PINKWOOD

Canadian Handling & Installation Recommendations

DO NOT walk on joists until braced. INJURY CAN OCCUR

DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

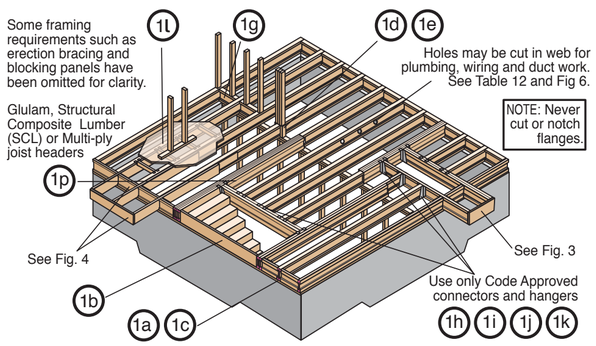
DO NOT walk on joists that are lying flat.

I-JOISTS Made Better even

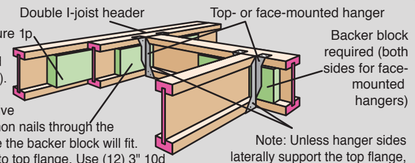
Customer service/support:
Toll free: 1-855-279-3700
E-mail: info@pinkwood.ca

SERIES:	PKI 15	PKI 20	PKI 23	PKI 35 Plus	PKI 40	PKI 50
Depths:	9 1/2" & 11 7/8"	9 1/2" thru 16"	9 1/2" thru 16"	9 1/2" thru 16"	9 1/2" thru 24"	11 7/8" thru 24"
Flange Size:	1 1/2" x 2 1/2"	2 1/2" x 1 1/2"	2 1/2" x 1 1/2"	3 1/2" x 1 1/2"	3 1/2" x 1 1/2"	3 1/2" x 1 1/2"
Webstock:	3/8" OSB	3/8" OSB	7/16" OSB	3/8" OSB	3/8" OSB (7/16" for 18"-24")	7/16" OSB

Note: PKI15, 20, 23, 35Plus, 40 and 50 series are available with factory applied WEBshield protection. Call for details.



1h



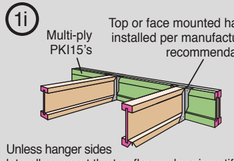
Backer block (use if factored hanger load exceeds 360 lbf). Before installing a backer block to a double I-joist, drive (3) additional 3" 10d common nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use (12) 3" 10d common nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1620 lbf.

Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

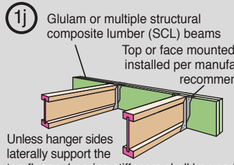
For hanger capacity, see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

1i



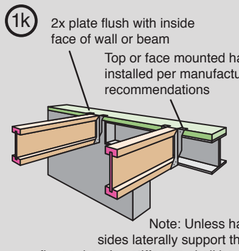
Unless hanger sides laterally support the top flange, bearing stiffeners shall be used. For nailing schedules for multiple SCL beams, see manufacturer's recommendations.

1j



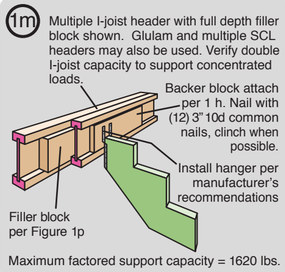
Unless hanger sides laterally support the top flange, bearing stiffeners shall be used. For nailing schedules for multiple SCL beams, see manufacturer's recommendations.

1k



Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1m



Maximum factored support capacity = 1620 lbs.

1l

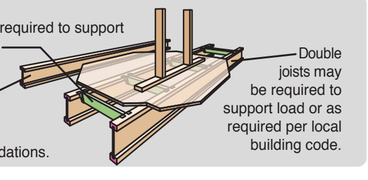
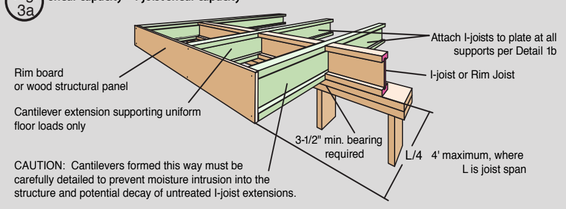


Fig. 3a

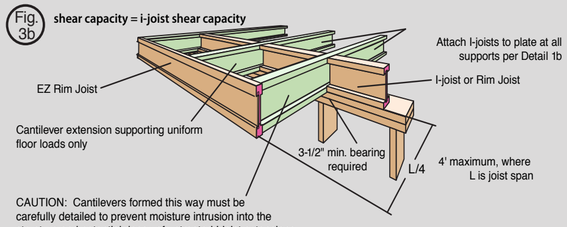
shear capacity = i-joist shear capacity



CAUTION: Cantilevers formed this way must be carefully detailed to prevent moisture intrusion into the structure and potential decay of untreated I-joist extensions.

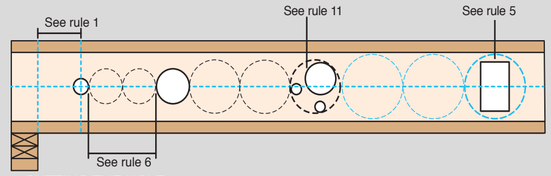
Fig. 3b

shear capacity = i-joist shear capacity



CAUTION: Cantilevers formed this way must be carefully detailed to prevent moisture intrusion into the structure and potential decay of untreated I-joist extensions.

Fig. 6

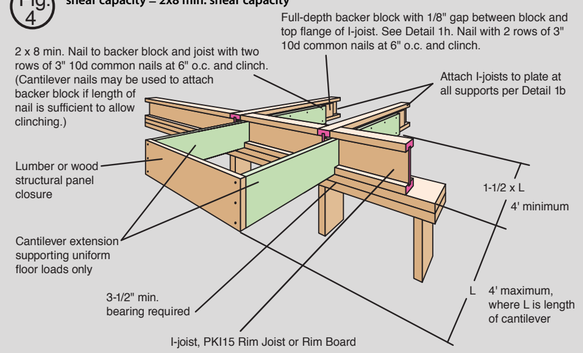


CUTTING THE HOLE

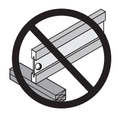
- Never drill, cut or notch the flange, or over-cut the web.
- Holes in webs should be cut with a sharp saw.
- For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

Fig. 4

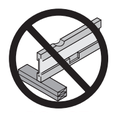
shear capacity = 2x8 min. shear capacity



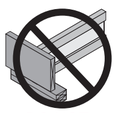
WARNINGS



DO NOT... drill any holes over a support.



DO NOT... cut or notch top or bottom cords.

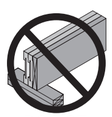


DO NOT... use conventional lumber for structural rim or band board.

DO NOT... install joists on an angle.

DO NOT... split the flange. Ensure proper toe nailing.

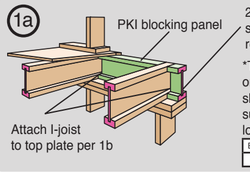
DO NOT... bevel cut the joist past the inside face of wall.



DO NOT... use conventional lumber combined with PKI Joists as built-up.

DO NOT... prolong exposure to the elements, (rain, snow, sun) either on-site or at lumber yard.

1a

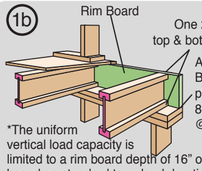


2-1/2" 8d box nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking).

*The uniform vertical load is limited to a joist depth of 16" or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header or rafter. For concentrated vertical load transfer capacity, see 1d.

Blocking panel or rim joist	Max Factored Vertical Uniform Loads
PKI Rim joist	3300 (PLF)

1b

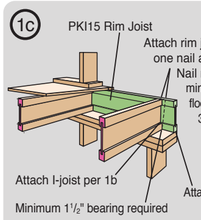


*The uniform vertical load capacity is limited to a rim board depth of 16" or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header or rafter. For concentrated vertical load transfer capacity, see 1d.

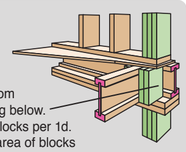
One 8d face nail at each side at bearing. To avoid splitting flange, start nails at least 1 1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

Blocking panel or rim joist	Max Factored Vertical Uniform Loads
1-1/8" Rim Board Plus	7033 PLF
1-1/8" Rim Board	7033 PLF
1" Rim Board	4785 PLF

1c

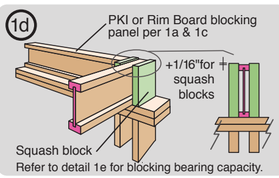


1e



Transfer load from above to bearing below. Install squash blocks per 1d. Match bearing area of blocks below to post above.

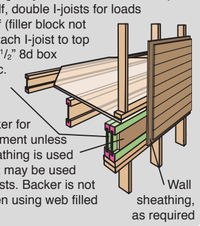
1d



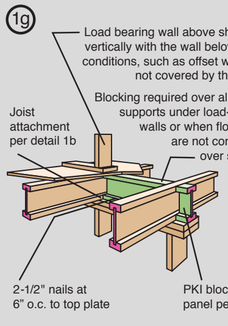
Refer to detail 1e for blocking bearing capacity.

1f

Use single I-joist for factored loads up to 3300plf, double I-joists for loads up to 6600plf (filler block not required). Attach I-joist to top plate using 2 1/2" 8d box nails at 6" o.c.

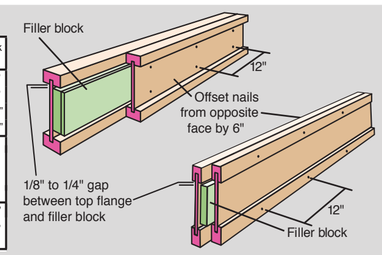


1g



1p

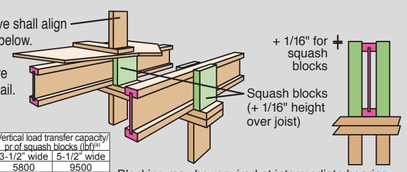
Flange Width	Net Depth	Filler Block Size
2-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
PKI15 Multi-ply 1-1/2"	9-1/2"	1-1/8" x 4"
	11-7/8"	1-1/8" x 6"



Notes:

1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. For flange widths of 2-1/2 inches or less, nail joists together with two rows of 3" 10d common nails, 12" o.c. (clinched when possible) on each side of the double I-joist (total 4 nails per foot). For flange widths greater than 2-1/2", use two rows of 3" 10d common nails at 6" o.c. on each side of the double I-joist (total 8 nails/ ft).
5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/ft.
6. For I-joist depths greater than 16 inches, please contact your PinkWood representative for details.
7. Web fill may be omitted for some loading conditions. Please contact PinkWood representative for details.

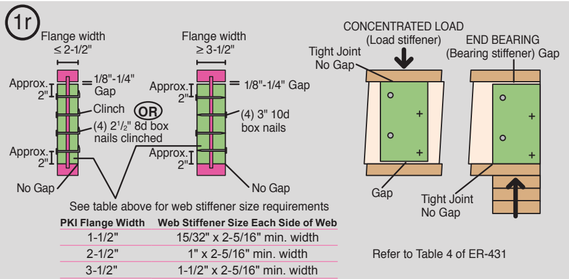
1q



Pair of Squash Blocks	Vertical load transfer capacity/ pr of squash blocks (lbf)[a]	
	3-1/2" wide	5-1/2" wide
2x lumber	5800	9500
1-1/8" APA Rim Board, Rim Board Plus, C1 or better[b] or Rated Sturd-I-Floor 32 oc	4500	5800
1" Rim Board, C2 or better[b] or Rated Sturd-I-Floor 32 oc	4000	5800

Blocking may be required at intermediate bearing for floor diaphram. Consult local building regulations. See ANSI/APA PRR 410. Squash blocks are assumed to be in full bearing on the plate below.

1r



See table above for web stiffener size requirements

PKI Flange Width	Web Stiffener Size Each Side of Web
1-1/2"	15/32" x 2-5/16" min. width
2-1/2"	1" x 2-5/16" min. width
3-1/2"	1-1/2" x 2-5/16" min. width

Refer to Table 4 of ER-431

ALLOWABLE LOCATION OF HOLES IN PKI JOIST WEBS

Simple or Multiple Spans for Live Loads Up to 40 psf and Dead Loads up to 30 psf - 24" o.c. or Less

Joist Depth	Series	Min. Distance from Inside Edge of Any Support to Center of Hole (ft-in)													
		Round Hole Diameter (in)													
		2	3	4	5	6	6 1/4	7	8	8 5/8	9	10	10 3/4	11	12	12 3/4
		Rectangular Hole Longest Side (in)													
		1 1/2	2 1/8	2 7/8	3 5/8	4 1/4	4 1/2	5	5 3/4	6 1/8	6 3/8	7 1/8	7 5/8	7 7/8	8 1/2	9 1/8
9 1/2"	PKI 10	1'-0"	1'-0"	2'-0"	3'-3"	4'-6"	4'-10"									
	PKI 15	1'-8"	2'-7"	3'-7"	4'-7"	5'-8"	5'-11"									
	PKI 20	1'-0"	1'-9"	3'-0"	4'-2"	5'-6"	5'-10"									
	PKI 23	1'-0"	2'-0"	3'-2"	4'-5"	5'-9"	6'-1"									
	PKI 35 Plus	1'-0"	2'-0"	3'-2"	4'-5"	5'-9"	6'-1"									
	PKI 40	1'-9"	3'-0"	4'-4"	5'-8"	7'-1"	7'-5"									
11 7/8"	PKI 10	1'-0"	1'-0"	1'-0"	1'-8"	2'-9"	3'-1"	3'-11"	5'-2"	6'-0"						
	PKI 15	1'-0"	1'-9"	2'-6"	3'-5"	4'-3"	4'-6"	5'-2"	6'-1"							
	PKI 20	1'-0"	1'-0"	1'-7"	2'-8"	3'-10"	4'-2"	5'-0"	6'-3"	7'-1"						
	PKI 23	1'-0"	1'-0"	1'-7"	2'-8"	3'-10"	4'-2"	5'-0"	6'-3"	7'-1"						
	PKI 35 Plus	1'-0"	1'-0"	1'-0"	2'-1"	3'-3"	3'-6"	4'-5"	5'-8"	6'-5"						
	PKI 40	1'-0"	1'-10"	3'-1"	4'-3"	5'-7"	5'-11"	6'-11"	8'-4"							
	PKI 50	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	3'-11"	5'-2"	6'-11"	8'-0"						
14"	PKI 10	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-7"	2'-4"	3'-5"	4'-2"	4'-7"	5'-9"	6'-9"			
	PKI 15	1'-0"	1'-3"	2'-0"	2'-9"	3'-7"	3'-9"	4'-4"	5'-2"	5'-9"	6'-1"					
	PKI 20	1'-0"	1'-0"	1'-0"	1'-4"	2'-5"	2'-8"	3'-6"	4'-7"	5'-4"	5'-9"	7'-0"				
	PKI 23	1'-0"	1'-0"	1'-0"	1'-2"	2'-3"	2'-6"	3'-4"	4'-5"	5'-2"	5'-7"	6'-9"	7'-9"			
	PKI 35 Plus	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-7"	2'-4"	3'-5"	4'-2"	4'-7"	5'-9"	6'-9"			
	PKI 40	1'-0"	1'-0"	1'-9"	2'-11"	4'-1"	4'-5"	5'-4"	6'-8"	7'-6"	8'-0"	9'-4"				
	PKI 50	1'-0"	1'-0"	1'-0"	1'-0"	2'-2"	2'-6"	3'-7"	5'-1"	6'-0"	6'-7"	8'-2"	9'-5"			
16"	PKI 20	1'-0"	1'-0"	1'-0"	1'-0"	1'-1"	1'-5"	2'-2"	3'-2"	3'-10"	4'-3"	5'-4"	6'-3"	6'-6"	7'-9"	
	PKI 23	1'-0"	1'-0"	1'-0"	1'-0"	1'-1"	1'-5"	2'-2"	3'-2"	3'-10"	4'-3"	5'-4"	6'-3"	6'-6"	7'-9"	
	PKI 35 Plus	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-7"	2'-3"	2'-8"	3'-8"	4'-6"	4'-10"	6'-0"	6'-11"
	PKI 40	1'-0"	1'-0"	1'-0"	1'-1"	2'-3"	2'-6"	3'-5"	4'-7"	5'-4"	5'-10"	7'-1"	8'-1"	8'-5"	9'-10"	
	PKI 50	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-4"	4'-2"	4'-8"	6'-1"	7'-2"	7'-6"	9'-1"	

Note - Distances in this chart are based on uniformly loaded joists (standard load duration). Consult Pinkwood design software for loading and holes configurations other than those depicted in this guide.

WEB HOLE SPECIFICATIONS

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

Rules for cutting holes in PKI Joists

1) The distance between the inside edge of the support and the centerline of any hole shall be in compliance with the requirements of this table.
2) I-joist top and bottom flange should NEVER be cut, notched or otherwise modified.
3) Whenever possible, field-cut holes should be centered in the middle of the web.
4) The maximum size hole that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole and the adjacent I-joist flange.
5) Square and Rectangular holes are permitted in the joist web provided that an encompassing circumscribed round hole is permitted at that location.
6) Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole) and each hole must be sized and located in compliance with the requirements of this table.
7) Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a PKI-joist. Holes of greater size may be permitted subject to verification.
8) A 1-1/2-inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
9) All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 6.
10) Limit three maximum-size holes per span.
11) A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

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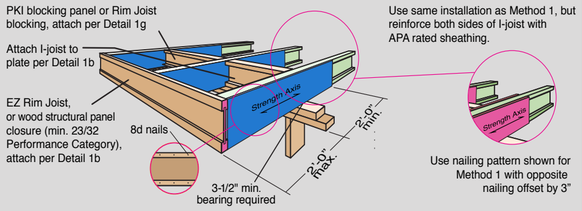
Feb. 2023 - CDN

Fig. 5a CANTILEVER DETAIL FOR VERTICAL BUILDING OFFSET

Method 1
Sheathing Reinforcement One Side
shear capacity = i-joist shear capacity +23/32" OSB

Method 2
Sheathing Reinforcement Two Sides
shear capacity = i-joist shear capacity +(2) 23/32" OSB

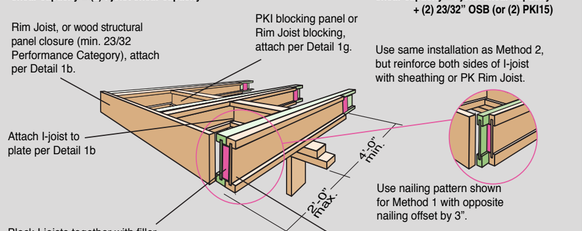


APA RATED SHEATHING 48/24 OR APA RATED STURD-I-FLOOR 24 oc (min. 23/32 Performance Category) required on sides of joist. Depth shall match the full height of the joist. Nail with 2 1/2" 8d common nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per Detail 1b.

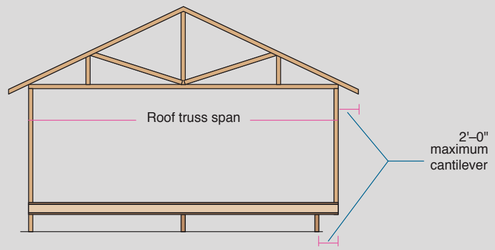
Fig. 5b CANTILEVER DETAIL FOR VERTICAL BUILDING OFFSET

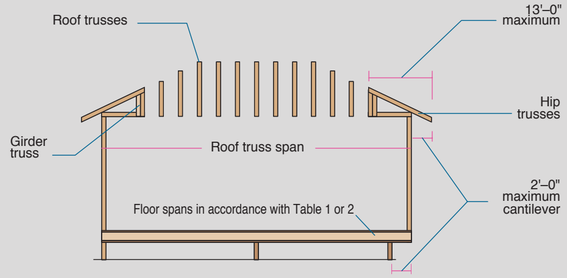
Alternate Method 2 Double I-Joist
shear capacity = (2) i-joist shear capacity

Method 3 Double PKI15 Joists
shear capacity = i-joist shear capacity + (2) 23/32" OSB (or (2) PKI15)



See Table below for PKI reinforcement requirements at cantilever.





For hip roofs with the hip trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26' shall be permitted to be used.

Note: In all roof and floor details, 10d common nails may be used where 10d is specified unless otherwise specified in ER-431. 8d common nails may be used where 8d is specified unless specified in ER-431.

NOTES:

REINFORCED LOAD BEARING CANTILEVER TABLES

PKI20

Joist Depth (IN)	Roof Truss Span (FT)	Roof Total Load (PSF)								
		35			45			55		
		Joist Spacing (IN)								
		16	19.2	24	16	19.2	24	16	19.2	24
9-1/2	24	0	0	0	0	0	2	0	2	X
	26	0	0	1	0	1	X	1	2	X
	28	0	0	1	0	1	X	1	X	X
	30	0	0	2	0	2	X	2	X	X
	32	0	0	2	0	2	X	2	X	X
	34	0	0	X	1	X	X	X	X	X
	36	0	1	X	1	X	X	X	X	X
	38	0	1	X	2	X	X	X	X	X
	40	0	2	X	2	X	X	X	X	X
11-7/8	24	0	0	0	0	0	1	0	0	2
	26	0	0	0	0	0	1	0	1	X
	28	0	0	0	0	0	2	0	1	X
	30	0	0	0	0	0	2	0	2	X
	32	0	0	1	0	1	X	1	2	X
	34	0	0	1	0	1	X	1	X	X
	36	0	0	1	0	1	X	1	X	X
	38	0	0	2	0	2	X	2	X	X
	40	0	0	2	0	2	X	2	X	X
14	24	0	0	0	0	0	0	0	0	1
	26	0	0	0	0	0	0	0	0	2
	28	0	0	0	0	0	1	0	0	2
	30	0	0	0	0	0	1	0	1	X
	32	0	0	0	0	0	1	0	1	X
	34	0	0	0	0	0	2	0	1	X
	36	0	0	0	0	0	2	0	2	X
	38	0	0	1	0	1	X	1	2	X
	40	0	0	1	0	1	X	1	X	X
16	24	0	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0	1
	28	0	0	0	0	0	0	0	0	1
	30	0	0	0	0	0	0	0	0	2
	32	0	0	0	0	0	0	0	0	2
	34	0	0	0	0	0	1	0	1	2
	36	0	0	0	0	0	1	0	1	X
	38	0	0	0	0	0	2	0	1	X
	40	0	0	0	0	0	2	0	2	X

PKI40

Joist Depth (IN)	Roof Truss Span (FT)	Roof Total Load (PSF)								
		35			45			55		
		Joist Spacing (IN)								
		16	19.2	24	16	19.2	24	16	19.2	24
9-1/2	24	0	0	0	0	0	2	0	1	X
	26	0	0	0	0	0	2	0	2	X
	28	0	0	1	0	1	X	1	2	X
	30	0	0	1	0	1	X	1	X	X
	32	0	0	2	0	2	X	1	X	X
	34	0	0	2	0	2	X	2	X	X
	36	0	0	2	1	2	X	2	X	X
	38	0	1	X	1	X	X	X	X	X
	40	0	1	X	1	X	X	X	X	X
11-7/8	24	0	0	0	0	0	0	0	0	1
	26	0	0	0	0	0	0	0	0	2
	28	0	0	0	0	0	1	0	0	X
	30	0	0	0	0	0	1	0	1	X
	32	0	0	0	0	0	2	0	1	X
	34	0	0	0	0	0	2	0	2	X
	36	0	0	1	0	1	X	1	2	X
	38	0	0	1	0	1	X	1	X	X
	40	0	0	1	0	1	X	1	X	X
14	24	0	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0	1
	28	0	0	0	0	0	0	0	0	1
	30	0	0	0	0	0	0	0	0	2
	32	0	0	0	0	0	0	0	0	2
	34	0	0	0	0	0	1	0	1	X
	36	0	0	0	0	0	1	0	1	X
	38	0	0	0	0	0	2	0	1	X
	40	0	0	0	0	0	2	0	2	X
16	24	0	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0
	30	0	0	0	0	0	0	0	0	1
	32	0	0	0	0	0	0	0	0	1
	34	0	0	0	0	0	0	0	0	1
	36	0	0	0	0	0	0	0	0	2
	38	0	0	0	0	0	1	0	0	2
	40	0	0	0	0	0	1	0	1	X

Table Legend:

0 = No reinforcement required.
1 = PKIs reinforced with 23/32 Performance Category wood structural panel on one side only.
2 = PKIs reinforced with 23/32 Performance Category wood structural panel on both sides or double I-joist.
X = Try a deeper joist or closer spacing.

Notes:

(1) Maximum load shall be: 15 psf roof dead load, 55 psf floor total load, and 80 plf wall load. Wall load is based on 3'-0" maximum width window or door openings. For larger openings, or multiple 3'-0" width openings spaced less than 6'–0" o.c., additional joists beneath the opening's cripple studs may be required.

(2) Table applies to joists 16" to 24" o.c.

(3) For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge board, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.

(4) Joists space at 12" o.c. require no reinforcement.