



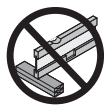
FLOOR INSTALLATION DETAILS - RESIDENTIAL CANADA - PKI 10, 20, 35 plus, 40 and 50



SAFETY PRECAUTIONS



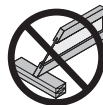
DO NOT...
drill any
holes over
a support.



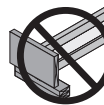
DO NOT...
cut or notch
top or bottom
cords.



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



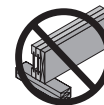
DO NOT...
bevel cut the joist
past the inside
face of wall.



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



DO NOT...
install joists on
an angle.



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.



APPROVED PRODUCTS

In Support of
Canadian
Breast Cancer
Foundation
PRAIRIES • NWT

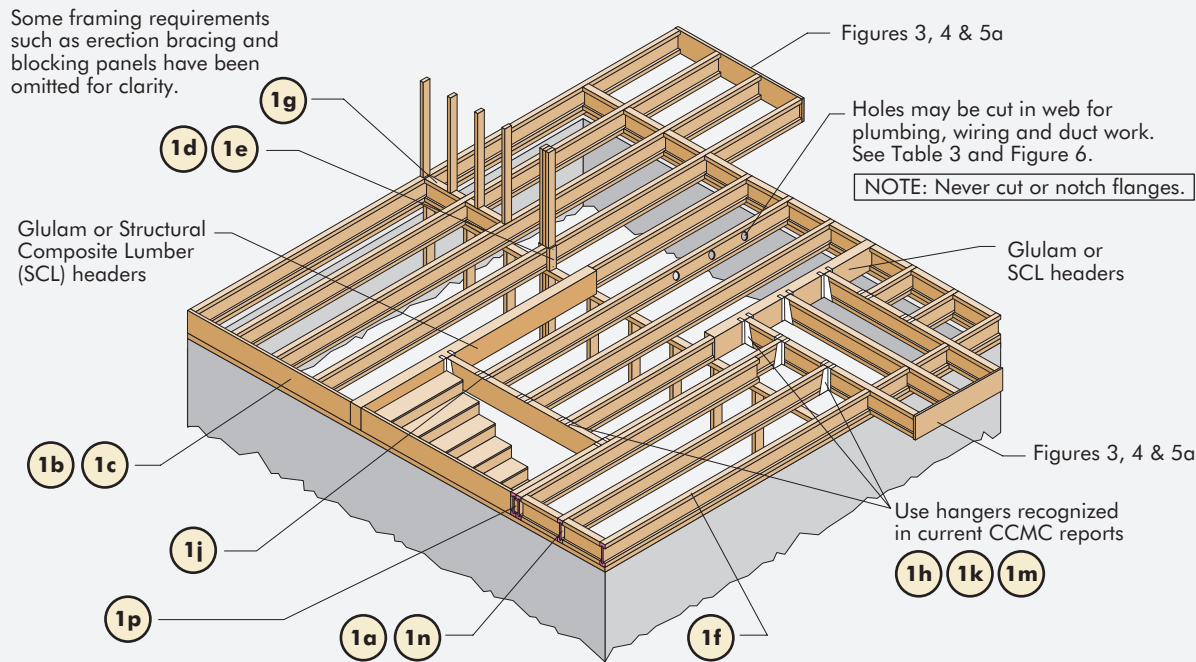


When you build a home with PinkWood products you are supporting the search for a cure. 20¢ per gallon of PinkShield™ coating used, is donated to the Canadian Breast Cancer Foundation.

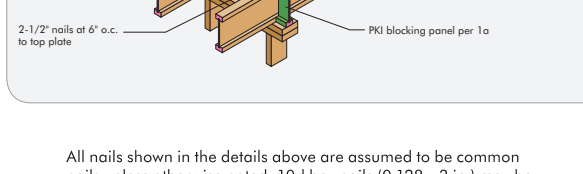
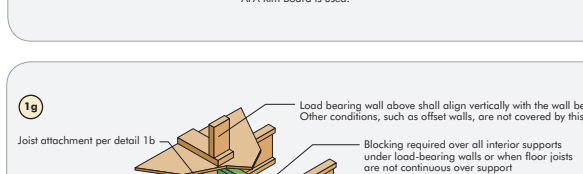
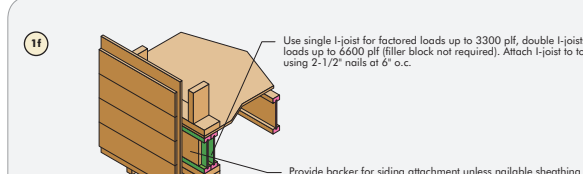
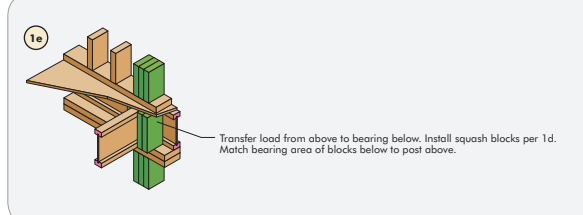
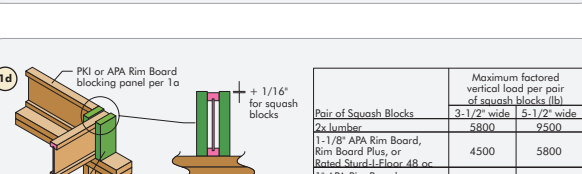
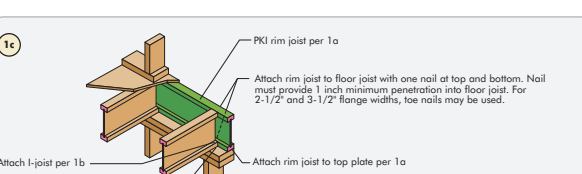
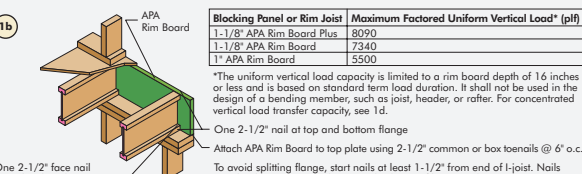
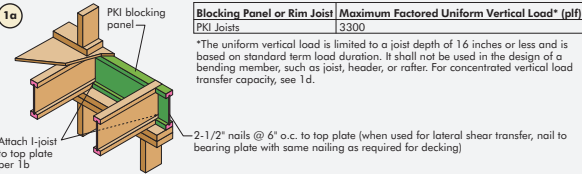
FLOOR INSTALLATION DETAILS - RESIDENTIAL - PKI 10, 20, 35 plus, 40 & 50

TYPICAL PERFORMANCE RATED I-JOIST FLOOR FRAMING AND CONSTRUCTION - FIGURE 1

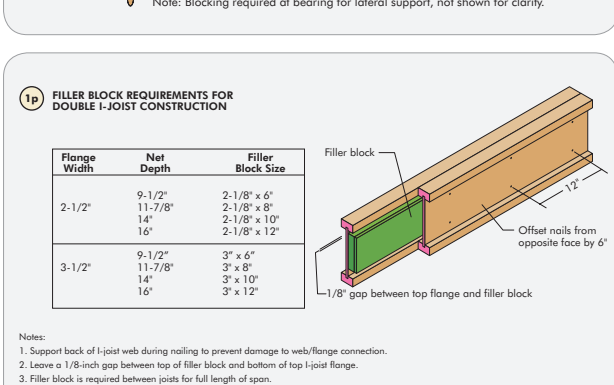
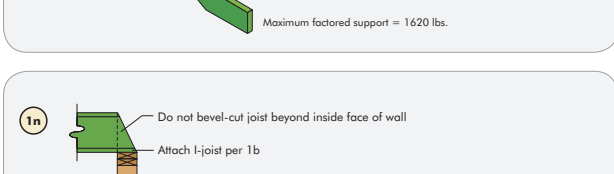
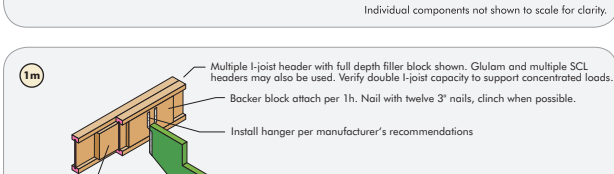
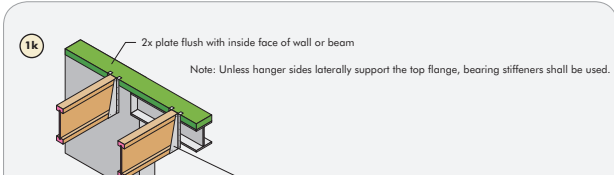
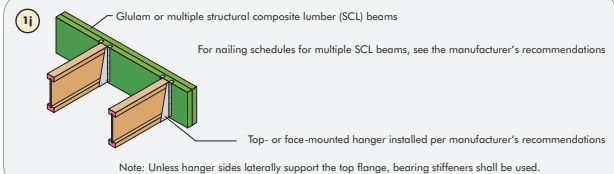
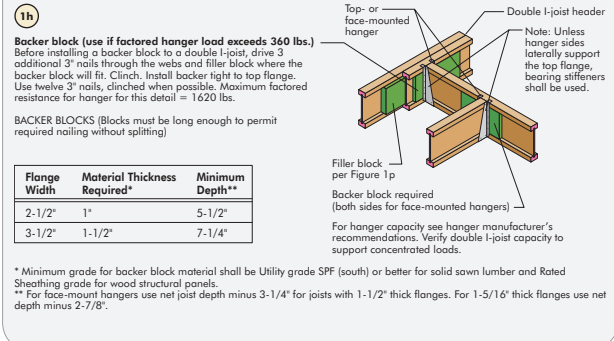
Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.



BLOCKING PANELS



All nails shown in the details above are assumed to be common nails unless otherwise noted. 10d box nails (0.128 x 3 in.) may be substituted for 8d common (0.131 x 2-1/2 in.) shown in details. Individual components not shown to scale for clarity.



- 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. Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of 4 nails per foot required. If nails can be clinched, only 2 nails per foot are required.
 5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft.

I-JOIST WEB STIFFENERS

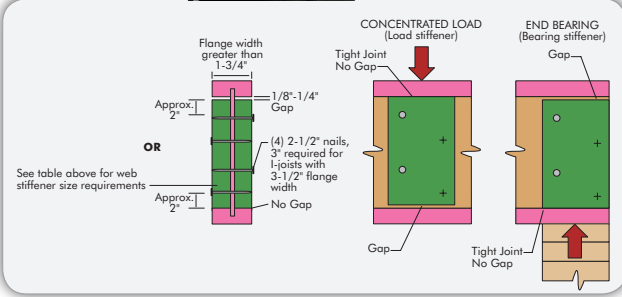
A web stiffener is a wood block that is used to reinforce the web of an I-joist at locations where:

- The webs of the I-joist are in jeopardy of buckling out of plane. This usually occurs in deeper I-joists.
- The webs of the I-joist are in jeopardy of "knifing" through the I-joist flanges. This can occur at any I-joist depth when the design reaction loads exceed a specific level.
- The I-joist is supported in a hanger and the sides of the hanger do not extend up to the top flange. With the top flange unsupported by the hanger sides, the joist may deflect laterally, putting a twist in the flange of the joist. The web stiffener supports the I-joist along a vertical axis as designed. (In this application, the web stiffener acts very much like a backer block.)

There are two kinds of web stiffeners: bearing stiffeners and load stiffeners. They are differentiated by the applied load and the location of the gap between the slightly undersized stiffener and the top or bottom flange. (See Figure 2.)

WEB STIFFENER INSTALLATION DETAILS FIGURE 2

Bearing stiffeners are located at the reactions, both interior and exterior, when required. Load stiffeners are located between supports where significant point loads are applied to the top flange of an I-joist.



STIFFENER SIZE REQUIREMENTS TABLE 3

PKI Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

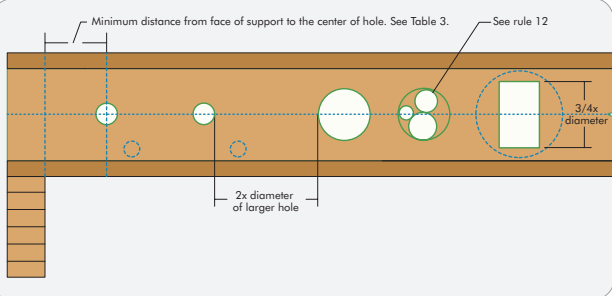
WEB HOLE SPECIFICATIONS

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, therefore 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 Table 5.
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 5.
7. A knockout is not considered a hole, may be utilized anywhere it occurs and may be ignored for purposes of calculating minimum distances between holes.
8. 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.
9. 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.
10. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 6.
11. Limit three maximum-size holes per span.
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.

PKI JOIST TYPICAL HOLES - FIGURE 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.



Disclaimer: The above details represent the most common details found in day to day construction of I-Joist floor systems and are not intended to cover all scenarios that may be encountered in the field. When faced with an uncertain design detail please contact your PKI supplier or Pinkwood Ltd. for assistance. Because Pinkwood Ltd. has no control over the quality of installations or the conditions under which our products are used, we cannot accept responsibility for product performance or designs as actually constructed.

LOCATION OF CIRCULAR HOLES IN PKI JOIST WEBS - TABLE 5

Simple or Multiple Span for Dead Loads up to 40 psf and Live Loads up to 10 psf

Joist Depth	Series	SAF	Minimum Distance from Inside Face of Any Supports 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
9 1/2"	PKI10-10	13.75	1'-1"	1'-2"	2'-2"	3'-6"	4'-11"	5'-4"								
	PKI20-10	14.65	1'-1"	1'-2"	2'-2"	3'-8"	5'-3"	5'-8"								
	PKI35plus-10	15.84	1'-1"	1'-8"	3'-2"	4'-10"	6'-7"	7'-0"								
	PKI40-10	16.93	1'-1"	2'-6"	4'-0"	5'-8"	7'-5"	7'-11"								
11 7/8"	PKI10-12	15.75	1'-1"	1'-2"	1'-2"	2'-3"	3'-5"	3'-9"	4'-9"	6'-2"	7'-4"					
	PKI20-12	17.33	1'-1"	1'-2"	1'-2"	2'-4"	3'-9"	4'-1"	5'-2"	6'-9"	8'-0"					
	PKI35plus-12	18.80	1'-1"	1'-2"	2'-1"	3'-7"	5'-1"	5'-6"	6'-6"	8'-6"	9'-8"					
	PKI40-12	20.09	1'-1"	1'-7"	3'-0"	4'-6"	6'-1"	6'-6"	7'-9"	9'-7"	10'-9"					
	PKI50-12	20.55	1'-1"	1'-2"	1'-2"	2'-2"	4'-0"	4'-6"	6'-0"	8'-1"	9'-6"					
14"	PKI10-14	17.25	1'-1"	1'-2"	1'-2"	1'-3"	2'-3"	2'-7"	3'-5"	4'-8"	5'-6"	6'-0"	7'-6"	9'-2"		
	PKI20-14	18.77	1'-1"	1'-2"	1'-2"	1'-3"	2'-3"	2'-7"	3'-6"	4'-11"	5'-9"	6'-4"	8'-0"	9'-9"		
	PKI35plus-14	21.29	1'-1"	1'-2"	1'-2"	2'-2"	3'-7"	4'-0"	5'-1"	6'-8"	7'-8"	8'-4"	10'-1"	11'-9"		
	PKI40-14	22.76	1'-1"	1'-2"	2'-1"	3'-6"	5'-0"	5'-4"	6'-6"	8'-1"	9'-2"	9'-10"	11'-8"	13'-2"		
	PKI50-14	23.28	1'-1"	1'-2"	1'-2"	1'-3"	2'-8"	3'-1"	4'-5"	6'-3"	7'-6"	8'-3"	10'-5"	12'-1"		
16"	PKI20-16	20.12	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-4"	2'-2"	3'-5"	4'-2"	4'-8"	6'-1"	7'-2"	7'-6"	9'-5"
	PKI35plus-16	23.54	1'-1"	1'-2"	1'-2"	1'-3"	2'-1"	2'-5"	3'-6"	4'-11"	5'-10"	6'-5"	8'-0"	9'-3"	9'-9"	11'-11"
	PKI40-16	25.15	1'-1"	1'-2"	1'-2"	1'-3"	2'-7"	2'-11"	4'-0"	5'-6"	6'-8"	7'-4"	9'-4"	10'-10"	11'-4"	13'-7"
	PKI50-16	25.73	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-7"	2'-10"	4'-6"	5'-8"	6'-4"	8'-3"	9'-8"	10'-3"	12'-4"

Notes:

- Above tables may be used for I-joist spacing of 24 inches o.c. or less.
- Hole location distance is measured from inside face of supports to center of hole.
- Distances in this chart are based on uniformly loaded joists.
- Hole sizes and/or locations that fall outside the scope of this table may be acceptable based on analysis of actual hole size, span, spacing and loading conditions. The I-joist shear capacity at the location of a circular web hole (V_{nh}) is calculated using the following equation:

$$V_{nh} = \text{Published Shear Value} \times [(\text{Joist Depth} - \text{Hole Diameter}) / \text{Joist Depth}]$$

(e) SAF = Span Adjustment Factor, used as defined below:

OPTIONAL:

Table 5 is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full allowable span, the maximum distance from the centerline of the hole to the face of any support (D) as given above may be reduced as follows:

$$D_{\text{reduced}} = \frac{L_{\text{actual}}}{\text{SAF}} \times D$$

Where: D_{reduced} = Distance from the inside face of any support to center of hole, reduced for less-than-maximum span applications (ft). The reduced distance shall not be less than 6 inches from the face of the support to edge of the hole.

L_{actual} = The actual measured span distance between the inside faces of supports (ft).

SAF = Span Adjustment Factor given in this table.

D = The minimum distance from the inside face of any support to center of hole from this table.

If $\frac{L_{\text{actual}}}{\text{SAF}}$ is greater than 1, use 1 in the above calculation for $\frac{L_{\text{actual}}}{\text{SAF}}$

WARNING

Joists are unstable until braced laterally

Bracing includes:

- Blocking
- Hangers
- Rim Board
- Sheathing
- Rim
- Strut Lines

Lack of proper bracing during construction can result in serious injuries. Follow these guidelines:

- All blocking, hangers, rim boards and rim joists at the end supports of the PKI joists must be completely installed and properly nailed.
- Lateral strength, like a braced end wall or an existing deck, must be established at the of the bay. This can also be accomplished by a temporary or permanent deck (sheathing) fastened to the first four feet of joists at the end of the bay.
- Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area (as in #2) and to each joist. Without this bracing, buckling sideways or rollover is highly probable under light construction loads - such as a worker or one layer of unnailed sheathing.
- Sheathing must be completely attached to each PKI joist before additional loads can be placed on the system.
- Ends of cantilevers require safety bracing on both the top and bottom flanges.
- The flanges must remain straight within a tolerance of 1/2" from true alignment.

DO NOT walk on joists until braced. INJURY CAN OCCUR.



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



DO NOT walk on joists that are lying flat.



PRODUCT STORAGE

Protect products from sun and water.

Caution: Wrap is slippery when wet.

Use support blocks at 10' on centre to keep products out of mud and water.



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 PinkJoist 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.



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