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# **PKI RESIDENTIAL I-JOIST GUIDE**

by Pinkvi

PKI 10, PKI 20, PKI 23, PKI 35+, PKI 40, PKI 50 Canada



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#### WHY DO MOST BUILDERS IN WESTERN CANADA USE PKI JOISTS?

- 1. PK Shield web protection, applied to PKI joists, provides superior fire and moisture protection and contains a broad spectrum fungicide for added mildew resistance on the dried film.
- 2. Pinkwood Ltd. produces a range of I-Joist series and depths of 9<sup>1</sup>/<sub>2</sub>" to 24" to satisfy all commonly used design criteria.
- 3. Framers prefer working with PKI Joists for ease of handling, wide-flange nailing, and side nailing capabilities.
- 4. By being manufactured in Western Canada, lead times are reduced and costs are buffered from freight and currency fluctuations.
- 5. Home owners enjoy Pinkwood's SAFEjoist series for the peace of mind offered by the added fire and mildew protection.
- 6. Pinkwood contributes a portion of all SAFEjoist sales to the Canadian Breast Cancer Foundation.

#### **PKI SERIES**

PKI Joists series are manufactured with either 2x3" (PKI 10, 20, 23) or 2x4" (PKI 35+, 40, 50) flanges 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 Depths: 9 ½", 11 <sup>7</sup>%", 14" Chord Size: 2 ½" x 1 ½" Webstock: <sup>3</sup>%" OSB PKI 20 SERIES 9 ½", 11 ½", 14", 16" 2 ½" x 1 ½" 3⁄8" OSB

**PKI 23 SERIES** 9 ½", 11 ½", 14", 16" 2 ½" x 1 ½" ½6" OSB

Features

PKI 35+ SERIES 9 ½", 11 ½", 14", 16" 3 ½" x 1 ½" ¾" OSB

Benefits

**PKI 40 SERIES** 9 ½", 11 ½", 14", 16"-24" 3 ½" x 1 ½" %" OSB (½16" for 18"-24" depths) PKI 50 SERIES 11 <sup>7</sup>/<sub>8</sub>", 14", 16"-24" 3 <sup>1</sup>/<sub>2</sub>" x 1 <sup>1</sup>/<sub>2</sub>" <sup>7</sup>/<sub>16</sub>" OSB

\*PKI 20, 40 & 50 Series currently available uncoated. PKI 40 & 50 available up to 24" depths.

Member of



	/					
Wide Nailing	✓	Easy diaphragm nailing and floor panel assembly				
Side Nailing	~	No structural issues regarding bridging elements, sprinkler attachments, pot lights etc.				
End Nailing	•	Rim attachment at sill plate, three nails in close proximity can cause issues with LVL flange				
Fire Rated - FRB	~	FRB provides a class B or flame spread rating of <75				
Enhanced Moisture Protection	-	Specifically designed for lower mainland, 6 story construction will be exposed 50% longer than 4 story				
Enhanced Mildew Protection	~	Specifically designed for lower mainland environment				
Made in Western Canada	1	Key components sourced from Western Canadian mills				
Holmes Approved	~	Mike Holmes increasing awareness of protected EWP				
Socially Responsible	-	Supporting the Canadian Breast Cancer foundation with every coated joist sold				
Value Added Jobs in Canada	-	PinkWood employees spend their earnings on Western Canadian living				

#### SIMPLE SPAN: 40 PSF LL/ 15 PSF DL (L/480) - 19/32" SHEATHING GLUED & NAILED

	JOIST				W/ CEILING DIRECTLY APPLIED		
	TYPE	-	C SPACINO	-	O/C SPACING		
(INCHES)		12"	16"	19.2"	12"	16"	19.2"
9 1/2	PKI 10	15'- 4"	14'- 6"	14'- 1"	15'- 10"	15'- 0"	14'- 6"
	PKI 20	15'- 9"	14'- 10"	14'- 5"	16'- 2"	15'- 3"	14'- 9"
	PKI 23	15'- 11"	15'- 0"	14'- 7"	16'- 4"	15'- 6"	14'- 11"
	PKI 35Plus	16'- 3"	15'- 4"	14'- 10"	16'- 8"	15'- 9"	15'- 3"
	PKI 40	17'- 2"	16'- 2"	15'- 8"	17'- 7"	16'- 7"	16'- 0"
11 7/8	PKI 10	17'- 3"	16'- 3"	15'- 9"	17'- 9"	16'- 9"	16'- 3"
	PKI 20	17'- 7"	16'- 7"	16'- 1"	18'- 1"	17'- 1"	16'- 7"
	PKI 23	17'- 10"	16'- 10"	16'- 3"	18'- 5"	17'- 4"	16'- 9"
	PKI 35Plus	18'- 2"	17'- 2"	16'- 7"	18'- 10"	17'- 7"	17'- 1"
	PKI 40	19'- 7"	18'- 2"	17'- 6"	20'- 2"	18'- 8"	17'- 11"
	PKI 50	19'- 8"	18'- 3"	17'- 7"	20'- 3"	18'- 9"	18'- 0"
14	PKI 10	18'- 10"	17'- 8"	17'- 1"	19'- 8"	18'- 3"	17'- 8"
	PKI 20	19'- 5"	18'- 1"	17'- 6"	20'- 2"	18'- 9"	18'- 0"
	PKI 23	19'- 8"	18'- 4"	17'- 8"	20'- 5"	19'- 0"	18'- 3"
	PKI35 Plus	20'- 3"	18'- 9"	18'- 0"	20'- 11"	19'- 5"	18'- 8"
	PKI 40	21'- 9"	20'- 1"	19'- 3"	22'- 5"	20'- 9"	19'- 10"
	PKI 50	21'- 10"	20'- 2"	19'- 4"	22'- 6"	20'- 10"	19'- 11"
16	PKI 20	21'- 1"	19'- 7"	18'- 10"	21'- 11"	20'- 5"	19'- 7"
	PKI 23	21'- 5"	19'- 11"	19'- 1"	22'- 3"	20'- 8"	19'- 10"
	PKI 35Plus	22'- 0"	20'- 5"	19'- 7"	22'- 9"	21'- 2"	20'- 3"
	PKI 40	23'- 8"	21'- 10"	20'- 11"	24'- 5"	22'- 7"	21'- 7"
	PKI 50	23'- 9"	22'- 0"	21'- 0"	24'- 6"	22'- 8"	21'- 8"

NOTES:

• The spans have been determined in accordance with CSA 086-09 "Engineering Design in Wood" and the vibration criteria developed by the Canadian Construction Materials Centre (CCMC).

• The maximum simple spans in the tables are design spans measured from the center of minimum end bearing to the center of minimum end bearing.

• Spans are based on composite action for sheathing glued and nailed to the I-Joists. The spans are not applicable when the sheathing is nailed only to the joists.

• Deflection due to total load is limited to 1/240 of the span.

• Minimum end bearing length required is 1 1/2".

• The adhesive utilized to glue the sheathing to the joists shall comply with standard CAN/CGSB 71.26-M88.

• The ceiling shall be a single layer of 1/2" thick gypsum board directly applied to the I-joists.

• For multiple spans or load conditions not shown, please consult Pinkwood approved software.

\* Fire performance levels apply to the I-Joist web only.

# FIRE RESISTANCE

Flame spread is the rate at which fire will propagate along the surface of any given material. Oriented Strand Board (OSB) is notorious for having a wide range of flame spread values above the maximum allowed by the national building code of Canada of 150 when left exposed. All SAFEJoist series of the PKI lineup have a protective coating applied to the OSB web section to greatly improve the fire resistance of the most susceptible portion of the joist.



#### FRAMERS CHOICE

All PKI Joists are manufactured using solid sawn SPF flange material making them far more robust and framer friendly for handling and installation.

Common problems often associated with LVL are splintering when handling and de-lamination of the veneers especially as a result of normal on-site nailing practices.

The reduced width of the LVL flange can also be problematic for achieving proper nail penetration and angles which can result in reduced capacities at the connection points from what was designed.

When the LVL flange is compromised, the I-Joists design capacities are significantly reduced. This can often go unseen as it occurs in blind connection points such as behind rim attachments and hidden by the hangers.







## **Common Nailing Errors**

Mrong Angle

When a nail is driven into the bottom flange of the wood I-Joist parallel to the glue lines, separation of veneers can occur which substantially reduces the design loads of the connection.

USP installation guide USP339-141

With the solid sawn flanges of our PKI Series I-Joists, end-nailing, side-nailing, and diaphragm nailing can all be achieved without compromising the flange integrity. This gives confidence in the fact that the in service floor will perform as designed.

**DESIGN SOFTWARE** 



K E Y M A R K





Pinkwood's PKI I-Joists are available in all of the leading third party software suites making it seamless for engineers and design professionals to offer their clients the benefits of the PKI product line with minimal effort and the flexibility of software choices.

## **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.



A product of PinkWood Ltd. Visit us at www.PinkWood.ca 5929, 6th Street NE Calgary, Alberta, Canada T2K 5R5

In Support of Canadian Breast Cancer Foundation PRAIRIES • NWT



When you build a home with PinkWood products you are supporting the search for a cure. 20¢ for every gallon of PinkShield™ coating used is donated, to the CBCF. WFEioist by Pinkwool

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