

FIRE RATED I-JOISTS for Unfinished Basements



WEBSHIELD PROTECTED I-JOIST GUIDE

PKI 10, PKI 20, PKI 23, PKI 35 Plus, PKI 40 and PKI 50
USA



WHY ARE BUILDERS DEMANDING WEBSHIELD PROTECTED I-JOISTS IN THEIR HOUSES?

1. Meets 2012 IRC 501.3 exception 4 and 2015 and 2018 IRC 302.13 Code Requirements.
2. WEBshield protection, applied to standard PKI joists, provides superior fire performance when compared to other products.
3. Pinkwood Ltd. produces a wide range of WEBshield protected I-Joists with series with depths of 9-1/2", 11-7/8" and 14" to satisfy all builder requirements.
4. Framers prefer working with WEBshield protected i-joists for ease of handling, wide-flange nailing, and side nailing capabilities.
5. By utilizing standard PKI joists, mechanical, electrical and plumbing penetrations are made with ease.
6. Home owners enjoy Pinkwood's WEBshield protected joists for the peace of mind offered.

PKI SERIES BECOMES THE FRI ASSEMBLY WITH WEBSHIELD

The FRI assembly is created utilizing WEBshield panels connected to standard PKI joists with either 2x3 flange (PKI 10, 20, 23) or 2x4 flange (PKI 35 Plus, 40, 50) which have a specific proprietary lumber grade. Having only two flange sizes results in simplified selection of hangers and fasteners and thereby reduces the number of component SKU's required by the dealer.



PKI 10 SERIES	PKI 20 SERIES	PKI 23 SERIES	PKI 35 Plus SERIES	PKI 40 SERIES	PKI 50 SERIES
9-1/2" thru 14" 2 1/2" x 1 1/2" 3/8" OSB	9-1/2" thru 14" 2 1/2" x 1 1/2" 3/8" OSB	9-1/2" thru 14" 2 1/2" x 1 1/2" 7/16" OSB	9-1/2" thru 14" 3 1/2" x 1 1/2" 3/8" OSB	9-1/2" thru 14" 3 1/2" x 1 1/2" 3/8" OSB	11 7/8" and 14" 3 1/2" x 1 1/2" 7/16" OSB

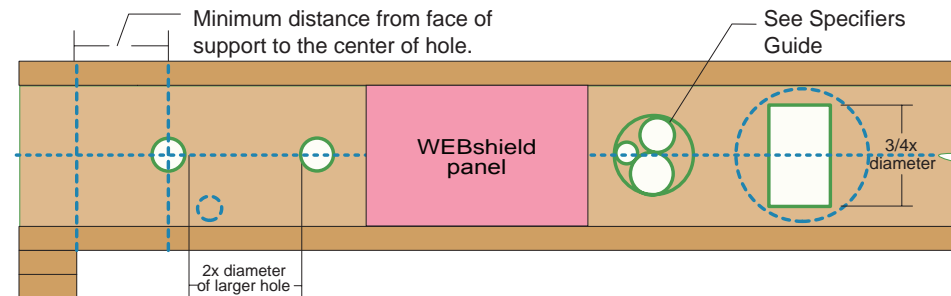
- NOTES:**
- Allowable design span applicable to simple and multiple-span residential floor construction with loads as indicated in the below table. The live load deflection is limited to span/480. Verify span capacities in accordance with latest version of CSD software.
 - Spans are based on a composite floor with glued-nailed sheathing meeting the requirements for APA Rated Sheathing or APA Rated STURD-I-FLOOR conforming to PS 1, PS 2, CSA O325, or CSA O437. Adhesive shall meet ASTM D3498 or APA Specification AFG-01.
 - Minimum end bearing length shall be 1 1/2 inches for 9-1/2", 11-7/8" and 14" deep I-joists.
 - When WEBshield panels fall directly over bearing and the I-joist requires web stiffeners, consult FRI Assembly Installation Guide for web stiffener details.
 - Bearing stiffeners are not required for end bearings when I-joists are used with the spans and spacings given in this table, except as required by hanger manufacturers.
 - For simple spans, underlined spans require 2 1/2" end bearing length, all other spans require 1-1/2" end bearing length.
 - For multiple spans, underlined spans require 3 1/2" intermediate bearing with web stiffener, all other spans require 3-1/2" intermediate bearing without web stiffener.

40 PSF LL/ 10 PSF DL (L/480) with 23/32" SHEATHING GLUED & NAILED

Joist Depth	FRI Assembly	Simple/Multiple Spans (ft-in)			
		O/C Spacing			
		12"	16"	19.2"	24"
9-1/2"	PKI 10	17'-7"	15'-4"	14'-0"	12'-6"
	PKI 20	18'-3"	16'-9"	15'-3"	13'-8"
	PKI 23	18'-8"	17'-1"	16'-2"	14'-10"
	PKI 35 Plus	19'-4"	17'-8"	16'-8"	15'-0"
	PKI 40	21'-3"	19'-5"	18'-4"	17'-1"
11-7/8"	PKI 10	20'-3"	17'-7"	16'-0"	14'-4"
	PKI 20	21'-7"	19'-3"	17'-7"	15'-8"
	PKI 23	22'-0"	20'2"	18'-10"	16'-10"
	PKI 35 Plus	22'-10"	20'-10"	19'-0"	17'-0"
	PKI 40	25'-2"	22'-11"	21'-7"	20'-1"
PKI 50	25'-3"	23'-0"	21'-9"	20'-2"	
14"	PKI 10	22'-2"	19'-3"	17'-7"	15'-8"
	PKI 20	24'-0"	20'-10"	19'-0"	17'-0"
	PKI 23	25'-0"	22'-7"	20'-8"	18'-6"
	PKI 35 Plus	25'-10"	22'-9"	20'-9"	18'-7"
	PKI 40	28'-6"	25'-11"	24'-6"	22'-9"
PKI 50	28'-8"	26'-1"	24'-7"	22'-11"	

Refer to Pinkwood's Specifier Guide for additional details.

ALLOWABLE HOLE LOCATION IN NON-WEBSHIELD SECTIONS



Joist Depth	Series	SAF	Minimum Distance from Inside Face of Any Support to Center of Hole (ft-in)													
			Round Hole Diameter (in)													
			2	3	4	5	6-1/4	7	8	8-5/8	9	10	10-3/4			
9-1/2"	PKI 10	12.91	1'-1"	1'-2"	1'-8"	2'-11"	4'-4"	4'-9"								
	PKI 20	14.09	1'-1"	1'-2"	2'-5"	3'-9"	5'-2"	5'-7"								
	PKI 23	14.83	1'-1"	1'-6"	2'-11"	4'-4"	5'-10"	6'-3"								
	PKI 35 Plus	15.32	1'-1"	2'-1"	3'-5"	4'-9"	6'-3"	6'-9"								
	PKI 40	16.81	2'-0"	3'-4"	4'-9"	6'-4"	7'-11"	8'-4"								
11-7/8"	PKI 10	14.81	1'-1"	1'-2"	1'-2"	1'-8"	2'-10"	3'-2"	4'-2"	5'-6"	6'-7"					
	PKI 20	16.32	1'-1"	1'-2"	1'-5"	2'-8"	3'-11"	4'-3"	5'-2"	6'-8"	7'-11"					
	PKI 23	17.52	1'-1"	1'-2"	1'-2"	2'-6"	3'-10"	4'-3"	5'-4"	6'-10"	8'-2"					
	PKI 35 Plus	17.67	1'-1"	1'-2"	2'-4"	3'-7"	4'-10"	5'-2"	6'-2"	7'-9"	9'-1"					
	PKI 40	19.96	1'-5"	2'-9"	4'-1"	5'-6"	6'-11"	7'-3"	8'-5"	10'-1"	11'-2"					
PKI 50	20.08	1'-1"	1'-2"	1'-2"	2'-7"	4'-5"	4'-10"	6'-3"	8'-2"	9'-6"						
14"	PKI 10	16.24	1'-1"	1'-2"	1'-2"	1'-3"	1'-8"	1'-11"	2'-9"	4'-0"	4'-9"	5'-3"	6'-8"	8'-2"		
	PKI 20	17.69	1'-1"	1'-2"	1'-2"	1'-5"	2'-7"	2'-10"	3'-9"	5'-0"	5'-10"	6'-4"	7'-10"	9'-8"		
	PKI 23	19.24	1'-1"	1'-2"	1'-2"	1'-3"	2'-2"	2'-6"	3'-6"	4'-11"	5'-10"	6'-4"	8'-0"	9'-9"		
	PKI 35 Plus	18.42	1'-1"	1'-2"	1'-3"	2'-5"	3'-7"	3'-10"	4'-9"	6'-1"	6'-11"	7'-6"	9'-4"	11'-5"		
	PKI 40	22.63	1'-1"	2'-2"	3'-5"	4'-9"	6'-1"	6'-5"	7'-6"	8'-11"	9'-11"	10'-6"	12'-2"	13'-7"		
PKI 50	22.76	1'-1"	1'-2"	1'-2"	2'-4"	3'-11"	4'-4"	5'-6"	7'-3"	8'-4"	9'-0"	10'-11"	12'-5"			

WEBSHIELD AND WEB HOLE SPECIFICATIONS

One of the benefits of using WEBshield protected I-joists in residential basement construction is that holes may be cut in the unprotected joist webs to accommodate electrical wiring, plumbing lines and other mechanical systems, therefore minimizing the depth of the floor system. The following rules for cutting holes applies:

- 1) The distance between the inside edge of the support and the centerline of any hole shall be in compliance with the requirements of Table 11 of IAPMO Report UES-0431.
- 2) I-joist top and bottom flanges must NEVER be cut, notched or otherwise modified.
- 3) Whenever possible, field-cut holes should be centered on 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) The sides of square holes or longest sides of rectangular holes should not exceed three-fourths of the diameter of the maximum round hole 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 Table 11.
- 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 joist web and WEBshield panel 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 the above Figure.
- 10) Limit three maximum-size holes per span.
- 11) Maximum of one 6" hole is allowed in the WEBshield provided that an additional minimum 6" of WEBshield is added to the penetrated panel. (see IAPMO UES0431)
- 12) 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.





CODE COMPLIANT

All Pinkwood WEBshield and PKI series products have been reviewed and evaluated for code compliance and meet the minimum requirements outlined in the 2012 2015 and 2018 IRC (International Residential Code) for use in exposed unfinished basements. See ER-0431 and ER-0653



ENGINEERED FLOOR SYSTEM GUARANTEE

PinkWood joists are manufactured to meet or exceed the rigorous engineering and testing standards set by every major code approval agency in North America.

All PinkWood joist products are unconditionally guaranteed to be free of manufacturing defects. PinkWood Ltd. guarantees that its PinkWood joist products, when installed and handled as per the PKjoist installation guide, will perform in accordance with the published structural specifications.

In the unlikely event that a problem occurs due to a manufacturing defect, PinkWood Ltd. shall be given a reasonable opportunity to inspect the PinkWood product on site. If this evaluation reveals a problem due to manufacturing defects, the situation shall be promptly corrected.

Please feel free to contact a representative of PinkWood Ltd. for specific details and limitations of this guarantee.

