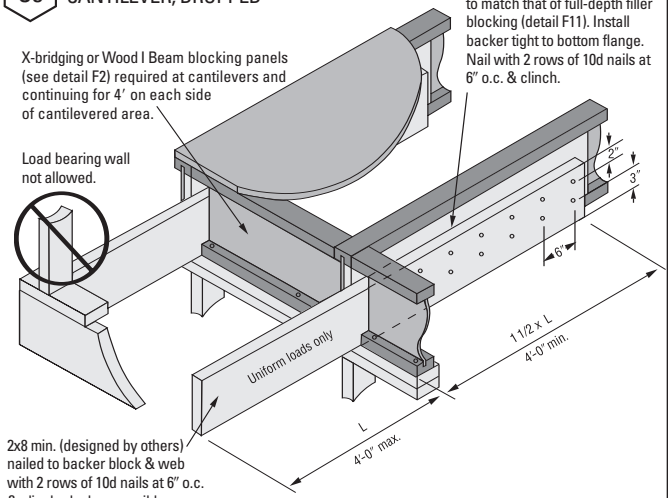
Note: Block together full length with full-depth filler blocking. See detail F11 for filler size. Use 2 rows of 10d nails at 12″ o.c. from each side; offset opposite side nailing by 6″. For flange widths greater than 2½″, use 3 rows of 10d nails at 12″ o.c. from each side; offset opposite side nailing by 6″ o.c. Clinch nails when possible.

C5 CANTILEVER, DROPPED

Backer block depth (detail F13) to match that of full-depth filler blocking (detail F11). Install backer tight to bottom flange. Nail with 2 rows of 10d nails at 6″ o.c. & clinch.

X-bridging or Wood I Beam blocking panels (see detail F2) required at cantilevers and continuing for 4′ on each side of cantilevered area.

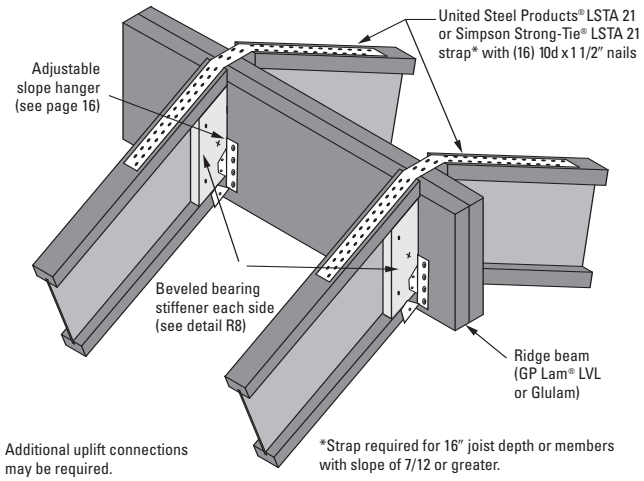
Load bearing wall not allowed.



2x8 min. (designed by others) nailed to backer block & web with 2 rows of 10d nails at 6″ o.c. & clinched when possible.

Roof Details

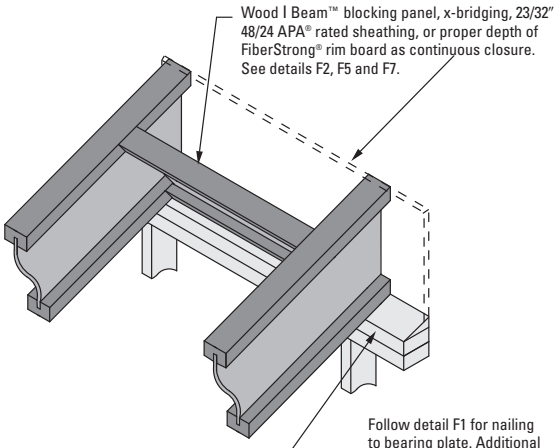
R1 RIDGE-JOIST CONNECTION
12/12 maximum slope



Additional uplift connections may be required.

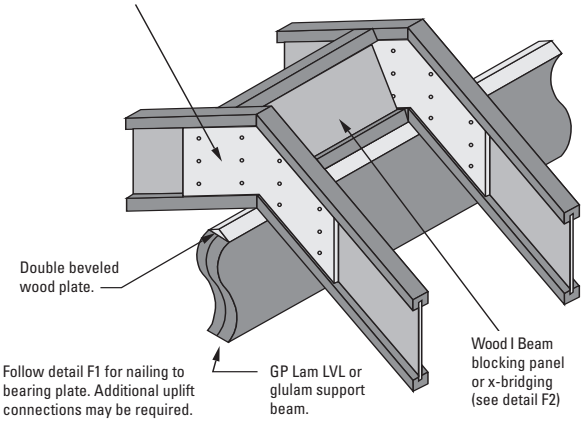
*Strap required for 16" joist depth or members with slope of 7/12 or greater.

R2 UPPER END, BEARING ON WALL

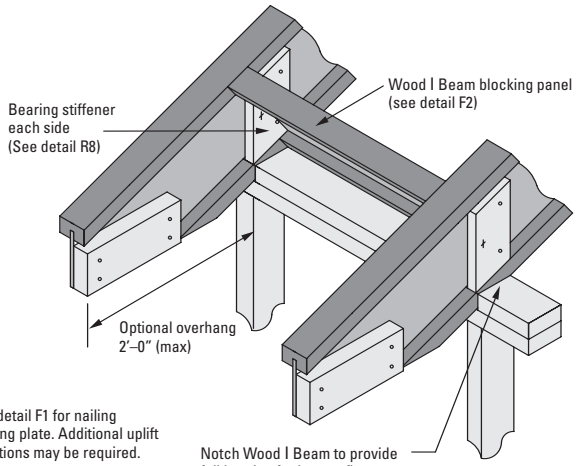


R3 JOISTS ABOVE RIDGE SUPPORT BEAM

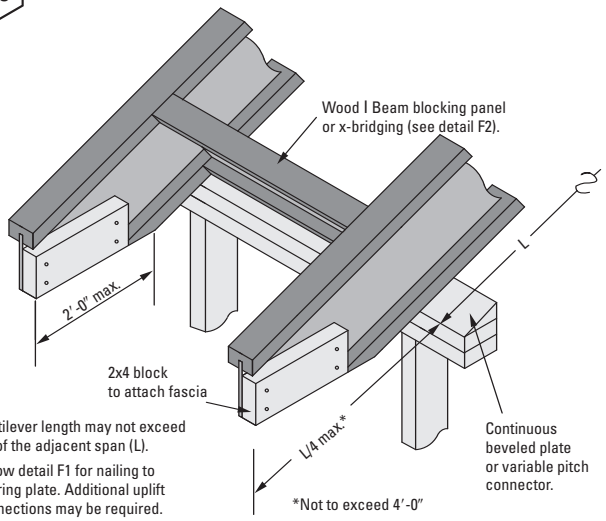
23/32" x 2'-0" Plytanium™ Plywood or OSB gusset (face grain horizontal) each side with (12) 8d nails clinched or strap with (16) 10d x1 1/2" nails applied to top flange per detail R1.



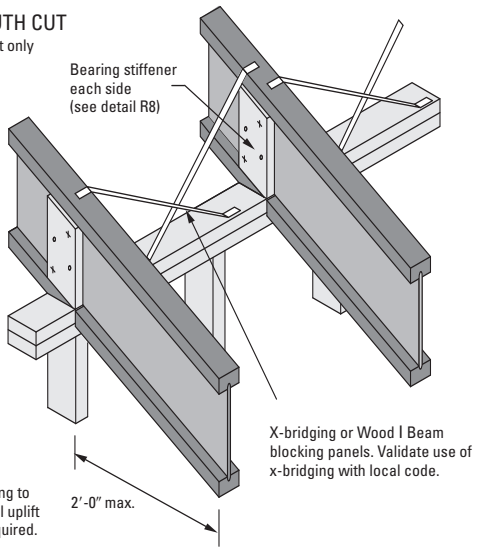
R4 BIRDSMOUTH CUT
Low end of joist only.



R5 JOISTS ON BEVELED PLATE

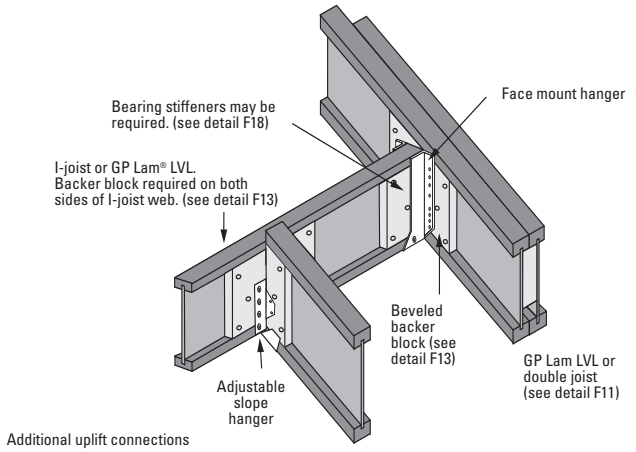


R6 BIRDSMOUTH CUT
Low end of joist only

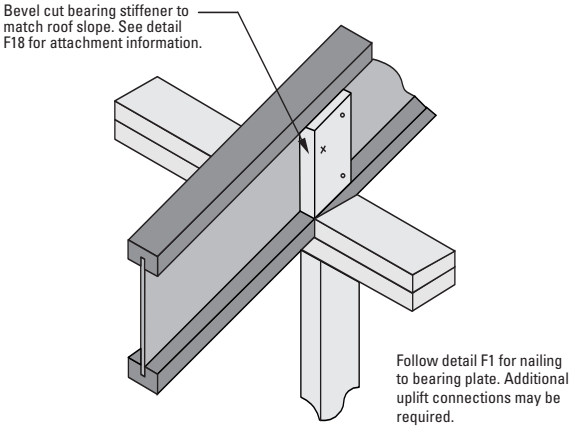


Roof Details

R7 ROOF OPENING, FACE MOUNT HANGERS

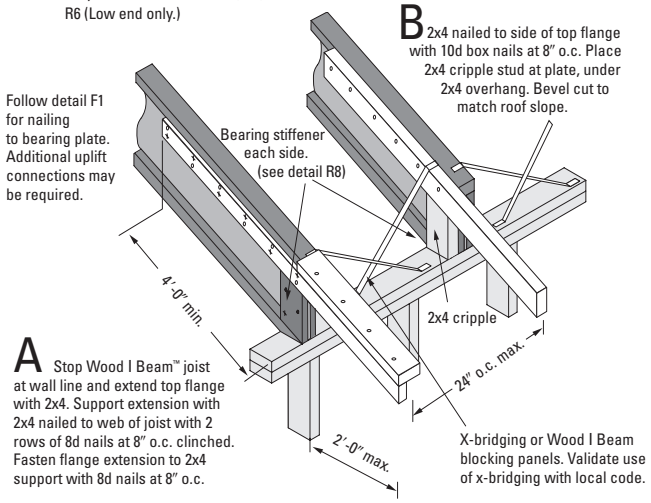


R8 BEVELED CUT BEARING STIFFENER

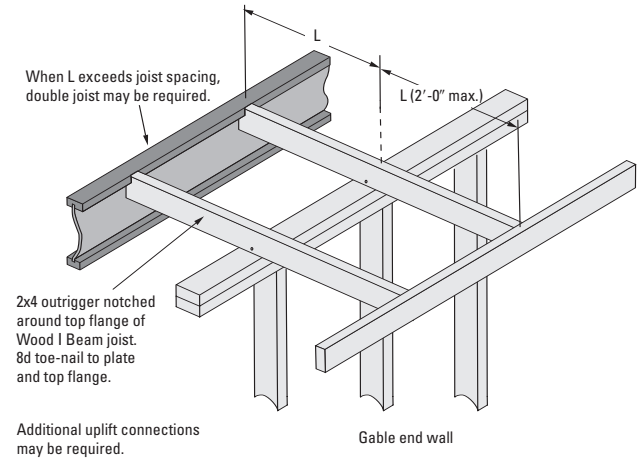


R10 OPTIONAL OVERHANG EXTENSIONS

May be used with detail R4, R5, and R6 (Low end only.)

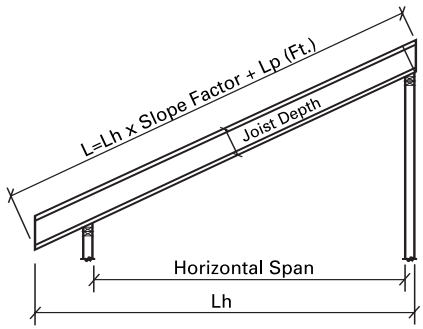


R11 OVERHANG PARALLEL TO JOIST



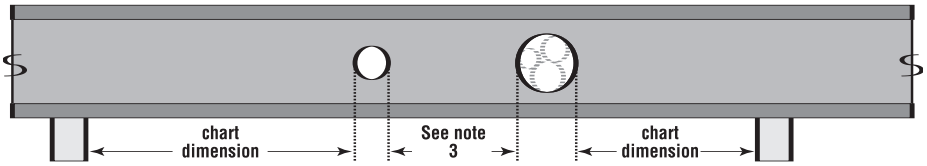
Up-the-Slope Spans & Cutting Lengths for Sloped Roofs

Slope	Slope Factor	Joist Depth 9½"	11⅞"	14"	16"
		Amount to Increase Length for Plumb Cut (Lp in feet)			
2½ in 12	1.021	0.165	0.206	0.243	0.278
3 in 12	1.031	0.198	0.247	0.292	0.333
3½ in 12	1.042	0.231	0.289	0.340	0.389
4 in 12	1.054	0.264	0.330	0.389	0.444
4½ in 12	1.068	0.297	0.371	0.438	0.500
5 in 12	1.083	0.330	0.412	0.486	0.556
6 in 12	1.118	0.396	0.495	0.583	0.667
7 in 12	1.158	0.462	0.577	0.681	0.778
8 in 12	1.202	0.528	0.660	0.778	0.889
9 in 12	1.250	0.594	0.742	0.875	1.000
10 in 12	1.302	0.660	0.825	0.972	1.111
11 in 12	1.357	0.726	0.907	1.069	1.222
12 in 12	1.414	0.792	0.990	1.167	1.333



EXAMPLE:
7/12 slope and 22′-0″ horizontal length (Lh)
22′ x 1.158 = 25.476′ up-the-slope
If a 14″ joist will be used, add 0.681 feet. 25.476 + 0.681 = 26.157′
L = 26′-1⅞″

Hole Location for GPI Series Joists (Simple or Multiple Span)



Do not drill or cut flanges.

Chart dimension is minimum distance from inside face of support to nearest edge of hole.

Joist Depth	Joist Clear Span	Round Hole Diameter 2″	3″	4″	5″	6″	6½″	7″	8″	8⅞″	9″	10″	11″	12″	13″
9½″	10′	0′-6″	0′-6″	0′-9″	1′-6″	2′-6″	3′-3″								
	12′	0′-6″	0′-9″	1′-9″	2′-9″	4′-0″	4′-9″								
	14′	1′-0″	2′-0″	3′-0″	4′-3″	5′-6″	6′-0″								
	16′	0′-6″	0′-6″	1′-3″	3′-0″	4′-9″	5′-9″								
	18′	0′-6″	0′-6″	0′-9″	1′-9″	4′-0″	5′-0″								
11⅞″	12′	0′-6″	0′-6″	0′-9″	1′-0″	1′-6″	2′-0″	2′-6″	3′-9″	4′-9″	Not Permitted				
	14′	0′-6″	0′-6″	0′-9″	1′-9″	2′-9″	3′-6″	4′-0″	5′-0″	6′-3″					
	16′	0′-6″	1′-0″	2′-0″	3′-0″	4′-0″	4′-9″	5′-3″	6′-6″	7′-6″					
	18′	0′-6″	0′-6″	1′-3″	2′-6″	4′-0″	4′-9″	5′-6″	7′-0″	8′-6″					
	20′	0′-6″	1′-3″	2′-6″	4′-0″	5′-3″	6′-0″	6′-9″	8′-6″	10′-0″					
	22′	0′-6″	0′-6″	1′-3″	3′-0″	4′-6″	5′-6″	6′-3″	8′-3″	10′-0″					
	24′	0′-6″	0′-6″	0′-9″	1′-0″	2′-6″	3′-9″	4′-9″	7′-3″	9′-3″		*Example below*			
14″	10′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	2′-0″	3′-0″		
	12′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-3″	2′-0″	2′-3″	3′-3″	4′-6″		
	14′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-6″	2′-6″	3′-6″	3′-9″	4′-9″	6′-0″		
	16′	0′-6″	0′-6″	0′-9″	1′-0″	1′-9″	2′-3″	2′-9″	4′-0″	5′-0″	5′-0″	6′-3″	7′-6″		
	18′	0′-6″	0′-6″	0′-9″	1′-0″	1′-3″	2′-0″	2′-6″	4′-0″	5′-3″	5′-3″	6′-9″	8′-6″		
	20′	0′-6″	0′-6″	0′-9″	1′-3″	2′-6″	3′-3″	3′-9″	5′-3″	6′-6″	6′-9″	8′-3″			
	22′	0′-6″	0′-6″	0′-9″	1′-0″	1′-3″	2′-0″	2′-9″	4′-6″	6′-0″	6′-3″	8′-0″	10′-3″		
	24′	0′-6″	0′-6″	0′-9″	1′-0″	2′-6″	3′-3″	4′-3″	5′-9″	7′-6″	7′-9″	9′-9″			
	26′	0′-6″	0′-6″	0′-9″	1′-0″	1′-3″	2′-3″	3′-3″	5′-0″	7′-0″	7′-3″	9′-6″	12′-0″		
	28′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-9″	3′-0″	5′-0″	7′-0″	7′-3″	9′-9″	12′-3″		
16″	14′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	1′-3″	2′-3″	3′-6″	4′-6″	6′-0″
	16′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-6″	2′-6″	2′-6″	3′-9″	4′-9″	6′-0″	7′-3″
	18′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	2′-3″	2′-3″	3′-9″	5′-0″	6′-6″	8′-3″
	20′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	2′-3″	3′-6″	3′-9″	5′-0″	6′-6″	8′-3″	
	22′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	2′-6″	2′-9″	4′-3″	6′-0″	8′-0″	
	24′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	2′-3″	3′-9″	4′-0″	5′-9″	7′-6″	9′-6″	
	26′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	1′-0″	2′-9″	3′-0″	5′-0″	7′-0″	9′-3″	11′-9″
	28′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	2′-3″	4′-0″	4′-3″	6′-3″	8′-6″	10′-9″	
	30′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-0″	2′-0″	3′-9″	4′-0″	6′-3″	8′-6″	11′-0″	13′-9″

NOTES:

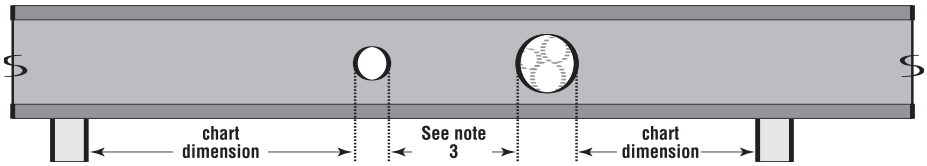
1. Hole locations are based on worst case of simple and multiple span conditions with uniform floor loads of 40 PSF live load and 10 or 20 PSF dead load, and spans from page 6.
2. Small holes not greater than 1.5″ in diameter can be placed anywhere in the web, but each hole must be spaced a minimum horizontal clear distance of 2 times its diameter (but not less than 1″) from any adjacent hole. No more than two small holes can be placed next to each other and/or adjacent to larger holes following the guidelines in this note. More than one group of small holes is permitted on a joist, but adjacent groups must be spaced a minimum horizontal clear distance of the greater of 12″ or twice the diameter of the largest hole in the adjacent groups.
3. For holes greater than 1.5″ diameter, minimum clear distance between
   a) two round holes is 2 times the diameter of the larger hole
   b) a round hole and a rectangular hole is the larger of 2 times the hole diameter or twice the rectangular hole width
4. For rectangular holes, the longest side may not exceed 75% of a round hole diameter permitted at that location; i.e., if an 8 inch round hole is permitted, the longest side of a rectangular hole centered at that location is 8″ x 0.75 = 6″.
5. 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.
6. For joists with more than one span, use the longest span to determine hole location in either span.
7. All holes shown on this chart may be located vertically anywhere within the web; a clear distance of at least ⅛″ must be maintained from the hole edge to the inner surface of the closest flange.
8. For other conditions use FASTBeam® Analysis using FASTBeam software could permit larger holes, or holes closer to the supports than shown in this chart.

EXAMPLE:

Determine the allowable location of a 9″ round hole in a 14″ deep GPI Series joist which spans 20′.

Enter the chart in the left column and find 14″ joist depth, move to the right and find 20′ in the joist span column and move across the chart to intersect the 9″ round hole column. The nearest allowable location to either bearing is 6′-9″.

Hole Location for WI Series Joists (Simple or Multiple Span)



Do not drill or cut flanges.

Chart dimension is minimum distance from inside face of support to nearest edge of hole.

Joist Depth	Joist Clear Span	Round Hole Diameter 2″	3″	4″	5″	6¼″	7″	8″	8⅝″	9″	10″	10¾″	11″	12″	12¾″
9 1/2″	10′	0′-6″	0′-6″	0′-9″	1′-9″	3′-3″									
	12′	0′-6″	1′-3″	2′-3″	3′-3″	4′-6″									
	14′	0′-6″	1′-0″	2′-3″	3′-6″	5′-6″									
	16′	0′-6″	0′-6″	2′-0″	3′-6″	5′-9″									
	18′	0′-6″	0′-6″	0′-9″	2′-6″	5′-0″									
11 7/8″	12′	0′-6″	0′-6″	0′-9″	1′-0″	1′-9″	2′-6″	3′-9″	4′-6″						
	14′	0′-6″	0′-6″	0′-9″	1′-9″	3′-3″	4′-0″	5′-3″	6′-0″						
	16′	0′-6″	1′-3″	2′-3″	3′-3″	4′-6″	5′-6″	6′-6″	7′-6″						
	18′	1′-6″	2′-6″	3′-6″	4′-6″	6′-0″	6′-9″	8′-0″	9′-0″						
	20′	0′-9″	2′-0″	3′-3″	4′-6″	6′-3″	7′-3″	8′-9″	9′-9″						
	22′	1′-6″	2′-9″	4′-0″	5′-6″	7′-3″	8′-3″	9′-9″	10′-9″						
	24′	0′-6″	1′-9″	3′-3″	4′-9″	7′-0″	8′-3″	10′-0″	11′-3″						
14″	12′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-3″	1′-9″	2′-3″	3′-6″	4′-3″			
	14′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-6″	2′-6″	3′-3″	3′-9″	4′-9″	5′-9″			
	16′	0′-6″	0′-6″	0′-9″	1′-0″	2′-0″	2′-9″	4′-0″	4′-6″	5′-0″	6′-3″	7′-3″			
	18′	0′-6″	0′-6″	1′-0″	2′-0″	3′-3″	4′-3″	5′-3″	6′-0″	6′-6″	7′-9″				
	20′	0′-6″	0′-6″	0′-9″	1′-6″	3′-0″	4′-0″	5′-3″	6′-3″	6′-9″	8′-6″				
	22′	0′-6″	0′-6″	1′-6″	2′-9″	4′-3″	5′-6″	6′-9″	7′-9″	8′-3″	10′-0″				
	24′	0′-6″	1′-0″	2′-3″	3′-6″	5′-3″	6′-3″	7′-9″	8′-9″	9′-3″	10′-9″				
	26′	0′-6″	0′-6″	1′-0″	2′-6″	4′-6″	5′-9″	7′-6″	8′-6″	9′-3″	11′-3″				
	28′	0′-6″	0′-9″	2′-3″	3′-9″	5′-9″	7′-0″	8′-9″	10′-0″	10′-6″	12′-6″				
16″	14′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″'	1′-0″	1′-0″	1′-3″	2′-6″	3′-3″	3′-6″	4′-9″	5′-6″
	16′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-0″	1′-6″	2′-3″	2′-9″	3′-9″	4′-9″	5′-0″	6′-3″	7′-0″
	18′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	2′-0″	3′-0″	3′-6″	4′-0″	5′-3″	6′-0″	6′-3″	7′-6″	
	20′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-3″	2′-6″	3′-3″	3′-9″	5′-3″	6′-3″	6′-9″	8′-3″	
	22′	0′-6″	0′-6″	0′-9″	1′-0″	1′-9″	2′-6″	3′-9″	4′-9″	5′-3″	6′-9″	7′-9″	8′-3″	9′-9″	
	24′	0′-6″	0′-6″	0′-9″	1′-0″	2′-6″	3′-6″	4′-9″	5′-6″	6′-3″	7′-6″	8′-9″	9′-0″	10′-9″	
	26′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	2′-3″	4′-0″	5′-0″	5′-6″	7′-3″	8′-9″	9′-3″	11′-3″	
	28′	0′-6″	0′-6″	0′-9″	1′-0″	2′-6″	3′-6″	5′-3″	6′-3″	7′-0″	8′-9″	10′-3″	10′-9″	12′-9″	
	30′	0′-6″	0′-6″	0′-9″	1′-9″	3′-9″	5′-0″	6′-6″	7′-6″	8′-3″	10′-0″	11′-6″	11′-9″	13′-9″	
	32′	0′-6″	0′-6″	0′-9″	1′-0″	1′-0″	1′-3″	3′-6″	4′-9″	5′-6″	7′-9″	9′-6″	10′-3″	12′-9″	14′-6″

Not Permitted

Example below

NOTES:

1. Hole locations are based on worst case of simple and multiple span conditions with uniform floor loads of 40 PSF live load and 10 or 20 PSF dead load, and spans from page 6.
2. Small holes not greater than 1.5″ in diameter can be placed anywhere in the web, but each hole must be spaced a minimum horizontal clear distance of 2 times its diameter (but not less than 1″) from any adjacent hole. No more than two small holes can be placed next to each other and/or adjacent to larger holes following the guidelines in this note. More than one group of small holes is permitted on a joist, but adjacent groups must be spaced a minimum horizontal clear distance of the greater of 12″ or twice the diameter of the largest hole in the adjacent groups.
3. For holes greater than 1.5″ diameter, minimum clear distance between
   a) two round holes is 2 times the diameter of the larger hole
   b) a round hole and a rectangular hole is the larger of 2 times the hole diameter or twice the rectangular hole width
4. For rectangular holes, the longest side may not exceed 75% of a round hole diameter permitted at that location; i.e., if an 8 inch round hole is permitted, the longest side of a rectangular hole centered at that location is 8″ x 0.75 = 6″.
5. 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.
6. For joists with more than one span, use the longest span to determine hole location in either span.
7. All holes shown on this chart may be located vertically anywhere within the web; a clear distance of at least ⅛″ must be maintained from the hole edge to the inner surface of the closest flange.
8. For other conditions use FASTBeam® Analysis using FASTBeam software could permit larger holes, or holes closer to the supports than shown in this chart.

EXAMPLE:

Determine the allowable location of a 9″ round hole in a 14″ deep WI Series joist which has multiple spans of 16′ and 20′.

Enter the chart in the left column and find 14″ joist depth, move to the right and find 20′ in the joist span column and move across the chart to intersect the 9″ round hole column. The nearest allowable location to either bearing is 6′-9″.

GP Lam® LVL

GP LAM®
with FiberGuard™

Depths:
7¼″
9¼″ 9½″
11¼″ 11⅞″
14″ 16″ 18″ 23⅞″
20″ 22″ (special order)

Thickness:
1¾″

Lengths:
Available in lengths up to 60 feet.

LIFETIME LIMITED WARRANTY

Structural Support for Today's Homes

Today, home designs often include grand entrances, wider doorways between rooms, and dramatic window configurations. GP Lam® LVL is designed for use as floor beams; door, window and garage door headers; and ridge and hip beams.

Multiple pieces of GP Lam LVL can be assembled easily to obtain greater thicknesses, providing additional strength to carry heavier loads. Greater load capacity means longer, uninterrupted spans.

For better performance, GP Lam LVL features FiberGuard™ sealant to help protect against splits, cupping and warping due to moisture damage while in storage and transit to the jobsite. The LVL is evenly coated on all four sides and both ends with a modified emulsion film, helping to reduce the moisture absorption rate and to reduce the damage that an unprotected product may sustain. FiberGuard sealant also includes UV inhibitors to minimize color change caused by the sun's ultraviolet rays.

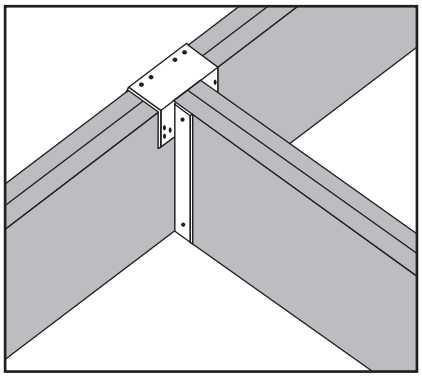
GP Lam® LVL Features & Benefits

- Thickness of 1¾″
- Standard depths of 7¼″, 9¼″, 9½″, 11¼″, 11⅞″, 14″, 16″, 18″ & 23⅞″ (20″ & 22″ by special order)
- Value Lengths of 24′, 28′, 32′, 36′, 40′, 44′ and 48′ (lengths to 60′ by special order)
- High design values for bending, stiffness and shear strength
- High strength-to-weight ratio, more than 50% stronger than solid sawn products
- Consistent manufacturing minimizes defects and reduces waste on the job
- Installs as easily as ordinary lumber
- FiberGuard sealant offers jobsite protection from moisture
- Backed by a Lifetime Limited Warranty*

*See manufacturer's warranty for terms, conditions and limitations. To receive a copy of the manufacturer's warranty call 1-888-502-BLUE.

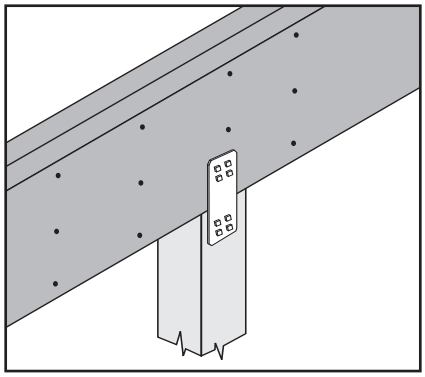
GP Lam® LVL Bearing Details

Beam-to-Beam Connection



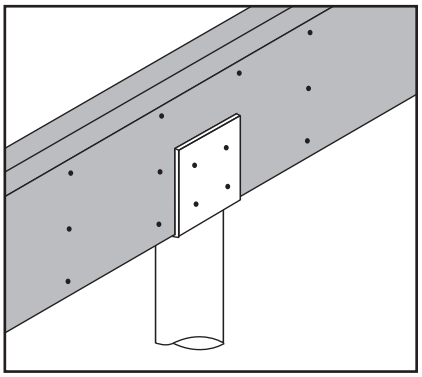
Make sure hanger capacity is appropriate for each application. Hangers must be properly installed to achieve full capacity.

Bearing on Wood Column

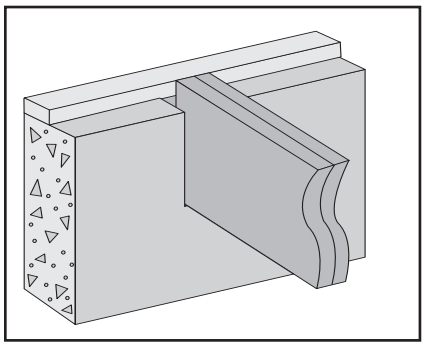


Verify the required bearing area and the ability of the supporting column member to provide adequate strength. Side plates may be required. Consult designer of record. See chart on page 53 for column cap suggestions.

Bearing on Steel Column

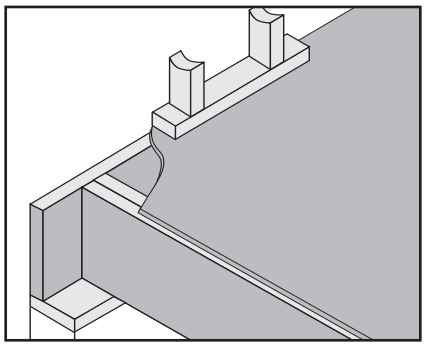


Beam Pocket in Masonry Wall



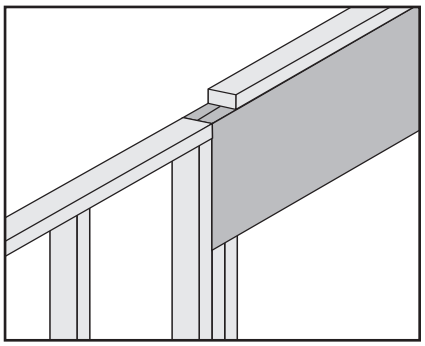
Prevent direct contact of GP Lam LVL with concrete. Consult local building code for requirements.

Bearing on Exterior Wall



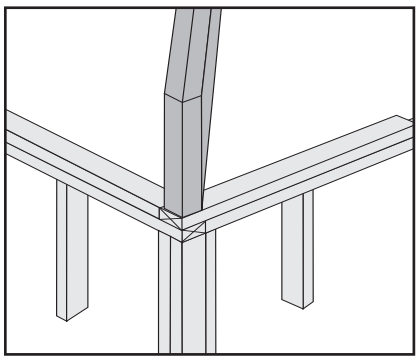
Prevent direct contact of GP Lam LVL with concrete. Consult local building code for requirements.

Bearing for Door or Window Header



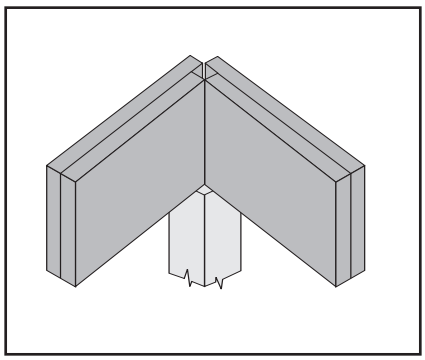
See "Bearing Length Requirements" on page 40.

Low End Hip Bearing



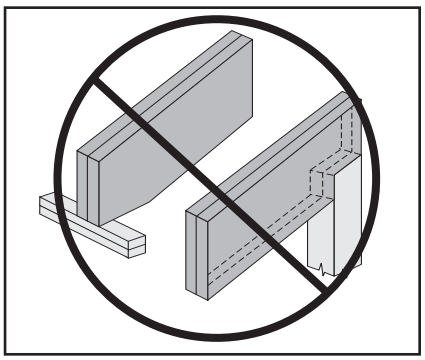
Hip beam must bear completely on plate or post. Seat cut must not extend past inside face of bearing.

High End Hip Bearing



Hip beam must bear on post or in properly designed hanger or other connection.

Seat Cut / Notching



Seat cut must not extend past inside face of bearing. Do not notch beams at bearing.

For fastening recommendations for multiple-piece GP Lam LVL members, see pages 48 & 49.

GP Lam® LVL Handling & Installation

- GP Lam LVL shall not be stored in direct contact with the ground and should be protected from weather. Provide air circulation under covering and around stacks of materials.
- Bundles should be stored level and should not be opened until time of installation.
- Stack and handle GP Lam LVL flatwise.
- Handlers and installers should use appropriate personal protective equipment such as gloves and goggles.
- Engineered lumber must not be installed in direct contact with concrete or masonry construction and shall be used in covered, dry use conditions only, where in-service moisture content does not exceed 16%.
- Minimum bearing length for GP Lam LVL beams and headers: end bearing 1½", intermediate bearing 3".
- Ends of GP Lam LVL beams and headers must be restrained against rotation and the top (or compression edge) must be laterally supported by perpendicular framing or bracing at 24" on-center or closer.
- 1¾" x 16" and deeper GP Lam LVL beams must only be used in multiple-piece members.
- Nails installed in the narrow face of GP Lam LVL shall not be spaced closer than 4" (10d common nails) or 3" (8d common nails).
- Multiple piece GP Lam LVL may not be stagger-spliced as is commonly done with dimension lumber. If the required length of a multiple-span beam exceeds the available length of the LVL, the LVL beams must be installed so as to butt together over a common bearing.
- GP Lam LVL is manufactured without camber or specific vertical orientation. It may be installed with the identifying stamps on the side faces reading right side up or upside down.
- Strength and stiffness properties of GP Lam LVL exceed those of typical dimension lumber. It may be possible to substitute GP Lam LVL for dimension lumber roof members in code-prescribed conventional light-frame construction, but design of conventional construction is beyond the scope of this product guide and of BlueLinx Engineered Lumber Technical Services.
- When nail type is not specified in this guide, use common, box or sinker.
- To help safeguard the structural integrity of connections with preservative treated wood, use only hot-dipped galvanized or stainless steel fasteners, connectors and hardware.

As a minimum requirement, hot-dipped galvanized coated fasteners should conform to ASTM Standard A153 and hot-dipped galvanized coated connectors should conform to ASTM Standard A653 (Class G-185). In demanding applications, or in highly corrosive environments, stainless steel fasteners and connectors should be utilized and may, in fact, be required by building codes.

Most commonly available electroplated galvanized fasteners do not have a sufficient coating of zinc and are not recommended. Aluminum should not be used in direct contact with preservative treated wood. Never mix galvanized steel with stainless steel in the same connection.

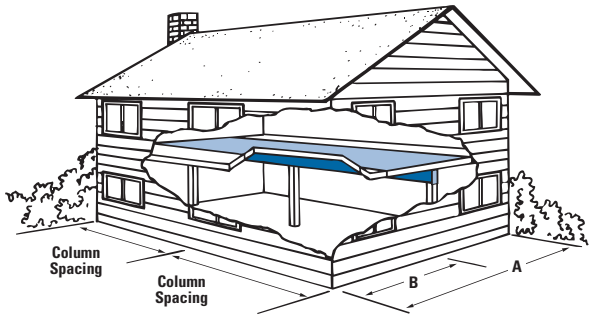
GP Lam LVL Floor Beams

The table below shows the size of the beams needed to support various floor systems. The table is valid for loads of one floor only, i.e., a second story floor or one story floor over a basement. (See drawing at right.)

When floor joists span continuously from wall to wall (not cut at beam) this table requires that "B" be not less than 45%, or greater than 55% of "A".

Example: If "A" = 32', "B" must be between 14.4' (32×.45) and 17.6' (32×.55)

For non-conforming situations, use FASTBeam® analysis and selection software or contact BlueLinx.

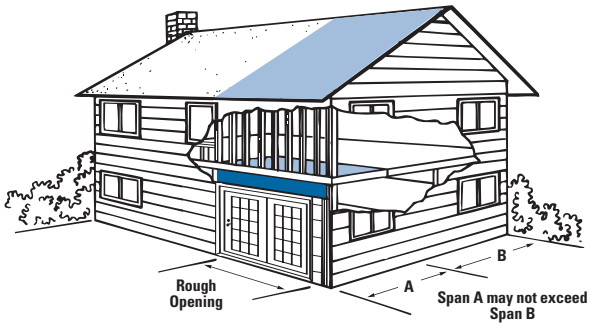


		Column Spacing (center-to-center)									
		11′	12′	13′	14′	15′	16′	17′	18′	19′	20′
Total Floor Joist Span "A"	24′	2-11 1/4" 3-9 1/4"	2-11 1/4" 3-9 1/2"	2-11 7/8" 3-11 1/4"	2-14" 3-11 1/4"	2-14" 3-11 7/8"	2-16"+ 3-14"	2-16"+ 3-14"	2-18"+ 3-16"	2-18"+ 3-16"	2-18"+ 3-16"
	28′	2-11 1/4" 3-9 1/4"	2-11 7/8" 3-11 1/4"	2-14"+ 3-11 1/4"	2-14"+ 3-11 7/8"	2-16"+ 3-14"	2-16"+ 3-14"	2-16"+ 3-14"	2-18"+ 3-16"	2-18"+ 3-16"	3-16"
	32′	2-11 1/4"	2-14"+ 3-11 1/4"	2-14"+ 3-11 7/8"	2-14"+	2-16"+ 3-14"	2-16"+ 3-14"	2-18"+ 3-16"	2-18"+ 3-16"	3-16"+	3-18"+
	36′	2-11 7/8"+ 3-11 1/4"	2-14"+ 3-11 1/4"	2-14"+ 3-11 7/8"	2-16"+ 3-14"	2-16"+ 3-14"	2-18"+ 3-14"	3-16"+	3-16"+	3-18"+	3-18"+
	40′	2-11 7/8"+ 3-11 1/4"	2-14"+ 3-11 1/4"	2-14"+	2-16"+ 3-14"	2-16"+ 3-14"	3-16"+	3-16"+	3-16"+	3-18"+	3-18"+

NOTES:

1. Table is based on continuous floor joist span and simple or continuous beam span conditions. If floor joists are not continuous above the beam, take the sum of the joist spans then multiply by 0.8. This is the total floor joist span to consider.
2. Required end bearing length (based on 565 psi) is 3.0" unless the subscript + is shown. In that case, 4.5" is required.
3. At intermediate supports of continuous spans, use the following guidelines or refer to page 40.
   - 7½" bearing length for beams requiring 3" bearing at the beam ends
   - 10½" bearing length for beams requiring 4½" bearing at the beam ends
4. Beams require full width bearing. Minimum cripple size for 5 1/4" thick beams is 2x6.
5. Table is based on residential floor loading of 40 psf live load and 12 psf dead load.
6. Live load reductions have been applied per IBC section 1607.9.1.
7. Deflection is limited to L/360 at live load and L/240 at total load.
8. For other loading conditions refer to page 42.

GP Lam® LVL Window and Patio Door Headers – 2-Story



Two-Story Applications

This table considers the combined loads from a wall, second story floor (¼ of total floor joist span) and various roof truss spans with a 2′ soffit. An intermediate floor beam is assumed. If the soffit exceeds 2′, additional engineering will be necessary.

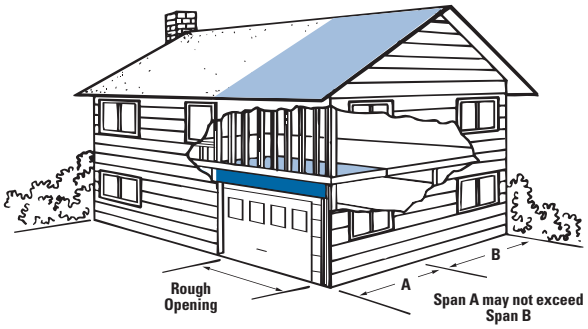
Roof Loading		Snow (115%)										Non-Snow (125%)									
		25 psf LL + 20 psf DL					40 psf LL + 20 psf DL					20 psf LL + 15 psf DL					20 psf LL + 25 psf DL				
Rough Opening		6′	8′	9′	10′	12′	6′	8′	9′	10′	12′	6′	8′	9′	10′	12′	6′	8′	9′	10′	12′
Roof Truss Span with 2′ Soffit Assumed	20′	1-9¼″ 2-7¼″	1-11¼″+ 2-9¼″ 3-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11¼″	2-16″ 3-14″	1-9¼″+ 2-7¼″	1-11⅞″+ 2-9¼″	2-11¼″ 3-9¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-14″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-14″ 3-11⅞″	1-9¼″ 2-7¼″	1-11¼″+ 2-9¼″ 3-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11¼″	2-16″ 3-14″
	24′	1-9¼″ 2-7¼″	1-11⅞″+ 2-9¾″	1-14″+ 2-11¼″ 3-9¼″	2-11⅞″ 3-11¼″	2-16″ 3-14″	1-9¼″+ 2-7¼″	2-9½″ 3-9¼″	2-11¼″ 3-9½″	2-14″ 3-11¼″	2-18″+ 3-14″	1-9¼″ 2-7¼″	1-11¼″+ 2-9¾″ 3-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11¼″	2-16″ 3-14″	1-9¼″ 2-7¼″	1-11⅞″+ 2-9⅞″	1-14″+ 2-11¼″ 3-9¼″	2-11⅞″ 3-11¼″	2-16″ 3-14″
	28′	1-9¼″+ 2-7¼″	2-9¼″	2-11¼″ 3-9½″	2-14″ 3-11¼″	2-16″+ 3-14″	1-9½″+ 2-7¼″	2-11¼″ 3-9¼″	2-11⅞″+ 3-11¼″	2-14″+ 3-11⅞″	2-18″+ 3-16″	1-9¼″ 2-7¼″	1-11⅞″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-11⅞″ 3-11¼″	2-16″ 3-14″	1-9¼″+ 2-7¼″	2-9¼″	2-11¼″ 3-9½″	2-14″ 3-11¼″	2-16″+ 3-14″
	32′	1-9¼″+ 2-7¼″	2-11⅞″ 3-9¼″	2-11¼″	2-14″+ 3-11¼″	2-18″+ 3-16″	2-7¼″	2-11¼″+ 3-9¼″	2-14″+ 3-11¼″	2-16″+ 3-11⅞″	3-16″+	1-9¼″+ 2-7¼″	1-14″+ 2-9¼″	2-11¼″ 3-9¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-9¼″+ 2-7¼″	2-11¼″ 3-9¼″	2-11¼″	2-14″+ 3-11¼″	2-18″+ 3-16″
	36′	1-9½″+ 2-7¼″	2-11¼″ 3-9¼″	2-11⅞″+ 3-11¼″	2-14″+ 3-11⅞″	2-18″+ 3-16″	2-9¼″ 3-7¼″	2-11¼″+ 3-9¼″	2-14″+ 3-11¼″	2-16″+ 3-14″	3-16″+	1-9¼″+ 2-7¼″	2-9½″ 3-9¼″	2-11¼″	2-14″+ 3-11¼″	2-18″+ 3-14″	1-9¼″+ 2-7¼″	2-11¼″ 3-9¼″	2-11⅞″+ 3-11¼″	2-14″+ 3-11⅞″	2-18″+ 3-16″

+ See note 1.

NOTES:

1. Required end bearing length (based on 625 psi) is 3.0″ unless the subscript + is shown. In that case, 4.5″ is required.
2. Headers require full width bearing. Minimum cripple size for 5¼″ thick beams is 2x6.
3. Table is based on residential floor loading of 40 psf live load and 12 psf dead load and exterior wall weight of 100 plf.
4. A beam line down the center of the second floor is assumed.
5. Deflection is limited to L/360 and the lesser of L/240 or 5/16″ at total load.
6. Roof live and dead loads shown are applied vertically to the horizontal projection.

GP Lam LVL Garage Door Headers – 2-Story



Two-Story Applications

This table considers the combined loads from a wall, second story floor (¼ of total floor joist span) and various roof truss spans with a 2′ soffit. An intermediate floor beam is assumed. If the soffit exceeds 2′, additional engineering will be necessary.

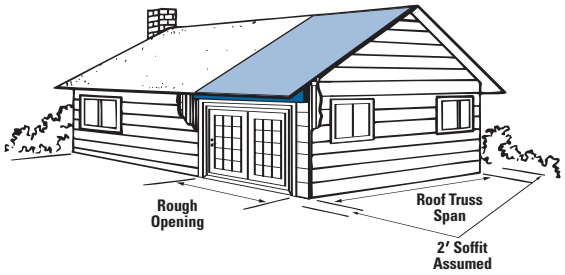
Roof Loading		Snow (115%)									Non-Snow (125%)								
		25 psf LL + 20 psf DL			30 psf LL + 20 psf DL			40 psf LL + 20 psf DL			20 psf LL + 15 psf DL			20 psf LL + 20 psf DL			20 psf LL + 25 psf DL		
Rough Opening		9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″
Roof Truss Span with 2′ Soffit Assumed	20′	1-11⅞″+ 2-9¼″	2-16″+ 3-14″	2-18″+ 3-16″	1-11⅞″+ 2-9¼″	2-16″+ 3-14″	2-18″+ 3-16″	2-9½″ 3-9¼″	2-18″+ 3-14″	3-16″+	1-11¼″+ 2-9¼″ 3-7¼″	2-16″ 3-14″	2-18″ + 3-16″	1-11¼″+ 2-9¼″	2-16″+ 3-14″	2-18″ + 3-16″	1-11⅞″+ 2-9¼″	2-16″ + 3-14″	2-18″ + 3-16″
	24′	2-9¼″	2-18″+ 3-14″	3-16″	2-9½″ 3-9¼″	2-18″+ 3-16″	3-16″+	2-11¼″ 3-9¼″	3-16″+	3-18″+	1-11⅞″+ 2-9¼″	2-16″+ 3-14″	2-18″+ 3-16″	1-11⅞″+ 2-9¼″	2-16″+ 3-14″	2-18″ + 3-16″	2-9¼″	2-18″+ 3-14″	3-16″
	28′	2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″+ 3-9¼″	3-16″+	3-18″+	2-9¼″	2-16″+ 3-14″	2-18″+ 3-16″	2-9½″ 3-9¼″	2-18″+ 3-16″	3-16″+	2-11¼″ 3-9¼″	3-16″+	3-18″+
	32′	2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″+ 3-9¼″	3-16″+	3-18″+	2-11¼″+ 3-9¼″	3-18″+		2-9½″ 3-9¼″	2-18″+ 3-16″	3-18″+	2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″ 3-9¼″	3-16″+	3-18″+
	36′	2-11¼″+ 3-9¼″	3-16″+	3-18″+	2-11¼″+ 3-9¼″	3-18″+		2-11¼″+			2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″ 3-9¼″	3-16″+	3-18″+	2-11¼″+ 3-9¼″	3-16″+	3-18″+

+ See note 1.

NOTES:

1. Required end bearing length (based on 625 psi) is 3.0″ unless the subscript + is shown. In that case, 4.5″ is required.
2. Headers require full width bearing. Minimum cripple size for 5¼″ thick beams is 2x6.
3. Table is based on residential floor loading of 40 psf live load and 12 psf dead load and exterior wall weight of 100 plf.
4. A beam line down the center of the second floor is assumed.
5. Deflection is limited to L/360 at live load and L/240 at total load.
6. Roof live and dead loads shown are applied vertically to the horizontal projection.

GP Lam® LVL Window and Patio Door Headers – Roof Only



Roof Applications

This table indicates the appropriate size header for various roof truss spans with 2′ soffit. If the soffit is greater than 2′, additional engineering is necessary.

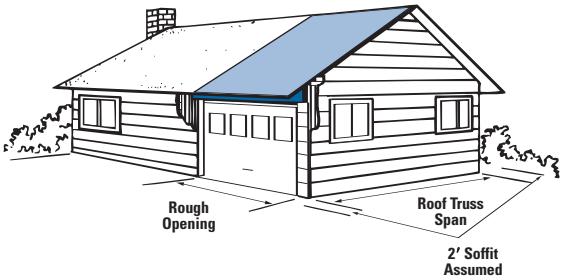
Roof Loading		Snow (115%)										Non-Snow (125%)									
		25 psf LL + 20 psf DL					40 psf LL + 20 psf DL					20 psf LL + 15 psf DL					20 psf LL + 25 psf DL				
Rough Opening		6′	8′	9′	10′	12′	6′	8′	9′	10′	12′	6′	8′	9′	10′	12′	6′	8′	9′	10′	12′
Roof Truss Span with 2′ Soffit Assumed	20′	1-7¼″	1-9¼″ 2-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-14″ 2-9½″ 3-9¼″	2-14″ 3-11¼″	1-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-11⅞″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-14″ 3-11⅞″	1-7¼″	1-9¼″ 2-7¼″	1-9½″ 2-9¼″ 3-7¼″	1-11¼″ 2-9¼″	1-14″ 2-11¼″ 3-9½″	1-7¼″	1-9¼″ 2-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-14″ 2-9½″ 3-9¼″	2-14″ 3-11¼″
	24′	1-7¼″	1-9½″ 2-9¼″ 3-7¼″	1-11¼″ 2-9¼″	1-14″ 2-11¼″ 3-9¼″	2-14″ 3-11¼″	1-7¼″	1-11½″+ 2-9¼″ 3-7¼″	1-14″+ 2-9½″ 3-9¼″	2-11¼″ 3-9½″	2-14″	1-7¼″	1-9¼″ 2-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-11⅞″ 2-9¼″	2-11⅞″ 3-11¼″	1-7¼″	1-9½″ 2-9¾″ 3-7¼″	1-11¼″ 2-9¼″	1-14″ 2-11¼″ 3-9¼″	2-14″ 3-11¼″
	28′	1-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-11⅞″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-14″ 3-11⅞″	1-9¼″ 2-7¼″	1-11¼″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-11⅞″ 3-11¼″	2-16″ 3-14″	1-7¼″	1-9¼″ 2-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-14″ 2-9½″ 3-9¼″	2-14″ 3-11¼″	1-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-11⅞″+ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-14″ 3-11⅞″
	32′	1-7¼″	1-11¼″+ 2-9¼″ 3-7¼″	1-14″+ 2-9½″ 3-9¼″	2-11¼″ 3-9½″	2-14″	1-9¼″+ 2-7¼″	1-11⅞″+ 2-9¼″	2-11¼″ 3-9¼″	2-14 3-11¼″	2-16″+ 3-14″	1-7¼″	1-9½″ 2-9¼″ 3-7¼″	1-11¼″ 2-9¼″	1-14″ 2-11¼″ 3-9¼″	2-14″ 3-11¼″	1-7¼″	1-11¼″+ 2-9¼″ 3-7¼″	1-14″+ 2-9½″ 3-9¼″	2-11¼″ 3-9½″	2-14″
	36′	1-9¼″ 2-7¼″	1-11½″+ 2-9¼″ 3-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11¼″	2-16″ 3-14″	1-9¼″+ 2-7¼″	2-9¼″	2-11¼″ 3-9½″	2-14″ 3-11¼″	2-18″+ 3-14″	1-7¼″	1-11¼″ 2-9¼″ 3-7¼″	1-11⅞″ 2-9¼″	1-14″+ 2-11¼″ 3-9¼″	2-14″ 3-11⅞″	1-9¼″ 2-7¼″	1-11¼″+ 2-9¼″ 3-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11¼″	2-16″ 3-14″

+ See note 1.

NOTES:

1. Required bearing length (based on 625 psi) is 3.0″ unless the subscript + is shown. In that case, 4.5″ is required.
2. Headers require full width bearing. Minimum cripple size for 5¼″ thick beams is 2x6.
3. Deflection is limited to L/240 at live load and the lesser of L/180 or 5/16″ at total load.
4. Roof live and dead loads shown are applied vertically to the horizontal projection.

GP Lam LVL Garage Door Headers – Roof Only



Roof Applications

This table indicates the appropriate size header for various roof truss spans with 2′ soffit. If the soffit is greater than 2′, additional engineering is necessary.

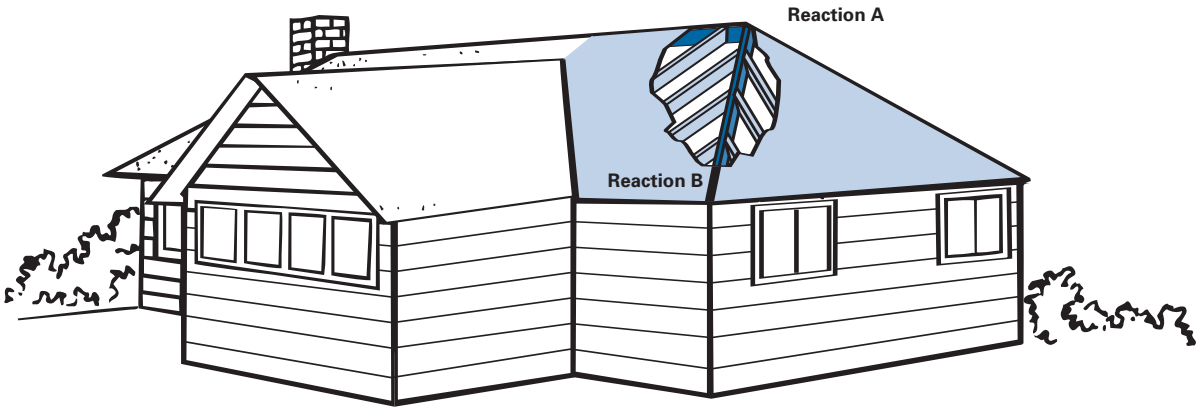
Roof Loading		Snow (115%)									Non-Snow (125%)								
		25 psf LL + 20 psf DL			30 psf LL + 20 psf DL			40 psf LL + 20 psf DL			20 psf LL + 15 psf DL			20 psf LL + 20 psf DL			20 psf LL + 25 psf DL		
Rough Opening		9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″	9′3″	16′3″	18′3″
Roof Truss Span with 2′ Soffit Assumed	20′	1-9¼″ 2-7¼″	2-11⅞″ 3-11¼″	2-14″ 3-11¼″	1-9¼″ 2-7¼″	2-14″ 3-11¼″	2-14″ 3-11⅞″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-9¼″ 2-7¼″	1-14″+ 2-11¼″ 3-9¼″	2-11⅞″ 3-11¼″	1-9¼″ 2-7¼″	2-11¼″	2-14″ 3-11¼″	1-9¼″ 2-7¼″	2-11⅞″ 3-11¼″	2-14″ 3-11¼″
	24′	1-9½″ 2-7¼″	2-14″ 3-11¼″	2-14″ 3-11⅞″	1-11¼″+ 2-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+ 3-11⅞″	2-16″+ 3-14″	1-9¼″ 2-7¼″	2-11¼″	2-14″ 3-11¼″	1-9¼″ 2-7¼″	2-11⅞″ 3-11¼″	2-14″ 3-11⅞″	1-9¼″ 2-7¼″	2-14″ 3-11¼″	2-14″ 3-11⅞″
	28′	1-11¼″+ 2-9¼″ 3-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+ 3-11⅞″	2-16″+ 3-14″	1-11⅞″+ 2-9¼″ 3-7¼″	2-16″+ 3-14″	2-18″+ 3-14″	1-9¼″ 2-7¼″	2-11⅞″ 3-11¼″	2-14″ 3-11⅞″	1-9¼″ 2-7¼″	2-14″ 3-11¼″	2-14″ 3-11⅞″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″
	32′	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+ 3-11⅞″	2-16″+ 3-14″	1-11⅞″+ 2-9¼″ 3-7¼″	2-16″+ 3-14″	2-16″+ 3-14″	2-9¼″	2-16″+ 3-14″	3-16″+	1-9¼″ 2-7¼″	2-14″ 3-11¼″	2-14″ 3-11⅞″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+ 3-11⅞″	2-16″+ 3-14″
	36′	1-11⅞″+ 2-9¼″ 3-7¼″	2-16″+ 3-14″	2-16″+ 3-14″	1-14″+ 2-9¼″ 3-7¼″	2-16″+ 3-14″	2-18″+ 3-14″	2-9¼″	3-14″+	3-16″+	1-9½″+ 2-7¼″	2-14″ 3-11¼″	2-16″+ 3-14″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+ 3-11⅞″	2-16″+ 3-14″	1-11¼″+ 2-9¼″ 3-7¼″	2-14″+	2-16″+ 3-14″

+ See note 1.

NOTES:

1. Required end bearing length (based on 625 psi) is 3.0" unless the subscript + is shown. In that case, 4.5" is required.
2. Headers require full width bearing. Minimum cripple size for 5¼″ thick beams is 2x6.
3. Deflection is limited to L/240 at live load and L/180 at total load.
4. Roof live and dead loads shown are applied vertically to the horizontal projection.

GP Lam® LVL Roof Hip Beam Chart



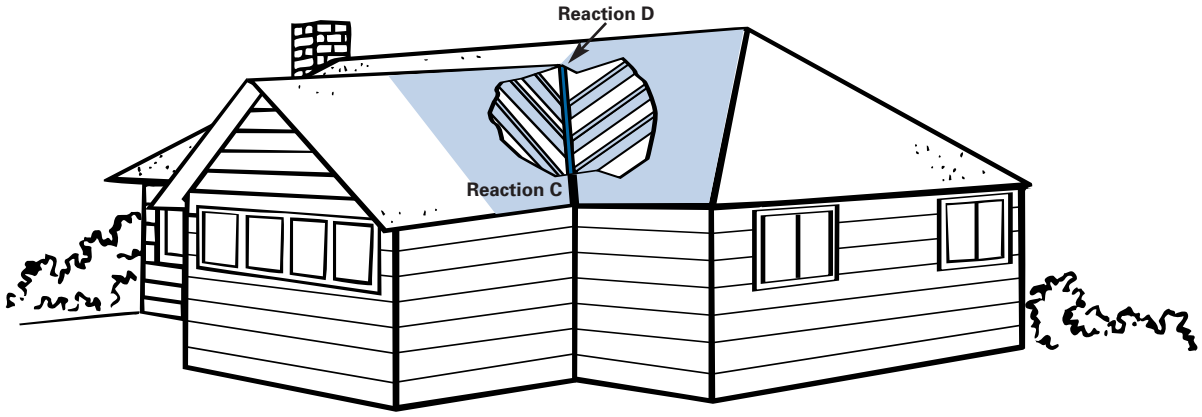
2.0E GP Lam LVL

Longest horizontal rafter span (L)			Roof Loading Snow (115%)								
			20 psf LL + 13 psf DL			30 psf LL + 13 psf DL			40 psf LL + 13 psf DL		
			Roof Slope			Roof Slope			Roof Slope		
			up to 4/12	up to 8/12	up to 12/12	up to 4/12	up to 8/12	up to 12/12	up to 4/12	up to 8/12	up to 12/12
	12′	Hip Beam Depth	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11⅞″	1 – 11¼″	1 – 11⅞″	1 – 14″
			2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 11¼″
			3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″
		Order Length (ft)	22	24	26	22	24	26	22	24	26
		React. A (lbs)	1,745	1,805	1,895	2,225	2,285	2,380	2,705	2,770	2,870
		React. B (lbs)	895	925	975	1,135	1,170	1,220	1,375	1,410	1,470
	14′	Hip Beam Depth	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	2 – 11⅞″	2 – 11⅞″
			2 – 9½″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	3 – 11¼″	3 – 11¼″
			3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9½″	3 – 11¼″	3 – 11¼″	4 – 9¼″	4 – 9¼″
		Order Length (ft)	26	28	30	26	28	30	26	28	30
		React. A (lbs)	2,380	2,460	2,585	3,035	3,115	2,540	3,690	3,820	3,820
		React. B (lbs)	1,225	1,265	1,330	1,550	1,600	1,310	1,875	1,970	1,970
	16′	Hip Beam Depth	2 – 11⅞″	2 – 11⅞″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 16″
			3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11⅞″	3 – 11⅞″	3 – 11⅞″	3 – 14″
			4 – 9¼″	4 – 9½″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11⅞″
		Order Length (ft)	28	30	34	28	30	34	28	30	34
		React. A (lbs)	3,150	3,285	3,450	4,025	4,135	4,330	4,880	5,015	5,185
		React. B (lbs)	1,640	1,720	1,815	2,085	2,150	2,270	2,515	2,600	2,695
	18′	Hip Beam Depth	2 – 14″	2 – 14″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 18″
			3 – 11⅞″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 16″
			4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11⅞″	4 – 11⅞″	4 – 14″	4 – 14″	4 – 14″	4 – 14″
		Order Length (ft)	32	34	36	32	34	36	32	34	36
		React. A (lbs)	3,995	4,160	4,400	5,100	5,265	5,480	6,200	6,345	6,690
		React. B (lbs)	2,080	2,180	2,330	2,645	2,750	2,870	3,210	3,290	3,535
	20′	Hip Beam Depth	2 – 16″	2 – 16″	2 – 18″	2 – 18″	2 – 18″	2 – 18″	2 – 18″	—	—
			3 – 14″	3 – 14″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 18″
			4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 16″	4 – 16″	4 – 16″
		Order Length (ft)	34	36	40	34	36	40	34	36	40
		React. A (lbs)	4,960	5,135	5,540	6,375	6,600	7,020	7,745	7,930	8,350
		React. B (lbs)	2,600	2,695	2,985	3,350	3,490	3,795	4,050	4,160	4,460
	22′	Hip Beam Depth	2 – 18″	2 – 18″	—	—	—	—	—	—	—
			3 – 16″	3 – 16″	3 – 18″	3 – 18″	3 – 18″	3 – 18″	3 – 18″	—	—
			4 – 14″	4 – 16″	4 – 16″	4 – 16″	4 – 16″	4 – 18″	4 – 18″	4 – 18″	4 – 18″
		Order Length (ft)	38	40	44	38	40	44	38	40	44
		React. A (lbs)	6,110	6,465	6,815	7,850	8,080	8,430	9,465	9,695	10,040
		React. B (lbs)	3,250	3,515	3,720	4,190	4,325	4,530	4,995	5,130	5,335
	24′	Hip Beam Depth	—	—	—	—	—	—	—	—	—
			3 – 18″	3 – 18″	—	—	—	—	—	—	—
			4 – 16″	4 – 18″	4 – 18″	4 – 18″	4 – 18″	—	—	—	—
		Order Length (ft)	40	42	46	40	42	—	—	—	—
		React. A (lbs)	7,370	7,640	8,050	9,290	9,560	—	—	—	—
		React. B (lbs)	3,970	4,130	4,365	4,930	5,090	—	—	—	—

NOTES:

1. 2′-0″ maximum roof overhang assumed for order length.
2. Provide posts at both high end and low end to support Reactions A and B. Provide 3½″ minimum bearing at each end based on Douglas Fir-Larch or Southern Pine post or plate material.
3. The building designer must consider thrust resistant connections at bearing locations.
4. For non-equal roof slopes, use the greatest roof slope and the longest L distance.
5. Chart is based on triangular loading applied to the hip member. Live load is calculated as applied vertically to the horizontal projection of the rafter and dead load is calculated along the rafter length.
6. Size based on Roof Snow applications with a load duration factor of 115% and deflection criterion of L/240 live load and L/180 total load.
7. Refer to page 49 "Fastening Recommendations for Side-Loaded, Multiple-Piece Members." Use L distance to determine span-carried length or uniform loading.
8. Reactions include heaviest beam weight.
9. A structural ridge beam is assumed.

GP Lam® LVL Roof Valley Beam Chart



2.0E GP Lam LVL

Longest horizontal rafter span (L)			Roof Loading Snow (115%)								
			20 psf LL + 13 psf DL			30 psf LL + 13 psf DL			40 psf LL + 13 psf DL		
			Roof Slope			Roof Slope			Roof Slope		
			up to 4/12	up to 8/12	up to 12/12	up to 4/12	up to 8/12	up to 12/12	up to 4/12	up to 8/12	up to 12/12
	12′	Valley Beam Depth	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11¼″	1 – 11⅞″	1 – 11¼″	1 – 11⅞″	1 – 14″
			2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 9¼″	2 – 11¼″
			3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″
		Order Length (ft)	22	24	26	22	24	26	22	24	26
		React. C (lbs)	1,745	1,805	1,895	2,225	2,285	2,380	2,705	2,770	2,870
		React. D (lbs)	895	925	975	1,135	1,170	1,220	1,375	1,410	1,470
	14′	Valley Beam Depth	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	1 – 14″	2 – 11⅞″	2 – 11⅞″
			2 – 9½″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	2 – 11¼″	3 – 11¼″	3 – 11¼″
			3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9¼″	3 – 9½″	3 – 11¼″	3 – 11¼″	4 – 9¼″	4 – 9¼″
		Order Length (ft)	26	28	30	26	28	30	26	28	30
		React. C (lbs)	2,380	2,460	2,585	3,035	3,115	2,540	3,690	3,820	3,820
		React. D (lbs)	1,225	1,265	1,330	1,550	1,600	1,310	1,875	1,970	1,970
	16′	Valley Beam Depth	2 – 11⅞″	2 – 11⅞″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 14″	2 – 16″
			3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11¼″	3 – 11⅞″	3 – 11⅞″	3 – 11⅞″	3 – 14″
			4 – 9¼″	4 – 9½″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11⅞″
		Order Length (ft)	28	30	34	28	30	34	28	30	34
		React. C (lbs)	3,150	3,285	3,450	4,025	4,135	4,330	4,880	5,015	5,185
		React. D (lbs)	1,640	1,720	1,815	2,085	2,150	2,270	2,515	2,600	2,695
	18′	Valley Beam Depth	2 – 14″	2 – 14″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 16″	2 – 18″
			3 – 11⅞″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 14″	3 – 16″
			4 – 11¼″	4 – 11¼″	4 – 11¼″	4 – 11⅞″	4 – 11⅞″	4 – 14″	4 – 14″	4 – 14″	4 – 14″
		Order Length (ft)	32	34	36	32	34	36	32	34	36
		React. C (lbs)	3,995	4,160	4,400	5,100	5,265	5,480	6,200	6,345	6,690
		React. D (lbs)	2,080	2,180	2,330	2,645	2,750	2,870	3,210	3,290	3,535
	20′	Valley Beam Depth	2 – 16″	2 – 16″	2 – 18″	2 – 18″	2 – 18″	2 – 18″	2 – 18″	—	—
			3 – 14″	3 – 14″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 16″	3 – 18″
			4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 14″	4 – 16″	4 – 16″	4 – 16″
		Order Length (ft)	34	36	40	34	36	40	34	36	40
		React. C (lbs)	4,960	5,135	5,540	6,375	6,600	7,020	7,745	7,930	8,350
		React. D (lbs)	2,600	2,695	2,985	3,350	3,490	3,795	4,050	4,160	4,460
	22′	Valley Beam Depth	2 – 18″	2 – 18″	—	—	—	—	—	—	
			3 – 16″	3 – 16″	3 – 18″	3 – 18″	3 – 18″	3 – 18″	3 – 18″	—	—
			4 – 14″	4 – 16″	4 – 16″	4 – 16″	4 – 16″	4 – 18″	4 – 18″	4 – 18″	4 – 18″
		Order Length (ft)	38	40	44	38	40	44	38	40	44
		React. C (lbs)	6,110	6,465	6,815	7,850	8,080	8,430	9,465	9,695	10,040
		React. D (lbs)	3,250	3,515	3,720	4,190	4,325	4,530	4,995	5,130	5,335
	24′	Valley Beam Depth	—	—	—	—	—	—	—	—	—
			3 – 18″	3 – 18″	—	—	—	—	—	—	—
			4 – 16″	4 – 18″	4 – 18″	4 – 18″	4 – 18″	—	—	—	—
		Order Length (ft)	40	42	46	40	42	—	—	—	—
		React. C (lbs)	7,370	7,640	8,050	9,290	9,560	—	—	—	—
		React. D (lbs)	3,970	4,130	4,365	4,930	5,090	—	—	—	—

NOTES:

1. 2′-0″ maximum roof overhang assumed for order length.
2. Provide posts at both high end and low end to support Reactions C and D. Provide 3½″ minimum bearing at each end based on Douglas Fir-Larch or Southern Pine post or plate material.
3. The building designer must consider thrust resistant connections at bearing locations.
4. For non-equal roof slopes, use the greatest roof slope and the longest L distance.
5. Chart is based on triangular loading applied to the valley member. Live load is calculated as applied vertically to the horizontal projection of the rafter and dead load is calculated along the rafter length.
6. Size based on Roof Snow applications with a load duration factor of 115% and deflection criterion of L/240 live load and L/180 total load.
7. Refer to page 49 "Fastening Recommendations for Side-Loaded, Multiple-Piece Members." Use L distance to determine span-carried length or uniform loading.
8. Reactions include heaviest beam weight.
9. A structural ridge beam is assumed.

GP Lam® LVL Bearing Length Requirements (Inches)

Reaction (lbs)	Support Material															
	SPF South (335 PSI)				Hem-Fir (405 PSI)				Southern Pine (565 PSI)				GP Lam LVL (750 PSI)			
	Beam Thickness				Beam Thickness				Beam Thickness				Beam Thickness			
	1¾″	3½″	5¼″	7″	1¾″	3½″	5¼″	7″	1¾″	3½″	5¼″	7″	1¾″	3½″	5¼″	7″
1,000	1¾	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½	1½
2,000	3½	1¾	1½	1½	3	1½	1½	1½	2¼	1½	1½	1½	1¾	1½	1½	1½
3,000	5¼	2¾	1¾	1½	4¼	2¼	1½	1½	3¼	1¾	1½	1½	2½	1½	1½	1½
4,000	7	3½	2½	1¾	5¾	3	2	1½	4¼	2¼	1½	1½	3¼	1¾	1½	1½
5,000	8¾	4½	3	2¼	7¼	3¾	2½	2	5¼	2¾	1¾	1½	4	2	1½	1½
6,000		5¼	3½	2¾	8½	4¼	3	2¼	6¼	3¼	2¼	1¾	4¾	2½	1¾	1½
7,000		6	4	3		5	3½	2½	7¼	3¾	2½	2	5½	2¾	2	1½
8,000		7	4¾	3½		5¾	4	3	8¼	4¼	2¾	2¼	6¼	3¼	2¼	1¾
9,000		7¾	5¼	4		6½	4¼	3¼	9¼	4¾	3¼	2½	7	3½	2½	1¾
10,000		8¾	5¾	4½		7¼	4¾	3¾		5¼	3½	2¾	7¾	4	2¾	2
11,000			6½	4¾		8	5¼	4		5¾	3¾	3	8½	4¼	3	2¼
12,000			7	5¼		8½	5¾	4¼		6¼	4¼	3¼	9¼	4¾	3¼	2½
13,000			7½	5¾		9¼	6¼	4¾		6¾	4½	3½		5	3½	2½
14,000			8	6			6¾	5		7¼	4¾	3¾		5½	3¾	2¾
15,000			8¾	6½			7¼	5½		7¾	5¼	4		5¾	4	3
16,000			9¼	7			7¾	5¾		8¼	5½	4¼		6¼	4¼	3¼
17,000				7¼			8	6		8¾	5¾	4½		6½	4½	3¼
18,000				7¾			8½	6½		9¼	6¼	4¾		7	4¾	3½
19,000				8¼			9	6¾			6½	5		7¼	5	3¾
20,000				8¾				7¼			6¾	5¼		7¾	5¼	4
21,000				9				7½			7¼	5½		8	5½	4
22,000								8			7½	5¾		8½	5¾	4¼
23,000								8¼			8	6		9	6	4½
24,000								8½			8¼	6¼		9¼	6¼	4¾

1. Minimum required bearing length is 1½″.
2. Bearing across full width of beam or header is required.
3. Moisture content of lumber must not exceed 19%.
4. Confirmation of structural adequacy of supporting member is required.
5. Lateral support of GP Lam LVL is required at bearing points.
6. When plate material is of **Hem-Fir (North)**, use bearing lengths shown for SPF (South).
7. When plate material is of **Southern Pine graded non-dense** or of **SPF**, use bearing lengths shown for Hem-Fir .
8. When plate material is of **Douglas Fir-Larch** or **Doug Fir-Larch (North)**, use bearing lengths shown for Southern Pine.
9. When GP Lam LVL rests **on steel or in a hanger,** use bearing lengths shown for GP Lam LVL.
10. When GP Lam LVL rests directly **on end grain of studs or cripples** of the lumber listed above, use bearing lengths shown for GP Lam LVL multiplied by 1.2.
11. No reduction in bearing length is allowed for duration of load.

Using Allowable Uniform Load Tables (Floor and Roof)

1. **Tables are based on uniform loads, the more restrictive of simple or continuous spans (measured center-to-center), and dry-use conditions.** For other loads or span configurations, use FASTBeam® analysis & selection software or contact your BlueLinx representative.
2. Beam thickness is the net thickness of the beam. For multiple-piece members beam thickness may be achieved by properly connecting multiple plies of GP Lam® LVL lumber beams. See page 49 for connection details.
3. To size a beam it is necessary to check both live load and total load. Selected beam must work in both rows. When no live load is shown, total load will control, unless floor live load deflections other than L/360 are checked per note 4.
4. For floor live load deflection limits of L/480 or L/600, multiply the value in the floor 'LL' row (or 'TL' when 'LL' is not shown) by .75 or .60 respectively.
5. To size a member for a span not shown, use capacities for the next larger span shown (example: for 7′ span, use values shown for 8′ span).
6. Verify deflection limits with local building code requirements.
7. Bearing across full width of beam is assumed.
8. Assumes 565 psi bearing stress limited by douglas fir, southern yellow pine or other dense supporting material. For SPF or other less dense materials, either double the bearing length shown or refer to Bearing Length Requirements on page 40.
9. Bearing length may be adjusted if a beam is not fully loaded. For example, if 4.2″ of bearing is required for a beam with maximum total load capacity of 1000 PLF yet the total design load is only 700 PLF the bearing length may be adjusted as follows: 700/1000 x 4.2 = 2.94″ minimum (use 2 cripples for 3″). In no case may end bearing length be less than 1½″ or intermediate bearing length be less than 3″.
10. Provide lateral support at bearing points, and continuous lateral support along the top edge of beam.
11. **1¾″ thick beams with depth greater than 14″ must only be used in multiple-piece members.**
12. For 3 ply or 4 ply 7¼″ GP Lam LVL, use 1¾″ table and multiply by 3 or 4 respectively.
13. Roof members must slope for drainage.

EXAMPLE:

Select a GP Lam LVL beam to carry 520 PLF live load + 200 PLF dead load. Beam supports both floor and roof, and spans 10′.

When a beam carries floor and roof, use tables for floor loads; these tables are based on more stringent criteria than those used for roof loads. Use the table titled Floor 100%, on page 42. Adding 520 PLF and 200 PLF gives a total load of 720 PLF. Find 10′ in the left most column. To the right are three rows showing Live Load L/360, Total Load and Minimum End and Minimum Interior Bearing requirements in inches. In the row marked Total Load, move to the right to locate a total load of at least 720 PLF. 1¾″ x 11⅞″ GP Lam LVL Beam can carry 745 PLF total load. Check live load capacity. 1¾″ x 11⅞″ can carry 629 PLF live load, so live load capacity is also adequate. Note required end bearing length is 3.8″ and 9.5″ for interior bearing of multiple spans. (See Note 9 above)

If less bearing length or a depth less than 11⅞″ is desired, check the capacity of 3½″ LVL beams. In the row marked Total Load, move farther to the right to locate a total load of at least 720 PLF. A 3½″ wide x 9¼″ deep member can carry 932 PLF total load. Check that live load capacity is at least 520 PLF. 3½″ x 9¼″ beams can carry 627 PLF, which is sufficient. Use 3½″ x 9¼″ deep. Required end bearing is 2.4″ and 5.9″ is required for interior bearing of multiple spans.

Allowable Uniform Loads — Floor 100%

2.0E GP Lam® LVL

Span (Ft)	Condition	Allowable Uniform Loads* (In Pounds Per Lineal Foot)													
		1¾″ Thick GP Lam LVL Beams						3½″ Thick GP Lam LVL Beams							
		7¼″	9¼″	9½″	11¼″	11⅞″	14″	7¼″	9¼″	9½″	11¼″	11⅞″	14″	16″	18″	23⅞″
6′	Live Load L/360	660						1319								
	Total Load	763	1028	1063	1325	1425	1576	1526	2056	2127	2650	2849	3151	3149	3147	3142
	End / Int. Bearing	2.3 / 5.8	3.1 / 7.8	3.2 / 8.1	4.0 / 10.1	4.3 / 10.8	4.8 / 12.0	2.3 / 5.8	3.1 / 7.8	3.2 / 8.1	4.0 / 10.1	4.3 / 10.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/360	296	585	629				591	1169	1258						
	Total Load	440	723	746	916	979	1180	880	1446	1493	1831	1958	2360	2358	2356	2351
	End / Int. Bearing	1.8 / 4.5	2.9 / 7.4	3.0 / 7.6	3.7 / 9.3	4.0 / 10.0	4.8 / 12.0	1.8 / 4.5	2.9 / 7.4	3.0 / 7.6	3.7 / 9.3	4.0 / 10.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/360	156	313	338	542	629		312	627	676	1084	1258				
	Total Load	230	466	503	699	745	909	461	932	1005	1398	1490	1818	1884	1882	1876
	End / Int. Bearing	1.5 / 3.0	2.4 / 5.9	2.6 / 6.4	3.6 / 8.9	3.8 / 9.5	4.6 / 11.6	1.5 / 3.0	2.4 / 5.9	2.6 / 6.4	3.6 / 8.9	3.8 / 9.5	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/360	118	239	258	416	484	760	236	478	516	832	967	1519			
	Total Load	174	354	382	589	652	809	348	708	765	1178	1305	1618	1711	1709	1704
	End / Int. Bearing	1.5 / 3.0	2.0 / 5.0	2.2 / 5.4	3.3 / 8.3	3.7 / 9.1	4.5 / 11.3	1.5 / 3.0	2.0 / 5.0	2.2 / 5.4	3.3 / 8.3	3.7 / 9.1	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/360	92	186	201	326	379	599	183	372	402	651	758	1198			
	Total Load	134	275	297	483	547	729	268	550	594	966	1095	1457	1567	1565	1560
	End / Int. Bearing	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.4 / 8.4	4.5 / 11.2	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.4 / 8.4	4.5 / 11.2	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/360	73	148	160	259	302	480	145	295	319	519	605	961	1387		
	Total Load	105	217	235	384	448	636	211	434	470	768	896	1273	1446	1444	1438
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.6	1.6 / 3.9	2.6 / 6.4	3.0 / 7.5	4.2 / 10.6	1.5 / 3.0	1.5 / 3.6	1.6 / 3.9	2.6 / 6.4	3.0 / 7.5	4.2 / 10.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/360	58	119	129	210	245	390	117	238	257	420	490	781	1132		
	Total Load	84	174	189	309	362	548	168	349	377	619	724	1096	1341	1339	1334
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.2	1.5 / 3.4	2.2 / 5.6	2.6 / 6.5	3.9 / 9.8	1.5 / 3.0	1.5 / 3.2	1.5 / 3.4	2.2 / 5.6	2.6 / 6.5	3.9 / 9.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/360	48	97	105	172	201	321	95	195	211	344	402	643	935		
	Total Load	68	142	153	253	296	476	136	284	307	506	592	951	1228	1249	1243
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	2.0 / 4.9	2.3 / 5.7	3.7 / 9.1	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	2.0 / 4.9	2.3 / 5.7	3.7 / 9.1	4.7 / 11.8	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/360		81	87	143	167	268	79	161	174	285	334	535	781	1084	
	Total Load		117	126	209	245	395	111	233	253	418	490	790	1078	1170	1164
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.0 / 5.1	3.2 / 8.1	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.0 / 5.1	3.2 / 8.1	4.4 / 11.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/360		67	73	120	140	225	66	135	146	239	280	450	658	916	
	Total Load		97	105	174	204	331	92	194	210	349	409	662	953	1100	1095
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.9	1.8 / 4.5	2.9 / 7.3	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.9	1.8 / 4.5	2.9 / 7.3	4.2 / 10.4	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/360		57	62	101	119	191	56	114	123	203	237	382	560	781	
	Total Load		81	88	147	172	280	76	162	176	293	345	560	825	1038	1032
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.5	1.6 / 4.0	2.6 / 6.5	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.5	1.6 / 4.0	2.6 / 6.5	3.8 / 9.6	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/360		49	53	86	101	163	47	97	105	173	203	327	480	671	
	Total Load		69	75	124	146	239	64	137	149	249	293	477	705	951	977
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	3.5 / 8.6	4.6 / 11.6	4.8 / 12.0
20′	Live Load L/360		42	45	74	87	141	41	84	90	149	174	282	414	580	
	Total Load		58	63	106	125	205	54	117	127	213	251	410	606	853	927
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.3	2.1 / 5.3	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.3	2.1 / 5.3	3.1 / 7.9	4.4 / 11.0	4.8 / 12.0
22′	Live Load L/360				56	66	107		63	68	112	132	213	315	442	
	Total Load				79	93	154		86	94	158	187	307	457	646	841
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.8 / 4.5		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.5	2.6 / 6.6	3.7 / 9.2	4.8 / 12.0
24′	Live Load L/360				43	51	83		49	53	87	102	166	244	344	
	Total Load				60	71	118		64	70	120	142	235	352	499	769
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.5 / 3.8		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	2.2 / 5.6	3.1 / 7.8	4.8 / 12.0
26′	Live Load L/360					40	65			42	69	81	131	194	273	614
	Total Load					55	92			54	93	110	183	276	392	708
	End / Int. Bearing					1.5 / 3.0	1.5 / 3.2			1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.2	1.9 / 4.8	2.7 / 6.7	4.8 / 12.0
28′	Live Load L/360						53				55	65	105	156	220	497
	Total Load						72				72	86	145	219	313	656
	End / Int. Bearing						1.5 / 3.0				1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.1	2.3 / 5.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/360 = Maximum live load — limits deflection to L/360

Total Load = Maximum total load — limits deflection to L/240

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

Allowable Uniform Loads — Floor 100%

2.0E GP Lam® LVL

Span (Ft)		Allowable Uniform Loads* (In Pounds Per Lineal Foot)															
		5¼" Thick GP Lam LVL Beams								7" Thick GP Lam LVL Beams							
	Condition	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	23⅞"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	23⅞"
6′	Live Load L/360																
	Total Load	3085	3190	3975	4274	4727	4724	4721	4713	4112	4254	5300	5698	6302	6298	6294	6284
	End / Int. Bearing	3.1 / 7.8	3.2 / 8.1	4.0 / 10.1	4.3 / 10.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.1 / 7.8	3.2 / 8.1	4.0 / 10.1	4.3 / 10.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/360	1754	1887							2338	2516						
	Total Load	2169	2239	2747	2937	3540	3537	3534	3526	2892	2986	3662	3916	4720	4716	4712	4702
	End / Int. Bearing	2.9 / 7.4	3.0 / 7.6	3.7 / 9.3	4.0 / 10.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.9 / 7.4	3.0 / 7.6	3.7 / 9.3	4.0 / 10.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/360	940	1014	1626	1887					1254	1352	2168	2516				
	Total Load	1397	1508	2097	2235	2728	2825	2822	2814	1864	2010	2796	2980	3636	3768	3764	3752
	End / Int. Bearing	2.4 / 5.9	2.6 / 6.4	3.6 / 8.9	3.8 / 9.5	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.4 / 5.9	2.6 / 6.4	3.6 / 8.9	3.8 / 9.5	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/360	717	773	1248	1451	2279				956	1032	1664	1934	3038			
	Total Load	1062	1147	1767	1957	2427	2567	2564	2555	1416	1530	2356	2610	3236	3422	3418	3408
	End / Int. Bearing	2.0 / 5.0	2.2 / 5.4	3.3 / 8.3	3.7 / 9.1	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.0 / 5.0	2.2 / 5.4	3.3 / 8.3	3.7 / 9.1	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/360	558	603	977	1137	1798				744	804	1302	1516	2396			
	Total Load	825	891	1449	1642	2186	2351	2348	2340	1100	1188	1932	2190	2914	3134	3130	3120
	End / Int. Bearing	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.4 / 8.4	4.5 / 11.2	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.4 / 8.4	4.5 / 11.2	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/360	443	479	778	907	1441	2081			590	638	1038	1210	1922	2774		
	Total Load	652	705	1151	1344	1909	2168	2165	2157	868	940	1536	1792	2546	2892	2888	2876
	End / Int. Bearing	1.5 / 3.6	1.6 / 3.9	2.6 / 6.4	3.0 / 7.5	4.2 / 10.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.6	1.6 / 3.9	2.6 / 6.4	3.0 / 7.5	4.2 / 10.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/360	357	386	629	735	1171	1698			476	514	840	980	1562	2264		
	Total Load	523	566	928	1086	1643	2012	2009	2001	698	754	1238	1448	2192	2682	2678	2668
	End / Int. Bearing	1.5 / 3.2	1.5 / 3.4	2.2 / 5.6	2.6 / 6.5	3.9 / 9.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.2	1.5 / 3.4	2.2 / 5.6	2.6 / 6.5	3.9 / 9.8	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/360	292	316	516	603	964	1403			390	422	688	804	1286	1870		
	Total Load	425	460	758	888	1427	1842	1873	1865	568	614	1012	1184	1902	2456	2498	2486
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	2.0 / 4.9	2.3 / 5.7	3.7 / 9.1	4.7 / 11.8	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	2.0 / 4.9	2.3 / 5.7	3.7 / 9.1	4.7 / 11.8	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/360	242	262	428	501	803	1171	1626		322	348	570	668	1070	1562	2168	
	Total Load	350	379	626	734	1185	1616	1755	1746	466	506	836	980	1580	2156	2340	2328
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.0 / 5.1	3.2 / 8.1	4.4 / 11.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.0 / 5.1	3.2 / 8.1	4.4 / 11.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/360	202	219	359	420	675	987	1374		270	292	478	560	900	1316	1832	
	Total Load	291	315	523	613	993	1429	1650	1642	388	420	698	818	1324	1906	2200	2190
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.9	1.8 / 4.5	2.9 / 7.3	4.2 / 10.4	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.9	1.8 / 4.5	2.9 / 7.3	4.2 / 10.4	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/360	171	185	304	356	573	840	1171		228	246	406	474	764	1120	1562	
	Total Load	244	264	440	517	840	1237	1557	1549	324	352	586	690	1120	1650	2076	2064
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.5	1.6 / 4.0	2.6 / 6.5	3.8 / 9.6	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.5	1.6 / 4.0	2.6 / 6.5	3.8 / 9.6	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/360	146	158	259	304	490	720	1006		194	210	346	406	654	960	1342	
	Total Load	206	224	373	439	716	1057	1426	1465	274	298	498	586	954	1410	1902	1954
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	3.5 / 8.6	4.6 / 11.6	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.6	2.4 / 5.9	3.5 / 8.6	4.6 / 11.6	4.8 / 12.0
20′	Live Load L/360	125	136	223	262	423	621	870		168	180	298	348	564	828	1160	
	Total Load	175	190	319	376	614	910	1280	1391	234	254	426	502	820	1212	1706	1854
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.3	2.1 / 5.3	3.1 / 7.9	4.4 / 11.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.3	2.1 / 5.3	3.1 / 7.9	4.4 / 11.0	4.8 / 12.0
22′	Live Load L/360	95	102	169	198	320	472	663		126	136	224	264	426	630	884	
	Total Load	129	140	237	280	461	686	969	1261	172	188	316	374	614	914	1292	1682
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.5	2.6 / 6.6	3.7 / 9.2	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.5	2.6 / 6.6	3.7 / 9.2	4.8 / 12.0
24′	Live Load L/360	73	79	130	153	248	367	516		98	106	174	204	332	488	688	
	Total Load	97	105	180	213	353	528	749	1153	128	140	240	284	470	704	998	1538
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	2.2 / 5.6	3.1 / 7.8	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	2.2 / 5.6	3.1 / 7.8	4.8 / 12.0
26′	Live Load L/360	58	62	103	121	196	290	409	921	76	84	138	162	262	388	546	1228
	Total Load	73	80	139	165	275	413	589	1062	98	108	186	220	366	552	784	1416
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.2	1.9 / 4.8	2.7 / 6.7	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.2	1.9 / 4.8	2.7 / 6.7	4.8 / 12.0
28′	Live Load L/360	46	50	83	97	158	234	330	746	62	66	110	130	210	312	440	994
	Total Load	56	62	108	129	217	328	470	984	76	82	144	172	290	438	626	1312
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.1	2.3 / 5.8	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.1	2.3 / 5.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/360 = Maximum live load — limits deflection to L/360

Total Load = Maximum total load — limits deflection to L/240

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

Allowable Uniform Loads — Roof 115% (Snow)

2.0E GP Lam® LVL

Span (Ft)	Condition	Allowable Uniform Loads* (In Pounds Per Lineal Foot)													
		1¾″ Thick GP Lam LVL Beams						3½″ Thick GP Lam LVL Beams							
		7¼″	9¼″	9½″	11¼″	11⅞″	14″	7¼″	9¼″	9½″	11¼″	11⅞″	14″	16″	18″	23⅞″
6′	Live Load L/240															
	Total Load	878	1183	1224	1524	1577	1576	1756	2366	2447	3049	3153	3151	3149	3147	3142
	End / Int. Bearing	2.7 / 6.7	3.6 / 9.0	3.7 / 9.3	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	2.7 / 6.7	3.6 / 9.0	3.7 / 9.3	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/240	444						887								
	Total Load	560	832	859	1054	1127	1180	1120	1664	1718	2108	2253	2360	2358	2356	2351
	End / Int. Bearing	2.3 / 5.7	3.4 / 8.5	3.5 / 8.7	4.3 / 10.7	4.6 / 11.4	4.8 / 12.0	2.3 / 5.7	3.4 / 8.5	3.5 / 8.7	4.3 / 10.7	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/240	234	470	507				468	940	1014						
	Total Load	308	567	596	805	858	943	617	1134	1193	1609	1715	1885	1884	1882	1876
	End / Int. Bearing	1.6 / 3.9	2.9 / 7.2	3.0 / 7.6	4.1 / 10.2	4.4 / 10.9	4.8 / 12.0	1.6 / 3.9	2.9 / 7.2	3.0 / 7.6	4.1 / 10.2	4.4 / 10.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/240	177	358	387	624	725		355	717	773	1248	1451				
	Total Load	233	468	492	678	751	856	466	935	984	1356	1502	1713	1711	1709	1704
	End / Int. Bearing	1.5 / 3.3	2.6 / 6.6	2.8 / 6.9	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	1.5 / 3.3	2.6 / 6.6	2.8 / 6.9	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/240	138	279	301	488	569		275	558	603	977	1137				
	Total Load	180	368	398	569	630	785	360	736	795	1138	1261	1569	1567	1565	1560
	End / Int. Bearing	1.5 / 3.0	2.3 / 5.6	2.4 / 6.1	3.5 / 8.7	3.9 / 9.6	4.8 / 12.0	1.5 / 3.0	2.3 / 5.6	2.4 / 6.1	3.5 / 8.7	3.9 / 9.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/240	109	222	239	389	454	720	218	443	479	778	907	1441			
	Total Load	142	291	315	484	536	724	283	582	629	968	1072	1447	1446	1444	1438
	End / Int. Bearing	1.5 / 3.0	1.9 / 4.9	2.1 / 5.2	3.2 / 8.0	3.6 / 8.9	4.8 / 12.0	1.5 / 3.0	1.9 / 4.9	2.1 / 5.2	3.2 / 8.0	3.6 / 8.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/240	88	179	193	315	367	586	175	357	386	629	735	1171			
	Total Load	113	234	253	414	462	631	227	468	506	829	923	1262	1341	1339	1334
	End / Int. Bearing	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.3 / 8.3	4.5 / 11.3	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.3 / 8.3	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/240	71	146	158	258	301	482	143	292	316	516	603	964			
	Total Load	92	190	206	339	396	549	184	381	412	677	793	1098	1251	1249	1243
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.2 / 10.5	1.5 / 3.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/240	59	121	131	214	250	401	118	242	262	428	501	803	1171		
	Total Load	75	157	170	280	328	482	151	314	340	560	656	963	1172	1170	1164
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	3.9 / 9.9	1.5 / 3.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	3.9 / 9.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/240	49	101	109	179	210	338	99	202	219	359	420	675	987		
	Total Load	62	131	142	234	274	426	125	261	283	468	549	852	1102	1100	1095
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.7 / 9.3	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.7 / 9.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/240	42	86	93	152	178	286	83	171	185	304	356	573	840		
	Total Load	52	110	119	197	232	375	104	220	238	395	463	751	978	1038	1032
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/240		73	79	130	152	245	71	146	158	259	304	490	720		
	Total Load		93	101	168	197	320	88	186	202	335	394	641	876	982	977
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0
20′	Live Load L/240		63	68	112	131	211	61	125	136	223	262	423	621	870	
	Total Load		79	86	144	169	275	74	159	172	287	338	550	789	932	927
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.1 / 10.2	4.8 / 12.0	4.8 / 12.0
22′	Live Load L/240		47	51	84	99	160	46	95	102	169	198	320	472	663	
	Total Load		59	64	107	126	207	54	117	128	214	253	414	615	813	841
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.6 / 11.5	4.8 / 12.0
24′	Live Load L/240				65	77	124		73	79	130	153	248	367	516	
	Total Load				82	97	159		89	97	164	193	318	474	671	769
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.1	2.0 / 5.0		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0
26′	Live Load L/240				51	60	98		58	62	103	121	196	290	409	
	Total Load				63	75	124		68	74	127	150	249	372	529	708
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.7 / 4.3		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0
28′	Live Load L/240				41	49	79		46	50	83	97	158	234	330	
	Total Load				50	59	99		53	58	100	118	197	297	423	656
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.5 / 3.7		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/240 = Maximum live load — limits deflection to L/240

Total Load = Maximum total load — limits deflection to L/180

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

Allowable Uniform Loads — Roof 115% (Snow)

2.0E GP Lam® LVL

Span (Ft)	Condition	Allowable Uniform Loads* (In Pounds Per Lineal Foot)															
		5¼″ Thick GP Lam LVL Beams								7″ Thick GP Lam LVL Beams							
		9¼″	9½″	11¼″	11⅞″	14″	16″	18″	23⅞″	9¼″	9½″	11¼″	11⅞″	14″	16″	18″	23⅞″
6′	Live Load L/240																
	Total Load	3549	3671	4573	4730	4727	4724	4721	4713	4732	4894	6098	6306	6302	6298	6294	6284
	End / Int. Bearing	3.6 / 9.0	3.7 / 9.3	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.6 / 9.0	3.7 / 9.3	4.6 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/240																
	Total Load	2496	2577	3161	3380	3540	3537	3534	3526	3328	3436	4216	4506	4720	4716	4712	4702
	End / Int. Bearing	3.4 / 8.5	3.5 / 8.7	4.3 / 10.7	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.4 / 8.5	3.5 / 8.7	4.3 / 10.7	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/240	1410	1521							1880	2028						
	Total Load	1701	1789	2414	2573	2828	2825	2822	2814	2268	2386	3218	3430	3770	3768	3764	3752
	End / Int. Bearing	2.9 / 7.2	3.0 / 7.6	4.1 / 10.2	4.4 / 10.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.9 / 7.2	3.0 / 7.6	4.1 / 10.2	4.4 / 10.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/240	1075	1160	1871	2176					1434	1546	2496	2902				
	Total Load	1403	1476	2034	2253	2569	2567	2564	2555	1870	1968	2712	3004	3426	3422	3418	3408
	End / Int. Bearing	2.6 / 6.6	2.8 / 6.9	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.6 / 6.6	2.8 / 6.9	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/240	838	904	1465	1706					1116	1206	1954	2274				
	Total Load	1104	1193	1707	1891	2354	2351	2348	2340	1472	1590	2276	2522	3138	3134	3130	3120
	End / Int. Bearing	2.3 / 5.6	2.4 / 6.1	3.5 / 8.7	3.9 / 9.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.3 / 5.6	2.4 / 6.1	3.5 / 8.7	3.9 / 9.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/240	665	718	1167	1361	2161				886	958	1556	1814	2882			
	Total Load	873	944	1452	1609	2171	2168	2165	2157	1164	1258	1936	2144	2894	2892	2888	2876
	End / Int. Bearing	1.9 / 4.9	2.1 / 5.2	3.2 / 8.0	3.6 / 8.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.9 / 4.9	2.1 / 5.2	3.2 / 8.0	3.6 / 8.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/240	536	579	944	1102	1757				714	772	1258	1470	2342			
	Total Load	702	759	1243	1385	1893	2012	2009	2001	936	1012	1658	1846	2524	2682	2678	2668
	End / Int. Bearing	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.3 / 8.3	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.3 / 8.3	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/240	438	474	774	904	1446				584	632	1032	1206	1928			
	Total Load	571	618	1016	1189	1646	1876	1873	1865	762	824	1354	1586	2196	2502	2498	2486
	End / Int. Bearing	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/240	363	392	642	751	1204	1757			484	524	856	1002	1606	2342		
	Total Load	471	510	840	985	1445	1758	1755	1746	628	680	1120	1312	1926	2344	2340	2328
	End / Int. Bearing	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	3.9 / 9.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	3.9 / 9.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/240	304	328	538	630	1013	1481			404	438	718	840	1350	1974		
	Total Load	392	425	702	823	1278	1653	1650	1642	522	566	936	1098	1704	2204	2200	2190
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.7 / 9.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.7 / 9.3	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/240	257	278	456	534	859	1259			342	370	608	712	1146	1680		
	Total Load	329	357	592	695	1126	1467	1557	1549	440	476	790	926	1502	1956	2076	2064
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.5 / 11.3	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/240	219	237	389	456	735	1080			292	316	518	608	980	1440		
	Total Load	279	302	503	591	961	1314	1474	1465	372	404	670	788	1282	1752	1964	1954
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0
20′	Live Load L/240	188	203	335	392	634	932	1305		250	272	446	524	846	1242	1740	
	Total Load	238	258	431	507	826	1184	1399	1391	318	344	574	676	1100	1578	1864	1854
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.1 / 10.2	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.1 / 10.2	4.8 / 12.0	4.8 / 12.0
22′	Live Load L/240	142	154	253	297	480	708	994		190	204	338	396	640	944	1326	
	Total Load	176	191	322	379	621	922	1220	1261	234	256	428	506	828	1230	1626	1682
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.6 / 11.5	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.6 / 11.5	4.8 / 12.0
24′	Live Load L/240	110	119	196	230	372	550	774		146	158	260	306	496	734	1032	
	Total Load	133	145	245	290	477	711	1007	1153	178	194	328	386	636	948	1342	1538
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0
26′	Live Load L/240	86	94	154	181	294	436	614		116	124	206	242	392	580	818	
	Total Load	102	111	190	225	373	559	793	1062	136	148	254	300	498	744	1058	1416
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0
28′	Live Load L/240	69	75	124	146	237	351	495		92	100	166	194	316	468	660	
	Total Load	79	87	150	178	296	445	634	984	106	116	200	236	394	594	846	1312
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/240 = Maximum live load — limits deflection to L/240

Total Load = Maximum total load — limits deflection to L/180

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

Allowable Uniform Loads — Roof 125% (Non-Snow)

2.0E GP Lam® LVL

Span (Ft)		Allowable Uniform Loads* (In Pounds Per Lineal Foot)													
		1¾″ Thick GP Lam LVL Beams						3½″ Thick GP Lam LVL Beams							
	Condition	7¼″	9¼″	9½″	11¼″	11⅞″	14″	7¼″	9¼″	9½″	11¼″	11⅞″	14″	16″	18″	23⅞″
6′	Live Load L/240															
	Total Load	955	1286	1330	1577	1577	1576	1909	2573	2661	3154	3153	3151	3149	3147	3142
	End / Int. Bearing	2.9 / 7.3	3.9 / 9.8	4.0 / 10.1	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.9 / 7.3	3.9 / 9.8	4.0 / 10.1	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/240	444	877					887	1754							
	Total Load	588	905	934	1146	1181	1180	1176	1810	1868	2292	2362	2360	2358	2356	2351
	End / Int. Bearing	2.4 / 6.0	3.7 / 9.2	3.8 / 9.5	4.7 / 11.6	4.8 / 12.0	4.8 / 12.0	2.4 / 6.0	3.7 / 9.2	3.8 / 9.5	4.7 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/240	234	470	507	813			468	940	1014	1626					
	Total Load	308	617	649	875	933	943	617	1233	1297	1750	1865	1885	1884	1882	1876
	End / Int. Bearing	1.6 / 3.9	3.1 / 7.8	3.3 / 8.3	4.5 / 11.1	4.7 / 11.9	4.8 / 12.0	1.6 / 3.9	3.1 / 7.8	3.3 / 8.3	4.5 / 11.1	4.7 / 11.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/240	177	358	387	624	725		355	717	773	1248	1451				
	Total Load	233	474	511	737	817	856	466	947	1023	1475	1634	1713	1711	1709	1704
	End / Int. Bearing	1.5 / 3.3	2.7 / 6.6	2.9 / 7.2	4.1 / 10.3	4.6 / 11.4	4.8 / 12.0	1.5 / 3.3	2.7 / 6.6	2.9 / 7.2	4.1 / 10.3	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/240	138	279	301	488	569		275	558	603	977	1137				
	Total Load	180	368	398	619	686	785	360	736	795	1238	1371	1569	1567	1565	1560
	End / Int. Bearing	1.5 / 3.0	2.3 / 5.6	2.4 / 6.1	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	1.5 / 3.0	2.3 / 5.6	2.4 / 6.1	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/240	109	222	239	389	454	720	218	443	479	778	907	1441			
	Total Load	142	291	315	513	583	724	283	582	629	1027	1167	1447	1446	1444	1438
	End / Int. Bearing	1.5 / 3.0	1.9 / 4.9	2.1 / 5.2	3.4 / 8.5	3.9 / 9.7	4.8 / 12.0	1.5 / 3.0	1.9 / 4.9	2.1 / 5.2	3.4 / 8.5	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/240	88	179	193	315	367	586	175	357	386	629	735	1171			
	Total Load	113	234	253	414	484	672	227	468	506	829	969	1343	1341	1339	1334
	End / Int. Bearing	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.5 / 8.7	4.8 / 12.0	1.5 / 3.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/240	71	146	158	258	301	482	143	292	316	516	603	964			
	Total Load	92	190	206	339	396	597	184	381	412	677	793	1194	1251	1249	1243
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.6 / 11.4	1.5 / 3.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/240	59	121	131	214	250	401	118	242	262	428	501	803	1171		
	Total Load	75	157	170	280	328	524	151	314	340	560	656	1048	1172	1170	1164
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	4.3 / 10.7	1.5 / 3.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/240	49	101	109	179	210	338	99	202	219	359	420	675	987		
	Total Load	62	131	142	234	274	444	125	261	283	468	549	887	1102	1100	1095
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.9 / 9.7	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/240	42	86	93	152	178	286	83	171	185	304	356	573	840		
	Total Load	52	110	119	197	232	375	104	220	238	395	463	751	1040	1038	1032
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/240		73	79	130	152	245	71	146	158	259	304	490	720		
	Total Load		93	101	168	197	320	88	186	202	335	394	641	945	982	977
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.6 / 11.5	4.8 / 12.0	4.8 / 12.0
20′	Live Load L/240		63	68	112	131	211	61	125	136	223	262	423	621	870	
	Total Load		79	86	144	169	275	74	159	172	287	338	550	814	932	927
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0
22′	Live Load L/240		47	51	84	99	160	46	95	102	169	198	320	472	663	
	Total Load		59	64	107	126	207	54	117	128	214	253	414	615	846	841
	End / Int. Bearing		1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.8 / 12.0	4.8 / 12.0
24′	Live Load L/240				65	77	124		73	79	130	153	248	367	516	
	Total Load				82	97	159		89	97	164	193	318	474	671	769
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.1	2.0 / 5.0		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0
26′	Live Load L/240				51	60	98		58	62	103	121	196	290	409	
	Total Load				63	75	124		68	74	127	150	249	372	529	708
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.7 / 4.3		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0
28′	Live Load L/240				41	49	79		46	50	83	97	158	234	330	
	Total Load				50	59	99		53	58	100	118	197	297	423	656
	End / Int. Bearing				1.5 / 3.0	1.5 / 3.0	1.5 / 3.7		1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/240 = Maximum live load — limits deflection to L/240

Total Load = Maximum total load — limits deflection to L/180

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

Allowable Uniform Loads — Roof 125% (Non-Snow)

2.0E GP Lam® LVL

Span (Ft)		Allowable Uniform Loads* (In Pounds Per Lineal Foot)															
		5¼" Thick GP Lam LVL Beams								7" Thick GP Lam LVL Beams							
	Condition	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	23⅞"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	23⅞"
6′	Live Load L/240																
	Total Load	3859	3991	4730	4730	4727	4724	4721	4713	5146	5322	6308	6306	6302	6298	6294	6284
	End / Int. Bearing	3.9 / 9.8	4.0 / 10.1	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.9 / 9.8	4.0 / 10.1	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
8′	Live Load L/240	2631								3508							
	Total Load	2715	2802	3438	3543	3540	3537	3534	3526	3620	3736	4584	4724	4720	4716	4712	4702
	End / Int. Bearing	3.7 / 9.2	3.8 / 9.5	4.7 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.7 / 9.2	3.8 / 9.5	4.7 / 11.6	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
10′	Live Load L/240	1410	1521	2439						1880	2028	3252					
	Total Load	1850	1946	2625	2798	2828	2825	2822	2814	2466	2594	3500	3730	3770	3768	3764	3752
	End / Int. Bearing	3.1 / 7.8	3.3 / 8.3	4.5 / 11.1	4.7 / 11.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	3.1 / 7.8	3.3 / 8.3	4.5 / 11.1	4.7 / 11.9	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
11′	Live Load L/240	1075	1160	1871	2176					1434	1546	2496	2902				
	Total Load	1421	1534	2212	2451	2569	2567	2564	2555	1894	2046	2950	3268	3426	3422	3418	3408
	End / Int. Bearing	2.7 / 6.6	2.9 / 7.2	4.1 / 10.3	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.7 / 6.6	2.9 / 7.2	4.1 / 10.3	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
12′	Live Load L/240	838	904	1465	1706					1116	1206	1954	2274				
	Total Load	1104	1193	1856	2057	2354	2351	2348	2340	1472	1590	2476	2742	3138	3134	3130	3120
	End / Int. Bearing	2.3 / 5.6	2.4 / 6.1	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	2.3 / 5.6	2.4 / 6.1	3.8 / 9.5	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
13′	Live Load L/240	665	718	1167	1361	2161				886	958	1556	1814	2882			
	Total Load	873	944	1540	1750	2171	2168	2165	2157	1164	1258	2054	2334	2894	2892	2888	2876
	End / Int. Bearing	1.9 / 4.9	2.1 / 5.2	3.4 / 8.5	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.9 / 4.9	2.1 / 5.2	3.4 / 8.5	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
14′	Live Load L/240	536	579	944	1102	1757				714	772	1258	1470	2342			
	Total Load	702	759	1243	1453	2015	2012	2009	2001	936	1012	1658	1938	2686	2682	2678	2668
	End / Int. Bearing	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.7 / 4.2	1.8 / 4.6	3.0 / 7.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
15′	Live Load L/240	438	474	774	904	1446				584	632	1032	1206	1928			
	Total Load	571	618	1016	1189	1791	1876	1873	1865	762	824	1354	1586	2388	2502	2498	2486
	End / Int. Bearing	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.7	1.6 / 4.0	2.6 / 6.5	3.0 / 7.6	4.6 / 11.4	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
16′	Live Load L/240	363	392	642	751	1204	1757			484	524	856	1002	1606	2342		
	Total Load	471	510	840	985	1572	1758	1755	1746	628	680	1120	1312	2096	2344	2340	2328
	End / Int. Bearing	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.3	1.5 / 3.5	2.3 / 5.8	2.7 / 6.7	4.3 / 10.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
17′	Live Load L/240	304	328	538	630	1013	1481			404	438	718	840	1350	1974		
	Total Load	392	425	702	823	1331	1653	1650	1642	522	566	936	1098	1774	2204	2200	2190
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.1	2.1 / 5.1	2.4 / 6.0	3.9 / 9.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
18′	Live Load L/240	257	278	456	534	859	1259			342	370	608	712	1146	1680		
	Total Load	329	357	592	695	1126	1560	1557	1549	440	476	790	926	1502	2080	2076	2064
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.8 / 4.6	2.2 / 5.4	3.5 / 8.7	4.8 / 12.0	4.8 / 12.0	4.8 / 12.0
19′	Live Load L/240	219	237	389	456	735	1080			292	316	518	608	980	1440		
	Total Load	279	302	503	591	961	1417	1474	1465	372	404	670	788	1282	1890	1964	1954
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.6 / 11.5	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.2	1.9 / 4.9	3.1 / 7.8	4.6 / 11.5	4.8 / 12.0	4.8 / 12.0
20′	Live Load L/240	188	203	335	392	634	932	1305		250	272	446	524	846	1242	1740	
	Total Load	238	258	431	507	826	1220	1399	1391	318	344	574	676	1100	1628	1864	1854
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.8	1.8 / 4.4	2.8 / 7.1	4.2 / 10.5	4.8 / 12.0	4.8 / 12.0
22′	Live Load L/240	142	154	253	297	480	708	994		190	204	338	396	640	944	1326	
	Total Load	176	191	322	379	621	922	1269	1261	234	256	428	506	828	1230	1692	1682
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.8 / 12.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	1.5 / 3.7	2.4 / 5.9	3.5 / 8.8	4.8 / 12.0	4.8 / 12.0
24′	Live Load L/240	110	119	196	230	372	550	774		146	158	260	306	496	734	1032	
	Total Load	133	145	245	290	477	711	1007	1153	178	194	328	386	636	948	1342	1538
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.1	2.0 / 5.0	3.0 / 7.4	4.2 / 10.4	4.8 / 12.0
26′	Live Load L/240	86	94	154	181	294	436	614		116	124	206	242	392	580	818	
	Total Load	102	111	190	225	373	559	793	1062	136	148	254	300	498	744	1058	1416
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.7 / 4.3	2.5 / 6.4	3.6 / 9.0	4.8 / 12.0
28′	Live Load L/240	69	75	124	146	237	351	495		92	100	166	194	316	468	660	
	Total Load	79	87	150	178	296	445	634	984	106	116	200	236	394	594	846	1312
	End / Int. Bearing	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.0	1.5 / 3.7	2.2 / 5.5	3.1 / 7.8	4.8 / 12.0

*Can be applied to the beam in addition to its own weight.

See notes on page 41.

KEY TO TABLES

Live Load L/240 = Maximum live load — limits deflection to L/240

Total Load = Maximum total load — limits deflection to L/180

End / Int. Bearing = Required minimum end bearing (inches) for simple or multiple span beams and minimum interior bearing (inches) for multiple span beams based on plate bearing stress of 565 psi. See note 9 page 41.

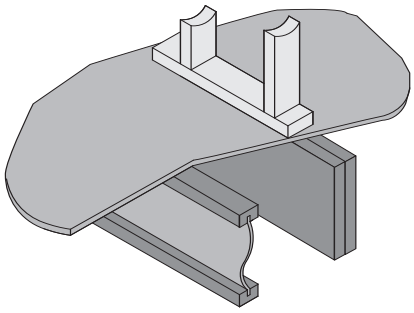
General Notes for Multiple-Piece GP Lam® LVL Members

1. Confirm adequacy of the beam (depth and thickness) for carrying the designated load.
2. Stress level for nail, bolt, and screw values is 100%. Increases of 15% for snow loaded roof conditions or 25% for non-snow roof conditions are permitted.
3. Top and bottom rows of fasteners should be 2″ from edge. Minimum end distance for all fasteners is 2″. Maximum end distance for nails is 6″ and for screws and bolts is 12″. For staggered fastening patterns for screws and bolts, the maximum end distance of 12″ applies to both rows.
4. Bolt holes are to be 1/32″ to 1/16″ larger diameter than the bolt. Bolts must meet or exceed ASTM A 307 or SAE Grade 2. Every bolt must extend through the full thickness of the member. Use washers under head and nut. Carriage bolts may be used, but the outermost portion of the head may not be drawn in beyond flush with the outside face of the LVL member.
5. For three-piece members attached with nails or screws, specified attachment is from each side.
6. To minimize rotation, 4-ply members should only be used when loads are applied to both sides, or completely across the top of the member.
7. 4-ply members, regardless of depth, must be attached using bolts or screws.

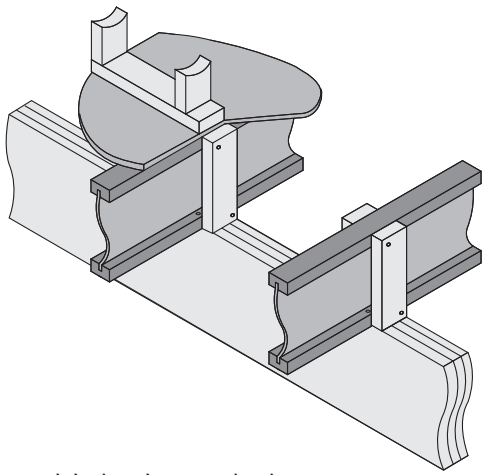
Fastening Recommendations for Top-Loaded, Multiple-Piece Members[1]

Member Depth	2-Ply	3-Ply	4-Ply
7¼″-11⅞″	2 rows 16d nails at 12″ o.c.	2 rows 16d nails at 12″ o.c.[3]	2 rows ½″ bolts at 24″ o.c.[2], or 2 rows ¼″ x 6″ WS or SDS screws at 24″ o.c.[2,3,4], or 2 rows ¼″ x 6¾ ″ TrussLok™ screws at 24″ o.c.[2,5]
14″-23⅞″	3 rows 16d nails at 12″ o.c.	3 rows 16d nails at 12″ o.c.[3]	

1. See page 49 for diagrams corresponding to these fastening patterns. For top-loaded nailed multiple-piece members, nails can be 16d box, 16d sinkers, or 16d commons.
2. Stagger each row of fasteners by 12″.
3. Specified attachment is from each side.
4. United Steel Products WS series or Simpson Strong-Tie® SDS series screws installed per manufacturer's recommendations.
5. FastenMaster® TrussLok™ screws installed per manufacturer's recommendations. Do not overtighten screws in an attempt to countersink them.



Wall of same thickness as multiple-piece GP Lam LVL and centered over beam. Multiple-piece LVL beam should not be placed directly below plumbing walls. LVL beams are not to be notched or drilled except as noted on pages 34, 50, 51 and 54.



Joist bearing completely across top of multiple-piece beam

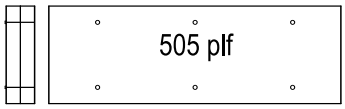
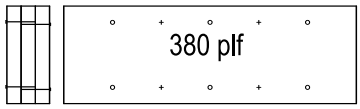
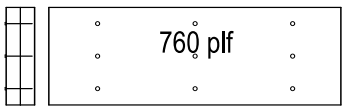
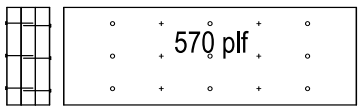
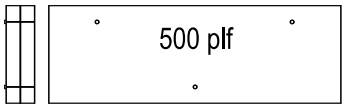
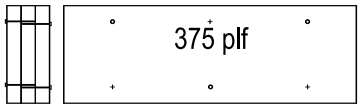
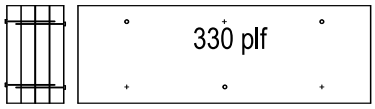
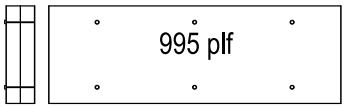
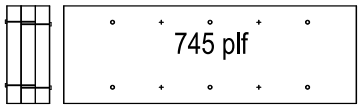
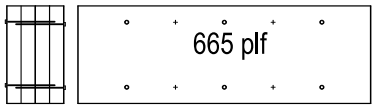
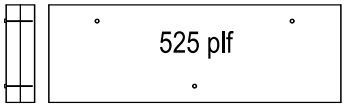
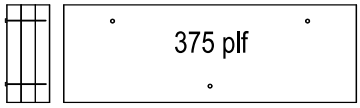
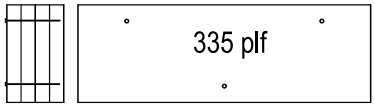
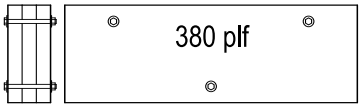
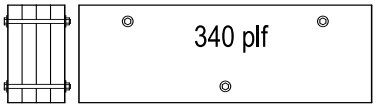
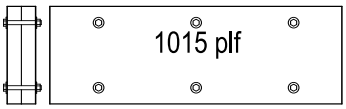
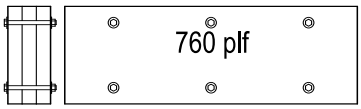
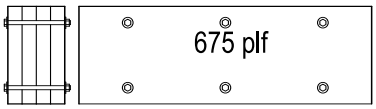
Top-loaded conditions may result from I-joist details similar to F9, F10 and R3.
In details F9 and F10, the supporting wall may be replaced with properly sized multiple-piece GP Lam LVL.

Fastening Recommendations for Side-Loaded, Multiple-Piece Members

Maximum Uniform Load Applied to Either or Both Outside Pieces (Pounds per lineal foot)

Refer to General Notes page 48.

- Numbers in the chart indicate load, in pounds per lineal foot which may be applied to either side based solely on the connection.
- Floor joists must be attached with approved metal hangers. Refer to pages 16, 52 and 53 for hanger recommendations.
- Concentrated side loads from beam to beam connections may require additional consideration.

Fasteners	2-Ply	3-Ply	4-Ply
16d Common Nails 2 Rows @ 12″ o.c.[1]	 505 plf	 380 plf	Not Recommended
16d Common Nails 3 Rows @ 12″ o.c.[1]	 760 plf	 570 plf	Not Recommended
1/4″x3 1/2″ Screws 2 Rows @ 24″ o.c. Staggered[2, 3, 4]	 500 plf	 375 plf	 330 plf
1/4″x3 1/2″ Screws 2 Rows @ 12″ o.c.[1, 3, 4]	 995 plf	 745 plf	 665 plf
TrussLok™ Screws 2 Rows @ 24″ o.c. Staggered [2, 5]	 525 plf	 375 plf	 335 plf
1/2″ Bolts 2 Rows @ 24″ o.c. Staggered [2]	 505 plf	 380 plf	 340 plf
1/2″ Bolts 2 Rows @ 12″ o.c.[1]	 1015 plf	 760 plf	 675 plf

1. Values for connections may be factored for spacings other than 12″ o.c., double for 6″ o.c., triple for 4″ o.c., divide by 1.33 for 16″ o.c., divide by 2 for 24″ o.c. (Maximum spacing not to exceed 24″ o.c. for screws and bolts or 16″ o.c. for nails.)
2. Stagger each row of fasteners by 12″.
3. Screws are United Steel Products WS Series or Simpson Strong-Tie® SDS Series installed per manufacturer's recommendations.
4. For 4-ply members, screws must be 6″ long and applied from both sides.
5. Use FastenMaster® TrussLok™ screws—3⅜″ long for 2-ply, 5″ long for 3-ply, or 6¾″ long for 4-ply. Connection values may be doubled for 12″ on-center spacing. Install per manufacturer's recommendations. Do not overtighten screws in an attempt to countersink them.

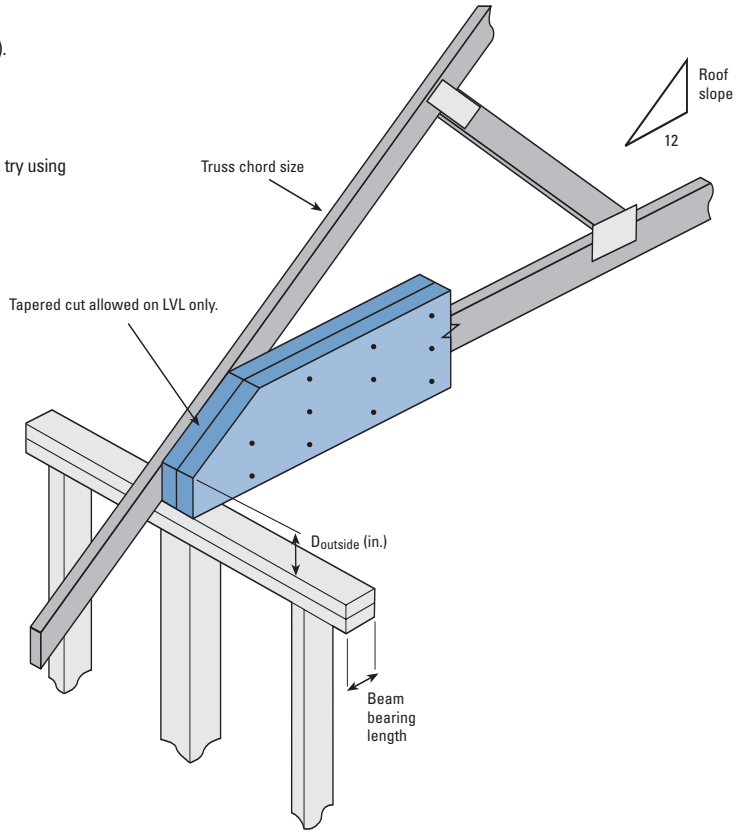
Tapered Cut Allowable End Reaction—Truss Roof

3½″ Thick GP Lam® LVL Beams Allowable End Reaction (lbs)

GP Lam LVL Floor Depth	Truss Chord Size	Beam Bearing Length	Truss Slope									
			4/12		6/12		8/12		10/12		12/12	
			$D_{outside}$ (inches)	Reaction (lbs)	$D_{outside}$ (inches)	Reaction (lbs)	$D_{outside}$ (inches)	Reaction (lbs)	$D_{outside}$ (inches)	Reaction (lbs)	$D_{outside}$ (inches)	Reaction (lbs)
7¼″	2x4	3½″	3 15/16	3395	4 3/16	4419	4 7/16	4790	4 13/16	OK	5 3/16	OK
		5¼″	3 15/16	3967	4 3/16	4779	4 7/16	OK	4 13/16	OK	5 3/16	OK
	2x6	3½″	6 1/16	4821	6 3/8	OK	6 7/8	OK	7 1/4	OK	7 1/4	OK
		5¼″	6 1/16	OK	6 3/8	OK	6 7/8	OK	7 1/4	OK	7 1/4	OK
9¼″ or 9½″	2x4	3½″	3 15/16	3395	4 3/16	3932	4 7/16	5238	4 13/16	5910	5 3/16	6128
		5¼″	3 15/16	3783	4 3/16	4877	4 7/16	5941	4 13/16	6151	5 3/16	OK
	2x6	3½″	6 1/16	4873	6 3/8	5953	6 7/8	6151	7 1/16	OK	8	OK
		5¼″	6 1/16	5576	6 3/8	6144	6 7/8	OK	7 1/16	OK	8	OK
11¼″ or 11⅞″	2x4	3½″	3 15/16	—	4 3/16	3932	4 7/16	4515	4 13/16	6115	5 3/16	6921
		5¼″	3 15/16	—	4 3/16	4514	4 7/16	5972	4 13/16	7109	5 3/16	7440
	2x6	3½″	6 1/16	4797	6 3/8	5631	6 7/8	6921	7 1/16	6921	8	6921
		5¼″	6 1/16	5185	6 3/8	6699	6 7/8	7405	7 1/16	7896	8	OK
14″	2x4	3½″	3 15/16	—	4 3/16	—	4 7/16	—	4 13/16	5136	5 3/16	6921
		5¼″	3 15/16	—	4 3/16	—	4 7/16	—	4 13/16	7291	5 3/16	8508
	2x6	3½″	6 1/16	4797	6 3/8	5419	6 7/8	6803	7 1/16	6921	8	6921
		5¼″	6 1/16	5185	6 3/8	6001	6 7/8	8034	7 1/16	8978	8	9284
16″	2x6	3½″	6 1/16	4797	6 3/8	5419	6 7/8	6114	7 1/16	6921	8	6921
		5¼″	6 1/16	5185	6 3/8	6001	6 7/8	7577	7 1/16	9437	8	10269
18″	2x6	3½″	6 1/16	4797	6 3/8	5419	6 7/8	6114	7 1/16	6867	8	6921
		5¼″	6 1/16	5185	6 3/8	6001	6 7/8	6890	7 1/16	9354	8	10382
23⅞″	2x6	3½″	6 1/16	—	6 3/8	—	6 7/8	—	7 1/16	—	8	6921
		5¼″	6 1/16	—	6 3/8	—	6 7/8	—	7 1/16	—	8	8830

NOTES:

1. Prior to using this chart, beam size must be checked by tables or FASTBeam® software.
2. Chart can also be used for 1¾″, 5¼″ and 7″ thick GP Lam LVL beams
   For 1¾″ thick beam: ½ x allowable reaction (lbs)
   For 5¼″ thick beam: 1½ x allowable reaction (lbs)
   For 7″ thick beam: 2 x allowable reaction (lbs)
3. Provide lateral support at bearing points, and continuous lateral support along top edge of beam.
4. Special consideration is required for uplift reactions.
5. Concentrated loads are not allowed in the tapered cut region.
6. Southern Pine bearing plate assumed. (Allowable bearing stress 565 psi).
7. Values are for floor use, 100% duration of load increase.
8. ¼″ butt cut height assumed for truss bottom chord.
9. If OK is shown in Reaction column, full capacity is available.
10. If no allowable reaction is shown, beam will not work with current input; try using a shallower beam with additional plies.
11. Field verify slope and all dimensions.



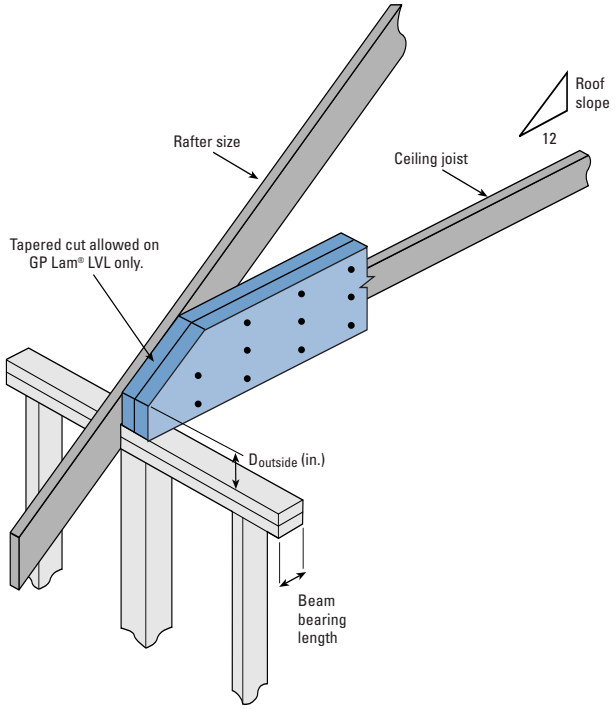
Tapered Cut Allowable End Reaction—Conventional (Stick) Roof

3½" Thick GP Lam® LVL Beams Allowable End Reaction (lbs)

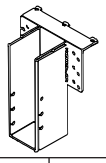
GP Lam® LVL Floor Depth	Rafter Size	Beam Bearing Length	Rafter Slope									
			4/12		6/12		8/12		10/12		12/12	
			D outside (inches)	Reaction (lbs)	D outside (inches)	Reaction (lbs)	D outside (inches)	Reaction (lbs)	D outside (inches)	Reaction (lbs)	D outside (inches)	Reaction (lbs)
7 ¼"	2x6	3 ½"	4 5/8	4095	4 3/8	4559	4 ¼	4759	4 ¼	4820	4 ¼	OK
		5 ¼"	4 1/16	4095	3 ½	4559	3 ⅛	4759	2 13/16	4820	2 ½	OK
	2x8	3 ½"	6 ½	OK	6 3/8	OK	6 3/8	OK	6 ½	OK	6 3/4	OK
		5 ¼"	5 7/8	OK	5 ½	OK	5 3/16	OK	5 1/16	OK	5	OK
9 ¼" or 9 ½"	2x6	3 ½"	4 5/8	3855	4 3/8	4089	4 ¼	5057	4 ¼	5664	4 ¼	5966
		5 ¼"	4 1/16	3855	3 ½	4089	3 ⅛	—	2 13/16	—	2 ½	—
	2x8	3 ½"	6 ½	5416	6 3/8	5936	6 3/8	6118	6 ½	6317	6 3/4	OK
		5 ¼"	5 7/8	5416	5 ½	5936	5 3/16	6118	5 1/16	6317	5	OK
	2x10	3 ½"	8 9/16	OK	8 9/16	OK	8 13/16	OK	9 ⅛	OK	9 ¼	OK
		5 ¼"	8	OK	7 11/16	OK	7 5/8	OK	7 11/16	OK	7 13/16	OK
11 ¼" or 11 7/8"	2x6	3 ½"	4 5/8	3855	4 3/8	4089	4 ¼	4396	4 ¼	5418	4 ¼	6451
		5 ¼"	4 1/16	3855	3 ½	—	3 ⅛	—	2 13/16	—	2 ½	—
	2x8	3 ½"	6 ½	5082	6 3/8	5566	6 3/8	6745	6 ½	6921	6 3/4	6921
		5 ¼"	5 7/8	5082	5 ½	5566	5 3/16	6745	5 1/16	7203	5	7417
	2x10	3 ½"	8 9/16	6921	8 9/16	6921	8 13/16	6921	9 ⅛	OK	9 9/16	OK
		5 ¼"	8	6973	7 11/16	7375	7 5/8	7480	7 11/16	OK	7 13/16	OK
	2x12	3 ½"	10 11/16	6921	10 13/16	OK	11 3/16	OK	11 ¼	OK	11 ¼	OK
		5 ¼"	10 ⅛	7897	9 15/16	OK	10	OK	10 ¼	OK	10 11/16	OK
14"	2x8	3 ½"	6 ½	5082	6 3/8	5390	6 3/8	6111	6 ½	6921	6 3/4	6921
		5 ¼"	5 7/8	5082	5 ½	5390	5 3/16	6111	5 1/16	7550	5	8399
	2x10	3 ½"	8 9/16	6484	8 9/16	6921	8 13/16	6921	9 ⅛	6921	9 9/16	6921
		5 ¼"	8	6484	7 11/16	7589	7 5/8	8564	7 11/16	9056	7 13/16	9267
	2x12	3 ½"	10 11/16	6921	10 13/16	6921	11 3/16	6921	11 3/4	OK	12 7/16	OK
		5 ¼"	10 ⅛	8539	9 15/16	9096	10	9293	10 ¼	OK	10 11/16	OK
16"	2x8	3 ½"	6 ½	5082	6 3/8	5390	6 3/8	5794	6 ½	6276	6 3/4	6921
		5 ¼"	5 7/8	5082	5 ½	5390	5 3/16	—	5 1/16	—	5	—
	2x10	3 ½"	8 9/16	6484	8 9/16	6877	8 13/16	6921	9 ⅛	6921	9 9/16	6921
		5 ¼"	8	6484	7 11/16	6877	7 5/8	8501	7 11/16	9601	7 13/16	10207
	2x12	3 ½"	10 11/16	6921	10 13/16	6921	11 3/16	6921	11 3/4	6921	12 7/16	6921
		5 ¼"	10 ⅛	7886	9 15/16	9402	10	10187	10 ¼	10382	10 11/16	10382
18"	2x8	3 ½"	6 ½	5082	6 3/8	5390	6 3/8	5794	6 ½	6276	6 3/4	6818
		5 ¼"	5 7/8	—	5 ½	—	5 3/16	—	5 1/16	—	5	—
	2x10	3 ½"	8 9/16	6484	8 9/16	6877	8 13/16	6921	9 ⅛	6921	9 9/16	6921
		5 ¼"	8	6484	7 11/16	6877	7 5/8	7719	7 11/16	9616	7 13/16	10382
	2x12	3 ½"	10 11/16	6921	10 13/16	6921	11 3/16	6921	11 3/4	6921	12 7/16	6921
		5 ¼"	10 ⅛	7886	9 15/16	8861	10	10382	10 ¼	10382	10 11/16	10382
23 7/8"	2x8	3 ½"	6 ½	—	6 3/8	—	6 3/8	—	6 ½	—	6 3/4	—
		5 ¼"	5 7/8	—	5 ½	—	5 3/16	—	5 1/16	—	5	—
	2x10	3 ½"	8 9/16	6484	8 9/16	6877	8 13/16	6921	9 ⅛	6921	9 9/16	6921
		5 ¼"	8	6484	7 11/16	—	7 5/8	—	7 11/16	—	7 13/16	—
	2x12	3 ½"	10 11/16	6921	10 13/16	6921	11 3/16	6921	11 3/4	6921	12 7/16	6921
		5 ¼"	10 ⅛	7886	9 15/16	8364	10	8991	10 ¼	10382	10 11/16	10382

NOTES:

1. Prior to using this chart, beam size must be checked by tables or FASTBeam® software.
2. Chart can also be used for 1¾", 5¼" and 7" thick GP Lam® LVL beams
   - For 1¾" thick beam: ½ x allowable reaction (lbs)
   - For 5¼" thick beam: 1½ x allowable reaction (lbs)
   - For 7" thick beam: 2 x allowable reaction (lbs)
3. Provide lateral support at bearing points, and continuous lateral support along top edge of beam.
4. Listed values are for 2.0E GP Lam LVL beam products.
5. Special consideration is required for uplift reactions.
6. Concentrated loads are not allowed in the tapered cut region.
7. Southern Pine bearing plate is assumed. (Allowable bearing stress 565 psi).
8. Values are for Floor use, 100% duration of load increase.
9. If OK is shown in Reaction column, full capacity is available.
10. If no allowable reaction is shown, beam will not work with current input; try using a shallower beam with additional plies.
11. Field verify slope and all dimensions.

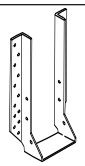


Framing Connectors For GP LAM® LVL Beams

USP Lumber Connectors™					
GP Lam LVL Member Supported		Top Mount	Capacity 100% (lbs)	Face Mount	Capacity 100% (lbs)
Thickness	Beam Depth				
1¾″	7¼″	PHXU17725	4155	HD1770	1905
	9¼″	BPH17925	3395	THD179	5170
	9½″	BPH1795	3395	THD179	5170
	11¼″	BPH17112	3395	THD179	5170
	11⅞″	BPH17118	3395	THD179	5170
	14″	BPH1714	3395	THD179	5170
3½″	7¼″	—	—	—	—
	9¼″	LBH35925	6500	THDH410	7910
	9½″	LBH3595	6500	THDH410	7910
	11¼″	LBH35112	6500	THDH412	9475
	11⅞″	LBH35118	6500	THDH412	9475
	14″	HLBH3514	10620	THDH414	10990
	16″	HLBH3516	10620	THDH414	10990
	18″	HLBH3518	10620	THDH414	10990
	23⅞″	HLBH3524	10620	—	—
5¼″	7¼″	—	—	—	—
	9¼″	HLBH52925	10620	THDH610	7840
	9½″	HLBH5295	10620	THDH610	7840
	11¼″	HLBH52112	10620	THDH612	9475
	11⅞″	HLBH52118	10620	THDH612	9475
	14″	HLBH5214	10620	THDH614	11105
	16″	HLBH5216	10620	THDH614	11105
	18″	HLBH5218	10620	THDH614	11105
	23⅞″	—	—	—	—
7″	9¼″	HLBH71925	10620	THDH7210	7840
	9½″	HLBH7195	10620	THDH7210	7840
	11¼″	HLBH71112	10620	THDH7212	9475
	11⅞″	HLBH71118	10620	THDH7212	9475
	14″	HLBH7114	10620	THDH7214	11105
	16″	HLBH7116	10620	THDH7214	11105
	18″	HLBH7118	10620	THDH7214	11105
	23⅞″	HLBH7124	10620	—	—

1. Capacity is for the stated duration of load—100% floor loading. Hanger capacity depends on the hanger selected, quantity and size of nails used, and the size and type of support to which it is fastened. **Hanger capacities shown are based on attachment to LVL header material using the hanger manufacturer's recommended nailing. Minimum header thickness is 3½″.** Some hanger/header/fastener combinations may not meet maximum beam capacities and a qualified engineer should be consulted. Before selecting hangers, please refer to the appropriate reference/design guide from the hanger manufacturer for expanded design information. Many other designs are available for specialized applications.
2. Hanger model numbers quoted are for United Steel Products Company, Inc. and Simpson Strong-Tie® hangers. Some suppliers carry similar products produced by other manufacturers. Contact your local building material retailer or BlueLinx for conversion information and details.
3. Special consideration is required with top mount hangers on nailers. Refer to the hanger manufacturer's catalog for reduced capacity.

Framing Connectors For GP LAM® LVL Beams

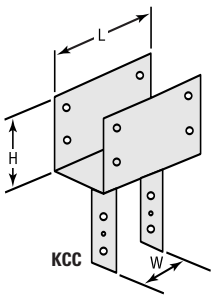
Simpson Strong-Tie® Connectors					
GP Lam LVL Member Supported		Top Mount	Capacity 100% (lbs)	Face Mount	Capacity 100% (lbs)
Thickness	Beam Depth				
1¾″	7¼″	WP1.81/7.25	3635	HU7	2145
	9¼″	WP9.25	3635	HUS1.81/10	4900
	9½″	WP9	3635	HUS1.81/10	4900
	11¼″	LBV1.81/11.25	3570	HUS1.81/10	4900
	11⅞″	WP11	3635	HUS1.81/10	4900
	14″	WP14	3635	HUS1.81/10	4900
3½″	7¼″	WPU3.56/7.25	4700	HGUS48	6805
	9¼″	HWU3.56/9.25	6335	HGUS410	7890
	9½″	HWU3.56/9.5	6335	HGUS410	7890
	11¼″	HWU3.56/11.25	6335	HGUS412	9205
	11⅞″	HWU3.56/11.88	6335	HGUS412	9205
	14″	HWU3.56/14	6335	HGUS414	9745
	16″	HWU3.56/16	6335	HGUS414	9745
	18″	HWU3.56/18	6335	HGUS414	9745
	23⅞″	HWI424	5100	—	—
5¼″	7¼″	WPU5.50/7.25	4700	—	—
	9¼″	GLTV5.50/9.25	7500	HGUS5.50/10	7890
	9½″	HGLTV5.59	10500	HGUS5.50/10	7890
	11¼″	GLTV5.50/11.25	7500	HGUS5.50/12	9205
	11⅞″	HGLTV5.511	10500	HGUS5.50/12	9205
	14″	HGLTV5.514	10500	HGUS5.50/14	9745
	16″	HGLTV5.516	10500	HGUS5.50/14	9745
	18″	HGLTV5.518	10500	HGUS5.50/14	9745
	23⅞″	—	—	—	—
7″	9¼″"	GLTV49.25-2	7500	HGUS7.25/10	7890
	9½″	HGLTV49.5-2	7500	HGUS7.25/10	7890
	11¼″	GLTV411.25-2	7500	HGUS7.25/12	9205
	11⅞""	HGLTV411.88-2	10500	HGUS7.25/12	9205
	14″	HGLTV414-2	10500	HGUS7.25/14	9665
	16″	HGLTV416-2	10500	HGUS7.25/14	9665
	18″	HGLTV418-2	10500	HGUS7.25/14	9665
	23⅞″	HGLTV7.12/24	10500	—	—

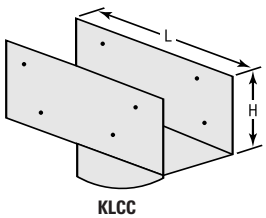
See notes on page 52.

GP Lam LVL Beam-To-Column Connectors

Column Cap	Capacity[1] 100% (lbs)	Total Beam Width	Column[2]	W	L	H
KCC44	15315	3½″	4 x __Wood	3⅝″	7″	4″
KCC46	24065	3½″	6 x __Wood	5½″	11″	6½″
KCC48	24065	3½″	8 x __Wood	7½″	11″	6½″
KCC64	37815	5¼″	4 x __Wood	3⅝″	11″	6½″
KCC66	37815	5¼″	6 x __Wood	5½″	11″	6½″
KCC68	37815	5¼″	8 x __Wood	7½″	11″	6½″
KCC84	60940	7″	4 x __Wood	3⅝″	13″	8″
KCC86	60940	7″	6 x __Wood	5½″	13″	8″
KCC88	60940	7″	8 x __Wood	7½″	13″	8″
KLCC35-4	21000	3½″	4″ dia. steel	–	11½″	4″
KLCC525-4	21000	5¼″	4″ dia. steel	–	11½″	4″
KLCC7-4	21000	7″	4″ dia. steel	–	11½″	4″

1. Capacity is maximum capacity of the USP column cap.
2. Adequacy of column to be verified by others.





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GP Lam® LVL Beam and Header Design Properties

1¾" 2.0E GP Lam LVL Allowable Design Properties[a]

Depth[b]	EI (10^6 inch² lbs)	Maximum Resistive Moment (ft-lbs)			Maximum Vertical Shear (lbs)			Weight (lbs/ft)
		100%	115%	125%	100%	115%	125%	
7¼"	111	3918	4506	4898	2411	2773	3014	3.4
9¼"	231	6208	7139	7760	3076	3537	3845	4.3
9½"	250	6529	7508	8161	3159	3633	3949	4.4
11¼"	415	8985	10333	11231	3741	4302	4676	5.2
11⅞"	488	9951	11444	12439	3948	4540	4935	5.5
14"	800	13581	15618	16976	4655	5353	5819	6.5
16"	1195	17477	20099	21846	5320	6118	6650	7.4
18"	1701	21831	25106	27289	5985	6883	7481	8.4
23⅞"	3969	37222	42805	46528	7938	9129	9923	11.1

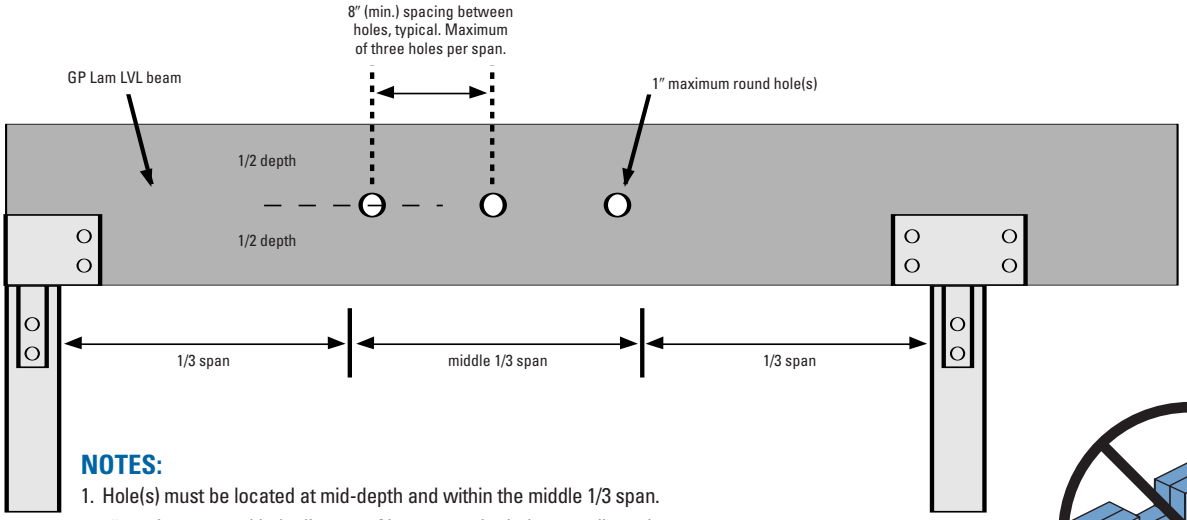
a. Table assumes beam has lateral support at bearing points and continuous lateral support along the compression edge of the beam.
b. 1¾" x 16" and deeper beams must only be used in multiple-piece members.

2.0E GP Lam LVL Allowable Design Stresses[(1)]

Modulus of Elasticity	E	=	2.0 x 10^6 psi[(2)]
Shear Modulus of Elasticity	G	=	125,000 psi
Flexural Stress (joist)	F_b	=	2900 psi[(3)]
Horizontal Shear (joist)	F_v	=	285 psi
Compression Perpendicular to Grain (joist)	$F_{c\perp}$	=	750 psi[(2)]
Compression Parallel to Grain	F_{cII}	=	2600 psi

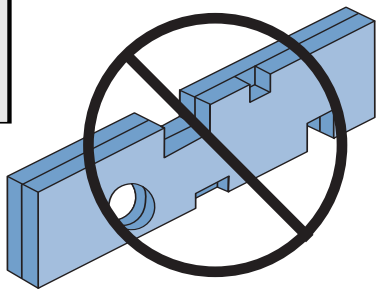
1. Allowable design stresses apply to depths as small as 3½" ripped from any depth of beam.
2. No increase is allowed to E or $F_{c\perp}$ for duration of load.
3. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$.

Allowable Holes in GP Lam LVL



NOTES:

1. Hole(s) must be located at mid-depth and within the middle 1/3 span.
2. 1" maximum round hole diameter. No rectangular holes are allowed.
3. Use a minimum 8" spacing between holes and no more than three holes per span.
4. Chart is valid for single and multiple span uniformly loaded beams only. Chart is not valid for cantilever sections.
5. Minimum beam depth 7¼".
6. Hole location, clearance and the effects of beam deflection should be considered to avoid problems with piping.



Do not notch, drill or cut GP Lam LVL except as shown in this publication.

GP Lam® LVL Architectural Specifications

Part 1—General

1.0—Description

A. Work in this section includes, but is not limited to:
Laminated Veneer Lumber (LVL) beams and headers.
B. Related work specified elsewhere:
Rough carpentry.

1.1—Submittals:

A. Product data:
Submit manufacturer's descriptive literature indicating material composition, thicknesses, dimensions, loading and fabrication details.
B. Shop drawings:
Submit manufacturer's literature indicating installation details. Include locations and details of bearing, blocking, bridging and cutting for work by others.

1.2—Quality assurance:

A. Certification:
Certify that materials meet specified requirements.
B. Regulatory requirements:
GP Lam LVL is listed with major building codes. Contact BlueLinx for most current code compliance.

1.3—Delivery, Storage and Handling:

A. Delivery:
Deliver materials to the job site in manufacturer's original packaging, containers and bundles with manufacturer's identification intact and legible.
B. Storage and handling:
Store and handle materials to protect against contact with damp and wet surfaces, exposure to weather, breakage and damage. Provide air circulation under covering and around stacks of materials.

1.4—Limitations:

A. Cutting:
Except for cutting to length, GP Lam LVL beams & headers shall not be cut, drilled or notched, except as noted in manufacturer's literature.
B. Moisture conditions:
GP Lam LVL is for use in covered, dry conditions only.

Part 2.0—Products

2.1—Prefabricated wood beams and headers:

A. Acceptable products:
1. Georgia-Pacific Corporation, GP Lam LVL floor and roof beams.
2. Georgia-Pacific Corporation, GP Lam LVL window and door headers.

B. Characteristics:
1. Construction:
1¾″ thick pressure bonded, lap-jointed wood veneers, with grain of veneers running parallel in the long direction.
2. Beam depths:
7¼″, 9¼″, 9½″, 11¼″, 11⅞″, 14″, 16″, 18″ and 23⅞″ as required for loading, deflection and span.
3. Beam length:
As required for span and bearing.

2.2—Accessories:

A. Fasteners:
16d common nails, approved screws or ½″ bolts.
B. Hangers:
1. Contact BlueLinx or an engineer for acceptable connectors.

Part 3—Execution

3.0—General:

A. Provide GP Lam LVL beams and headers where indicated on drawings using hangers and accessories specified.
B. Install GP Lam LVL beams and headers in accordance with manufacturer's recommendations.

3.2—Accessories:

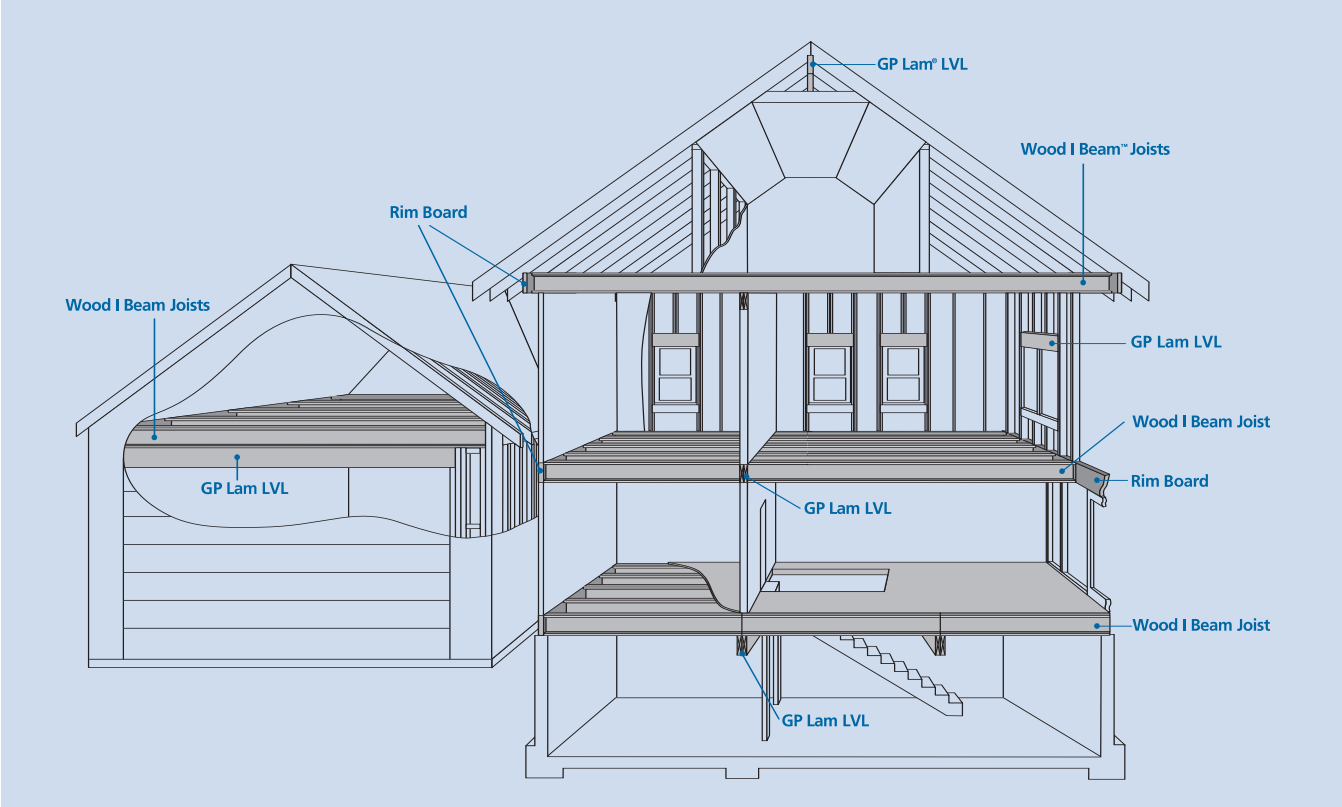
Install accessories where indicated and in accordance with beam and header manufacturer's instructions.

NOTE:

GP engineered lumber products may support mold growth if exposed to certain conditions, including moisture, dampness, condensation, humidity, water or wet conditions. Mold, mildew, fungi, algae, moss, bacterial growth, decay, rot or similar conditions are not manufacturing or product defects and Georgia-Pacific and BlueLinx assume no responsibility or liability for such conditions, regardless of cause.

The user is responsible for proper installation of GP engineered lumber products. The products must be installed in strict conformity with Georgia-Pacific's instructions and all applicable building code requirements and other regulations. In addition, if not specifically covered by Georgia-Pacific's installation instructions or construction detail illustrations, the products must be installed in accordance with generally accepted design and construction practices. When installing engineered lumber products, the user should also consider the effects of local climate and geography. Georgia-Pacific and BlueLinx do not warrant and are not responsible for any finished structure or system that GP engineered lumber products may be incorporated into or other building components that may be used with these products.

Engineered for performance



When it comes to floor joists, rimboard, beams and headers, builders and contractors choose GP engineered lumber for many reasons. Today's residential building trends call for large, open spaces and high ceilings, creating a demand for products that provide higher strength and greater stability over longer spans.

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- A flat, level, more stable floor system
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Georgia-Pacific Corporation, June 2006