



SOLIDSTART[®]
ENGINEERED WOOD PRODUCTS



U.S. Technical Guide



LP SolidStart I-Joists Technical Guide for Residential Construction

LPI[®] 18, 20Plus, 32Plus, 36, 42Plus, 52Plus and 56 Series

Floor & Roof Applications

LP Corp.com

BUILD WITH US[®]

Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area prior to specifying these products.

LP® SolidStart® I-Joists are straighter and more uniform in strength, stiffness and size than traditional lumber, providing a strong, sturdy floor. We offer longer lengths so that ceilings and floors can be designed with fewer pieces, saving time on installation. Other advantages over lumber include lower moisture content, which makes our I-Joists less likely to split, shrink, twist, warp or bow. This means reduced callbacks due to fewer pops and squeaks.

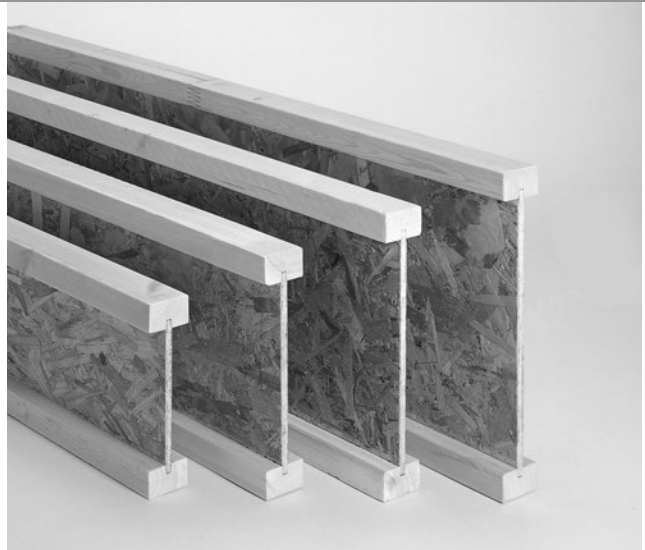
STRENGTH IN NUMBERS

LP's full range of SolidStart products are designed and manufactured to install easily and work together to provide a strong, sound structure.

For I-Joists, we combine laminated veneer lumber (LVL) or finger-jointed sawn lumber flanges with a web of oriented strand board (OSB) to produce an I-shaped structural member. The webs allow plumbing and wiring to pass through without extra framing, while the flanges resist bending – ideal for long spans in floors, ceilings and roofs.

LP SolidStart I-JOISTS ARE A BUILDING MATERIAL WITH BUILT-IN ENVIRONMENTAL BENEFITS

- Made of engineered wood substrate, a renewable resource with a reduced environmental impact
- Raw material procurement targets small, fast growing trees
- In LP's manufacturing process, no part of the log goes to waste
- Only low-emitting, safe resins are used as a binder
- Available in longer lengths, reducing the number of pieces needed; this results in more efficient utilization of resources
- Can help you qualify for certification points in a number of leading green building programs



PEACE-OF-MIND FOR A LIFETIME

If your LP SolidStart I-Joists ever develop problems due to a defect, LP will cover all reasonable repair and/or replacement costs per the conditions of our Lifetime Limited Warranty. Visit LPCorp.com to view our complete warranty, or contact your local LP SolidStart Engineered Wood Products distributor or sales office for an original copy.

COMPLIANT WITH MAJOR BUILDING CODES

LP SolidStart I-Joists have been evaluated for compliance with major US building codes. Refer to APA product report PR-L238 or ICC-ES evaluation report ESR-1305 for complete product information for LP SolidStart I-Joist. Contact your local LP SolidStart Engineered Wood Products distributor or visit LPCorp.com for the most current code reports.

LIFETIME LIMITED WARRANTY

LP SolidStart Engineered Wood Products are backed by a lifetime limited warranty. Visit LPCorp.com or call 1.888.820.0325 for a copy of the warranty.



Product Specifications & Design Values	4
Floor Span Tables	5-7
Uniform Floor Load (PLF) Tables	8-9
Uniform Roof Load (PLF) Tables	10-11
Roof Span Tables: Low Pitch (6:12 or less)	12-13
Roof Span Tables: High Pitch (6:12 to 12:12)	14-15
Load-Bearing Cantilever Tables	16-19
Brick-Ledge Cantilevers	20-21
Web Hole Specifications: Circular Holes	22
Web Hole Specifications: Rectangular Holes	23
Floor Details	24-25
Roof Details	26
Framing Connectors	27
Web Stiffeners, Rim & Blocking, Nailing	28
LP® SolidStart® Rim Board	29
Handling and Storage Guidelines	30
Warnings	31

Product Specifications & Design Values

DESIGN VALUES						
Series	Depth	Weight	Moment	EI (x 10 ⁶)	K (x 10 ⁵)	Shear
		(plf)	(lb-ft)	(lb-in ²)	(lb-ft/in)	(lbs)
LPI 18	9-1/2"	2.6	2365	142	0.355	1130
	11-7/8"	2.9	3100	248	0.435	1335
	14"	3.1	3720	371	0.508	1510
LPI 20Plus	9-1/2"	2.6	2810	185	0.358	1260
	11-7/8"	2.9	3755	318	0.438	1485
	14"	3.1	4400	474	0.512	1680
LPI 32Plus	16"	3.3	5050	652	0.582	1870
	9-1/2"	2.6	3620	243	0.213	1260
	11-7/8"	2.9	4690	406	0.267	1485
LPI 36	14"	3.1	5645	589	0.313	1680
	16"	3.3	6545	791	0.358	1870
	11-7/8"	3.1	6445	429	0.468	1615
LPI 42Plus	14"	3.4	7755	622	0.550	1830
	16"	3.6	8995	836	0.625	2020
	9-1/2"	3.4	5375	321	0.412	1340
LPI 52Plus	11-7/8"	3.5	6965	547	0.515	1625
	14"	3.8	8390	802	0.607	1875
	16"	4.0	9725	1092	0.693	2115
LPI 56	11-7/8"	4.5	8475	600	0.633	2055
	14"	4.8	10205	874	0.747	2330
	16"	5.0	11835	1183	0.853	2585
LPI 56	11-7/8"	4.5	10170	668	0.549	2055
	14"	4.8	12250	968	0.641	2330
	16"	5.0	14205	1301	0.729	2585

NOTES:

- LP® SolidStart® I-joists shall be designed for dry-use conditions only. Dry-use applies to products installed in dry, covered and well ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.
- Moment and Shear are for normal load duration and shall be adjusted according to code.
- Moment shall not be increased for repetitive member use.
- Deflection calculations shall include both bending and shear deformations. Deflection for a simple span, uniform load:

$$\Delta = \frac{22.5wL^4}{EI} + \frac{wL^2}{K}$$

Where: Δ = deflection (in) EI = bending stiffness (from table)
 w = uniform load (plf) K = shear stiffness (from table)
 L = design span (ft)

Equations for other conditions can be found in engineering references.

REACTION AND BEARING CAPACITY

Series	Depth	End Reaction Capacity ¹ (lbs)				Interior Reaction Capacity ¹ (lbs)				Flange Bearing Capacity ² (lb/in)
		Minimum Bearing (1-1/2")		Maximum Bearing (4")		Minimum Bearing (3-1/2")		Maximum Bearing (5-1/2")		
		W/out Stiffeners	With Stiffeners	W/out Stiffeners	With Stiffeners	W/out Stiffeners	With Stiffeners	W/out Stiffeners	With Stiffeners	
LPI 18	9-1/2"	870	1025	995	1130	1975	2135	2205	2370	955
	11-7/8"	870	1145	1040	1335	2095	2270	2335	2545	
	14"	870	1255	1080	1510	2205	2395	2450	2700	
LPI 20Plus	9-1/2"	970	1140	1110	1260	2195	2375	2450	2635	955
	11-7/8"	970	1275	1160	1485	2330	2525	2595	2830	
	14"	970	1395	1200	1680	2455	2665	2725	3005	
LPI 32Plus	16"	970	1510	1240	1870	2570	2795	2850	3175	1180
	9-1/2"	970	1140	1110	1260	2195	2375	2450	2635	
	11-7/8"	970	1275	1160	1485	2330	2525	2595	2830	
LPI 36	14"	970	1395	1200	1680	2455	2665	2725	3005	1180
	16"	970	1510	1240	1870	2570	2795	2850	3175	
	11-7/8"	1025	1500	1290	1615	2500	3105	2835	3470	
LPI 42Plus	14"	1025	1515	1325	1830	2500	3205	2835	3565	1705
	16"	1025	1525	1360	2020	2500	3305	2835	3655	
	9-1/2"	1185	1340	1305	1340	2900	3095	2940	3195	
LPI 52Plus	11-7/8"	1245	1510	1595	1625	3025	3340	3120	3515	1995
	14"	1300	1660	1595	1875	3140	3565	3280	3805	
	16"	1350	1800	1595	2115	3245	3775	3435	4080	
LPI 56	11-7/8"	1370	1820	1690	2055	3420	4000	3635	4210	1870
	14"	1385	1970	1845	2330	3435	4260	3745	4540	
	16"	1400	2110	1985	2585	3450	4505	3850	4855	
LPI 56	11-7/8"	1145	1660	1515	2055	3130	3860	3670	4060	1870
	14"	1145	1755	1535	2330	3130	4055	3670	4300	
	16"	1145	1845	1555	2585	3130	4245	3670	4525	

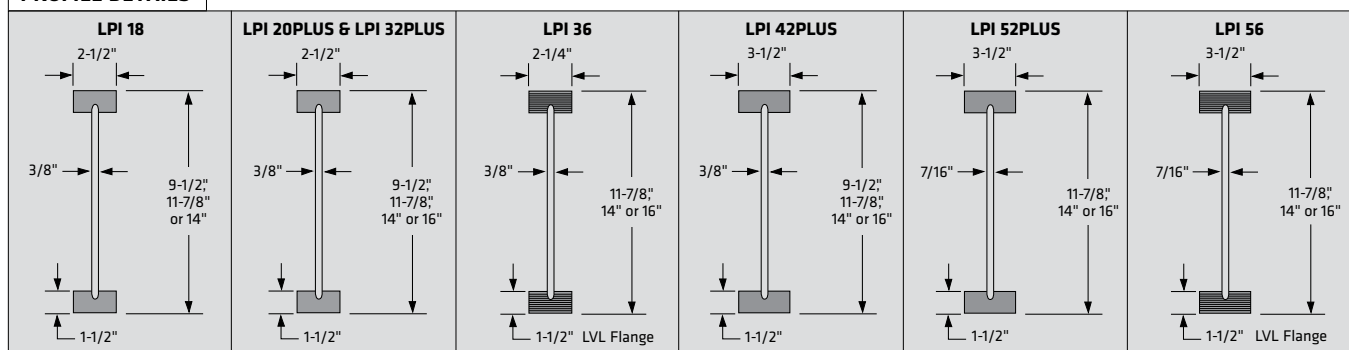
NOTES

- End and Interior Reaction Capacity shall be limited by the Flange Bearing Capacity or the bearing capacity of the support material, whichever is less.
- The Flange Bearing Capacity, per inch of bearing length, is based on the allowable compression perpendicular-to-grain of the I-joist flange, accounting for eased edges.
- To account for edge easing when determining the bearing capacity of the support material, subtract 0.25" from the flange width for the LPI 18, LPI 20Plus, LPI 32Plus, LPI 42Plus & LPI 52Plus, and subtract 0.10" from the flange width for the LPI 36 & LPI 56.
- Reaction Capacity is for normal load duration and shall be adjusted according to code. Flange Bearing Capacity and the bearing capacity of any wood support shall not be adjusted for load duration.
- Reaction Capacity and Flange Bearing Capacity may be increased over that tabulated for the minimum bearing length. Linear interpolation of the Reaction Capacity between the minimum and maximum bearing length is permitted. Bearing lengths longer than the maximum do not further increase Reaction Capacity. Flange Bearing Capacity and that of a wood support will increase with additional bearing length.
- See page 28 for information on web stiffener sizes and nailing.

EXAMPLE:

- Determine the stiffened end reaction capacity for a 14" LPI 32Plus with 2" of bearing for a non-snow roof load and supported on an SPF wall plate (425 psi).
- Determine End Reaction (ER) w/Stiffeners:
 $ER = 1395 + (1660 - 1395) * (2" - 1.5") / (4" - 1.5") = 1448$ lbs
 - Adjust for load duration:
 Adjusted ER = 1448 * 1.25 = 1810 lbs
 - Determine Flange Bearing Capacity (FBC):
 $FBC = 1180 \text{ lb/in} * 2" = 2360$ lbs
 - Determine wall Plate Bearing Capacity (PBC):
 $PBC = 425 \text{ psi} * (2.5" - 0.25") * 2" = 1912$ lbs
 - Final End Reaction Capacity w/Stiffeners = 1810 lbs

PROFILE DETAILS

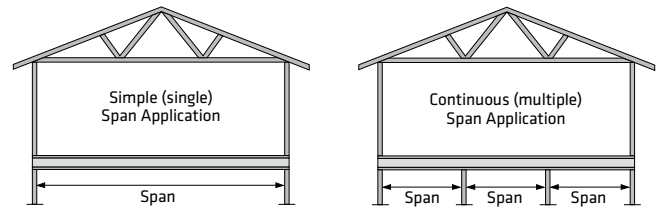


Floor Span Tables: 40 psf Live Load and 10 psf Dead Load

TO USE:

1. Select the Simple Span or Continuous Span table, as required.
2. Find a span that meets or exceeds the required clear span.
3. Read the corresponding joist series, depth and spacing.

CAUTION: For floor systems that require both simple span and continuous span joists, it is a good idea to check both before selecting a joist. Some conditions are controlled by continuous span rather than simple span.



SIMPLE SPAN									
Series	Depth	L/480				L/360			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	16'-6"	15'-1"	14'-3"	13'-4"	18'-3"	16'-8"	15'-3"	13'-7"
	11-7/8"	19'-9"	18'-1"	17'-1"	15'-7"	21'-10"	19'-1"	17'-5"	15'-7"
	14"	22'-6"	20'-7"	19'-1"	17'-1"	24'-3"	21'-0"	19'-1"	17'-1"
LPI 20Plus	9-1/2"	17'-9"	16'-2"	15'-3"	14'-3"	19'-7"	17'-11"	16'-7"	14'-10"
	11-7/8"	21'-2"	19'-4"	18'-3"	17'-0"	23'-5"	21'-1"	19'-3"	17'-2"
	14"	24'-1"	22'-0"	20'-9"	18'-7"	26'-4"	22'-10"	20'-10"	18'-7"
LPI 32Plus	9-1/2"	18'-9"	17'-0"	16'-0"	14'-9"	20'-10"	18'-11"	17'-10"	16'-6"
	11-7/8"	22'-3"	20'-2"	19'-0"	17'-7"	24'-9"	22'-6"	21'-2"	19'-2"
	14"	25'-2"	22'-10"	21'-6"	19'-6"	28'-0"	25'-5"	23'-7"	19'-6"
LPI 36	9-1/2"	19'-11"	18'-1"	17'-11"	16'-8"	23'-11"	21'-11"	19'-11"	18'-6"
	11-7/8"	23'-1"	21'-1"	19'-11"	18'-6"	27'-6"	25'-1"	23'-8"	22'-0"
	14"	26'-2"	23'-10"	22'-6"	20'-9"	28'-11"	26'-5"	24'-11"	20'-9"
LPI 42Plus	9-1/2"	20'-10"	19'-0"	17'-11"	16'-8"	23'-11"	21'-11"	19'-11"	18'-6"
	11-7/8"	24'-11"	22'-8"	21'-4"	19'-10"	27'-6"	25'-1"	23'-8"	22'-0"
	14"	28'-3"	25'-9"	24'-3"	22'-6"	31'-3"	28'-6"	26'-10"	25'-0"
LPI 52Plus	9-1/2"	21'-11"	20'-1"	18'-11"	17'-11"	24'-11"	22'-11"	20'-11"	19'-2"
	11-7/8"	25'-9"	23'-5"	22'-1"	20'-7"	28'-5"	25'-11"	24'-6"	22'-10"
	14"	29'-2"	26'-7"	25'-0"	23'-4"	32'-3"	29'-5"	27'-9"	25'-10"
LPI 56	9-1/2"	22'-11"	21'-1"	19'-11"	18'-6"	25'-11"	23'-11"	21'-11"	20'-1"
	11-7/8"	26'-6"	24'-1"	22'-8"	21'-1"	29'-3"	26'-8"	25'-2"	23'-4"
	14"	29'-11"	27'-3"	25'-8"	23'-4"	33'-1"	30'-2"	28'-5"	23'-4"
LPI 56	9-1/2"	23'-11"	22'-1"	20'-11"	19'-6"	26'-11"	24'-11"	22'-11"	21'-1"
	11-7/8"	27'-1"	24'-11"	23'-4"	21'-11"	30'-1"	27'-1"	25'-1"	23'-4"
	14"	30'-4"	27'-5"	25'-4"	23'-3"	33'-4"	30'-4"	28'-7"	23'-5"

CONTINUOUS SPAN									
Series	Depth	L/480; No Web Stiffeners				L/480; With Web Stiffeners			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	17'-11"	16'-5"	15'-2"	13'-6"	-	-	-	-
	11-7/8"	21'-6"	19'-0"	17'-4"	15'-6"	-	-	-	-
	14"	24'-2"	20'-11"	19'-0"	17'-0"	-	-	-	-
LPI 20Plus	9-1/2"	19'-4"	17'-7"	16'-6"	14'-9"	-	-	-	-
	11-7/8"	23'-1"	21'-0"	19'-2"	17'-1"	-	-	-	-
	14"	26'-3"	22'-9"	20'-9"	18'-6"	-	-	-	-
LPI 32Plus	9-1/2"	20'-4"	18'-5"	17'-4"	16'-0"	-	-	-	-
	11-7/8"	24'-2"	21'-11"	20'-7"	18'-4"	-	-	-	19'-0"
	14"	27'-5"	24'-10"	23'-4"	19'-4"	-	-	-	21'-0"
LPI 36	9-1/2"	21'-11"	20'-1"	18'-11"	17'-11"	-	-	-	-
	11-7/8"	25'-9"	23'-5"	22'-1"	20'-7"	-	-	-	22'-0"
	14"	29'-2"	26'-7"	25'-0"	23'-4"	-	-	-	22'-9"
LPI 42Plus	9-1/2"	22'-11"	21'-1"	19'-11"	18'-6"	-	-	-	-
	11-7/8"	26'-6"	24'-1"	22'-8"	21'-1"	-	-	-	20'-1"
	14"	29'-11"	27'-3"	25'-8"	23'-4"	-	-	-	22'-9"
LPI 52Plus	9-1/2"	23'-11"	22'-1"	20'-11"	19'-6"	-	-	-	-
	11-7/8"	27'-1"	24'-11"	23'-4"	21'-11"	-	-	-	21'-0"
	14"	30'-4"	27'-5"	25'-4"	23'-3"	-	-	-	22'-0"
LPI 56	9-1/2"	24'-11"	23'-4"	21'-11"	20'-7"	-	-	-	-
	11-7/8"	28'-5"	25'-11"	24'-6"	22'-11"	-	-	-	20'-1"
	14"	31'-8"	28'-8"	26'-10"	24'-8"	-	-	-	22'-9"
LPI 56	9-1/2"	25'-11"	24'-1"	22'-8"	21'-1"	-	-	-	-
	11-7/8"	29'-6"	26'-6"	24'-6"	22'-6"	-	-	-	21'-0"
	14"	32'-9"	29'-8"	27'-11"	24'-8"	-	-	-	22'-0"

DESIGN ASSUMPTIONS:

1. The spans listed are the clear distance between supports. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform floor loads only as listed at the top of the page. The dead load is increased to 12 psf for the LPI 42Plus, LPI 52Plus and LPI 56.
3. These tables reflect the additional stiffness provided by 48/24 APA RATED SHEATHING or 24 oc APA RATED STURD-I-FLOOR, or equal, glued and nailed to the top flange.
4. Live Load deflection is limited to L/480 or L/360 for simple spans as listed, and L/480 only for continuous spans.
5. Total Load deflection is limited to L/240.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2", and are limited to the bearing capacity for an SPF wall plate ($F_{c1} = 425$ psi).

ADDITIONAL NOTES:

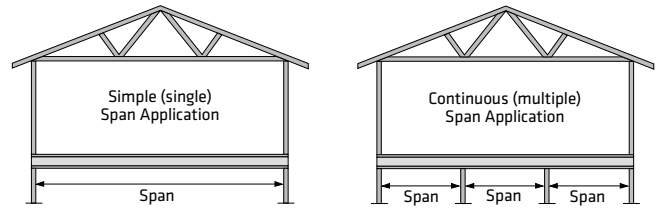
1. Web stiffeners are not required for the Simple Span tables. Web stiffeners are not required at the end bearings for the Continuous Span tables. Web stiffeners at interior supports are only required where listed in the "With Web Stiffeners" section of each table. A "-" indicates no increase in span with web stiffeners.
2. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange.
3. L/360 represents the maximum deflection allowed per code and may not provide suitable floor performance. L/480 or better is recommended for most applications.
4. These spans are not evaluated for vibration.
5. Though not required for the spans above, bridging, blocking, bottom-flange bracing or a direct-applied gypsum ceiling can improve the feel of a floor.
6. For conditions not shown, use the Uniform Floor Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.

Floor Span Tables: 40 psf Live Load and 15 psf Dead Load

TO USE:

1. Select the Simple Span or Continuous Span table, as required.
2. Find a span that meets or exceeds the required clear span.
3. Read the corresponding joist series, depth and spacing.

CAUTION: For floor systems that require both simple span and continuous span joists, it is a good idea to check both before selecting a joist. Some conditions are controlled by continuous span rather than simple span.



SIMPLE SPAN									
Series	Depth	L/480				L/360			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	16'-6"	15'-1"	14'-3"	12'-11"	18'-3"	15'-11"	14'-6"	12'-11"
	11-7/8"	19'-9"	18'-1"	16'-7"	14'-10"	21'-1"	18'-3"	16'-7"	14'-10"
	14"	22'-6"	20'-0"	18'-3"	15'-10"	23'-1"	20'-0"	18'-3"	15'-10"
LPI 20Plus	9-1/2"	17'-9"	16'-2"	15'-3"	14'-2"	19'-7"	17'-4"	15'-10"	14'-2"
	11-7/8"	21'-2"	19'-4"	18'-3"	16'-4"	23'-2"	20'-1"	18'-4"	16'-4"
	14"	24'-1"	21'-9"	19'-10"	17'-9"	25'-2"	21'-9"	19'-10"	17'-9"
LPI 32Plus	9-1/2"	18'-9"	17'-0"	16'-0"	14'-9"	20'-10"	18'-11"	17'-10"	16'-1"
	11-7/8"	22'-3"	20'-2"	19'-0"	17'-7"	24'-9"	22'-5"	20'-6"	17'-8"
	14"	25'-2"	22'-10"	21'-6"	17'-9"	28'-0"	24'-8"	22'-3"	17'-9"
LPI 36	9-1/2"	19'-9"	18'-0"	17'-11"	16'-8"	23'-1"	21'-1"	19'-11"	18'-6"
	11-7/8"	23'-1"	21'-1"	19'-11"	18'-6"	27'-6"	25'-1"	23'-8"	22'-0"
	14"	26'-2"	23'-10"	22'-6"	18'-10"	28'-11"	26'-5"	23'-8"	18'-10"
LPI 42Plus	9-1/2"	20'-10"	19'-0"	17'-11"	16'-8"	23'-1"	21'-1"	19'-11"	18'-6"
	11-7/8"	24'-11"	22'-8"	21'-4"	19'-10"	27'-6"	25'-1"	23'-8"	22'-0"
	14"	28'-3"	25'-9"	24'-3"	22'-6"	31'-3"	28'-6"	26'-10"	23'-10"
LPI 52Plus	9-1/2"	21'-10"	20'-0"	18'-11"	17'-10"	24'-10"	22'-8"	20'-11"	18'-10"
	11-7/8"	25'-9"	23'-5"	22'-1"	20'-7"	28'-5"	25'-11"	24'-6"	22'-10"
	14"	29'-2"	26'-7"	25'-0"	23'-4"	32'-3"	29'-5"	27'-9"	25'-8"
LPI 56	9-1/2"	22'-10"	21'-1"	19'-11"	18'-6"	25'-5"	23'-4"	21'-10"	19'-10"
	11-7/8"	26'-6"	24'-1"	22'-8"	21'-1"	29'-3"	26'-8"	25'-2"	21'-2"
	14"	29'-11"	27'-3"	25'-8"	21'-2"	33'-1"	30'-2"	26'-7"	21'-2"

CONTINUOUS SPAN									
Series	Depth	L/480; No Web Stiffeners				L/480; With Web Stiffeners			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	17'-11"	15'-10"	14'-5"	12'-10"	-	-	-	-
	11-7/8"	21'-0"	18'-2"	16'-6"	14'-9"	-	-	-	-
	14"	23'-0"	19'-11"	18'-2"	15'-8"	-	-	-	16'-2"
LPI 20Plus	9-1/2"	19'-4"	17'-3"	15'-9"	14'-1"	-	-	-	-
	11-7/8"	23'-1"	20'-0"	18'-3"	16'-3"	-	-	-	-
	14"	25'-1"	21'-8"	19'-9"	17'-6"	-	-	-	17'-8"
LPI 32Plus	9-1/2"	20'-4"	18'-5"	17'-4"	15'-8"	-	-	-	16'-0"
	11-7/8"	24'-2"	21'-11"	20'-5"	16'-7"	-	-	-	18'-0"
	14"	27'-5"	24'-7"	22'-0"	17'-6"	-	-	22'-5"	19'-1"
LPI 36	9-1/2"	21'-10"	20'-0"	18'-11"	17'-10"	-	-	-	20'-1"
	11-7/8"	25'-9"	23'-5"	22'-1"	20'-7"	-	-	-	21'-10"
	14"	29'-2"	26'-7"	25'-0"	23'-4"	-	-	24'-6"	21'-8"
LPI 42Plus	9-1/2"	22'-9"	20'-8"	19'-6"	18'-1"	-	-	-	-
	11-7/8"	27'-1"	24'-8"	23'-3"	21'-7"	-	-	-	-
	14"	30'-10"	28'-0"	26'-5"	22'-6"	-	-	-	24'-5"
LPI 52Plus	9-1/2"	23'-11"	21'-10"	20'-5"	18'-4"	-	-	-	22'-10"
	11-7/8"	27'-11"	25'-9"	24'-3"	22'-6"	-	-	-	24'-4"
	14"	31'-4"	28'-6"	26'-10"	24'-8"	-	-	29'-3"	26'-4"
LPI 56	9-1/2"	24'-10"	22'-9"	21'-4"	19'-10"	-	-	-	-
	11-7/8"	28'-10"	26'-3"	24'-8"	22'-5"	-	-	-	25'-5"
	14"	32'-8"	29'-8"	27'-11"	22'-5"	-	-	-	28'-1"

DESIGN ASSUMPTIONS:

1. The spans listed are the clear distance between supports. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform floor loads only as listed at the top of the page.
3. These tables reflect the additional stiffness provided by 48/24 APA RATED SHEATHING or 24 oc APA RATED STURD-I-FLOOR, or equal, glued and nailed to the top flange.
4. Live Load deflection is limited to L/480 or L/360 for simple spans as listed, and L/480 only for continuous spans.
5. Total Load deflection is limited to L/240.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{cL} = 425$ psi).

ADDITIONAL NOTES:

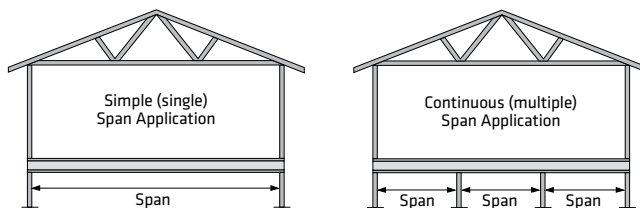
1. Web stiffeners are not required for the Simple Span tables. Web stiffeners are not required at the end bearings for the Continuous Span tables. Web stiffeners at interior supports are only required where listed in the "With Web Stiffeners" section of each table. A "-" indicates no increase in span with web stiffeners.
2. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange.
3. L/360 represents the maximum deflection allowed per code and may not provide suitable floor performance. L/480 or better is recommended for most applications.
4. These spans are not evaluated for vibration.
5. Though not required for the spans above, bridging, blocking, bottom-flange bracing or a direct-applied gypsum ceiling can improve the feel of a floor.
6. For conditions not shown, use the Uniform Floor Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.

Floor Span Tables: 40 psf Live Load and 25 psf Dead Load

TO USE:

1. Select the Simple Span or Continuous Span table, as required.
2. Find a span that meets or exceeds the required clear span.
3. Read the corresponding joist series, depth and spacing.

CAUTION: For floor systems that require both simple span and continuous span joists, it is a good idea to check both before selecting a joist. Some conditions are controlled by continuous span rather than simple span.



SIMPLE SPAN									
Series	Depth	L/480				L/360			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	16'-6"	14'-7"	13'-4"	11'-11"	16'-11"	14'-7"	13'-4"	11'-11"
	11-7/8"	19'-4"	16'-9"	15'-3"	13'-4"	19'-4"	16'-9"	15'-3"	13'-4"
	14"	21'-3"	18'-4"	16'-9"	13'-4"	21'-3"	18'-4"	16'-9"	13'-4"
LPI 20Plus	9-1/2"	17'-9"	15'-11"	14'-6"	13'-0"	18'-5"	15'-11"	14'-6"	13'-0"
	11-7/8"	21'-2"	18'-5"	16'-10"	14'-11"	21'-4"	18'-5"	16'-10"	14'-11"
	14"	23'-1"	20'-0"	18'-3"	14'-11"	23'-1"	20'-0"	18'-3"	14'-11"
LPI 32Plus	9-1/2"	18'-9"	17'-0"	16'-0"	14'-9"	20'-3"	18'-1"	16'-6"	14'-9"
	11-7/8"	22'-3"	20'-2"	18'-8"	14'-11"	23'-10"	20'-8"	18'-8"	14'-11"
	14"	25'-2"	22'-7"	18'-9"	14'-11"	26'-2"	22'-7"	18'-9"	14'-11"
LPI 36	9-1/2"	18'-9"	17'-0"	16'-0"	14'-9"	20'-3"	18'-1"	16'-6"	14'-9"
	11-7/8"	22'-3"	20'-2"	18'-8"	14'-11"	23'-10"	20'-8"	18'-8"	14'-11"
	14"	25'-2"	22'-7"	18'-9"	14'-11"	26'-2"	22'-7"	18'-9"	14'-11"
LPI 42Plus	9-1/2"	20'-10"	19'-0"	17'-11"	16'-8"	22'-5"	20'-6"	19'-4"	18'-0"
	11-7/8"	24'-11"	22'-8"	21'-4"	19'-4"	26'-9"	24'-5"	23'-0"	19'-4"
	14"	28'-3"	25'-9"	24'-3"	20'-2"	30'-5"	27'-8"	25'-3"	20'-2"
LPI 52Plus	9-1/2"	20'-10"	19'-0"	17'-11"	16'-8"	22'-5"	20'-6"	19'-4"	18'-0"
	11-7/8"	24'-11"	22'-8"	21'-4"	19'-4"	26'-9"	24'-5"	23'-0"	19'-4"
	14"	28'-3"	25'-9"	24'-3"	20'-2"	30'-5"	27'-8"	25'-3"	20'-2"
LPI 56	9-1/2"	20'-10"	19'-0"	17'-11"	16'-8"	22'-5"	20'-6"	19'-4"	18'-0"
	11-7/8"	24'-11"	22'-8"	21'-4"	19'-4"	26'-9"	24'-5"	23'-0"	19'-4"
	14"	28'-3"	25'-9"	24'-3"	20'-2"	30'-5"	27'-8"	25'-3"	20'-2"

CONTINUOUS SPAN									
Series	Depth	L/480; No Web Stiffeners				L/480; With Web Stiffeners			
		12" oc	16" oc	19.2" oc	24" oc	12" oc	16" oc	19.2" oc	24" oc
LPI 18	9-1/2"	16'-10"	14'-6"	13'-3"	11'-10"	-	-	-	-
	11-7/8"	19'-3"	16'-8"	15'-2"	12'-7"	-	-	-	13'-7"
	14"	21'-2"	18'-3"	16'-8"	13'-3"	-	-	-	14'-5"
LPI 20Plus	9-1/2"	18'-4"	15'-10"	14'-5"	12'-11"	-	-	-	-
	11-7/8"	21'-3"	18'-4"	16'-9"	14'-0"	-	-	-	14'-11"
	14"	23'-0"	19'-11"	18'-2"	14'-9"	-	-	-	16'-1"
LPI 32Plus	9-1/2"	20'-4"	18'-0"	16'-5"	13'-2"	-	-	-	14'-3"
	11-7/8"	23'-9"	20'-7"	17'-7"	14'-0"	-	-	18'-9"	15'-2"
	14"	26'-1"	22'-4"	18'-7"	14'-9"	-	22'-7"	20'-2"	16'-1"
LPI 36	9-1/2"	20'-4"	18'-0"	16'-5"	13'-2"	-	-	-	14'-3"
	11-7/8"	23'-9"	20'-7"	17'-7"	14'-0"	-	-	18'-9"	15'-2"
	14"	26'-1"	22'-4"	18'-7"	14'-9"	-	22'-7"	20'-2"	16'-1"
LPI 42Plus	9-1/2"	22'-9"	20'-8"	19'-6"	16'-3"	-	-	-	-
	11-7/8"	27'-1"	24'-8"	22'-11"	18'-3"	-	-	-	19'-9"
	14"	30'-10"	27'-7"	23'-10"	19'-0"	-	-	25'-2"	21'-7"
LPI 52Plus	9-1/2"	22'-9"	20'-8"	19'-6"	16'-3"	-	-	-	-
	11-7/8"	27'-1"	24'-8"	22'-11"	18'-3"	-	-	-	19'-9"
	14"	30'-10"	27'-7"	23'-10"	19'-0"	-	-	25'-2"	21'-7"
LPI 56	9-1/2"	22'-9"	20'-8"	19'-6"	16'-3"	-	-	-	-
	11-7/8"	27'-1"	24'-8"	22'-11"	18'-3"	-	-	-	19'-9"
	14"	30'-10"	27'-7"	23'-10"	19'-0"	-	-	25'-2"	21'-7"

DESIGN ASSUMPTIONS:

1. The spans listed are the clear distance between supports. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform floor loads only as listed at the top of the page.
3. These tables reflect the additional stiffness provided by 48/24 APA RATED SHEATHING or 24 oc APA RATED STURD-I-FLOOR, or equal, glued and nailed to the top flange.
4. Live Load deflection is limited to L/480 or L/360 for simple spans as listed, and L/480 only for continuous spans.
5. Total Load deflection is limited to L/240.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate (F_{cL} = 425 psi).

ADDITIONAL NOTES:

1. Web stiffeners are not required for the Simple Span tables. Web stiffeners are not required at the end bearings for the Continuous Span tables. Web stiffeners at interior supports are only required where listed in the "With Web Stiffeners" section of each table. A "-" indicates no increase in span with web stiffeners.
2. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange.
3. L/360 represents the maximum deflection allowed per code and may not provide suitable floor performance. L/480 or better is recommended for most applications.
4. These spans are not evaluated for vibration.
5. Though not required for the spans above, bridging, blocking, bottom-flange bracing or a direct-applied gypsum ceiling can improve the feel of a floor.
6. For conditions not shown, use the Uniform Floor Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.

Uniform Floor Load (PLF) Tables: 9-1/2" and 11-7/8"

TO USE:

1. Select the span required.
2. Compare the design total load to the Total Load column.
3. Compare the design live load to the appropriate Live Load column.
4. Select a product that exceeds both the design total and live loads.

EXAMPLE:

Select an I-Joist for a 17'-6" clear span supporting 40 psf Live Load and 20 psf Dead Load, spaced 16" oc, at an L/480 deflection limit.

1. Select the row corresponding to an 18' span.
2. Design Total Load = $(40 + 20) * (16 / 12) = 80$ plf
Design Live Load = $40 * (16 / 12) = 54$ plf
3. Select the first joist to exceed both Total Load and L/480:

The 9-1/2" LPI 42Plus supports 108 plf Total Load and 54 plf Live Load at L/480

Span	9-1/2" LPI 18			9-1/2" LPI 20Plus			9-1/2" LPI 32Plus			9-1/2" LPI 42Plus			Span
	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	
	L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		
8'			190			211			211			260	8'
9'			170			188			188			232	9'
10'	128		153	160		170			170			209	10'
11'	99	132	139	125		155	138		155			191	11'
12'	78	104	126	99	132	142	112		142	161		175	12'
13'	62	83	108	79	106	128	91	122	132	130		162	13'
14'	51	68	93	65	86	111	76	101	122	107	143	150	14'
15'	42	56	81	53	71	97	63	84	114	89	118	140	15'
16'	35	46	70	44	59	85	53	71	107	74	99	132	16'
17'	29	39	59	37	50	75	45	60	91	63	84	124	17'
18'	25	33	50	32	42	64	39	52	78	54	72	108	18'
19'	21	28	42	27	36	55	33	45	67	46	61	92	19'
20'	18	24	36	23	31	47	29	39	58	40	53	80	20'
21'	16	21	32	20	27	41	25	34	51	35	46	70	21'
22'	-	-	-	-	-	-	-	-	-	30	40	61	22'
23'	-	-	-	-	-	-	-	-	-	27	36	54	23'
24'	-	-	-	-	-	-	-	-	-	-	-	-	24'
25'	-	-	-	-	-	-	-	-	-	-	-	-	25'
26'	-	-	-	-	-	-	-	-	-	-	-	-	26'
27'	-	-	-	-	-	-	-	-	-	-	-	-	27'
28'	-	-	-	-	-	-	-	-	-	-	-	-	28'

Span	11-7/8" LPI 18			11-7/8" LPI 20Plus			11-7/8" LPI 32Plus			11-7/8" LPI 36			11-7/8" LPI 42Plus			11-7/8" LPI 52Plus			11-7/8" LPI 56			Span
	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	
	L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		
8'			202			224			224			241			291			329			285	8'
9'			180			200			200			215			260			294			254	9'
10'			162			181			181			194			235			265			229	10'
11'			148			165			165			177			214			242			209	11'
12'	131		136			151			151			162			196			222			192	12'
13'	105		126	131		140			140			150			182			205			177	13'
14'	86	115	117	107		130	119		130	139		139			169			191			165	14'
15'	71	95	107	89	118	121	100		121	116	145	130	145		158	162		178			154	15'
16'	59	79	94	74	99	114	85	113	114	97	122	122	122		148	136		167			145	16'
17'	50	67	83	63	84	101	72	97	107	83	110	115	103	138	139	115	154	158	124		136	17'
18'	42	57	74	53	71	90	62	83	101	70	94	109	88	118	132	98	131	149	106		129	18'
19'	36	48	67	46	61	81	54	72	96	61	81	103	76	102	125	85	113	141	92		122	19'
20'	31	42	60	40	53	73	47	63	91	52	70	98	66	88	119	73	98	134	80	106	116	20'
21'	27	36	55	34	46	66	41	55	82	46	61	92	58	77	113	64	85	128	70	93	111	21'
22'	24	32	48	30	40	60	36	48	73	40	54	81	51	68	102	56	75	113	61	82	106	22'
23'	21	28	42	26	35	53	32	43	64	35	47	71	45	60	90	49	66	99	54	72	101	23'
24'	18	25	37	23	31	47	28	38	57	31	42	63	39	53	79	44	58	88	48	64	96	24'
25'	16	22	33	21	28	42	25	34	51	28	37	56	35	47	71	39	52	78	43	57	86	25'
26'	14	19	29	18	25	37	22	30	45	-	-	-	31	42	63	35	46	70	38	51	76	26'
27'	-	-	-	-	-	-	-	-	-	-	-	-	28	38	57	31	42	63	34	46	69	27'
28'	-	-	-	-	-	-	-	-	-	-	-	-	25	34	51	28	37	56	31	41	62	28'

DESIGN ASSUMPTIONS:

1. Span is the clear distance between supports and is valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The values in the tables are for uniform loads only.
3. Total Load is for normal (100%) duration.
4. These tables do not reflect any additional stiffness provided by the floor sheathing.
5. Live Load deflection is limited to L/360 or L/480 as noted in the table.
6. Total Load deflection is limited to L/240. Long term deflection (creep) has not been considered.
7. These tables assume full lateral support of the compression flange (maximum unbraced length of 24')
8. These tables are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{\perp} = 425$ psi).

ADDITIONAL NOTES:

1. The allowable loads represent the capacity of the joist in pounds per lineal foot (plf) of length.
2. The designer shall check both the Total Load and the appropriate Live Load column.
3. To design a double I-joist, the values in these tables can be doubled, or the design loads on the I-joist may be halved to verify the capacity of each ply. The capacity is additive. See Double I-joist Connection detail on page 25.
4. Web stiffeners are not required for these spans and loads.
5. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
6. Where the Live Load is blank, the Total Load governs the design.
7. Do not use a product where designated "-" without further analysis by a design professional.

PSF TO PLF CONVERSION

OC Spacing	Load									
	20 psf	25 psf	30 psf	35 psf	40 psf	45 psf	50 psf	55 psf	60 psf	65 psf
12"	20	25	30	35	40	45	50	55	60	65
16"	27	34	40	47	54	60	67	74	80	87
19.2"	32	40	48	56	64	72	80	88	96	104
24"	40	50	60	70	80	90	100	110	120	130

Uniform Floor Load (PLF) Tables: 14" and 16"

TO USE:

1. Select the span required.
2. Compare the design total load to the Total Load column.
3. Compare the design live load to the appropriate Live Load column.
4. Select a product that exceeds both the design total and live loads.

EXAMPLE:

Select an I-Joist for a 27'-6" clear span supporting 40 psf Live Load and 20 psf Dead Load, spaced 16" oc, at an L/480 deflection limit.

1. Select the row corresponding to an 28' span.
2. Design Total Load = (40 + 20) * (16 / 12) = 80 plf
Design Live Load = 40 * (16 / 12) = 54 plf
3. Select the first joist to exceed both Total Load and L/480:

The 16" LPI 52Plus supports 97 plf Total Load and 54 plf Live Load at L/480

Span	14" LPI 18			14" LPI 20Plus			14" LPI 32Plus			14" LPI 36			14" LPI 42Plus			14" LPI 52Plus			14" LPI 56			Span
	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	
	L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		
14'			123			137			137			139			175			192			165	14'
15'	103		115			128			128			130			164			179			154	15'
16'	87		108	108		120	117		120			122			154			168			145	16'
17'	73	98	100	91		113	101		113			115			145			158			136	17'
18'	62	83	89	78	104	106	87		107	100		109	126		137	140		150			129	18'
19'	53	71	80	67	89	95	75	101	101	86		103	109		130	121		142			122	19'
20'	46	62	72	58	77	86	66	88	96	75		98	95		123	105		135	112		116	20'
21'	40	54	66	51	68	78	58	77	92	65	87	93	83	111	117	92	122	129	98		111	21'
22'	35	47	60	44	59	71	51	68	88	57	76	89	73	97	112	80	107	123	87		106	22'
23'	31	41	55	39	52	65	45	60	83	50	67	85	64	86	107	71	95	117	77		101	23'
24'	27	36	50	34	46	60	40	54	76	45	60	82	57	76	103	63	84	113	68	91	97	24'
25'	24	32	46	31	41	55	36	48	71	40	53	79	51	68	99	56	75	108	61	81	93	25'
26'	22	29	43	27	37	51	32	43	65	36	48	72	45	61	91	50	67	100	54	73	90	26'
27'	19	26	39	24	33	47	29	39	58	32	43	64	41	55	82	45	60	90	49	65	86	27'
28'	17	23	35	22	29	44	26	35	53	29	38	58	37	49	74	40	54	81	44	59	83	28'
29'	16	21	32	20	27	40	24	32	48	26	35	52	33	44	67	36	49	73	40	53	80	29'
30'	14	19	29	18	24	36	21	29	43	23	31	47	30	40	61	33	44	67	36	48	73	30'
31'	13	17	26	16	22	33	19	26	39	-	-	-	27	37	55	30	40	61	33	44	66	31'
32'	-	-	-	-	-	-	-	-	-	-	-	-	25	33	50	27	37	55	30	40	60	32'
33'	-	-	-	-	-	-	-	-	-	-	-	-	23	30	46	25	33	50	27	37	55	33'
34'	-	-	-	-	-	-	-	-	-	-	-	-	21	28	42	23	31	46	25	34	51	34'

Span	16" LPI 20Plus			16" LPI 32Plus			16" LPI 36			16" LPI 42Plus			16" LPI 52Plus			Span			
	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load	Live Load		Total Load				
	L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360		L/480	L/360					
14'			139			139			139			181			193			165	14'
15'			130			130			130			169			180			155	15'
16'			122			122			122			159			169			145	16'
17'			115			115			115			150			159			137	17'
18'	105		109			109			109			141			150			129	18'
19'	90		103	98		103			103			134			143			122	19'
20'	78		98	86		98			98	126		127			136			116	20'
21'	68		89	76		93	86		93	110		121	122		129			111	21'
22'	60	80	81	67		89	76		89	97		116	107		123			106	22'
23'	53	71	74	59	79	85	67		85	86		111	95		118	101		101	23'
24'	47	63	68	53	71	82	59	79	82	76	102	106	84	112	113	90		97	24'
25'	42	56	63	47	63	78	53	71	79	68	91	102	75	100	109	80		93	25'
26'	37	50	58	42	57	75	47	63	76	61	82	98	67	89	104	72		90	26'
27'	33	45	54	38	51	70	42	57	73	55	73	95	60	80	101	65		86	27'
28'	30	40	50	35	46	65	38	51	70	49	66	91	54	72	97	58	78	83	28'
29'	27	36	47	31	42	61	35	46	68	45	60	88	49	65	94	53	71	80	29'
30'	25	33	44	28	38	57	31	42	63	41	54	82	44	59	89	48	64	78	30'
31'	22	30	41	26	35	52	28	38	57	37	49	74	40	54	81	44	58	75	31'
32'	20	27	38	24	32	48	26	35	52	34	45	68	37	49	74	40	53	73	32'
33'	19	25	36	22	29	44	24	32	48	31	41	62	34	45	68	37	49	71	33'
34'	17	23	34	20	27	40	22	29	44	28	38	57	31	41	62	33	45	67	34'

DESIGN ASSUMPTIONS:

1. Span is the clear distance between supports and is valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The values in the tables are for uniform loads only.
3. Total Load is for normal (100%) duration.
4. These tables do not reflect any additional stiffness provided by the floor sheathing.
5. Live Load deflection is limited to L/360 or L/480 as noted in the table.
6. Total Load deflection is limited to L/240. Long term deflection (creep) has not been considered.
7. These tables assume full lateral support of the compression flange (maximum unbraced length of 24")
8. These tables are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{\perp} = 425$ psi).

ADDITIONAL NOTES:

1. The allowable loads represent the capacity of the joist in pounds per lineal foot (plf) of length.
2. The designer shall check both the Total Load and the appropriate Live Load column.
3. To design a double I-joist, the values in these tables can be doubled, or the design loads on the I-joist may be halved to verify the capacity of each ply. The capacity is additive. See Double I-joist Connection detail on page 25.
4. Web stiffeners are not required for these spans and loads.
5. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
6. Where the Live Load is blank, the Total Load governs the design.
7. Do not use a product where designated "-" without further analysis by a design professional.

PSF TO PLF CONVERSION

OC Spacing	Load									
	20 psf	25 psf	30 psf	35 psf	40 psf	45 psf	50 psf	55 psf	60 psf	65 psf
12"	20	25	30	35	40	45	50	55	60	65
16"	27	34	40	47	54	60	67	74	80	87
19.2"	32	40	48	56	64	72	80	88	96	104
24"	40	50	60	70	80	90	100	110	120	130

Uniform Roof Load (PLF) Tables: 9-1/2" and 11-7/8"

TO USE:

- Select the span required. For roofs with a pitch of 2:12 or greater, the horizontal span shall be multiplied by the appropriate roof pitch adjustment factor from the table at the bottom of this page.
- Compare the design total load to the appropriate Total Load column for Snow (115%) or Non-Snow (125%).
- Compare the design live load to the Live Load column (L/240). For live load deflection limits of L/480 or L/360, compare the design live load to the appropriate Live Load column from the Uniform Floor Load Tables on pages 8 and 9.
- Select a product that exceeds both the design total and live loads.

EXAMPLE:

Select an I-joist for a 12'-8" horizontal clear span supporting 45 psf Snow (Live) Load and 15 psf Dead Load, spaced 24" oc, with a roof slope of 6:12, at an L/240 deflection limit.

- Sloped Span = $(12 + 8 / 12) * 1.118 = 14.16'$ → use 15'
- Design Total Load = $(45 + 15) * (24 / 12) = 120$ plf
Design Live Load = $45 * (24 / 12) = 90$ plf
- Select the row corresponding to a 15' span.
- Select the first I-joist to exceed both Total Load for Snow (115%) and L/240:

The 9-1/2" LPI 32Plus supports 132 plf Total Load (Snow 115%) and 127 plf Live Load at L/240

Span	9-1/2" LPI 18			9-1/2" LPI 20Plus			9-1/2" LPI 32Plus			9-1/2" LPI 42Plus			Span
	Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		
		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%	
8'		219	238		243	264		243	264		299	326	8'
9'		195	212		217	236		217	236		267	290	9'
10'		176	191		196	213		196	213		241	262	10'
11'		160	174		178	194		178	194		219	238	11'
12'	157	145	158		164	178		164	178		201	219	12'
13'	125	124	135	159	147	160		151	165		186	202	13'
14'	102	107	116	130	127	138	152	141	153		173	188	14'
15'	84	93	102	107	111	121	127	132	143		162	176	15'
16'	70	82	89	89	98	106	107	123	134	149	152	165	16'
17'	59	73	78	75	87	94	91	112	121	126	143	155	17'
18'	50	65	66	64	77	84	78	100	104	108	135	144	18'
19'	42	57	57	55	69	73	67	90	90	92	123	123	19'
20'	36	49	49	47	63	63	58	78	78	80	107	107	20'
21'	32	42	42	41	55	55	51	68	68	70	93	93	21'
22'	28	37	37	36	48	48	45	60	60	61	81	81	22'
23'	24	32	32	31	42	42	39	53	53	54	72	72	23'
24'	21	29	29	28	37	37	35	47	47	47	63	63	24'
25'	19	25	25	24	33	33	31	41	41	42	56	56	25'
26'	17	22	22	22	29	29	28	37	37	37	50	50	26'
27'	15	20	20	19	26	26	25	33	33	34	45	45	27'
28'	13	18	18	17	23	23	22	30	30	30	40	40	28'

Span	11-7/8" LPI 18			11-7/8" LPI 20Plus			11-7/8" LPI 32Plus			11-7/8" LPI 36			11-7/8" LPI 42Plus			11-7/8" LPI 52Plus			11-7/8" LPI 56			Span
	Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		
		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%	
8'		232	252		258	281		258	281		277	301		335	364		379	412		327	356	8'
9'		207	225		230	250		230	250		247	269		299	325		338	368		292	318	9'
10'		187	203		208	226		208	226		223	242		270	293		305	332		264	287	10'
11'		170	185		189	206		189	206		203	221		246	267		278	302		240	261	11'
12'		156	170		174	189		174	189		187	203		226	246		255	278		221	240	12'
13'		145	157		161	175		161	175		173	188		209	227		236	257		204	222	13'
14'		134	146		149	163		149	163		160	174		194	211		220	239		190	206	14'
15'		123	133		140	152		140	152		150	163		181	197		205	223		177	193	15'
16'		108	117		131	142		131	143		141	153		170	185		193	209		166	181	16'
17'	100	96	104	126	116	126		123	134		133	144		160	174		181	197		157	170	17'
18'	85	85	93	107	104	113	125	117	127		125	136		152	165		172	186		148	161	18'
19'	73	77	83	92	93	101	108	111	120	122	119	129	153	144	156	170	163	177		140	153	19'
20'	63	69	75	80	84	91	94	105	114	105	113	123	133	137	149	147	155	168		133	145	20'
21'	55	63	68	69	76	83	82	95	104	92	108	117	116	130	142	128	147	160		127	138	21'
22'	48	57	62	61	69	76	73	87	95	81	103	108	102	124	135	113	141	150	123	121	132	22'
23'	42	52	56	53	64	69	64	80	86	71	95	95	90	118	120	99	132	132	108	116	126	23'
24'	37	48	50	47	58	63	57	73	76	63	84	84	79	106	106	88	117	117	96	111	121	24'
25'	33	44	44	42	54	56	51	67	68	56	75	75	71	94	94	78	104	104	86	107	114	25'
26'	29	39	39	37	50	50	45	61	61	50	67	67	63	84	84	70	93	93	76	102	102	26'
27'	26	35	35	33	45	45	41	55	55	45	60	60	57	76	76	63	84	84	69	92	92	27'
28'	23	31	31	30	40	40	37	49	49	40	54	54	51	68	68	56	75	75	62	83	83	28'

DESIGN ASSUMPTIONS:

- Span is the clear distance between supports, along the sloped length of the joist, for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
- The values in the tables are for uniform loads only and represent the design gravity loads, unadjusted for roof pitch. Wind uplift has not been considered.
- Total Load is for Snow (115%) or Non-Snow (125%) duration as noted.
- These tables do not reflect any additional stiffness provided by the roof sheathing.
- Total Load deflection is limited to L/180. Long term deflection (creep) has not been considered.
- These tables assume full lateral support of the compression flange (maximum unbraced length of 24").
- These tables are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

- The allowable loads represent the capacity of the joist in pounds per lineal foot (plf) of length.
- The designer shall check the appropriate Total Load and the Live Load column.
- For roofs with a pitch of 2:12 or greater, the horizontal span shall be multiplied by the appropriate adjustment factor from the table at the bottom of this page.
- To design a double I-Joist, the values in these tables can be doubled, or the design loads on the I-Joist may be halved to verify the capacity of each ply. The capacity is additive. See Double I-Joist Connection detail on page 25.
- Web stiffeners are not required for these spans and loads.
- Web fillers are required for I-Joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
- Where the Live Load is blank, the Total Load governs the design.
- Where the Total Load for Snow and Non-Snow is the same, the design is controlled either by bearing on the SPF wall plate or by L/180 total load deflection. No increase for load duration is allowed in either case.
- To design for a live load deflection limit of L/480 or L/360, use the Uniform Floor Load tables.

ROOF PITCH ADJUSTMENT FACTORS											
Roof Pitch	2:12	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
Factor	1.014	1.031	1.054	1.083	1.118	1.158	1.202	1.250	1.302	1.357	1.414

Uniform Roof Load (PLF) Tables: 14" and 16"

TO USE:

- Select the span required. For roofs with a pitch of 2:12 or greater, the horizontal span shall be multiplied by the appropriate roof pitch adjustment factor from the table at the bottom of this page.
- Compare the design total load to the appropriate Total Load column for Snow (115%) or Non-Snow (125%).
- Compare the design live load to the Live Load column (L/240). For live load deflection limits of L/480 or L/360, compare the design live load to the appropriate Live Load column from the Uniform Floor Load Tables on pages 8 and 9.
- Select a product that exceeds both the design total and live loads.

EXAMPLE:

Select an I-joist for a 23'-3" horizontal clear span supporting 45 psf Snow (Live) Load and 15 psf Dead Load, spaced 24" oc, with a roof slope of 6:12, at an L/240 deflection limit.

- Sloped Span = $(23 + 3 / 12) * 1.118 = 25.99'$ → use 26'
- Design Total Load = $(45 + 15) * (24 / 12) = 120$ plf
Design Live Load = $45 * (24 / 12) = 90$ plf
- Select the row corresponding to a 26' span.
- Select the first I-joist to exceed both Total Load for Snow (115%) and L/240:

The 14" LPI 52Plus supports 120 plf Total Load (Snow 115%) and 100 plf Live Load at L/240

Span	14" LPI 18			14" LPI 20Plus			14" LPI 32Plus			14" LPI 36			14" LPI 42Plus			14" LPI 52Plus			14" LPI 56			Span
	Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		
		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%	
14'		141	154		158	171		158	171		160	174		202	219		221	240		190	207	14'
15'		132	144		147	160		147	160		150	163		188	205		206	224		178	193	15'
16'		124	135		138	150		138	150		141	153		177	192		193	210		167	181	16'
17'		115	125		130	141		130	141		133	144		167	181		182	198		157	171	17'
18'		103	112		121	132		123	134		125	136		157	171		172	187		148	161	18'
19'		92	100		109	119		117	127		119	129		149	162		163	178		141	153	19'
20'		83	90		99	107		111	120		113	123		142	154		155	169		134	145	20'
21'	81	76	82		89	97		106	115		108	117		135	147		148	161		127	139	21'
22'	71	69	75		81	89	102	101	110		103	112		129	140		141	154		122	132	22'
23'	62	63	69	78	75	81	91	96	104	101	98	107	129	124	134	142	135	147		116	127	23'
24'	55	58	63	69	69	75	81	88	96	90	94	102	115	118	129	126	130	141		112	121	24'
25'	49	53	58	62	63	69	72	81	88	80	90	98	102	114	124	112	124	135		107	117	25'
26'	44	49	54	55	58	64	65	75	82	72	87	95	91	109	119	100	120	130	109	103	112	26'
27'	39	46	50	49	54	59	58	70	76	64	84	86	82	104	110	90	115	120	98	99	108	27'
28'	35	42	46	44	50	55	53	65	70	58	77	77	74	96	99	81	108	108	88	96	104	28'
29'	32	40	42	40	47	51	48	60	64	52	70	70	67	89	89	73	98	98	80	92	101	29'
30'	29	37	38	36	44	48	43	56	58	47	63	63	61	81	81	67	89	89	73	89	97	30'
31'	26	35	35	33	41	44	39	53	53	43	57	57	55	74	74	61	81	81	66	87	88	31'
32'	24	32	32	30	38	40	36	48	48	39	52	52	50	67	67	55	74	74	60	81	81	32'
33'	21	29	29	27	36	37	33	44	44	36	48	48	46	61	61	50	67	67	55	74	74	33'
34'	20	26	26	25	34	34	30	40	40	33	44	44	42	56	56	46	62	62	51	68	68	34'

Span	16" LPI 20Plus			16" LPI 32Plus			16" LPI 36			16" LPI 42Plus			16" LPI 52Plus			16" LPI 56			Span	
	Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load		Live Load L/240	Total Load			
		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%	Non-Snow 125%		Snow 115%
14'		160	174		160	174		160	174		208	227		222	241		190	207		14'
15'		149	162		149	162		150	163		195	212		207	225		178	193		15'
16'		140	152		140	152		141	153		183	199		194	211		167	181		16'
17'		132	144		132	144		133	144		172	187		183	199		157	171		17'
18'		125	136		125	136		125	136		163	177		173	188		149	162		18'
19'		118	129		118	129		119	129		154	168		164	178		141	153		19'
20'		113	122		113	122		113	123		147	159		156	170		134	146		20'
21'		103	112		107	117		108	117		140	152		149	162		128	139		21'
22'		94	102		102	111		103	112		133	145		142	154		122	133		22'
23'		86	93		98	107		98	107		128	139		136	148		117	127		23'
24'		79	86		94	102		94	102		122	133		130	142		112	122		24'
25'		73	79	95	90	98		90	98		118	128		125	136		107	117		25'
26'		67	73	85	87	94		87	95	123	113	123		120	131		103	112		26'
27'	67	62	68	77	81	88	85	84	91	110	109	118	121	116	126		99	108		27'
28'	61	58	63	70	75	82	77	81	88	99	105	114	109	112	121		96	104		28'
29'	55	54	59	63	70	76	70	78	85	90	101	110	98	108	117		93	101		29'
30'	50	50	55	57	65	71	63	75	82	82	97	106	89	104	113	97	90	97		30'
31'	45	47	51	52	61	67	57	73	77	74	91	99	81	101	109	88	87	94		31'
32'	41	44	48	48	58	63	52	70	70	68	86	91	74	98	99	80	84	91		32'
33'	38	42	45	44	54	59	48	64	64	62	81	83	68	91	91	74	81	89		33'
34'	34	39	43	40	51	54	44	59	59	57	76	76	62	83	83	67	79	86		34'

DESIGN ASSUMPTIONS:

- Span is the clear distance between supports, along the sloped length of the joist, for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
- The values in the tables are for uniform loads only and represent the design gravity loads, unadjusted for roof pitch. Wind uplift has not been considered.
- Total Load is for Snow (115%) or Non-Snow (125%) duration as noted.
- These tables do not reflect any additional stiffness provided by the roof sheathing.
- Total Load deflection is limited to L/180. Long term deflection (creep) has not been considered.
- These tables assume full lateral support of the compression flange (maximum unbraced length of 24").
- These tables are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

- The allowable loads represent the capacity of the joist in pounds per lineal foot (plf) of length.
- The designer shall check the appropriate Total Load and the Live Load column.
- For roofs with a pitch of 2:12 or greater, the horizontal span shall be multiplied by the appropriate adjustment factor from the table at the bottom of this page.
- To design a double I-Joist, the values in these tables can be doubled, or the design loads on the I-joist may be halved to verify the capacity of each ply. The capacity is additive. See Double I-Joist Connection detail on page 25.
- Web stiffeners are not required for these spans and loads.
- Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
- Where the Live Load is blank, the Total Load governs the design.
- Where the Total Load for Snow and Non-Snow is the same, the design is controlled either by bearing on the SPF wall plate or by L/180 total load deflection. No increase for load duration is allowed in either case.
- To design for a live load deflection limit of L/480 or L/360, use the Uniform Floor Load tables.

ROOF PITCH ADJUSTMENT FACTORS											
Roof Pitch	2:12	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
Factor	1.014	1.031	1.054	1.083	1.118	1.158	1.202	1.250	1.302	1.357	1.414

Roof Span Tables: Low Pitch (6:12 or less) for 20, 25 and 30 psf Load

TO USE:

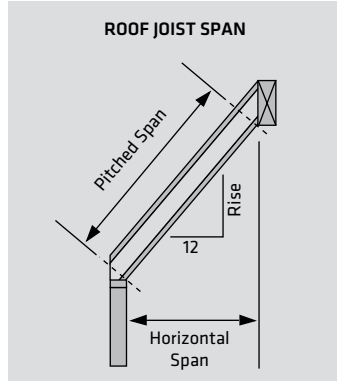
1. Select the appropriate set of tables based on roof pitch.
2. Select the section of that table that corresponds to the design roof live load (snow or non-snow).
3. Find a span that meets or exceeds the design span for the appropriate roof dead load (15 psf or 20 psf).
4. Read the corresponding series, depth and spacing.

DESIGN ASSUMPTIONS:

1. The spans listed are the horizontal clear distance between supports and are valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform gravity loads only as listed for each table, including the effects of a 300 lb concentrated load. These spans have not been evaluated for wind.
3. These tables do not reflect any additional stiffness provided by the roof sheathing.
4. Live load deflection is limited to L/240.
5. Total load deflection is limited to L/180.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. Web stiffeners are not required for the Roof Span tables except when using a "bird's mouth" detail for the low-end bearing. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
2. L/240 represents the maximum deflection allowed per code for roof joists supporting non-plaster ceilings. Verify deflection limits with local code requirements.
3. Roof joists shall have a minimum pitch of 1/4" per foot (1/4:12) for positive drainage.
4. Roof applications in high wind areas require special analysis which may reduce spans and may require bracing of the bottom flange and special connectors to resist uplift.
5. For conditions not shown, use the Uniform Roof Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.



ACTUAL DEFLECTION BASED ON SPAN AND LIMIT			
Span (ft)	L/360	L/240	L/180
10'	5/16"	1/2"	11/16"
12'	3/8"	5/8"	13/16"
14'	7/16"	11/16"	15/16"
16'	9/16"	13/16"	1-1/16"
18'	5/8"	7/8"	1-3/16"
20'	11/16"	1"	1-5/16"
22'	3/4"	1-1/8"	1-7/16"
24'	13/16"	1-3/16"	1-5/8"
26'	7/8"	1-5/16"	1-3/4"
28'	15/16"	1-3/8"	1-7/8"
30'	1"	1-1/2"	2"

* Deflections rounded to the nearest 1/16"

Series	Depth	16" oc		19.2" oc		24" oc	
		15 psf	20 psf	15 psf	20 psf	15 psf	20 psf
Roof Dead Load →							
LPI 18	9-1/2"	19'-4"	18'-5"	18'-2"	17'-3"	16'-9"	15'-9"
	11-7/8"	23'-4"	22'-2"	21'-9"	20'-3"	19'-5"	18'-1"
	14"	26'-2"	24'-5"	23'-11"	22'-3"	21'-4"	19'-10"
LPI 20Plus	9-1/2"	21'-1"	20'-1"	19'-10"	18'-10"	18'-4"	17'-3"
	11-7/8"	25'-4"	24'-1"	23'-9"	22'-4"	21'-5"	19'-11"
	14"	28'-6"	26'-6"	26'-0"	24'-2"	23'-3"	21'-7"
LPI 32Plus	9-1/2"	22'-10"	21'-9"	21'-5"	20'-4"	19'-9"	18'-10"
	11-7/8"	27'-2"	25'-10"	25'-6"	24'-3"	23'-7"	22'-4"
	14"	30'-10"	29'-4"	28'-11"	27'-5"	26'-4"	24'-6"
LPI 36	11-7/8"	28'-0"	26'-8"	26'-3"	25'-0"	24'-4"	23'-2"
	14"	31'-8"	30'-2"	29'-9"	28'-4"	27'-7"	26'-3"
	16"	35'-0"	33'-4"	32'-10"	31'-4"	30'-5"	28'-5"
LPI 42Plus	9-1/2"	25'-4"	24'-2"	23'-10"	22'-8"	22'-0"	21'-0"
	11-7/8"	30'-4"	28'-11"	28'-6"	27'-2"	26'-5"	25'-1"
	14"	34'-6"	32'-10"	32'-5"	30'-10"	30'-0"	28'-7"
LPI 52Plus	11-7/8"	31'-4"	29'-11"	29'-6"	28'-1"	27'-3"	26'-0"
	14"	35'-7"	33'-11"	33'-5"	31'-10"	31'-0"	29'-6"
	16"	39'-5"	37'-7"	37'-0"	35'-3"	34'-3"	32'-8"
LPI 56	11-7/8"	32'-5"	30'-11"	30'-6"	29'-0"	28'-2"	26'-10"
	14"	36'-9"	35'-0"	34'-6"	32'-10"	31'-11"	30'-5"
	16"	40'-7"	38'-8"	38'-2"	36'-4"	35'-4"	33'-11"
LPI 18	9-1/2"	18'-6"	17'-8"	17'-4"	16'-7"	15'-11"	14'-11"
	11-7/8"	22'-4"	21'-0"	20'-5"	19'-2"	18'-3"	17'-1"
	14"	24'-7"	23'-1"	22'-5"	21'-0"	20'-0"	18'-9"
LPI 20Plus	9-1/2"	20'-2"	19'-4"	18'-11"	18'-2"	17'-4"	16'-3"
	11-7/8"	24'-3"	23'-2"	22'-6"	21'-1"	20'-1"	18'-10"
	14"	26'-9"	25'-1"	24'-4"	22'-11"	21'-9"	20'-5"
LPI 32Plus	9-1/2"	21'-10"	20'-11"	20'-6"	19'-7"	18'-11"	18'-1"
	11-7/8"	26'-0"	24'-10"	24'-4"	23'-4"	22'-5"	21'-1"
	14"	29'-6"	28'-2"	27'-8"	25'-11"	24'-8"	23'-2"
LPI 36	11-7/8"	26'-9"	25'-7"	25'-1"	24'-1"	23'-3"	22'-3"
	14"	30'-4"	29'-0"	28'-6"	27'-3"	26'-4"	25'-3"
	16"	33'-6"	32'-1"	31'-6"	30'-1"	28'-5"	25'-3"
LPI 42Plus	9-1/2"	24'-3"	23'-3"	22'-9"	21'-10"	21'-1"	20'-2"
	11-7/8"	29'-0"	27'-10"	27'-3"	26'-1"	25'-3"	24'-2"
	14"	33'-0"	31'-8"	31'-0"	29'-8"	28'-8"	27'-6"
LPI 52Plus	11-7/8"	36'-8"	35'-1"	34'-5"	32'-11"	31'-10"	30'-6"
	14"	37'-9"	36'-2"	35'-5"	33'-11"	32'-10"	31'-5"
	16"	39'-9"	38'-9"	37'-9"	36'-6"	34'-11"	33'-5"
LPI 56	11-7/8"	31'-1"	29'-9"	29'-2"	27'-11"	27'-0"	25'-10"
	14"	35'-2"	33'-8"	33'-0"	31'-7"	30'-7"	28'-5"
	16"	38'-10"	37'-2"	36'-6"	34'-11"	32'-4"	28'-6"
LPI 18	9-1/2"	17'-9"	17'-1"	16'-8"	15'-11"	15'-0"	14'-2"
	11-7/8"	21'-2"	20'-0"	19'-3"	18'-3"	17'-3"	16'-3"
	14"	23'-2"	21'-11"	21'-2"	20'-0"	18'-11"	17'-10"
LPI 20Plus	9-1/2"	19'-5"	18'-8"	18'-3"	17'-4"	16'-5"	15'-6"
	11-7/8"	23'-3"	22'-0"	21'-3"	20'-1"	19'-0"	17'-11"
	14"	25'-3"	23'-10"	23'-0"	21'-9"	20'-7"	19'-5"
LPI 32Plus	11-7/8"	27'-1"	25'-7"	24'-8"	23'-4"	22'-1"	20'-10"
	14"	27'-1"	25'-7"	24'-8"	23'-4"	22'-1"	20'-10"
	16"	30'-10"	29'-2"	28'-2"	26'-7"	24'-3"	21'-7"
LPI 36	11-7/8"	25'-9"	24'-9"	24'-2"	23'-3"	22'-4"	21'-6"
	14"	29'-2"	28'-1"	27'-5"	26'-4"	25'-3"	22'-8"
	16"	32'-3"	31'-0"	30'-3"	28'-5"	25'-3"	22'-8"
LPI 42Plus	9-1/2"	23'-4"	22'-5"	21'-11"	21'-1"	20'-3"	19'-6"
	11-7/8"	27'-11"	26'-10"	26'-3"	25'-2"	24'-3"	23'-4"
	14"	31'-9"	30'-7"	29'-10"	28'-8"	27'-7"	26'-6"
LPI 52Plus	11-7/8"	35'-3"	33'-11"	33'-1"	31'-10"	30'-8"	29'-0"
	14"	35'-3"	33'-11"	33'-1"	31'-10"	30'-8"	29'-0"
	16"	38'-11"	37'-9"	37'-1"	35'-11"	34'-2"	31'-4"
LPI 56	11-7/8"	29'-10"	28'-9"	28'-0"	26'-11"	25'-11"	24'-11"
	14"	33'-10"	32'-6"	31'-9"	30'-9"	28'-10"	25'-8"
	16"	37'-4"	35'-11"	35'-1"	32'-3"	28'-10"	25'-9"

Roof Span Tables: Low Pitch (6:12 or less) for 40, 50 and 60 psf Load

TO USE:

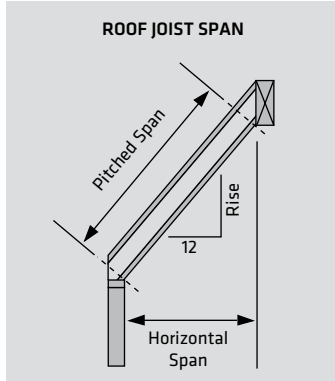
1. Select the appropriate set of tables based on roof pitch.
2. Select the section of that table that corresponds to the design roof live load (snow or non-snow).
3. Find a span that meets or exceeds the design span for the appropriate roof dead load (15 psf or 20 psf).
4. Read the corresponding series, depth and spacing.

DESIGN ASSUMPTIONS:

1. The spans listed are the horizontal clear distance between supports and are valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform gravity loads only as listed for each table, including the effects of a 300 lb concentrated load. These spans have not been evaluated for wind.
3. These tables do not reflect any additional stiffness provided by the roof sheathing.
4. Live load deflection is limited to L/240.
5. Total load deflection is limited to L/180.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. Web stiffeners are not required for the Roof Span tables except when using a "bird's mouth" detail for the low-end bearing. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
2. L/240 represents the maximum deflection allowed per code for roof joists supporting non-plaster ceilings. Verify deflection limits with local code requirements.
3. Roof joists shall have a minimum pitch of 1/4" per foot (1/4:12) for positive drainage.
4. Roof applications in high wind areas require special analysis which may reduce spans and may require bracing of the bottom flange and special connectors to resist uplift.
5. For conditions not shown, use the Uniform Roof Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.



ACTUAL DEFLECTION BASED ON SPAN AND LIMIT			
Span (ft)	L/360	L/240	L/180
10'	5/16"	1/2"	11/16"
12'	3/8"	5/8"	13/16"
14'	7/16"	11/16"	15/16"
16'	9/16"	13/16"	1-1/16"
18'	5/8"	7/8"	1-3/16"
20'	11/16"	1"	1-5/16"
22'	3/4"	1-1/8"	1-7/16"
24'	13/16"	1-3/16"	1-5/8"
26'	7/8"	1-5/16"	1-3/4"
28'	15/16"	1-3/8"	1-7/8"
30'	1"	1-1/2"	2"

* Deflections rounded to the nearest 1/16"

	Series	Depth	16" oc		19.2" oc		24" oc			
			Roof Dead Load →		15 psf	20 psf	15 psf	20 psf	15 psf	20 psf
			15 psf	20 psf	15 psf	20 psf	15 psf	20 psf		
40 psf 115% Snow	LPI 18	9-1/2"	16'-7"	15'-11"	15'-3"	14'-6"	13'-7"	13'-0"		
		11-7/8"	19'-2"	18'-3"	17'-6"	16'-8"	15'-7"	14'-11"		
		14"	21'-0"	20'-1"	19'-2"	18'-3"	17'-1"	16'-2"		
	LPI 20Plus	9-1/2"	18'-2"	17'-5"	16'-8"	15'-10"	14'-10"	14'-2"		
		11-7/8"	21'-2"	20'-2"	19'-3"	18'-4"	17'-2"	16'-5"		
		14"	22'-11"	21'-10"	20'-10"	19'-11"	18'-8"	17'-9"		
	LPI 32Plus	9-1/2"	19'-7"	18'-11"	18'-4"	17'-9"	16'-11"	16'-1"		
		11-7/8"	23'-4"	22'-6"	21'-7"	20'-7"	19'-2"	17'-6"		
		14"	25'-11"	24'-9"	23'-8"	22'-7"	19'-10"	18'-0"		
	LPI 36	11-7/8"	24'-1"	23'-3"	22'-7"	21'-10"	20'-7"	18'-10"		
		14"	27'-3"	26'-5"	25'-7"	23'-8"	20'-7"	18'-10"		
		16"	30'-2"	28'-5"	25'-10"	23'-8"	20'-7"	18'-10"		
	LPI 42Plus	9-1/2"	21'-10"	21'-1"	20'-6"	19'-10"	18'-11"	18'-4"		
		11-7/8"	26'-1"	25'-3"	24'-6"	23'-9"	22'-8"	21'-11"		
		14"	29'-8"	28'-9"	27'-11"	27'-0"	25'-9"	23'-9"		
	LPI 52Plus	11-7/8"	27'-0"	26'-2"	25'-4"	24'-7"	23'-6"	22'-8"		
		14"	30'-8"	29'-8"	28'-9"	27'-10"	26'-8"	25'-9"		
		16"	33'-11"	32'-10"	31'-11"	30'-10"	28'-6"	26'-1"		
	LPI 56	11-7/8"	27'-11"	27'-0"	26'-2"	25'-4"	23'-8"	21'-6"		
		14"	31'-8"	30'-7"	29'-8"	27'-0"	23'-8"	21'-6"		
		16"	34'-11"	32'-6"	29'-9"	27'-0"	23'-9"	21'-7"		
	50 psf 115% Snow	LPI 18	9-1/2"	15'-5"	14'-9"	14'-0"	13'-6"	12'-6"	12'-0"	
			11-7/8"	17'-8"	16'-11"	16'-1"	15'-5"	14'-5"	13'-5"	
			14"	19'-4"	18'-7"	17'-8"	16'-11"	15'-1"	13'-10"	
LPI 20Plus		9-1/2"	16'-10"	16'-2"	15'-4"	14'-8"	13'-8"	13'-2"		
		11-7/8"	19'-6"	18'-8"	17'-9"	17'-0"	15'-10"	15'-0"		
		14"	21'-1"	20'-3"	19'-3"	18'-6"	16'-10"	15'-9"		
LPI 32Plus		9-1/2"	18'-6"	17'-11"	17'-3"	16'-9"	15'-2"	14'-1"		
		11-7/8"	21'-9"	20'-11"	19'-10"	18'-10"	16'-2"	15'-0"		
		14"	23'-11"	23'-0"	21'-1"	19'-5"	16'-10"	15'-6"		
LPI 36		11-7/8"	22'-9"	22'-1"	21'-4"	20'-2"	17'-4"	16'-1"		
		14"	25'-9"	24'-4"	21'-9"	20'-2"	17'-4"	16'-1"		
		16"	26'-2"	24'-4"	21'-9"	20'-2"	17'-4"	16'-1"		
LPI 42Plus		9-1/2"	20'-7"	20'-0"	19'-4"	18'-10"	17'-10"	17'-4"		
		11-7/8"	24'-8"	24'-0"	23'-2"	22'-6"	21'-11"	20'-4"		
		14"	28'-1"	27'-4"	26'-4"	25'-6"	21'-11"	20'-4"		
LPI 52Plus		11-7/8"	25'-6"	24'-10"	24'-0"	23'-4"	22'-2"	21'-7"		
		14"	29'-0"	28'-2"	27'-3"	26'-6"	24'-0"	22'-3"		
		16"	32'-1"	31'-3"	30'-2"	28'-0"	24'-1"	22'-4"		
LPI 56		11-7/8"	26'-5"	25'-8"	24'-9"	23'-2"	20'-1"	18'-6"		
		14"	29'-11"	27'-11"	25'-2"	23'-3"	20'-1"	18'-6"		
		16"	30'-4"	28'-0"	25'-3"	23'-3"	20'-1"	18'-7"		
60 psf 115% Snow		LPI 18	9-1/2"	14'-4"	13'-10"	13'-1"	12'-7"	11'-8"	11'-0"	
			11-7/8"	16'-5"	15'-11"	15'-0"	14'-6"	12'-6"	11'-9"	
			14"	18'-1"	17'-5"	16'-5"	15'-3"	13'-1"	12'-2"	
	LPI 20Plus	9-1/2"	15'-8"	15'-1"	14'-3"	13'-9"	12'-9"	12'-3"		
		11-7/8"	18'-2"	17'-6"	16'-6"	15'-11"	13'-11"	13'-1"		
		14"	19'-8"	19'-0"	17'-11"	17'-0"	14'-7"	13'-7"		
	LPI 32Plus	9-1/2"	17'-4"	17'-1"	16'-2"	15'-5"	13'-2"	12'-3"		
		11-7/8"	20'-4"	19'-7"	17'-6"	16'-5"	13'-11"	13'-1"		
		14"	22'-0"	20'-6"	18'-3"	17'-0"	14'-7"	13'-7"		
	LPI 36	11-7/8"	21'-4"	21'-1"	18'-10"	17'-8"	15'-0"	14'-1"		
		14"	22'-8"	21'-3"	18'-10"	17'-8"	15'-0"	14'-1"		
		16"	22'-8"	21'-3"	18'-10"	17'-8"	15'-0"	14'-1"		
	LPI 42Plus	9-1/2"	19'-4"	19'-2"	18'-2"	17'-11"	16'-2"	15'-2"		
		11-7/8"	23'-2"	22'-11"	21'-9"	21'-9"	18'-3"	17'-1"		
		14"	26'-4"	26'-1"	23'-9"	22'-3"	18'-11"	17'-9"		
	LPI 52Plus	11-7/8"	29'-3"	27'-8"	24'-7"	23'-0"	19'-7"	18'-4"		
		14"	29'-3"	27'-8"	24'-7"	23'-0"	19'-7"	18'-4"		
		16"	30'-2"	29'-5"	26'-1"	24'-6"	20'-10"	19'-6"		
	LPI 56	11-7/8"	24'-9"	24'-5"	21'-10"	20'-4"	17'-5"	16'-2"		
		14"	26'-4"	24'-6"	21'-10"	20'-4"	17'-5"	16'-3"		
		16"	26'-4"	24'-6"	21'-11"	20'-5"	17'-6"	16'-3"		

Roof Span Tables: High Pitch (6:12 to 12:12) for 20, 25 and 30 psf Load

TO USE:

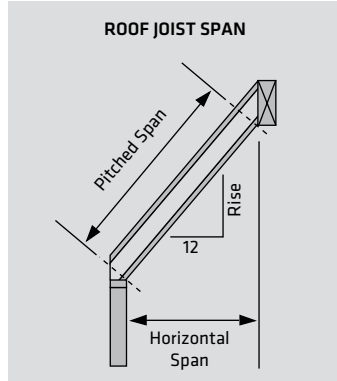
1. Select the appropriate set of tables based on roof pitch.
2. Select the section of that table that corresponds to the design roof live load (snow or non-snow).
3. Find a span that meets or exceeds the design span for the appropriate roof dead load (15 psf or 20 psf).
4. Read the corresponding series, depth and spacing.

DESIGN ASSUMPTIONS:

1. The spans listed are the horizontal clear distance between supports and are valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform gravity loads only as listed for each table, including the effects of a 300 lb concentrated load. These spans have not been evaluated for wind.
3. These tables do not reflect any additional stiffness provided by the roof sheathing.
4. Live load deflection is limited to L/240.
5. Total load deflection is limited to L/180.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. Web stiffeners are not required for the Roof Span tables except when using a "bird's mouth" detail for the low-end bearing. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
2. L/240 represents the maximum deflection allowed per code for roof joists supporting non-plaster ceilings. Verify deflection limits with local code requirements.
3. Roof joists shall have a minimum pitch of 1/4" per foot (1/4:12) for positive drainage.
4. Roof applications in high wind areas require special analysis which may reduce spans and may require bracing of the bottom flange and special connectors to resist uplift.
5. For conditions not shown, use the Uniform Roof Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.



ACTUAL DEFLECTION BASED ON SPAN AND LIMIT			
Span (ft)	L/360	L/240	L/180
10'	5/16"	1/2"	11/16"
12'	3/8"	5/8"	13/16"
14'	7/16"	11/16"	15/16"
16'	9/16"	13/16"	1-1/16"
18'	5/8"	7/8"	1-3/16"
20'	11/16"	1"	1-5/16"
22'	3/4"	1-1/8"	1-7/16"
24'	13/16"	1-3/16"	1-5/8"
26'	7/8"	1-5/16"	1-3/4"
28'	15/16"	1-3/8"	1-7/8"
30'	1"	1-1/2"	2"

* Deflections rounded to the nearest 1/16"

Series	Depth	16" oc		19.2" oc		24" oc	
		15 psf	20 psf	15 psf	20 psf	15 psf	20 psf
Roof Dead Load →							
LPI 18	9-1/2"	17'-3"	16'-4"	16'-2"	15'-4"	15'-0"	14'-2"
	14"	20'-10"	19'-8"	19'-7"	18'-6"	18'-1"	17'-0"
LPI 20Plus	9-1/2"	18'-10"	17'-10"	17'-8"	16'-9"	16'-5"	15'-6"
	11-7/8"	22'-7"	21'-5"	21'-3"	20'-1"	19'-8"	18'-7"
	14"	25'-10"	24'-6"	24'-3"	22'-8"	22'-0"	20'-3"
LPI 32Plus	9-1/2"	20'-5"	19'-4"	19'-2"	18'-2"	17'-9"	16'-9"
	11-7/8"	24'-4"	23'-0"	22'-10"	21'-7"	21'-1"	20'-0"
	14"	27'-7"	26'-1"	25'-11"	24'-6"	23'-11"	22'-8"
LPI 36	11-7/8"	25'-0"	23'-8"	23'-6"	22'-3"	21'-9"	20'-7"
	14"	28'-4"	26'-10"	26'-7"	25'-2"	24'-7"	23'-4"
	16"	31'-3"	29'-7"	29'-4"	27'-10"	27'-2"	25'-0"
LPI 42Plus	9-1/2"	22'-8"	21'-5"	21'-3"	20'-2"	19'-8"	18'-8"
	11-7/8"	27'-1"	25'-8"	25'-5"	24'-1"	23'-7"	22'-4"
	14"	30'-10"	29'-2"	28'-11"	27'-5"	26'-10"	25'-5"
LPI 52Plus	11-7/8"	28'-0"	26'-6"	26'-4"	24'-11"	24'-4"	23'-1"
	14"	31'-9"	30'-1"	29'-10"	28'-3"	27'-8"	26'-2"
	16"	35'-2"	33'-4"	33'-1"	31'-4"	30'-7"	29'-0"
LPI 56	11-7/8"	29'-0"	27'-5"	27'-3"	25'-9"	25'-2"	23'-10"
	14"	32'-10"	31'-1"	30'-10"	29'-2"	28'-7"	27'-0"
	16"	36'-3"	34'-4"	34'-1"	32'-3"	31'-6"	29'-9"
LPI 18	9-1/2"	16'-7"	15'-9"	15'-7"	14'-10"	14'-5"	13'-9"
	11-7/8"	20'-0"	19'-1"	18'-9"	17'-11"	17'-4"	16'-2"
	14"	22'-11"	21'-9"	21'-4"	19'-10"	19'-1"	17'-9"
LPI 20Plus	9-1/2"	18'-1"	17'-3"	17'-0"	16'-2"	15'-9"	15'-0"
	11-7/8"	21'-9"	20'-8"	20'-5"	19'-5"	18'-11"	17'-10"
	14"	24'-10"	23'-8"	23'-2"	21'-7"	20'-9"	19'-4"
LPI 32Plus	9-1/2"	19'-8"	18'-8"	18'-5"	17'-6"	17'-0"	16'-2"
	11-7/8"	23'-4"	22'-3"	21'-11"	20'-10"	20'-3"	19'-3"
	14"	26'-6"	25'-3"	24'-10"	23'-8"	23'-0"	21'-2"
LPI 36	11-7/8"	24'-0"	22'-10"	22'-7"	21'-6"	20'-11"	19'-11"
	14"	27'-2"	25'-11"	25'-7"	24'-4"	23'-8"	22'-5"
	16"	30'-1"	28'-7"	28'-3"	26'-11"	26'-1"	22'-7"
LPI 42Plus	9-1/2"	21'-9"	20'-9"	20'-5"	19'-6"	18'-11"	18'-0"
	11-7/8"	26'-1"	24'-10"	24'-6"	23'-4"	22'-8"	21'-7"
	14"	29'-8"	28'-3"	27'-10"	26'-6"	25'-9"	24'-6"
LPI 52Plus	11-7/8"	32'-10"	31'-4"	30'-11"	29'-5"	28'-7"	27'-3"
	14"	33'-10"	32'-3"	31'-9"	30'-3"	29'-5"	28'-0"
	16"	37'-10"	36'-6"	35'-9"	34'-3"	33'-5"	32'-1"
LPI 56	11-7/8"	27'-10"	26'-6"	26'-2"	24'-11"	24'-3"	23'-1"
	14"	31'-7"	30'-1"	29'-8"	28'-3"	27'-5"	25'-4"
	16"	34'-10"	33'-2"	32'-9"	31'-2"	29'-3"	25'-4"
LPI 18	9-1/2"	16'-0"	15'-4"	15'-0"	14'-5"	13'-11"	13'-4"
	11-7/8"	19'-4"	18'-6"	18'-2"	17'-3"	16'-6"	15'-5"
	14"	22'-1"	20'-9"	20'-3"	19'-0"	18'-1"	16'-11"
LPI 20Plus	9-1/2"	17'-6"	16'-9"	16'-5"	15'-8"	15'-2"	14'-6"
	11-7/8"	21'-0"	20'-1"	19'-8"	18'-10"	18'-2"	17'-0"
	14"	24'-0"	22'-8"	22'-0"	20'-8"	19'-8"	18'-5"
LPI 32Plus	9-1/2"	25'-11"	24'-3"	23'-7"	22'-1"	21'-1"	19'-5"
	11-7/8"	19'-0"	18'-1"	17'-9"	17'-0"	16'-5"	15'-8"
	14"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
LPI 36	11-7/8"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
	14"	25'-7"	24'-5"	24'-0"	22'-11"	22'-1"	19'-4"
	16"	28'-3"	27'-0"	26'-6"	24'-4"	22'-2"	19'-5"
LPI 42Plus	11-7/8"	23'-2"	22'-2"	21'-9"	20'-10"	20'-2"	19'-3"
	14"	26'-3"	25'-1"	24'-8"	23'-7"	22'-10"	20'-7"
	16"	29'-0"	27'-9"	27'-3"	25'-10"	23'-6"	20'-8"
LPI 52Plus	9-1/2"	21'-0"	20'-1"	19'-9"	18'-11"	18'-3"	17'-6"
	11-7/8"	25'-2"	24'-1"	23'-7"	22'-7"	21'-10"	20'-11"
	14"	28'-7"	27'-4"	26'-10"	25'-8"	24'-11"	23'-9"
LPI 56	11-7/8"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	14"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	16"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
LPI 18	9-1/2"	16'-0"	15'-4"	15'-0"	14'-5"	13'-11"	13'-4"
	11-7/8"	19'-4"	18'-6"	18'-2"	17'-3"	16'-6"	15'-5"
	14"	22'-1"	20'-9"	20'-3"	19'-0"	18'-1"	16'-11"
LPI 20Plus	9-1/2"	17'-6"	16'-9"	16'-5"	15'-8"	15'-2"	14'-6"
	11-7/8"	21'-0"	20'-1"	19'-8"	18'-10"	18'-2"	17'-0"
	14"	24'-0"	22'-8"	22'-0"	20'-8"	19'-8"	18'-5"
LPI 32Plus	9-1/2"	25'-11"	24'-3"	23'-7"	22'-1"	21'-1"	19'-5"
	11-7/8"	19'-0"	18'-1"	17'-9"	17'-0"	16'-5"	15'-8"
	14"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
LPI 36	11-7/8"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
	14"	25'-7"	24'-5"	24'-0"	22'-11"	22'-1"	19'-4"
	16"	28'-3"	27'-0"	26'-6"	24'-4"	22'-2"	19'-5"
LPI 42Plus	11-7/8"	23'-2"	22'-2"	21'-9"	20'-10"	20'-2"	19'-3"
	14"	26'-3"	25'-1"	24'-8"	23'-7"	22'-10"	20'-7"
	16"	29'-0"	27'-9"	27'-3"	25'-10"	23'-6"	20'-8"
LPI 52Plus	9-1/2"	21'-0"	20'-1"	19'-9"	18'-11"	18'-3"	17'-6"
	11-7/8"	25'-2"	24'-1"	23'-7"	22'-7"	21'-10"	20'-11"
	14"	28'-7"	27'-4"	26'-10"	25'-8"	24'-11"	23'-9"
LPI 56	11-7/8"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	14"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	16"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
LPI 18	9-1/2"	16'-0"	15'-4"	15'-0"	14'-5"	13'-11"	13'-4"
	11-7/8"	19'-4"	18'-6"	18'-2"	17'-3"	16'-6"	15'-5"
	14"	22'-1"	20'-9"	20'-3"	19'-0"	18'-1"	16'-11"
LPI 20Plus	9-1/2"	17'-6"	16'-9"	16'-5"	15'-8"	15'-2"	14'-6"
	11-7/8"	21'-0"	20'-1"	19'-8"	18'-10"	18'-2"	17'-0"
	14"	24'-0"	22'-8"	22'-0"	20'-8"	19'-8"	18'-5"
LPI 32Plus	9-1/2"	25'-11"	24'-3"	23'-7"	22'-1"	21'-1"	19'-5"
	11-7/8"	19'-0"	18'-1"	17'-9"	17'-0"	16'-5"	15'-8"
	14"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
LPI 36	11-7/8"	22'-7"	21'-7"	21'-2"	20'-3"	19'-7"	18'-8"
	14"	25'-7"	24'-5"	24'-0"	22'-11"	22'-1"	19'-4"
	16"	28'-3"	27'-0"	26'-6"	24'-4"	22'-2"	19'-5"
LPI 42Plus	11-7/8"	23'-2"	22'-2"	21'-9"	20'-10"	20'-2"	19'-3"
	14"	26'-3"	25'-1"	24'-8"	23'-7"	22'-10"	20'-7"
	16"	29'-0"	27'-9"	27'-3"	25'-10"	23'-6"	20'-8"
LPI 52Plus	9-1/2"	21'-0"	20'-1"	19'-9"	18'-11"	18'-3"	17'-6"
	11-7/8"	25'-2"	24'-1"	23'-7"	22'-7"	21'-10"	20'-11"
	14"	28'-7"	27'-4"	26'-10"	25'-8"	24'-11"	23'-9"
LPI 56	11-7/8"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	14"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"
	16"	31'-9"	30'-4"	29'-10"	28'-6"	27'-7"	26'-5"

Roof Span Tables: High Pitch (6:12 to 12:12) for 40, 50 and 60 psf Load

TO USE:

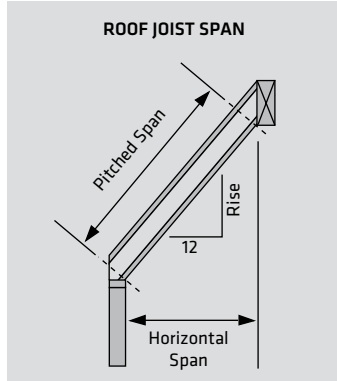
1. Select the appropriate set of tables based on roof pitch.
2. Select the section of that table that corresponds to the design roof live load (snow or non-snow).
3. Find a span that meets or exceeds the design span for the appropriate roof dead load (15 psf or 20 psf).
4. Read the corresponding series, depth and spacing.

DESIGN ASSUMPTIONS:

1. The spans listed are the horizontal clear distance between supports and are valid for simple or continuous span applications. Continuous spans are based on the longest span. The shortest span shall not be less than 50% of the longest span.
2. The spans are based on uniform gravity loads only as listed for each table, including the effects of a 300 lb concentrated load. These spans have not been evaluated for wind.
3. These tables do not reflect any additional stiffness provided by the roof sheathing.
4. Live load deflection is limited to L/240.
5. Total load deflection is limited to L/180.
6. The spans are based on an end bearing length of at least 1-3/4" and an interior bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. Web stiffeners are not required for the Roof Span tables except when using a "bird's mouth" detail for the low-end bearing. Web fillers are required for I-joists seated in hangers that do not laterally support the top flange or for hangers that require nailing into the web.
2. L/240 represents the maximum deflection allowed per code for roof joists supporting non-plaster ceilings. Verify deflection limits with local code requirements.
3. Roof joists shall have a minimum pitch of 1/4" per foot (1/4:12) for positive drainage.
4. Roof applications in high wind areas require special analysis which may reduce spans and may require bracing of the bottom flange and special connectors to resist uplift.
5. For conditions not shown, use the Uniform Roof Load (PLF) tables, LP's design software or contact your LP® SolidStart® Engineered Wood Products distributor for assistance.



ACTUAL DEFLECTION BASED ON SPAN AND LIMIT			
Span (ft)	L/360	L/240	L/180
10'	5/16"	1/2"	11/16"
12'	3/8"	5/8"	13/16"
14'	7/16"	11/16"	15/16"
16'	9/16"	13/16"	1-1/16"
18'	5/8"	7/8"	1-3/16"
20'	11/16"	1"	1-5/16"
22'	3/4"	1-1/8"	1-7/16"
24'	13/16"	1-3/16"	1-5/8"
26'	7/8"	1-5/16"	1-3/4"
28'	15/16"	1-3/8"	1-7/8"
30'	1"	1-1/2"	2"

* Deflections rounded to the nearest 1/16".

	Series	Depth	16" oc		19.2" oc		24" oc			
			Roof Dead Load →		15 psf	20 psf	15 psf	20 psf	15 psf	20 psf
40 psf 115% Snow	LPI 18	9-1/2"	15'-1"	14'-6"	14'-2"	13'-7"	13'-1"	12'-5"		
		11-7/8"	18'-2"	17'-6"	16'-10"	16'-0"	15'-1"	14'-3"		
		14"	20'-3"	19'-2"	18'-6"	17'-6"	16'-6"	14'-9"		
	LPI 20Plus	9-1/2"	16'-5"	15'-10"	15'-5"	14'-10"	14'-3"	13'-7"		
		11-7/8"	19'-9"	19'-0"	18'-6"	17'-7"	16'-7"	15'-8"		
		14"	22'-1"	20'-11"	20'-2"	19'-1"	18'-0"	16'-6"		
	LPI 32Plus	9-1/2"	17'-10"	17'-2"	16'-8"	16'-1"	15'-5"	14'-10"		
		11-7/8"	21'-2"	20'-5"	19'-10"	19'-1"	18'-4"	16'-5"		
		14"	24'-0"	23'-1"	22'-6"	20'-8"	18'-5"	16'-6"		
	LPI 36	11-7/8"	21'-10"	21'-0"	20'-6"	19'-8"	18'-11"	17'-6"		
		14"	24'-8"	23'-9"	23'-2"	22'-0"	19'-7"	17'-6"		
		16"	27'-3"	26'-3"	24'-7"	22'-1"	19'-8"	17'-7"		
	LPI 42Plus	9-1/2"	19'-9"	19'-0"	18'-7"	17'-10"	17'-2"	16'-6"		
		11-7/8"	23'-8"	22'-9"	22'-3"	21'-5"	20'-7"	19'-9"		
		14"	26'-11"	25'-11"	25'-3"	24'-4"	23'-5"	22'-2"		
	LPI 52Plus	11-7/8"	24'-5"	23'-7"	23'-0"	22'-1"	21'-3"	20'-6"		
		14"	27'-9"	26'-9"	26'-1"	25'-1"	24'-2"	23'-3"		
		16"	30'-9"	29'-7"	28'-10"	27'-10"	26'-9"	24'-4"		
	LPI 56	11-7/8"	25'-4"	24'-4"	23'-9"	22'-10"	21'-11"	19'-8"		
		14"	28'-8"	27'-7"	26'-11"	24'-8"	22'-0"	19'-8"		
		16"	31'-8"	29'-9"	27'-7"	24'-9"	22'-0"	19'-9"		
	50 psf 115% Snow	LPI 18	9-1/2"	14'-3"	13'-10"	13'-5"	13'-0"	12'-2"	11'-7"	
			11-7/8"	17'-2"	16'-4"	15'-7"	14'-11"	13'-11"	12'-9"	
			14"	18'-9"	17'-11"	17'-2"	16'-1"	14'-2"	12'-10"	
LPI 20Plus		9-1/2"	15'-7"	15'-1"	14'-8"	14'-2"	13'-3"	12'-8"		
		11-7/8"	18'-9"	18'-0"	17'-3"	16'-5"	15'-5"	14'-3"		
		14"	20'-5"	19'-6"	18'-8"	17'-9"	15'-9"	14'-4"		
LPI 32Plus		9-1/2"	16'-11"	16'-4"	15'-10"	15'-3"	14'-7"	14'-1"		
		11-7/8"	20'-1"	19'-5"	18'-10"	17'-11"	15'-9"	14'-3"		
		14"	22'-9"	21'-8"	19'-10"	18'-0"	15'-9"	14'-4"		
LPI 36		11-7/8"	20'-8"	20'-0"	19'-5"	18'-9"	16'-9"	15'-2"		
		14"	23'-5"	22'-8"	21'-1"	19'-1"	16'-9"	15'-3"		
		16"	25'-5"	23'-1"	21'-2"	19'-2"	16'-10"	15'-4"		
LPI 42Plus		9-1/2"	18'-9"	18'-2"	17'-7"	17'-0"	16'-3"	15'-9"		
		11-7/8"	22'-5"	21'-9"	21'-1"	20'-5"	19'-6"	18'-7"		
		14"	25'-6"	24'-9"	24'-0"	23'-2"	21'-3"	19'-3"		
LPI 52Plus		11-7/8"	23'-3"	22'-6"	21'-10"	21'-1"	20'-2"	19'-6"		
		14"	26'-4"	25'-6"	24'-9"	23'-11"	22'-10"	20'-9"		
		16"	29'-2"	28'-3"	27'-5"	26'-6"	23'-4"	21'-2"		
LPI 56		11-7/8"	24'-0"	23'-3"	22'-6"	21'-5"	18'-10"	17'-1"		
		14"	27'-2"	25'-10"	23'-8"	21'-6"	18'-10"	17'-2"		
		16"	28'-6"	25'-11"	23'-8"	21'-6"	18'-11"	17'-2"		
60 psf 115% Snow		LPI 18	9-1/2"	13'-8"	13'-3"	12'-9"	12'-3"	11'-5"	10'-11"	
			11-7/8"	16'-0"	15'-4"	14'-7"	14'-0"	12'-4"	11'-4"	
			14"	17'-7"	16'-10"	15'-6"	14'-3"	12'-4"	11'-4"	
	LPI 20Plus	9-1/2"	14'-11"	14'-6"	13'-11"	13'-4"	12'-5"	11'-11"		
		11-7/8"	17'-8"	16'-11"	16'-1"	15'-5"	13'-9"	12'-8"		
		14"	19'-2"	18'-4"	17'-4"	15'-11"	13'-10"	12'-8"		
	LPI 32Plus	9-1/2"	16'-1"	15'-8"	15'-1"	14'-8"	13'-8"	12'-7"		
		11-7/8"	19'-2"	18'-7"	17'-3"	15'-10"	13'-9"	12'-8"		
		14"	20'-10"	19'-2"	17'-4"	15'-11"	13'-10"	12'-8"		
	LPI 36	11-7/8"	19'-9"	19'-2"	18'-4"	16'-11"	14'-8"	13'-5"		
		14"	22'-2"	20'-4"	18'-5"	16'-11"	14'-8"	13'-6"		
		16"	22'-3"	20'-5"	18'-6"	17'-0"	14'-9"	13'-7"		
	LPI 42Plus	9-1/2"	17'-11"	17'-5"	16'-10"	16'-4"	15'-7"	15'-1"		
		11-7/8"	21'-5"	20'-10"	20'-2"	19'-7"	17'-11"	16'-5"		
		14"	24'-5"	23'-9"	22'-11"	21'-5"	18'-7"	17'-1"		
	LPI 52Plus	11-7/8"	22'-2"	21'-7"	20'-10"	20'-3"	19'-3"	18'-8"		
		14"	25'-2"	24'-6"	23'-8"	23'-0"	20'-0"	18'-5"		
		16"	27'-11"	27'-1"	25'-7"	23'-6"	20'-5"	18'-9"		
	LPI 56	11-7/8"	22'-11"	22'-3"	20'-8"	19'-0"	16'-6"	15'-2"		
		14"	24'-11"	22'-11"	20'-9"	19'-0"	16'-6"	15'-2"		
		16"	24'-11"	22'-11"	20'-9"	19'-1"	16'-7"	15'-2"		

Load-Bearing Cantilever Tables: 9-1/2"

TO USE:

1. Select the required product.
2. Select the row corresponding to the Roof Load and Truss Span needed.
3. Follow across the row to the required joist spacing.
4. The letter represents the required detail.

Roof Truss Span

2'-0"

2'-0"

C1 NO REINFORCEMENT REQUIRED

Min. APA Rated 23/32" OSB (or equal) closure, or as required by code

LPI Blocking*

As Designed

* LP® SolidStart® Rim Board, LVL or LSL may be substituted for the LPI Blocking

C1W WEB STIFFENER REQUIRED

Min. APA Rated 23/32" OSB (or equal) closure, or as required by code

Web Stiffener

LPI Blocking*

As Designed

* LP SolidStart Rim Board, LVL or LSL may be substituted for the LPI Blocking

Roof Load	Truss Span (ft)	9-1/2" LPI 18				9-1/2" LPI 20Plus				9-1/2" LPI 32Plus				9-1/2" LPI 42Plus				Truss Span (ft)	Roof Load
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"		
30 psf	22'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1	22'		
	24'	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1	24'		
	26'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	26'		
	28'	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	28'		
	30'	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	30'		
	32'	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	32'		
	34'	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	34'		
	36'	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	36'		
	38'	C1	C1	C2	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	38'		
	40'	C1	C1	C2	-	C1	C1	C2	C3	C1	C1	C2	C3	C1	C1	C1	40'		
42'	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C2	C3	C1	C1	C1	42'			
40 psf	22'	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	22'		
	24'	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	24'		
	26'	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	26'		
	28'	C1	C1	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	28'		
	30'	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C2	C3	C1	C1	C1	30'		
	32'	C1	C1W	C3	-	C1	C1	C2	C3	C1	C1	C2	C3	C1	C1	C2	32'		
	34'	C1	C2	C3	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C2	34'		
	36'	C1	C2	C3	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C2	36'		
	38'	C1	C2	C3	-	C1	C2	C3	-	C1	C2	C3	-	C1	C1	C2	38'		
	40'	C1	C2	-	-	C1	C2	C3	-	C1	C2	C3	-	C1	C1	C2	40'		
42'	C1W	C3	-	-	C1	C2	C3	-	C1	C2	C3	-	C1	C2	C3	42'			
50 psf	22'	C1	C1	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	22'		
	24'	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1W	C3	C1	C1	C1	24'		
	26'	C1	C2	C3	-	C1	C1	C2	C3	C1	C1	C1W	C3	C1	C1	C2	26'		
	28'	C1	C2	C3	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C2	28'		
	30'	C1	C2	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1	C2	30'		
	32'	C1	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1	C2	32'		
	34'	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C2	C3	34'		
	36'	C1W	C3	-	-	C1	C2	-	-	C1	C1W	C3	-	C1	C2	C2	36'		
	38'	C2	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	38'		
	40'	C2	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	40'		
42'	C2	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	42'			
60 psf	22'	C1	C2	C3	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C2	22'		
	24'	C1	C2	C3	-	C1	C2	C3	-	C1	C2	C3	-	C1	C1	C2	24'		
	26'	C1	C3	-	-	C1	C2	C3	-	C1	C2	C3	-	C1	C1	C2	26'		
	28'	C1W	C3	-	-	C1	C2	C3	-	C1	C2	C3	-	C1	C2	C2	28'		
	30'	C1W	C3	-	-	C1	C3	-	-	C1	C3	C3	-	C1	C2	C2	30'		
	32'	C2	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	32'		
	34'	C2	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	34'		
	36'	C2	-	-	-	C2	C3	-	-	C2	C3	-	-	C1	C2	C3	36'		
	38'	C3	-	-	-	C2	-	-	-	C2	C3	-	-	C1	C3	C3	38'		
	40'	C3	-	-	-	C2	-	-	-	C2	-	-	-	C2	C3	-	40'		
42'	C3	-	-	-	C3	-	-	-	C3	-	-	-	C2	C3	-	42'			

ROOF TRUSS SPAN WITH 2' OVERHANG

DESIGN ASSUMPTIONS:

1. These tables are valid for joists selected from the Floor Span Tables in this design guide.
2. The floor design loads shall not exceed 40 psf Live and 25 psf Dead Load.
3. The maximum cantilever length is 2' (the amount of overhang).
4. The wall weight is assumed to be 100 plf.
5. Roof Load is the Total Load (Live plus Dead) on the roof trusses.
6. Truss Span is the out-to-out distance of the truss bearing walls as shown above.
7. A maximum overhang of 2' is allowed for the trusses.
8. These tables assume a cantilever-end bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

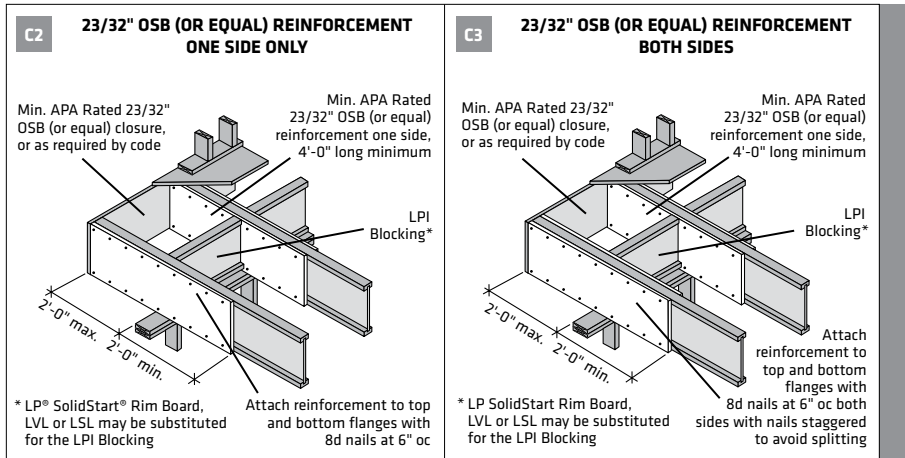
ADDITIONAL NOTES:

1. The reinforcement (when required) shall match the depth of the I-joist.
2. The closure at the end of the cantilever shall be a minimum of 23/32" APA Rated OSB (or equal). Certain codes may require a thicker product for lateral load transfer.
3. For short cantilevers up to 6" long, use the Brick-Ledge Cantilever Tables on the following pages.
4. For conditions not shown, use LP's design software or contact your LP SolidStart Engineered Wood Products distributor for assistance.
5. Do not use a product where designated "-" without further analysis by a design professional.

Load-Bearing Cantilever Tables: 11-7/8"

TO USE:

1. Select the required product.
2. Select the row corresponding to the Roof Load and Truss Span needed.
3. Follow across the row to the required joist spacing.
4. The letter represents the required detail.



Roof Load	Truss Span (ft)	11-7/8" LPI 18				11-7/8" LPI 20Plus				11-7/8" LPI 32Plus				11-7/8" LPI 36				11-7/8" LPI 42Plus				11-7/8" LPI 52Plus				11-7/8" LPI 56				Truss Span (ft)	Roof Load		
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"				
30 psf	22'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	22'	30 psf			
	24'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	24'				
	26'	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		26'		
	28'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		28'		
	30'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		30'		
	32'	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		32'		
	34'	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		34'		
	36'	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		36'		
	38'	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		C1W	38'	
	40'	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1		C1W	40'	
42'	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1W	42'			
40 psf	22'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	22'	40 psf		
	24'	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	24'			
	26'	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		26'	
	28'	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W		28'	
	30'	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1W		30'	
	32'	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		32'	
	34'	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1W	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		34'	
	36'	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		36'	
	38'	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1		C1W	38'
	40'	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C1	C1		C1W	40'
42'	C1	C3	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	42'		
50 psf	22'	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W	22'	50 psf		
	24'	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1W		24'	
	26'	C1	C1W	C3	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		26'	
	28'	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		28'	
	30'	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1W	C1	C1W		30'	
	32'	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1	C1W	C1	C1	C1W	C1	C1W		32'	
	34'	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1W	C2	C1	C1	C1W	C3	C1		34'	
	36'	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1W	C3	C1	C1W	C1W	C3	C1		36'	
	38'	C1W	C3	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1W	C1W	C3	C1		38'	
	40'	C1W	C3	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1W	C1W	-	C1W		40'	
42'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	B/D	C3	-	C1	C1W	C3	-	C1	C1W	C3	C1	C1W	C1W	-	C1W	-	42'			
60 psf	22'	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C1W	C2	C1	C1	C2	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	22'	60 psf		
	24'	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1W		24'	
	26'	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C1W	26'			
	28'	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1		28'	
	30'	C1W	C3	-	-	C1	C3	C3	-	C1	C3	C3	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1W	C1W	C3	C1		30'	
	32'	C1W	C3	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1W	C1W	-	C1W		32'	
	34'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1W		34'	
	36'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1W	C2	-	-	C1	C2	C3	-	C1	C1W	C1W	-	C1	C1W	C3	-	C1W		36'	
	38'	C3	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1W		38'	
	40'	C3	-	-	-	C1W	-	-	-	C1W	-	-	-	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1W		40'	
42'	C3	-	-	-	C1W	-	-	-	C1W	-	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	-	-	C1W	42'			

DESIGN ASSUMPTIONS:

1. These tables are valid for joists selected from the Floor Span Tables in this design guide.
2. The floor design loads shall not exceed 40 psf Live and 25 psf Dead Load.
3. The maximum cantilever length is 2' (the amount of overhang).
4. The wall weight is assumed to be 100 plf.
5. Roof Load is the Total Load (Live plus Dead) on the roof trusses.
6. Truss Span is the out-to-out distance of the truss bearing walls as shown above.
7. A maximum overhang of 2' is allowed for the trusses.
8. These tables assume a cantilever-end bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. The reinforcement (when required) shall match the depth of the I-joist.
2. The closure at the end of the cantilever shall be a minimum of 23/32" APA Rated OSB (or equal). Certain codes may require a thicker product for lateral load transfer.
3. For short cantilevers up to 6" long, use the Brick-Ledge Cantilever Tables on the following pages.
4. For conditions not shown, use LP's design software or contact your LP SolidStart Engineered Wood Products distributor for assistance.
5. Do not use a product where designated "-" without further analysis by a design professional.

Load-Bearing Cantilever Tables: 14"

TO USE:

1. Select the required product.
2. Select the row corresponding to the Roof Load and Truss Span needed.
3. Follow across the row to the required joist spacing.
4. The letter represents the required detail.

C1 NO REINFORCEMENT REQUIRED

Min. APA Rated 23/32" OSB (or equal) closure, or as required by code

* LP® SolidStart® Rim Board, LVL or LSL may be substituted for the LPI Blocking

C1W WEB STIFFENER REQUIRED

Min. APA Rated 23/32" OSB (or equal) closure, or as required by code

* LP SolidStart Rim Board, LVL or LSL may be substituted for the LPI Blocking

Roof Load	Truss Span (ft)	14" LPI 18				14" LPI 20Plus				14" LPI 32Plus				14" LPI 36				14" LPI 42Plus				14" LPI 52Plus				14" LPI 56				Truss Span (ft)	Roof Load	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"			
30 psf	22'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	22'	30 psf		
	24'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		24'	
	26'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		26'	
	28'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		28'	
	30'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		30'	
	32'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		32'	
	34'	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		34'	
	36'	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		C1W	36'
	38'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		C1W	38'
	40'	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1		C1W	40'
42'	C1	C1W	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	42'	
40 psf	22'	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	22'	40 psf	
	24'	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		24'
	26'	C1	C1	C1W	C2	C1	C1	C1	C2	C1	C1	C1	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		26'
	28'	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		28'
	30'	C1	C1W	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		30'
	32'	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1W		32'
	34'	C1	C1W	C2	-	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C1W	C3	C1	C1	C1	C1	C1	C1	C1	C1W		34'
	36'	C1	C1W	C2	-	C1	C1W	C1W	C3	C1	C1	C2	C3	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W		36'
	38'	C1	C1W	C3	-	C1	C1W	C1W	-	C1	C1	C2	-	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1W		38'
	40'	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C2	-	C1	C1W	C2	C3	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1W	C1W		40'
42'	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C2	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C1W	C1W	42'		
50 psf	22'	C1	C1	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	22'	50 psf	
	24'	C1	C1W	C1W	C3	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		24'
	26'	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W		26'
	28'	C1	C1W	C2	-	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1W		28'
	30'	C1	C1W	C3	-	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1W		30'
	32'	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1W	C3	C1	C1	C1	C1	C1	C1	C1	C1	C1W		32'
	34'	C1W	C1W	-	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1	C1W	C1W		34'
	36'	C1W	C1W	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C1W	C1W		36'
	38'	C1W	C3	-	-	C1W	C1W	-	-	C1W	C1W	-	-	C1	C1W	C2	-	C1	C1W	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C3	C1W		38'
	40'	C1W	C3	-	-	C1W	C1W	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	-	C1W		40'
42'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	-	-	C1W	42'		
60 psf	22'	C1	C1W	C2	-	C1	C1W	C1W	C3	C1	C1W	C1W	C3	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	C1	C1	C1W	22'	60 psf	
	24'	C1	C1W	C3	-	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1	C2	C3	C1	C1	C1	C2	C1	C1	C1	C1	C1W	C1	C1W	C1W	24'		
	26'	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C3	C1	C1	C1	C1	C1	C1	C1	C1	C1W		26'
	28'	C1W	C1W	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C1	C1W	C1	C1W	C1W	C1W		28'
	30'	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C1W	C3		30'
	32'	C1W	C3	-	-	C1W	C1W	-	-	C1W	C1W	-	-	C1	C1W	C3	-	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1	C1W	C1	C1W		32'
	34'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C1W	C1W	-		34'
	36'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C1W	C1W	-		36'
38'	C1W	-	-	-	C1W	C3	-	-	C1W	C3	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1W	38'		
40'	C1W	-	-	-	C1W	-	-	-	C1W	-	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1W	40'		
42'	C3	-	-	-	C1W	-	-	-	C1W	-	-	-	C1W	C3	-	-	C1	C2	C3	-	C1	C1W	C3	-	C1	C1W	-	-	-	42'		

DESIGN ASSUMPTIONS:

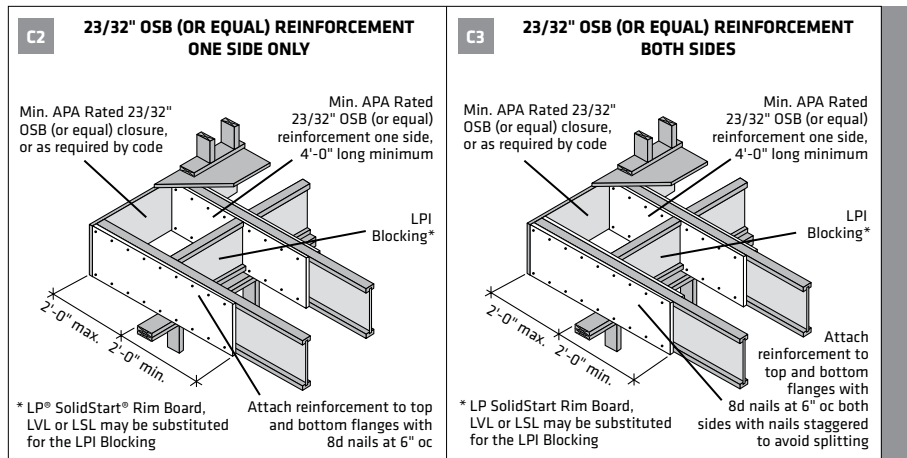
1. These tables are valid for joists selected from the Floor Span Tables in this design guide.
2. The floor design loads shall not exceed 40 psf Live and 25 psf Dead Load.
3. The maximum cantilever length is 2' (the amount of overhang).
4. The wall weight is assumed to be 100 plf.
5. Roof Load is the Total Load (Live plus Dead) on the roof trusses.
6. Truss Span is the out-to-out distance of the truss bearing walls as shown above.
7. A maximum overhang of 2' is allowed for the trusses.
8. These tables assume a cantilever-end bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. The reinforcement (when required) shall match the depth of the I-joist.
2. The closure at the end of the cantilever shall be a minimum of 23/32" APA Rated OSB (or equal). Certain codes may require a thicker product for lateral load transfer.
3. For short cantilevers up to 6" long, use the Brick-Ledge Cantilever Tables on the following pages.
4. For conditions not shown, use LP's design software or contact your LP SolidStart Engineered Wood Products distributor for assistance.
5. Do not use a product where designated "-" without further analysis by a design professional.

TO USE:

1. Select the required product.
2. Select the row corresponding to the Roof Load and Truss Span needed.
3. Follow across the row to the required joist spacing.
4. The letter represents the required detail.



Roof Load	Truss Span (ft)	16" LPI 20Plus				16" LPI 32Plus				16" LPI 36				16" LPI 42Plus				16" LPI 52Plus				16" LPI 56				Truss Span (ft)	Roof Load
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"		
30 psf	22'	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	22'	
	24'	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	24'	
	26'	C1	C1	C1	C1	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	26'	
	28'	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	28'
	30'	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	30'
	32'	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	32'
	34'	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	34'
	36'	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	36'
	38'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	38'
	40'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	40'
42'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	42'	
40 psf	22'	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	22'	
	24'	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	24'	
	26'	C1	C1	C1	C1W	C1	C1	C1	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	26'	
	28'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	28'
	30'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	30'
	32'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1	C1W	32'
	34'	C1	C1W	C1W	C2	C1	C1W	C1W	C2	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	34'
	36'	C1	C1W	C1W	C3	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	36'
	38'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	38'
	40'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	40'
42'	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	42'	
50 psf	22'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1W	22'	
	24'	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W	24'	
	26'	C1	C1W	C1W	C2	C1	C1	C1W	C2	C1	C1	C1W	C2	C1	C1	C1	C1W	C1	C1	C1	C1	C1	C1	C1	C1W	26'	
	28'	C1	C1W	C1W	C3	C1	C1W	C1W	C3	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1	C1W	28'
	30'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	30'	
	32'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1W	C1	C1	C1	C1W	C1	C1	C1W	32'	
	34'	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1	C1W	C1W	C1	C1	C1W	C1W	C1	C1	C1	C1W	34'	
	36'	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C1W	36'	
	38'	C1W	C1W	C3	-	C1W	C1W	C3	-	C1	C2	C3	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C1W	38'	
	40'	C1W	C1W	-	-	C1W	C1W	-	-	C1	C2	C3	-	C1	C1W	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	-	40'	
42'	C1W	C1W	-	-	C1W	C2	-	-	C1	C2	C3	-	C1	C1W	C1W	C3	C1	C1	C1W	C3	C1	C1W	C1W	-	42'		
60 psf	22'	C1	C1W	C1W	C2	C1	C1W	C1W	C2	C1	C1	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	22'	
	24'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	24'	
	26'	C1	C1W	C1W	-	C1	C1W	C2	-	C1	C1W	C2	C3	C1	C1	C1	C1W	C1	C1	C1	C1W	C1	C1	C1	C1W	26'	
	28'	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1	C1	C1W	28'	
	30'	C1	C1W	C3	-	C1	C1W	C3	-	C1	C1W	C2	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C1W	30'	
	32'	C1W	C1W	-	-	C1W	C1W	-	-	C1	C2	C3	-	C1	C1	C1W	C3	C1	C1	C1W	C1W	C1	C1W	C1W	C3	32'	
	34'	C1W	C1W	-	-	C1W	C1W	-	-	C1	C2	C3	-	C1	C1W	C1W	-	C1	C1	C1W	C1W	C1	C1W	C1W	-	34'	
	36'	C1W	C1W	-	-	C1W	C2	-	-	C1W	C2	C3	-	C1	C1W	C1W	-	C1	C1W	C1W	C3	C1	C1W	C1W	-	36'	
	38'	C1W	C3	-	-	C1W	C3	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1	C1W	C1W	-	38'	
	40'	C1W	-	-	-	C1W	-	-	-	C1W	C2	-	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1	C1W	C1W	-	40'	
42'	C1W	-	-	-	C1W	-	-	-	C1W	C3	-	-	C1	C1W	C3	-	C1	C1W	C1W	-	C1W	C1W	C1W	-	42'		

ROOF TRUSS SPAN WITH 2' OVERHANG

DESIGN ASSUMPTIONS:

1. These tables are valid for joists selected from the Floor Span Tables in this design guide.
2. The floor design loads shall not exceed 40 psf Live and 25 psf Dead Load.
3. The maximum cantilever length is 2' (the amount of overhang).
4. The wall weight is assumed to be 100 plf.
5. Roof Load is the Total Load (Live plus Dead) on the roof trusses.
6. Truss Span is the out-to-out distance of the truss bearing walls as shown above.
7. A maximum overhang of 2' is allowed for the trusses.
8. These tables assume a cantilever-end bearing length of at least 3-1/2" and are limited to the bearing capacity for an SPF wall plate ($F_{c\perp} = 425$ psi).

ADDITIONAL NOTES:

1. The reinforcement (when required) shall match the depth of the I-Joist.
2. The closure at the end of the cantilever shall be a minimum of 23/32" APA Rated OSB (or equal). Certain codes may require a thicker product for lateral load transfer.
3. For short cantilevers up to 6" long, use the Brick-Ledge Cantilever Tables on the following pages.
4. For conditions not shown, use LP's design software or contact your LP SolidStart Engineered Wood Products distributor for assistance.
5. Do not use a product where designated "-" without further analysis by a design professional.

Brick-Ledge Cantilevers

TOTAL JOIST REACTION CALCULATION

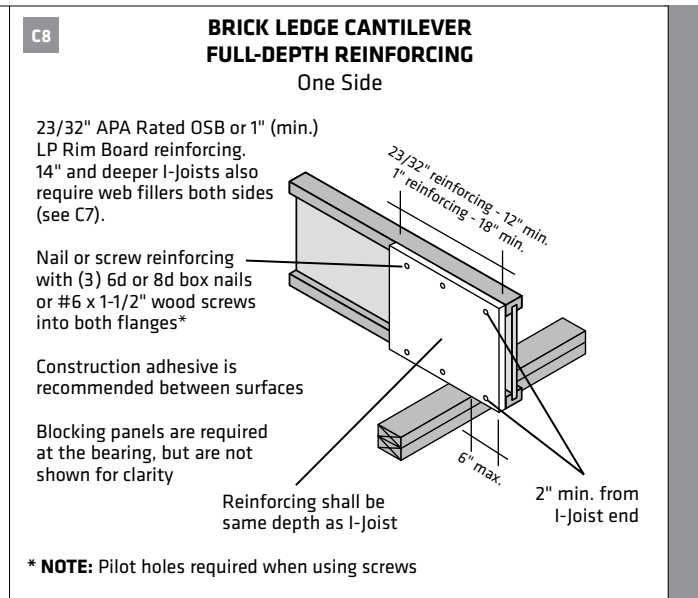
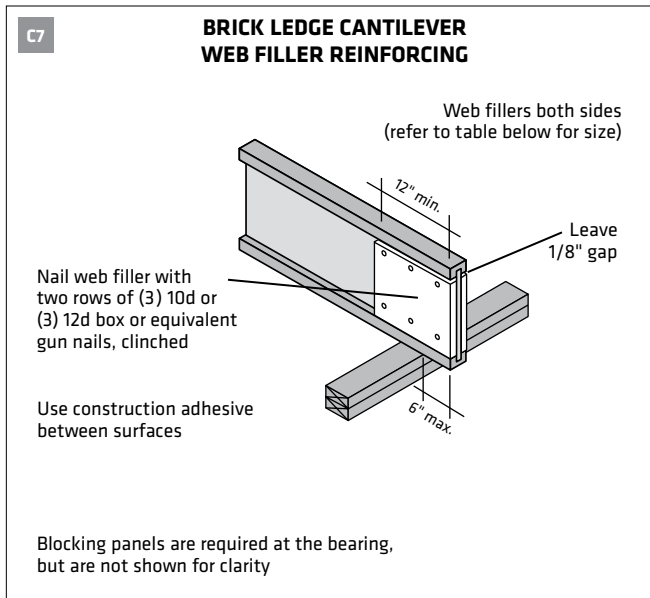
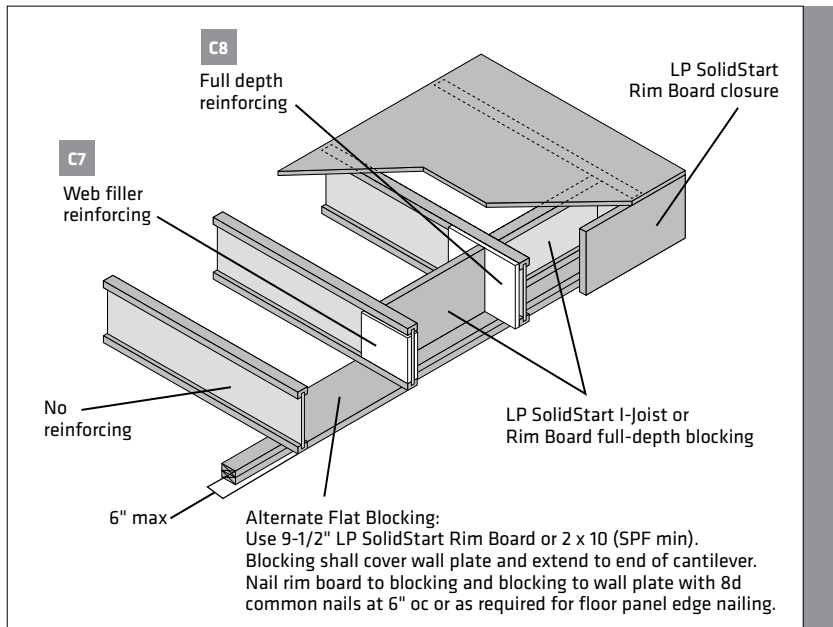
LP® SolidStart® I-Joists can cantilever up to 6" to support a load-bearing wall over a brick finish. Depending on the Total Joist Reaction (TJR), the joists may require reinforcement. If the TJR is less than the End Reaction Capacity W/out Stiffeners (page 4), then no reinforcement is required. If the TJR is greater than the End Reaction Capacity W/out Stiffeners, but less than the End Reaction Capacity With Stiffeners, then web stiffeners shall be installed at the bearing. Otherwise, one of the reinforcing details from below shall be used.

TOTAL JOIST REACTION, $TJR = FLR + WLR + RLR$

Where: **FLR** = Floor Load Reaction

WLR = Wall Load Reaction

RLR = Roof Load Reaction, including any other floor, ceiling or attic loads imposed on wall



Series	Minimum Web Filler	Reaction Capacity (lbs)
LPI 18	23/32" APA Rated OSB (or equal)	2300
LPI 20Plus LPI 32Plus LPI 36	23/32" APA Rated OSB (or equal)	2600
LPI 42Plus LPI 52Plus LPI 56	1-1/8" APA Rated OSB (or equal)	4000

Series	Reaction Capacity (lbs)	
	23/32" APA Rated OSB (or equal)	1" Min. LP SolidStart Rim Board
LPI 18	3100	3400
LPI 20Plus LPI 32Plus LPI 36	3500	3800
LPI 42Plus LPI 52Plus LPI 56	4800	5200

EXAMPLE 1:

I-Joist: 9-1/2" LPI 20Plus Wall under Cantilever: 3-1/2" wide

Design Loads: Floor: 40/10 psf **Floor System:** Joist Span = 16' **Roof System:** Roof Span = 22'
 Roof: 20/10 psf Joist Cantilever = 5" Roof Overhang = 1'
 Wall: 80 plf Joist Spacing = 16" oc

FLR = (Joist Span / 2 + Joist Cantilever / 12) * (Design Floor Load) * (Joist Spacing / 12)
 = (16' / 2 + 5" / 12) * (40 psf + 10 psf) * (16" / 12)
 = 561 lbs.

WLR = (Design Wall Load) * (Joist Spacing / 12)
 = (80 plf) * (16" / 12)
 = 107 lbs.

RLR = (Roof Span / 2 + Roof Overhang) * (Design Roof Load) * (Joist Spacing / 12)
 = (22' / 2 + 1') * (20 psf + 10 psf) * (16" / 12)
 = 480 lbs.

TJR = 561 + 107 + 480
 = 1148 lbs.

ALLOWABLE END REACTION CAPACITY			
9-1/2" LPI 20Plus on a 3-1/2" wall	@ 1-1/2" Bearing	@ 4" Bearing	@ 3-1/2" Bearing
w/o Web Stiffeners	970	1110	1082
w/Web Stiffeners	1140	1260	1236
w/Web Filler Reinforcing	-	-	2600
w/ 23/32" APA Rated Sheathing Full-Depth Reinforcing (One Side)	-	-	3500
w/ 1" LP Rim Board Full-Depth Reinforcing (One Side)	-	-	3800

Since the Total Joist Reaction, 1148 lbs., is greater than the End Reaction Capacity w/out Stiffeners, 1082 lbs., but less than End Reaction Capacity with Stiffeners, 1236 lbs., this joist only requires the installation of web stiffeners at the bearing.

EXAMPLE 2:

I-Joist: 11-7/8" LPI 32Plus Wall under Cantilever: 3-1/2" wide

Design Loads: Floor: 40/15 psf **Floor System:** Joist Span = 16' **Roof System:** Roof Span = 32'
 Roof: 30/15 psf Joist Cantilever = 5" Roof Overhang = 1'
 Wall: 100 plf Joist Spacing = 24" oc

FLR = (Joist Span / 2 + Joist Cantilever / 12) * (Design Floor Load) * (Joist Spacing / 12)
 = (16' / 2 + 5" / 12) * (40 psf + 15 psf) * (24" / 12)
 = 926 lbs.

WLR = (Design Wall Load) * (Joist Spacing / 12)
 = (100 plf) * (24" / 12)
 = 200 lbs.

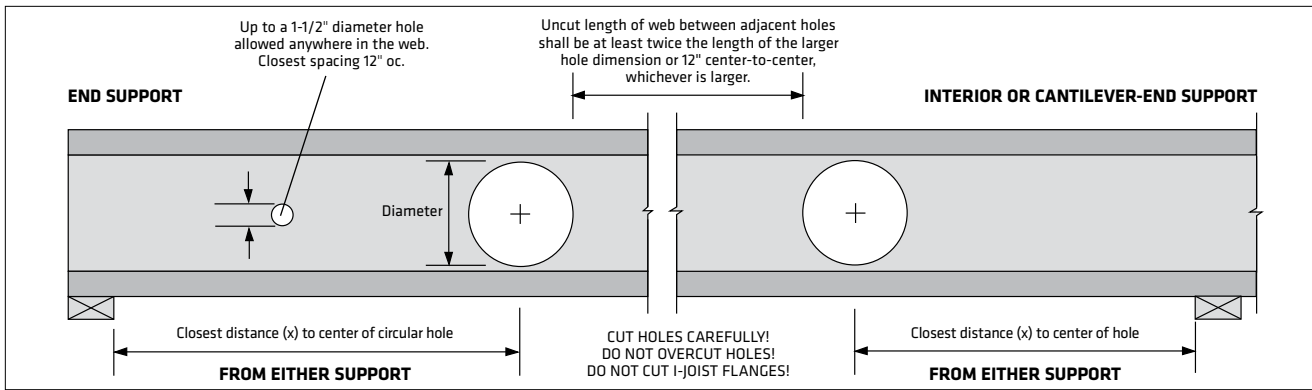
RLR = (Roof Span / 2 + Roof Overhang) * (Design Roof Load) * (Joist Spacing / 12)
 = (32' / 2 + 1') * (30 psf + 15 psf) * (24" / 12)
 = 1530 lbs.

TJR = 926 + 200 + 1530
 = 2656 lbs.

ALLOWABLE END REACTION CAPACITY			
11-7/8" LPI 32Plus on a 3-1/2" wall	@ 1-1/2" Bearing	@ 4" Bearing	@ 3-1/2" Bearing
w/o Web Stiffeners	970	1160	1122
w/Web Stiffeners	1275	1485	1443
w/Web Filler Reinforcing	-	-	2600
w/ 23/32" APA Rated Sheathing Full-Depth Reinforcing (One Side)	-	-	3500
w/ 1" LP Rim Board Full-Depth Reinforcing (One Side)	-	-	3800

Since the Total Joist Reaction, 2656 lbs., is greater than the End Reaction Capacity w/out Stiffeners, 1122 lbs., and is greater than the End Reaction Capacity with Stiffeners, 1443 lbs., and is greater than the End Reaction Capacity with Web Filler Reinforcing, 2600 lbs., but is less than the End Reaction Capacity with 23/32" APA Rated Sheathing, 3500 lbs., this joist requires the installation of Full-Depth Reinforcing One Side (detail C8) w/ 23/32" APA Rated Sheathing at the bearing.

Web Hole Specifications: Circular Holes



TO USE:

1. Select the required series and depth.
2. Determine the support condition for the nearest bearing: end support or interior support (including cantilever-end supports).
3. Select the row corresponding to the required Clear Span. For spans between those listed, use the next largest value.
4. Select the column corresponding to the required hole diameter. For diameters between those listed, use the next largest value.
5. The intersection of the Clear Span row and Hole Diameter column gives the minimum distance from the inside face of bearing to the center of a circular hole.
6. Double check the distance to the other support, using the appropriate support condition.

Series	Depth	Clear Span (ft)	Distance from End Support					Distance from Interior or Cantilever-End Support						
			Hole Diameter					Hole Diameter						
			2"	4"	6"	8"	10"	12"	2"	4"	6"	8"	10"	12"
LPI 18	9-1/2"	6'	1'-0"	1'-0"	1'-0"	-	-	-	1'-0"	1'-0"	1'-0"	-	-	-
		10'	1'-0"	1'-0"	2'-1"	-	-	-	1'-0"	1'-3"	3'-1"	-	-	-
		14'	1'-0"	2'-2"	4'-6"	-	-	-	1'-11"	3'-9"	5'-7"	-	-	-
		18'	2'-4"	4'-7"	7'-2"	-	-	-	4'-5"	6'-3"	8'-4"	-	-	-
	11-7/8"	10'	1'-0"	1'-0"	1'-0"	1'-10"	-	-	1'-0"	1'-0"	1'-3"	3'-0"	-	-
		14'	1'-0"	1'-0"	2'-1"	4'-4"	-	-	1'-0"	2'-0"	3'-9"	5'-6"	-	-
		18'	1'-0"	2'-5"	4'-6"	6'-11"	-	-	2'-9"	4'-6"	6'-3"	8'-1"	-	-
		22'	2'-8"	4'-9"	7'-0"	9'-8"	-	-	5'-3"	7'-0"	8'-9"	11'-0"	-	-
	14"	14'	1'-0"	1'-0"	1'-0"	2'-3"	4'-5"	-	1'-0"	1'-0"	2'-2"	3'-10"	5'-6"	-
		18'	1'-0"	1'-0"	2'-7"	4'-8"	7'-0"	-	1'-4"	3'-0"	4'-8"	6'-4"	8'-2"	-
		22'	1'-1"	2'-11"	4'-11"	7'-2"	9'-9"	-	3'-10"	5'-6"	7'-2"	8'-10"	-	-
		26'	3'-3"	5'-3"	7'-5"	9'-9"	12'-6"	-	6'-4"	8'-0"	9'-8"	11'-6"	-	-
LPI 20Plus & LPI 32Plus	9-1/2"	6'	1'-0"	1'-0"	1'-0"	-	-	-	1'-0"	1'-0"	1'-0"	-	-	-
		10'	1'-0"	1'-0"	1'-0"	-	-	-	1'-0"	1'-0"	1'-0"	-	-	-
		14'	1'-0"	1'-0"	1'-5"	-	-	-	1'-0"	1'-5"	3'-1"	-	-	-
		18'	1'-0"	1'-9"	3'-8"	-	-	-	2'-3"	3'-11"	5'-7"	-	-	-
	11-7/8"	10'	1'-0"	1'-0"	1'-0"	1'-0"	-	-	1'-0"	1'-0"	1'-0"	1'-0"	-	-
		14'	1'-0"	1'-0"	1'-0"	1'-9"	-	-	1'-0"	1'-0"	2'-1"	3'-5"	-	-
		18'	1'-0"	1'-0"	2'-6"	4'-1"	-	-	1'-10"	3'-3"	4'-7"	5'-11"	-	-
		22'	1'-0"	1'-0"	4'-10"	6'-7"	-	-	4'-4"	5'-9"	7'-1"	8'-5"	-	-
	14"	14'	1'-0"	1'-0"	1'-0"	1'-0"	2'-2"	-	1'-0"	1'-0"	1'-5"	2'-7"	3'-9"	-
		18'	1'-0"	1'-0"	1'-9"	3'-1"	4'-6"	-	1'-8"	2'-10"	3'-11"	5'-1"	6'-3"	-
		22'	1'-5"	2'-9"	4'-1"	5'-6"	7'-0"	-	4'-2"	5'-4"	6'-5"	7'-7"	8'-9"	-
		26'	3'-8"	5'-0"	6'-5"	8'-0"	9'-8"	-	6'-8"	7'-10"	8'-11"	10'-1"	11'-4"	-
	16"	18'	1'-0"	1'-0"	1'-4"	2'-5"	3'-7"	4'-11"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
		22'	1'-4"	2'-5"	3'-6"	4'-9"	6'-1"	7'-5"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
		26'	3'-6"	4'-8"	5'-11"	7'-2"	8'-7"	10'-1"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"	11'-9"
		30'	5'-9"	7'-0"	8'-4"	9'-9"	11'-3"	12'-10"	9'-0"	10'-0"	11'-0"	12'-0"	13'-2"	14'-8"
LPI 36 & LPI 56	11-7/8"	10'	1'-0"	1'-0"	1'-0"	1'-0"	-	-	1'-0"	1'-0"	1'-0"	1'-3"	-	-
		14'	1'-0"	1'-0"	1'-0"	2'-2"	-	-	1'-0"	1'-0"	1'-8"	3'-9"	-	-
		18'	1'-0"	1'-0"	2'-0"	4'-7"	-	-	1'-0"	2'-1"	4'-2"	6'-3"	-	-
		22'	1'-0"	1'-11"	4'-4"	7'-1"	-	-	2'-6"	4'-7"	6'-8"	8'-9"	-	-
	14"	14'	1'-0"	1'-0"	1'-0"	1'-0"	2'-10"	-	1'-0"	1'-0"	1'-0"	2'-6"	4'-4"	-
		18'	1'-0"	1'-0"	1'-0"	3'-0"	5'-3"	-	1'-0"	1'-5"	3'-3"	5'-0"	6'-10"	-
		22'	1'-0"	1'-3"	3'-2"	5'-4"	7'-10"	-	2'-2"	3'-11"	5'-9"	7'-6"	9'-4"	-
		26'	1'-5"	3'-5"	5'-6"	7'-10"	10'-6"	-	4'-8"	6'-5"	8'-3"	10'-0"	12'-2"	-
	16"	18'	1'-0"	1'-0"	1'-0"	2'-0"	3'-10"	5'-11"	1'-0"	1'-0"	2'-7"	4'-1"	5'-8"	7'-3"
		22'	1'-0"	1'-0"	2'-5"	4'-3"	6'-3"	8'-6"	1'-11"	3'-6"	5'-1"	6'-7"	8'-2"	9'-11"
		26'	1'-3"	2'-11"	4'-8"	6'-8"	8'-10"	11'-3"	4'-5"	6'-0"	7'-7"	9'-1"	10'-8"	12'-10"
		30'	3'-4"	5'-2"	7'-1"	9'-2"	11'-5"	14'-0"	6'-11"	8'-6"	10'-1"	11'-7"	13'-5"	-
LPI 42Plus & LPI 52Plus	9-1/2"	6'	1'-0"	1'-0"	1'-0"	-	-	-	1'-0"	1'-0"	1'-0"	-	-	-
		10'	1'-0"	1'-0"	1'-0"	-	-	-	1'-0"	1'-0"	1'-0"	-	-	-
		14'	1'-0"	1'-0"	1'-5"	-	-	-	1'-0"	1'-5"	3'-1"	-	-	-
		18'	1'-0"	1'-9"	3'-8"	-	-	-	2'-3"	3'-11"	5'-7"	-	-	-
	11-7/8"	10'	1'-0"	1'-0"	1'-0"	1'-0"	-	-	1'-0"	1'-0"	1'-0"	1'-0"	-	-
		14'	1'-0"	1'-0"	1'-0"	1'-9"	-	-	1'-0"	1'-0"	2'-1"	3'-5"	-	-
		18'	1'-0"	1'-0"	2'-6"	4'-1"	-	-	1'-10"	3'-3"	4'-7"	5'-11"	-	-
		22'	1'-8"	3'-2"	4'-10"	6'-7"	-	-	4'-4"	5'-9"	7'-1"	8'-5"	-	-
	14"	14'	1'-0"	1'-0"	1'-0"	1'-0"	2'-2"	-	1'-0"	1'-0"	1'-5"	2'-7"	3'-9"	-
		18'	1'-0"	1'-0"	1'-9"	3'-1"	4'-6"	-	1'-8"	2'-10"	3'-11"	5'-1"	6'-3"	-
		22'	1'-5"	2'-9"	4'-1"	5'-6"	7'-0"	-	4'-2"	5'-4"	6'-5"	7'-7"	8'-9"	-
		26'	3'-8"	5'-0"	6'-5"	8'-0"	9'-8"	-	6'-8"	7'-10"	8'-11"	10'-1"	11'-4"	-
	16"	18'	1'-0"	1'-0"	1'-4"	2'-5"	3'-7"	4'-11"	1'-6"	2'-6"	3'-6"	4'-6"	5'-6"	6'-6"
		22'	1'-4"	2'-5"	3'-6"	4'-9"	6'-1"	7'-5"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
		26'	3'-6"	4'-8"	5'-11"	7'-2"	8'-7"	10'-1"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"	11'-9"
		30'	5'-9"	7'-0"	8'-4"	9'-9"	11'-3"	12'-10"	9'-0"	10'-0"	11'-0"	12'-0"	13'-2"	14'-8"

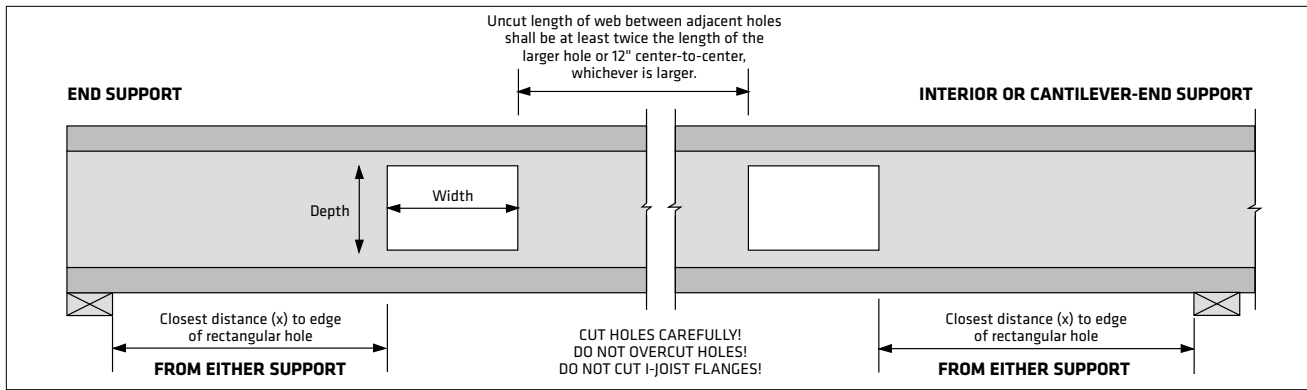
DESIGN ASSUMPTIONS:

1. The hole locations listed above are valid for floor joists supporting only uniform loads. The total uniform load shall not exceed 130 plf (e.g., 40 psf Live Load and 25 psf Dead Load spaced 24" oc).
2. Hole location is measured from the inside face of bearing to the center of a circular hole, from the closest support.
3. Clear Span has not been verified for these joists and is shown for informational purposes only. Verify that the joist selected will work for the span and loading conditions needed before checking hole location.
4. The maximum hole depth for circular holes is the I-joist Depth less 4"; except the maximum hole depth is 6" for 9-1/2" LPI joists, and 8" for 11-7/8" LPI joists.
5. Holes cannot be located in the span where designated "-", without further analysis by a design professional.

NOTES:

1. Holes may be placed anywhere within the depth of the joist. A minimum 1/4" clear distance is required between the hole and the flanges.
2. Round holes up to 1-1/2" diameter may be placed anywhere in the web.
3. Perforated "knockouts" may be neglected when locating web holes.
4. Holes larger than 1-1/2" are not permitted in cantilevers without special engineering.
5. Multiple holes shall have a clear separation along the length of the joist of at least twice the length of the larger adjacent hole, or a minimum of 12" center-to-center, whichever is greater.
6. Multiple holes may be spaced closer provided they fit within the boundary of an acceptable larger hole. Example: two 3" round holes aligned parallel to the joist length may be spaced 2" apart (clear distance) provided that a 3" high by 8" long rectangle or an 8" diameter round hole are acceptable for the joist depth at that location and completely encompass the holes.
7. For conditions not covered in this table, use LP's design software or contact your local LP® SolidStart® Engineered Wood Products distributor for more information.

Web Hole Specifications: Rectangular Holes



TO USE:

1. Select the required series and depth.
2. Determine the support condition for the nearest bearing: end support or interior support (including cantilever-end supports).
3. Select the row corresponding to the required Clear Span. For spans between those listed, use the next largest value.
4. Select the column corresponding to the required hole dimension. For dimensions between those listed, use the next largest value.
5. The intersection of the Clear Span row and Hole Dimension column gives the minimum distance from the inside face of bearing to the nearest edge of a square or rectangular hole.
6. Double check the distance to the other support, using the appropriate support condition.

Series	Depth	Clear Span (ft)	Distance from End Support						Distance from Interior or Cantilever-End Support								
			Maximum Hole Dimension: Depth or Width						Maximum Hole Dimension: Depth or Width								
			2"	4"	6"	8"	10"	12"	2"	4"	6"	8"	10"	12"			
LPI 18	9-1/2"	6'	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-2"	1'-7"	1'-0"	1'-0"	1'-3"	2'-6"	3'-9"	4'-0"	4'-5"	-
		10'	1'-0"	1'-4"	2'-10"	3'-3"	3'-9"	4'-3"	1'-3"	2'-6"	3'-9"	4'-0"	4'-5"	-	-	-	-
		14'	2'-2"	3'-8"	5'-5"	5'-11"	6'-6"	-	3'-9"	5'-0"	6'-4"	-	-	-	-	-	-
		18'	4'-7"	6'-3"	8'-2"	-	-	-	6'-3"	7'-6"	-	-	-	-	-	-	-
	11-7/8"	10'	1'-0"	1'-0"	2'-2"	3'-6"	4'-0"	-	1'-1"	2'-2"	3'-2"	4'-2"	-	-	-	-	-
		14'	2'-0"	3'-3"	4'-8"	6'-3"	-	-	3'-7"	4'-8"	5'-8"	-	-	-	-	-	-
		18'	4'-4"	5'-9"	7'-3"	-	-	-	6'-1"	7'-2"	8'-5"	-	-	-	-	-	-
		22'	6'-10"	8'-4"	10'-1"	-	-	-	8'-7"	9'-9"	-	-	-	-	-	-	-
	14"	14'	1'-0"	1'-0"	1'-4"	3'-2"	5'-4"	6'-1"	1'-0"	1'-6"	3'-1"	4'-7"	6'-3"	-	-	-	-
		18'	1'-0"	1'-10"	3'-8"	5'-8"	8'-1"	-	2'-5"	4'-0"	5'-7"	7'-1"	-	-	-	-	-
		22'	2'-4"	4'-1"	6'-1"	8'-3"	-	-	4'-11"	6'-6"	8'-1"	9'-9"	-	-	-	-	-
		26'	4'-7"	6'-6"	8'-7"	11'-0"	-	-	7'-5"	9'-0"	10'-7"	12'-7"	-	-	-	-	-
LPI 20Plus & LPI 32Plus	9-1/2"	6'	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-5"	1'-0"	1'-0"	1'-0"	1'-3"	1'-8"	2'-0"	-	-	
		10'	1'-0"	1'-0"	2'-6"	2'-11"	3'-5"	3'-11"	1'-0"	2'-1"	3'-5"	3'-9"	4'-2"	-	-	-	
		14'	1'-7"	3'-2"	5'-0"	5'-7"	6'-1"	-	3'-3"	4'-7"	5'-11"	6'-5"	-	-	-	-	
		18'	3'-11"	5'-8"	7'-9"	8'-4"	-	-	5'-9"	7'-1"	8'-5"	-	-	-	-	-	
	11-7/8"	10'	1'-0"	1'-9"	3'-3"	3'-9"	4'-3"	1'-0"	1'-9"	2'-10"	4'-0"	4'-5"	-	-	-	-	
		14'	1'-5"	2'-9"	4'-2"	5'-11"	6'-6"	-	3'-1"	4'-3"	5'-4"	-	-	-	-	-	
		18'	3'-8"	5'-2"	6'-9"	8'-8"	-	-	5'-7"	6'-9"	7'-11"	-	-	-	-	-	
		22'	6'-1"	7'-9"	9'-6"	-	-	-	8'-1"	9'-3"	-	-	-	-	-	-	
	14"	14'	1'-0"	1'-0"	1'-0"	2'-8"	4'-11"	5'-9"	1'-0"	1'-0"	2'-6"	4'-2"	5'-10"	-	-	-	
		18'	1'-0"	1'-0"	2'-11"	5'-1"	7'-7"	8'-6"	1'-7"	3'-3"	5'-0"	6'-8"	-	-	-	-	
		22'	1'-4"	3'-3"	5'-4"	7'-8"	10'-5"	-	4'-1"	5'-9"	7'-6"	9'-2"	-	-	-	-	
		26'	3'-6"	5'-7"	7'-10"	10'-4"	-	-	6'-7"	8'-3"	10'-0"	12'-0"	-	-	-	-	
16"	18'	1'-0"	1'-0"	2'-5"	4'-4"	6'-5"	-	1'-5"	3'-0"	4'-6"	6'-1"	7'-8"	-	-	-		
	22'	1'-2"	2'-11"	4'-9"	6'-10"	9'-2"	-	3'-11"	5'-6"	7'-0"	8'-7"	10'-6"	-	-	-		
	26'	3'-4"	5'-2"	7'-2"	9'-5"	11'-11"	-	6'-5"	8'-0"	9'-6"	11'-1"	-	-	-	-		
	30'	5'-8"	7'-7"	9'-9"	12'-1"	-	-	8'-11"	10'-6"	12'-0"	14'-0"	-	-	-	-		
LPI 36 & LPI 56	11-7/8"	10'	1'-0"	1'-0"	1'-9"	3'-3"	3'-9"	4'-3"	1'-0"	1'-9"	2'-10"	4'-0"	4'-5"	-	-		
		14'	1'-5"	2'-9"	4'-2"	5'-11"	6'-6"	-	3'-1"	4'-3"	5'-4"	-	-	-	-		
		18'	3'-8"	5'-2"	6'-9"	8'-8"	-	-	5'-7"	6'-9"	7'-11"	-	-	-	-		
		22'	6'-1"	7'-9"	9'-6"	-	-	-	8'-1"	9'-3"	-	-	-	-	-		
	14"	14'	1'-0"	1'-0"	1'-0"	2'-8"	4'-11"	5'-9"	1'-0"	1'-0"	2'-6"	4'-2"	5'-10"	-	-	-	
		18'	1'-0"	1'-0"	2'-11"	5'-1"	7'-7"	8'-6"	1'-7"	3'-3"	5'-0"	6'-8"	-	-	-	-	
		22'	1'-4"	3'-3"	5'-4"	7'-8"	10'-5"	-	4'-1"	5'-9"	7'-6"	9'-2"	-	-	-	-	
		26'	3'-6"	5'-7"	7'-10"	10'-4"	-	-	6'-7"	8'-3"	10'-0"	12'-0"	-	-	-	-	
	16"	18'	1'-0"	1'-0"	2'-5"	4'-4"	6'-5"	-	1'-5"	3'-0"	4'-6"	6'-1"	7'-8"	-	-	-	
		22'	1'-2"	2'-11"	4'-9"	6'-10"	9'-2"	-	3'-11"	5'-6"	7'-0"	8'-7"	10'-6"	-	-	-	
		26'	3'-4"	5'-2"	7'-2"	9'-5"	11'-11"	-	6'-5"	8'-0"	9'-6"	11'-1"	-	-	-	-	
		30'	5'-8"	7'-7"	9'-9"	12'-1"	-	-	8'-11"	10'-6"	12'-0"	14'-0"	-	-	-	-	
LPI 42Plus & LPI 52Plus	9-1/2"	6'	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-5"	1'-0"	1'-0"	1'-0"	1'-3"	1'-8"	2'-0"	-		
		10'	1'-0"	1'-0"	2'-6"	2'-11"	3'-5"	3'-11"	1'-0"	2'-1"	3'-5"	3'-9"	4'-2"	-	-		
		14'	1'-7"	3'-2"	5'-0"	5'-7"	6'-1"	-	3'-3"	4'-7"	5'-11"	6'-5"	-	-	-		
		18'	3'-11"	5'-8"	7'-9"	8'-4"	-	-	5'-9"	7'-1"	-	-	-	-	-		
	11-7/8"	10'	1'-0"	1'-0"	1'-9"	3'-3"	3'-9"	4'-3"	1'-0"	1'-9"	2'-10"	4'-0"	4'-5"	-	-		
		14'	1'-5"	2'-9"	4'-2"	5'-11"	6'-6"	-	3'-1"	4'-3"	5'-4"	-	-	-	-		
		18'	3'-8"	5'-2"	6'-9"	8'-8"	-	-	5'-7"	6'-9"	7'-11"	-	-	-	-		
		22'	6'-1"	7'-9"	9'-6"	-	-	-	8'-1"	9'-3"	-	-	-	-	-		
	14"	14'	1'-0"	1'-0"	1'-0"	2'-8"	4'-11"	5'-9"	1'-0"	1'-0"	2'-6"	4'-2"	5'-10"	-	-		
		18'	1'-0"	1'-0"	2'-11"	5'-1"	7'-7"	8'-6"	1'-7"	3'-3"	5'-0"	6'-8"	-	-	-		
		22'	1'-4"	3'-3"	5'-4"	7'-8"	10'-5"	-	4'-1"	5'-9"	7'-6"	9'-2"	-	-	-		
		26'	3'-6"	5'-7"	7'-10"	10'-4"	-	-	6'-7"	8'-3"	10'-0"	12'-0"	-	-	-		
16"	18'	1'-0"	1'-0"	2'-5"	4'-4"	6'-5"	-	1'-5"	3'-0"	4'-6"	6'-1"	7'-8"	-	-			
	22'	1'-2"	2'-11"	4'-9"	6'-10"	9'-2"	-	3'-11"	5'-6"	7'-0"	8'-7"	10'-6"	-	-			
	26'	3'-4"	5'-2"	7'-2"	9'-5"	11'-11"	-	6'-5"	8'-0"	9'-6"	11'-1"	-	-	-			
	30'	5'-8"	7'-7"	9'-9"	12'-1"	-	-	8'-11"	10'-6"	12'-0"	14'-0"	-	-	-			

DESIGN ASSUMPTIONS:

1. The hole locations listed above are valid for floor joists supporting only uniform loads. The total uniform load shall not exceed 130 plf (e.g., 40 psf Live Load and 25 psf Dead Load spaced 24" oc).
2. Hole location is measured from the inside face of bearing to the nearest edge of a rectangular hole, from the closest support.
3. Clear Span has not been verified for these joists and is shown for informational purposes only! Verify that the joist selected will work for the span and loading conditions needed before checking hole location.
4. The maximum hole depth for rectangular holes is the I-joist Depth less 4", except the maximum hole depth is 6" for 9-1/2" LPI joists, and 8" for 11-7/8" LPI joists. Where the Maximum Hole Dimension exceeds the hole depth, the dimension refers to hole width and the depth of the hole is assumed to be the maximum for that joist depth. The maximum hole width is 18", regardless of I-joist Depth.
5. Holes cannot be located in the span where designated "-", without further analysis by a design professional.

NOTES:

1. Holes may be placed anywhere within the depth of the joist. A minimum 1/4" clear distance is required between the hole and the flanges.
2. Round holes up to 1-1/2" diameter may be placed anywhere in the web.
3. Perforated "knockouts" may be neglected when locating web holes.
4. Holes larger than 1-1/2" are not permitted in cantilevers without special engineering.
5. Multiple holes shall have a clear separation along the length of the joist of at least twice the length of the larger adjacent hole, or a minimum of 12" center-to-center, whichever is greater.
6. Multiple holes may be spaced closer provided they fit within the boundary of an acceptable larger hole. Example: two 3" round holes aligned parallel to the joist length may be spaced 2" apart (clear distance) provided that a 3" high by 8" long rectangle or an 8" diameter round hole are acceptable for the joist depth at that location and completely encompass the holes.
7. For conditions not covered in this table, use LP's design software or contact your local LP® SolidStart® Engineered Wood Products distributor for more information.

<p>A1 RIM BOARD</p> <p>Fasten rim board to each floor I-joist using one 8d nail or 10d box nail per flange</p> <p>Same depth as I-joist</p> <p>8d nails at 6" oc toe-nailed from outside of building</p>	<p>A2 RIM JOIST Refer to Note 8</p> <p>Rim joists with flanges wider than 1-3/4" require a minimum 2 x 6 plate</p> <p>Fasten rim joist to each floor I-joist with one 10d nail into the end of each flange. Use 16d box nails for rim joists with flanges wider than 1-3/4"</p> <p>8d nails at 6" oc (when used for shear transfer, nail to bearing plate with same nailing schedule for decking)</p>	<p>A3 BLOCKING AT EXTERIOR WALL</p> <p>8d nails at 6" oc (when used for shear transfer, nail to bearing plate with same nailing schedule for decking)</p>
<p>A4 SOLID BLOCKING AT EXTERIOR WALL</p> <p>LP LVL, LP LSL or LP Rim Board as blocking</p> <p>Same depth as I-joist</p> <p>8d nails at 6" oc toe-nailed from outside of building</p>	<p>A5 JOIST SUPPORT NAILING</p> <p>Secure I-joist to plate with two 8d nails or 10d box. Drive one nail from each side of I-joist, angled inward.</p> <p>Place nail 1-1/2" min. from end of I-joist. If nails are close to edge of plate, drive at an angle to reduce splitting</p>	<p>B1 WEB STIFFENERS AT INTERIOR SUPPORT (When Required)</p> <p>Verify stiffener requirements (see Web Stiffener detail)</p>
<p>B2 SQUASH BLOCKS</p> <p>Blocking panels may be required with shear wall</p> <p>Use double squash blocks as specified. Squash blocks shall be cut 1/16" taller than I-joist. 2 x 4 min.</p> <p>Stagger 8d or 10d nails to avoid splitting</p> <p>Bearing wall aligned under wall above</p> <p>Toe-nail 8d or 10d box nail to plate</p>	<p>B3 BLOCKING AT INTERIOR SUPPORT</p> <p>Blocking is not required if no wall above unless I-joists end at support. Blocking may be required at interior supports by project designer or by code for seismic design</p> <p>Bearing wall aligned under wall above</p>	<p>NON-STACKING WALLS</p> <p>LP SolidStart I-joists shall be designed to carry all applied loads including walls from above that do not stack directly over the I-joist support.</p>
<p>D2 POST LOADS</p> <p>Squash blocks (cripples) required under all post loads</p>	<p>E1 STAIR STRINGER</p> <p>Web filler (as backer block) minimum 12" long</p> <p>Filler block(s) minimum 4' long</p> <p>Approved connection (by others)</p> <p>See I-joist Header Cross-Section for connection information of the filler and backer blocks</p> <p>See I-joist Filler Schedule for filler block and web filler sizes</p>	<p>E2 HANGER DETAIL</p> <p>Applied loads at end of I-joist must be supported directly by the girder, or by a ledger or blocking fastened to the girder.</p> <p>Be sure to check web filler requirements for hangers</p> <p>Verify capacity and fastening requirements of hangers and connectors</p>

E3 I-JOIST HEADER

Verify web filler/stiffener requirements for hangers

See Double I-joist Connection detail

Verify all hanger connections

Filler blocks

Web filler (as backer block)

Filler blocks

See I-joist Header Cross-Section for information on attaching web fillers and filler blocks

Refer to I-joist Filler Thickness table for web filler (backer block) and filler block sizes

E5 DOUBLE I-JOIST CONNECTION

Floor sheathing to be glued and nailed to flanges of both plies

6" oc

6" oc

Filler block

See I-joist Header Cross-Section for information on attaching filler blocks

Refer to I-joist Filler Thickness table for filler block sizes

E4 I-JOIST HEADER CROSS-SECTION

Web filler (as backer block)

Verify web filler/stiffener requirements for hangers

Filler block(s)

Supported hanger (top-mount shown)

NOTES:

1. Backer blocks and filler blocks shall consist of APA Rated wood structural panel (OSB or plywood), 2 x lumber (SPF or better), or LP® SolidStart® LVL, LSL or OSB Rim Board, with a net thickness equivalent to that shown in the I-joist Filler Thickness table below.
2. Except as noted in 3, backer blocks and filler blocks shall fit the clear distance between flanges with a gap of at least 1/8," but not more than 1," and shall be of sufficient depth to allow for all hanger nailing into the web. Do not force into place.
3. Backer blocks and filler blocks for double I-joists that are top-loaded only or side-loaded supporting top-mount hangers that do not require nailing into the web, shall be at least 5-1/2" deep for I-joists to 11-7/8" deep, and shall be at least 7-1/4" deep for I-joists 14" and deeper.
4. Install backer blocks tight to top flange for top-loaded joists and for joists supporting top-mount hangers (shown). Install tight to bottom flange for joists supporting face-mount hangers.
5. Clinch nails where possible.
6. For double I-joists, additional nailing may be required to transfer point loads. For additional information, contact your LP SolidStart Engineered Wood Products distributor.

Web Filler/Backer Block: Backer blocks shall be at least 12" long and located behind every supported hanger. For a single I-joist header, install backer blocks to both sides of the web. Two pieces of 2 x 8 (min.) lumber, cut to the proper height (see notes 2 & 3), may be set vertically side-by-side to achieve the required minimum 12" length.

Attach backer blocks with 8d nails (use 10d nails for flanges wider than 2-1/2"). Use a minimum of 10 nails spaced to avoid splitting, with half the nails to each side of the center of the supported hanger.

Note: Backer blocks may be omitted for top-mount hangers supporting only downward loads not exceeding 250 lbs.

Filler Blocks: Install in minimum 4' long sections at each support, centered behind each supported hanger and at no more than 8' oc. Lumber fillers may be stacked to achieve the required depth (see notes 2 & 3). For example, two 4' long 2 x 8's may be stacked vertically to achieve the filler depth for an 18" deep I-joist (minimum required depth is 18" - 3" - 1" = 14").

Attach filler blocks with 8d nails (10d for flanges wider than 2-1/2") nails spaced 6" oc per row. Use one row of nails in each row of stacked fillers, with a minimum of two rows of nails. Drive every other nail from opposite sides.

NON LOAD-BEARING CANTILEVER

OSB or equal closure

Uniform loads only

1/3 adjacent span (max.)

Adjacent span

BEVEL CUT/FIRE CUT

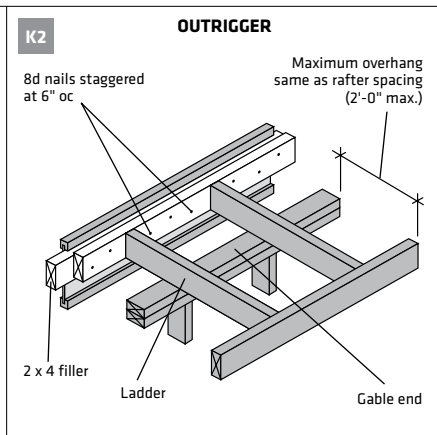
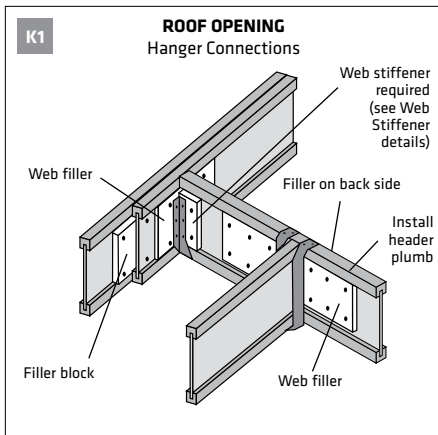
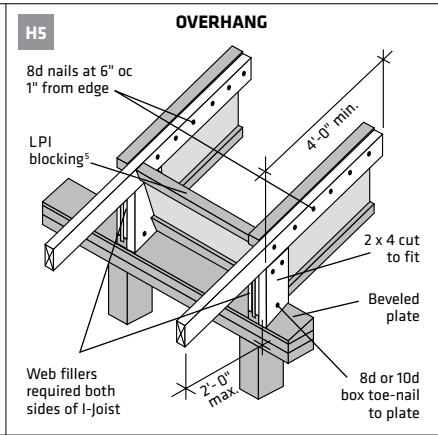
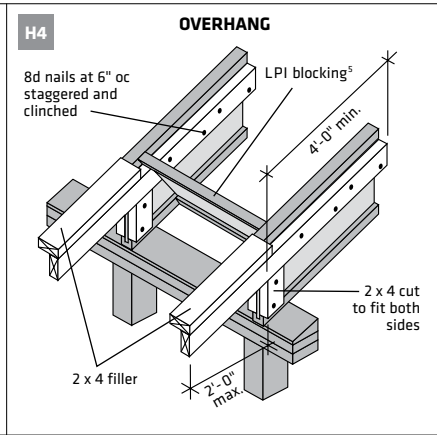
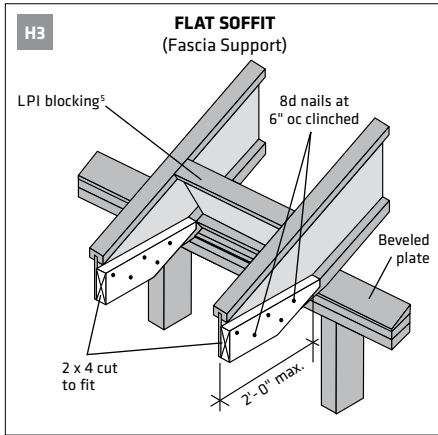
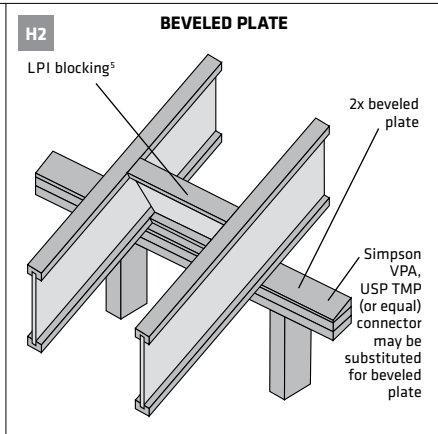
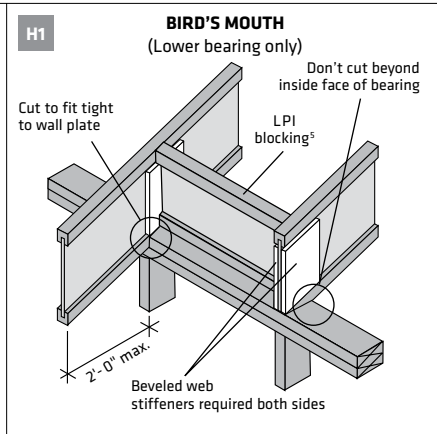
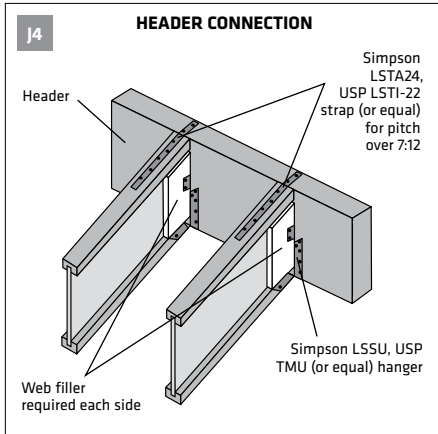
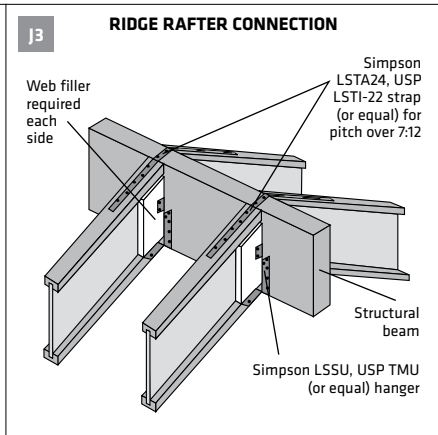
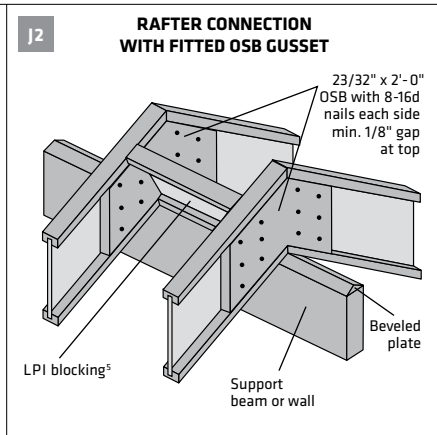
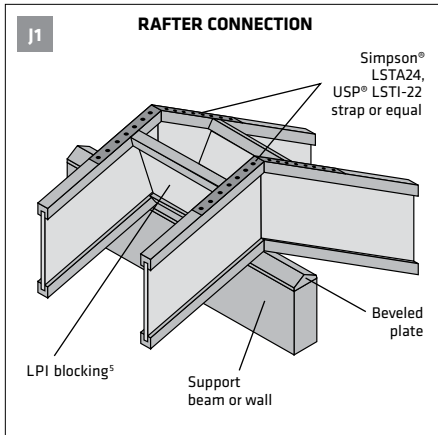
LPI blocking or other lateral support required at ends of I-joist

Bevel cut may not extend beyond inside face of bearing wall

I-JOIST FILLER THICKNESS		
Series	Filler Block	Web Filler/Backer Block
LPI 18 LPI 20Plus LPI 32Plus	2-1/8"	1"
LPI 36	1-7/8"	7/8"
LPI 42Plus LPI 52Plus LPI 56	3"	1-1/2"

- NOTES:**
1. Backer blocks and filler blocks shall consist of APA Rated wood structural panel (OSB or plywood), or 2x lumber (SPF or better).
 2. LP LVL, LSL or OSB Rim Board may also be used.
 3. Refer to the Notes for the I-joist Header Cross-Section above for details on the required height and length, and nailing of the backer blocks and filler blocks.

- GENERAL NOTES:**
1. Some wind or seismic loads may require different or additional details and connections.
 2. Verify building code requirements for suitability of details shown.
 3. Refer to page 4 for bearing length requirements.
 4. Refer to page 28 for Flange Face Nailing Schedule for LPI rim joist or blocking panel nailing.
 5. Lateral support shall be considered for bottom flange when there is no sheathing on underside.
 6. Verify capacity and fastening requirements of hangers and connectors.
 7. Squash block capacity designed by others.
 8. Do not use LPI joists with flanges wider than 2-1/2" as rim joists.



NOTES:

1. Minimum pitch: 1/4" per foot (1/4:12). Maximum pitch: 12" per foot (12:12).
2. Verify capacity and fastening requirements of hangers and connectors.
3. Some wind or seismic loads may require different or additional details and connections. Uplift anchors may be required.
4. 4" diameter hole(s) may be cut in blocking for ventilation.
5. Lateral resistance shall be provided. Other methods of restraint, such as full depth LP SolidStart OSB Rim Board, LP® SolidStart® LVL, LP SolidStart LSL or metal X-bracing may be substituted for the LP blocking shown.

GENERAL NOTES:

1. The following tables provide a list of the more common hangers and connectors for use with LP® SolidStart® I-joists.
2. Refer to the manufacturer's connector guide for a complete list of hangers and to verify the suitability of a hanger or connector for a particular application.
3. Follow all connector manufacturers' installation guidelines.

SIMPSON STRONG-TIE®								
Series	Depth	Top-Mount		Face-Mount		45° Skewed	Field Slope & Skew	Variable Pitch Seat
		Single	Double	Single	Double	Single	Single	Single
LPI 18 LPI 20Plus LPI 32Plus	9-1/2"	ITS2.56/9.5	MIT39.5-2	IUS2.56/9.5	MIU5.12/9	SUR/L2.56/9	LSSUH310 *	VPA3
	11-7/8"	ITS2.56/11.88	MIT311.88-2	IUS2.56/11.88	MIU5.12/12	SUR/L2.56/11	LSSUH310 *	VPA3
	14"	ITS2.56/14	MIT314-2	IUS2.56/14	MIU5.12/14	SUR/L2.56/14	LSSUH310 *	VPA3
	16"	ITS2.56/16	MIT5.12/16	IUS2.56/16	MIU5.12/16	SUR/L2.56/14 *	**	VPA3
LPI 36	11-7/8"	ITS2.37/11.88	MIT3511.88-2	IUS2.37/11.88	MIU4.75/11	SUR/L2.37/11	LSSUI35 *	VPA35
	14"	ITS2.37/14	MIT3514-2	IUS2.37/14	MIU4.75/14	SUR/L2.37/14	LSSUI35 *	VPA35
	16"	ITS2.37/16	MIT4.75/16	IUS2.37/16	MIU4.75/16	SUR/L2.37/14 *	**	VPA35
LPI 42Plus LPI 52Plus LPI 56	9-1/2"	ITS3.56/9.5	B7.12/9.5 *	IUS3.56/9.5	HU410-2 *	SUR/L410 *	LSSU410 *	VPA4
	11-7/8"	ITS3.56/11.88	B7.12/11.88 *	IUS3.56/11.88	HU412-2 *	SUR/L410 *	LSSU410 *	VPA4
	14"	ITS3.56/14	B7.12/14 *	IUS3.56/14	HU414-2 *	SUR/L414 *	LSSU410 *	VPA4
	16"	ITS3.56/16	B7.12/16 *	IUS3.56/16	HU414-2 *	SUR/L414 *	**	VPA4

* Web filler required for proper installation of hanger.

** Refer to Simpson Strong-Tie "Wood Construction Connectors" catalog for hanger selection.

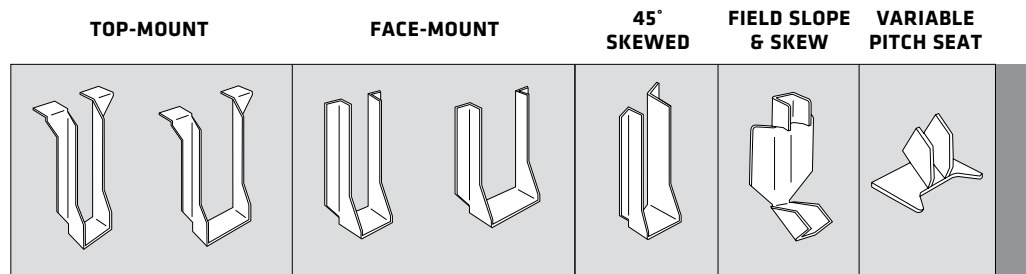
USP STRUCTURAL CONNECTORS®								
Series	Depth	Top-Mount		Face-Mount		45° Skewed	Field Slope & Skew	Variable Pitch Seat†
		Single	Double	Single	Double	Single	Single	Single
LPI 18 LPI 20Plus LPI 32Plus	9-1/2"	TFL2595	THO25950-2 *	THF25925	THF25925-2 *	SKH2520L/R *	LSSH25 *	TMP25 or TMPH25 *
	11-7/8"	TFL25118	THO25118-2 *	THF25112	THF25112-2 *	SKH2520L/R *	LSSH25 *	TMP25 or TMPH25 *
	14"	TFL2514	THO25140-2 *	THF25140	THF25140-2 *	SKH2524L/R *	LSSH25 *	TMP25 or TMPH25 *
	16"	TFL2516	THO25160-2 *	THF25160	THF25160-2 *	SKH2524L/R *	LSSH25 * †	TMP25 or TMPH25 *
LPI 36	11-7/8"	TFL23118	THO23118-2 *	THF23118	THF23118-2 *	SKH2320L/R *	LSSH23 *	TMP23 or TMPH23 *
	14"	TFL2314	THO23140-2 *	THF23140	THF23140-2 *	SKH2324L/R *	LSSH23 *	TMP23 or TMPH23 *
	16"	TFL2316	THO23160-2 *	THF23160	THF23160-2 *	SKH2324L/R *	LSSH23 * †	TMP23 or TMPH23 *
LPI 42Plus LPI 52Plus LPI 56	9-1/2"	THO35950	BPH7195 *	THF35925	HD7100 *	SKH410L/R * **	LSSH35 *	TMP4 or TMPH4 *
	11-7/8"	THO35118	BPH71118 *	THF35112	HD7120 *	SKH410L/R * **	LSSH35 *	TMP4 or TMPH4 *
	14"	THO35140	BPH7114 *	THF35140	HD7140 *	SKH414L/R * **	LSSH35 *	TMP4 or TMPH4 *
	16"	THO35160	BPH7116 *	THF35157	HD7160 *	SKH414L/R * **	LSSH35 * †	TMP4 or TMPH4 *

* Web filler required for proper installation of hanger.

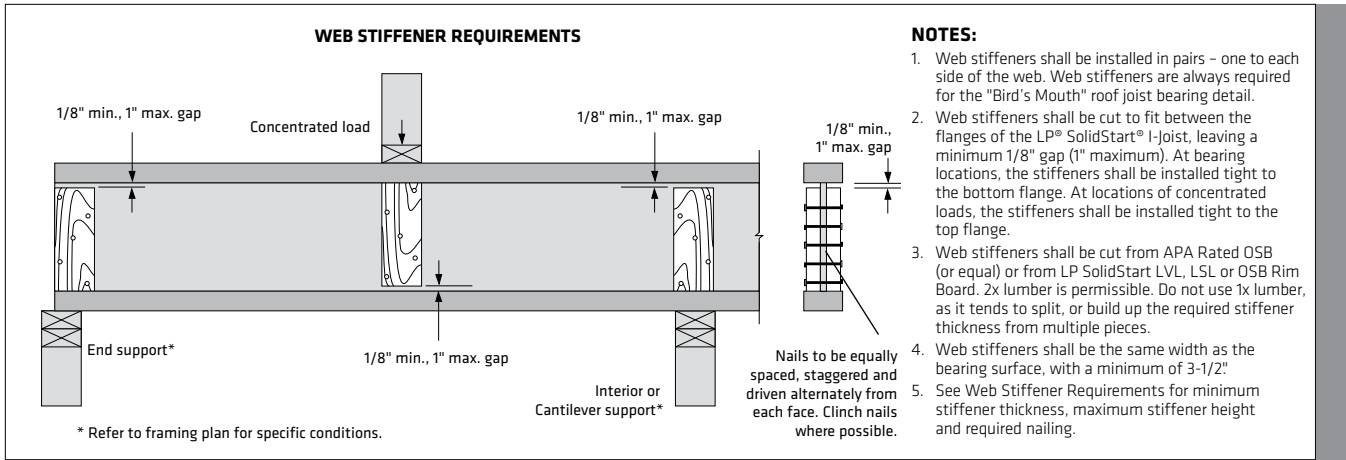
** Miter cut required on end of joist.

† Hanger height is less than 60% of the joist depth. Supplemental lateral support of the top flange is required. Refer to USP's installation instructions.

1. Use TMP seats for joist pitch of 1:12 to 6:12. Use TMPH for joist pitch of 6:12 and greater.



Web Stiffeners, Rim & Blocking, Nailing



WEB STIFFENER REQUIREMENTS					
Series	Depth	Minimum Thickness	Maximum Height	Nail Size*	Nail Qty
LPI 18 LPI 20Plus LPI 32Plus	9-1/2"	23/32"	6-3/8"	8d (2-1/2")	3
	11-7/8"	23/32"	8-3/4"	8d (2-1/2")	3
	14"	23/32"	10-7/8"	8d (2-1/2")	3
	16"	23/32"	12-7/8"	8d (2-1/2")	3
LPI 36	11-7/8"	23/32"	8-3/4"	8d (2-1/2")	4
	14"	23/32"	10-7/8"	8d (2-1/2")	5
	16"	23/32"	12-7/8"	8d (2-1/2")	6
LPI 42Plus LPI 52Plus	9-1/2"	1-1/2"	6-3/8"	10d (3")	3
	11-7/8"	1-1/2"	8-3/4"	10d (3")	3
	14"	1-1/2"	10-7/8"	10d (3")	3
	16"	1-1/2"	12-7/8"	10d (3")	3
LPI 56	11-7/8"	1-1/2"	8-3/4"	10d (3")	4
	14"	1-1/2"	10-7/8"	10d (3")	5
	16"	1-1/2"	12-7/8"	10d (3")	6

* Nails may be Box or Common.

RIM & BLOCKING CAPACITY		
Series	Depth	Uniform Vertical Load Capacity
		(plf)
LPI 18 LPI 20Plus	9-1/2"	1900
	11-7/8"	1760
	14"	1600
LPI 20Plus	16"	1500
LPI 32Plus LPI 42Plus	9-1/2"	2200
	11-7/8"	2200
	14"	1600
	16"	1500
LPI 36	11-7/8"	1800
	14"	1800
	16"	1800
LPI 52Plus LPI 56	11-7/8"	2400
	14"	2200
	16"	1900

NOTES:

1. Uniform Vertical Load Capacity shall not be adjusted for load duration.
2. Concentrated vertical loads require the addition of squash blocks. Do not use LPI rim or blocking to support concentrated vertical loads.
3. Lateral load capacity for all series above is 200 plf but may be limited by the connection details used. Do not exceed the Flange Face Nailing requirements at right.

FLANGE FACE NAILING			
Series	Nail Size and Type	Minimum Nail Distance	
		oc Spacing	End
LPI 18 LPI 20Plus LPI 32Plus LPI 42Plus LPI 52Plus	8d (2-1/2") Box or Common	2"	1"
	10d (3") or 12d (3-1/4") Box	2"	1"
	10d (3") or 12d (3-1/4") Common	3"	1-1/2"
	16d Sinker (3-1/4")	3"	1-1/2"
	16d (3-1/2") Box or Common	4"	1-1/2"
LPI 36 LPI 56	8d (2-1/2") Box or Common	3"	1-1/2"
	10d (3") or 12d (3-1/4") Box	3"	1-1/2"
	10d (3") or 12d (3-1/4") Common	3"	1-1/2"
	16d Sinker (3-1/4")	3"	1-1/2"
	16d (3-1/2") Box or Common	5"	1-1/2"

NOTES:

1. Use only 10d box or 8d nails when securing an LPI floor or roof joist to its supports.

RIM BOARD CAPACITIES

Material	Grade	Thickness	Vertical Load Capacity ¹			Lateral ^{4,5,6} Load Capacity (plf)
			Uniform ² (plf)		Concentrated ³ (lbs)	
			d ≤ 16"	16" < d ≤ 24"	d ≤ 24"	
LP OSB	APA Rated Rim Board	1"	3300	1650	3500	180
		1-1/8"	4400	3000	3500	180
LP LSL	1730F _v -1.35E	≥ 1-1/4"	6000	3800	3800	250
LP LVL (cross-ply)	1750F _v -1.3E	≥ 1-1/4"	9350	5070	4210	250

NOTES:

- The Vertical Load Capacity shall not be increased for short-term load duration.
- The Vertical Load Capacity is based on the capacity of the rim board and may need to be reduced based on the bearing capacity of the supporting wall plate or the attached floor sheathing. Example: The allowable bearing stress for commodity floor sheathing is 360 psi so the bearing capacity of a 1-1/4" x 16" deep rim board would be limited to 5400 plf (360 psi x 1-1/4" x 12).
- The Concentrated Vertical Load capacity is assumed to be applied through a minimum 4-1/2" bearing length (3-stud post).
- The Lateral Load Capacity is based on a short-term load duration and shall not be increased.
- The Lateral Load Capacity is based on the connections specified in the Installation details below.
- Additional framing connectors fastened to the face of the rim board may be used to increase lateral capacity for wind and seismic design.

ALLOWABLE UNIFORM LOADS (PLF) FOR OSB RIM BOARD HEADERS: MAXIMUM 4' CLEAR SPAN

Material	Thickness	Rim Board Depth			
		9-1/2"	11-7/8"	2-Ply 14"	2-Ply 16"
LP OSB	1"	330 (1-1/2")	480 (3")	1280 (3")	1670 (4-1/2")
	1-1/8"	370 (1-1/2")	540 (3")	1440 (3")	1880 (4-1/2")
LP LSL	1-1/4"	655 (1-1/2")	1240 (3")	3540 (4-1/2")	4485 (6")
LP LVL (cross-ply)	1-1/4"	595 (1-1/2")	1125 (3")	3210 (4-1/2")	4065 (6")

NOTES:

- This table is for preliminary design for uniform gravity loads only. Final design should include a complete analysis of all loads and connections.
- The allowable loads are for a maximum 4' clear span with minimum bearings for each end (listed in parentheses) based on the bearing capacity of the rim board. For headers bearing on wood plates, the bearing length may need to be increased based on the ratio of the bearing capacity of the rim board divided by the bearing capacity of the plate species.
- Normal load duration is assumed and shall be adjusted according to code.
- Depths greater than 11-7/8" shall be used with a minimum of two plies, as shown. Depths of 11-7/8" and less may be used as a two-ply header by multiplying the allowable loads by two.
- Multiple-ply headers shall be toe-nailed to the plate from both faces. Fasten the floor sheathing to the top of each ply to provide proper lateral support for each ply.
- For multiple-ply headers supporting top-loads only, fasten plies together with minimum 8d box nails (2-1/2" x 0.113") at a maximum spacing of 12" oc. Use 2 rows of nails for 9-1/2" and 11-7/8." Use 3 rows for depths 14" and greater. Clinch the nails where possible. For side-loaded multiple-ply headers, refer to the Connection Capacity For Side-Loaded 2-Ply Rim Board Headers table below for the required nailing and the allowable side load that can be applied.
- The designer shall verify proper bearing for the header.
- Joints in the rim are not allowed over openings and must be located at least 12" from any opening.
- Refer to the "APA Performance Rated Rim Boards" (Form No. W345) for additional information including allowable loads for smaller openings.
- Use LP® SolidStart® LSL or LVL for headers with clear spans longer than 4' or for loads greater than tabulated above. Refer to the appropriate technical guide for LP LSL and LVL design values.

CONNECTION CAPACITY FOR SIDE-LOADED 2-PLY RIM BOARD HEADERS (PLF)

Material	Thickness	Minimum Nail Size	3 Rows of Nails at 6" oc	4 Rows of Nails at 6" oc	5 Rows of Nails at 6" oc	6 Rows of Nails at 6" oc
LP OSB	1" & 1-1/8"	8d (2-1/2" x 0.113")	768	1024	1280	1536
LP LSL and LP LVL (cross-ply)	1-1/4" & 1-3/4"	8d (2-1/2" x 0.113") & 10d (3" x 0.120")	864 & 972	1152 & 1296	1440 & 1620	1728 & 1944

NOTES:

- This table represents the uniform side-load capacity of the connection for a 2-ply header. The total applied uniform load, including top-load and side-load, shall not exceed the allowable uniform load capacity of the header as tabulated above.
- The tabulated side-load capacity is for normal load duration and shall be adjusted according to code.
- Use 3 rows of nails for 9-1/2" and 11-7/8"; 4 rows for 14" and 16"; 5 rows for 18" and 20"; 6 rows for 22" and 24" deep rim board. Clinch the nails where possible.
- Headers consisting of more than 2 plies, alternate fastening or higher side loads are possible but require proper design of the connection.

INSTALLATION

RIM TO JOIST CONNECTION

Nail rim to I-joist with one 8d (box or common) or 10d box nail into each flange.

DECK TO RIM AND RIM TO PLATE CONNECTIONS¹

- Nail floor sheathing to rim board with 8d nails at 6" oc.
- Nail wall plate through floor sheathing into rim per code.
- Toe-nail rim board to wall plate with 8d nails at 6" oc.

See T&G Trim Requirements detail and table.

T&G TRIM REQUIREMENTS²

See T&G Trim Requirements table below for when to trim tongue or groove.

Trim tongue (or groove) Trim not required

NOTE:

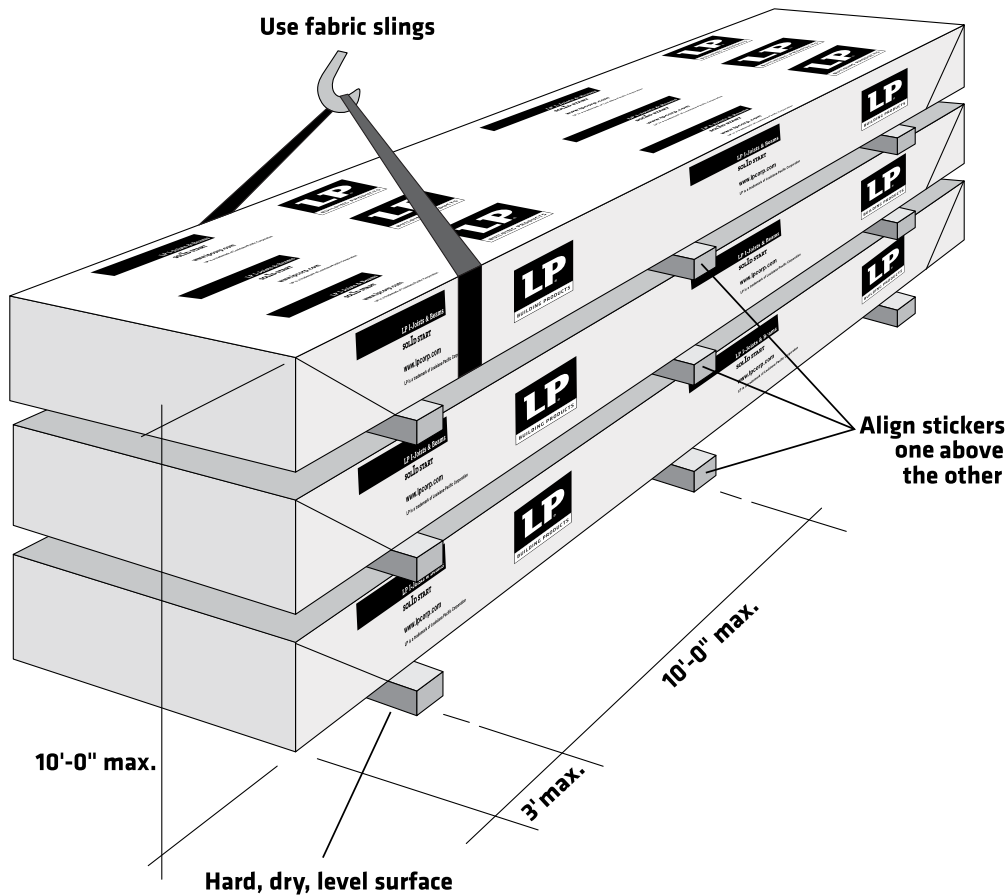
- Additional framing connectors to the face of the rim board may be used to increase lateral capacity for wind and seismic design.
- Trim the tongue or groove of the floor sheathing in accordance with the T&G Trim Requirements table.

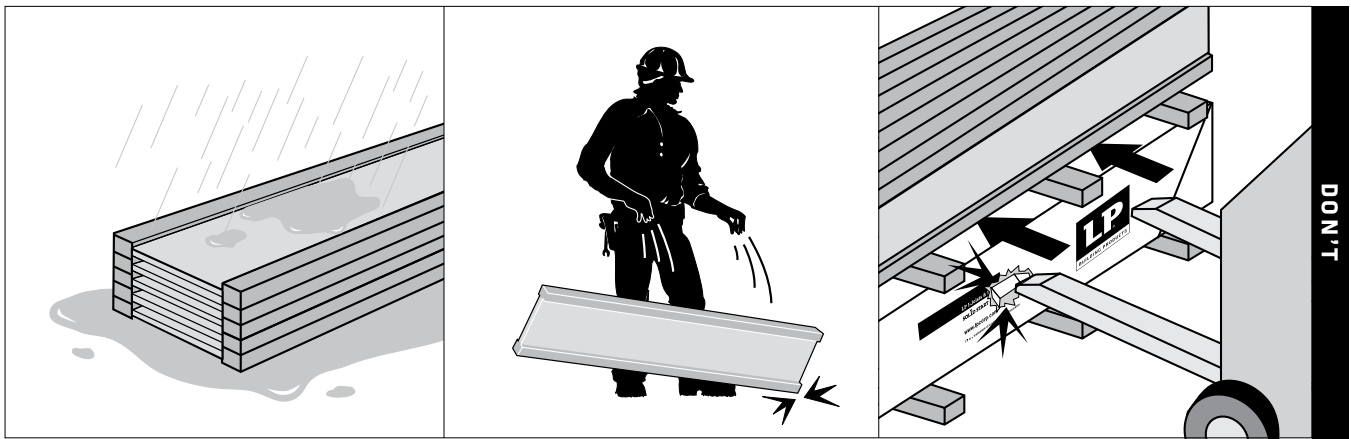
T&G TRIM REQUIREMENTS

Floor Sheathing Thickness	Rim Board Thickness			
	1"	1-1/8"	1-1/4"	> 1-1/4"
≤ 7/8"	Trim	Not Required	Not Required	Not Required
> 7/8"	Trim	Trim	Trim	Not Required

Handling and Storage Guidelines and Warnings

- Warning: Failure to follow good procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.
- Keep LP® SolidStart® Engineered Wood Products dry.
- Unload products carefully, by lifting. Support the bundles to reduce excessive bowing. Individual products shall be handled in a manner which prevents physical damage during measuring, cutting, erection, etc. I-joists shall be handled vertically and not flatwise.
- Keep products stored in wrapped and strapped bundles, stacked no more than 10' high. Support and separate bundles with 2x4 (or larger) stickers spaced no more than 10' apart. Keep stickers in line vertically.
- Product shall not be stored in contact with the ground, or have prolonged exposure to the weather.
- Use forklifts and cranes carefully to avoid damaging products.
- Do not use a visually damaged product. Call your local LP SolidStart Engineered Wood Products distributor for assistance when damaged products are encountered.
- For satisfactory performance, LP SolidStart Engineered Wood Products shall be used under dry, covered and well-ventilated interior conditions in which the equivalent moisture content in lumber will not exceed 16%.





WARNINGS

The following conditions are **NOT** permitted!
 Do not use visually damaged products without first checking
 with your local LP SolidStart Engineered Wood Products distributor or sales office.

<p>DON'T put holes too close to supports.</p> <p>Refer to hole chart for correct location.</p>	<p>DON'T overcut hole and damage flange.</p>	<p>DON'T make hole with hammer unless knock-out is provided.</p> <p>DON'T hammer on flange and damage joist.</p>	<p>DON'T cut or notch flange.</p> <p>DON'T drill flange.</p>
<p>DON'T cut flange for pipes.</p>	<p>DON'T use 16d nails.</p> <p>Refer to Joist End Nailing detail for correct sizes and locations.</p>	<p>DON'T cut beyond inside edge of bearing.</p>	<p>DON'T support I-joist on web.</p>



For more information on the full line of LP® SolidStart® Engineered Wood Products or the nearest distributor, visit our web site at LPCorp.com.

Phone: 1-888-820-0325

E-mail: customer.support@LPCorp.com.

LP SolidStart Engineered Wood Products are manufactured at different locations in the United States and Canada. Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area before specifying these products.

Cal. Prop 65 Warning: Use of this product may result in exposure to wood dust, known to the State of California to cause cancer.



© 2014 Louisiana-Pacific Corporation. All rights reserved. APA and APA Rated are registered trademarks of APA – The Engineered Wood Association. SIMPSON STRONG-TIE is a registered trademark of Simpson Strong-Tie Company, Inc. SFI and the associated logo are trademarks of Sustainable Forestry Initiative, Inc. PEFC and the associated logo are trademarks of Programme for the Endorsement of Forest Certification. USP STRUCTURAL CONNECTORS is a registered trademark of United Steel Products Company. LP and SolidStart are registered trademarks of Louisiana-Pacific Corporation. Printed in USA. Specifications (details) subject to change without notice.