

PK-USA's WEBSHIELD® Fire Protective Panels SafeJoist® (FRI-Assemblies)

Description

Pinkwood's patented WEBSHIELD® Fire Protective Panels can turn standard PK-USA PKI Series I-joists into IRC compliant Fire Performance joists for use in unfinished basement or crawlspace applications. With the application of the WEBSHIELD panel, PK-USA's product designations add “-FRI” to the product designation. (i.e. PKI20-FRI) WEBSHIELD panels must be installed in the manner outlined in IAPMO UES-ER0431 Evaluation Services Report.

Does the WEBSHIELD protected I-joist need to be installed in a particular orientation?

No. The I-joist can be installed like any I-Joist. There is no up or down side.

Does the WEBSHIELD protected I-joist require any special hangers?

No. Any standard I-Joist hangers will work provided it has been designed properly.

Can a hole be cut into a WEBSHIELD protected I-joists?

Yes. Refer to the WEBSHIELD Handling and Installation guide for allowable locations and sizes. Note that it is preferred that holes be cut into the web of the I-joist in locations where a WEBSHIELD panel is **not** located. Should a hole be required to penetrate the WEBSHIELD panel, the maximum allowable penetration size is 6" in diameter. The preferred location for a hole through the web is in 24" wide areas between the WEBSHIELD panels. When a hole is required to be cut in the I-joist web, it shall be cut with care in a workman-like fashion as required in the manufacturer's instructions. Any fasteners that are compromised by cutting through the WEBSHIELD panels are required to be replaced.

Is the allowable hole size and location changed when using WEBSHIELD protected I-joists as compared to I-Joists not required to meet 2012, 2015, 2018 and 2021 IRC Provisions?

Yes and No. When WEBSHIELD protected I-joists are required, the allowable hole size and location must conform to Pinkwood's published hole chart or Pinkwood's software calculations with the added condition that one (1) single maximum 6-inch-diameter hole may be cut into each WEBSHIELD panel if the panel position as described in Figure 1 is not avoidable. This single 6" hole is allowed without the need for engineering analysis and is included in UES-ER0431. Under this condition, when a 6" maximum hole is cut in a WEBSHIELD panel, an additional 6" wide WEBSHIELD panel section must be fastened on each side of I-joist web as described in Figures 1 and 2, using one staple top and bottom in accordance with Pinkwood's installation instructions. The additional WEBSHIELD panel shall be installed beside the penetrated WEBSHIELD panel adjacent to the hole. The holes shall meet the spacing rules and other requirements contained in the PK-USA's PKI Series I-joist installation details. Holes larger than 6" are allowed to penetrate through a WEBSHIELD panel but must be reviewed by a licensed design professional. Additional WEBSHIELD protection is required as stated earlier but must be sized to correspond with the penetration size.



Does it matter where the WEBSHIELD panels are located within the span of the joist?

No. WEBSHIELD protected PKI Series I-joists utilized in an -FRI assembly are code approved for use without the location of the WEBSHIELD panel in relation to bearing being a factor.

However, the WEBSHIELD panel frequency of 48" o.c. maximum spacing is a requirement. (see Figure 1) ASTM E-119 testing per AC-14 confirms the capacity of the WEBSHIELD protected joist ensuring the I-joist can be cut and consumed as any standard I-joist.

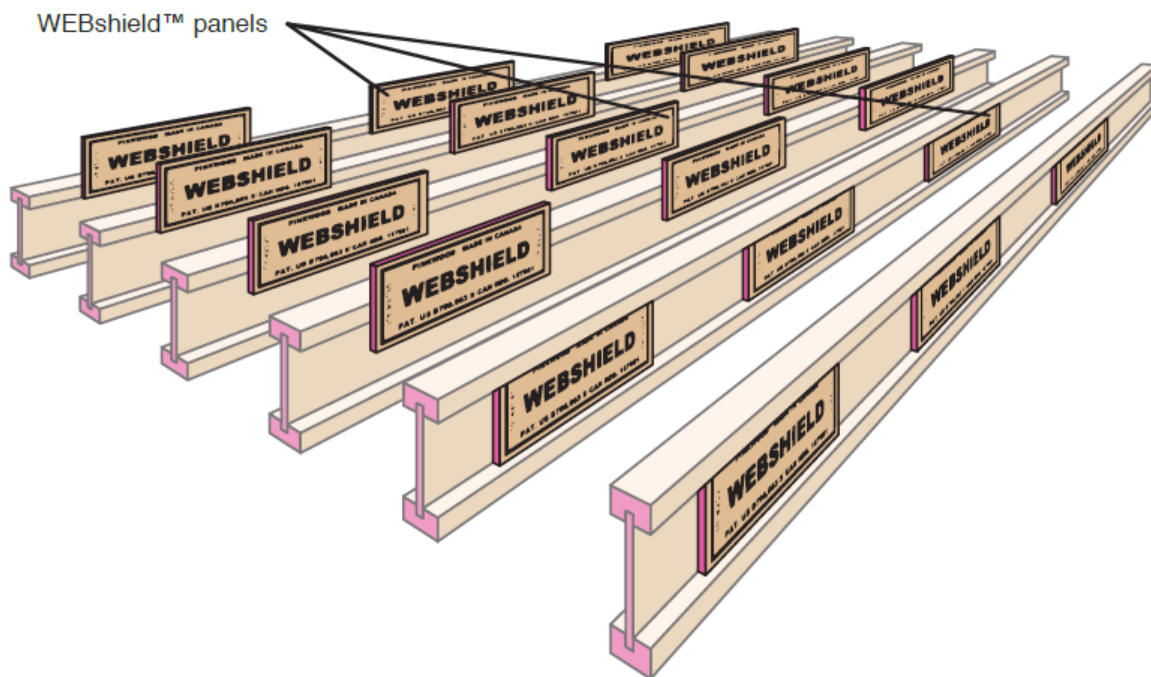


FIGURE 1 – WEBSHIELD panel frequency

How are the WEBSHIELD panels attached?

WEBSHIELD panels are fastened to each side of the I-Joist web section using 6 X ($\frac{1}{2}$ " wide min. X $\frac{3}{4}$ " long min.) 16ga common construction staples in two evenly spaced rows for each panel, attached perpendicular to the joist web, or by using 4 X ($\frac{1}{2}$ " wide min. x 1-1/4" long min.) 16ga common construction staples placed in each corner attached at a 45° angle from WEBSHIELD into joist flange. Greater capacity fasteners may be substituted for staples. See Figure 2 below for connector zones.

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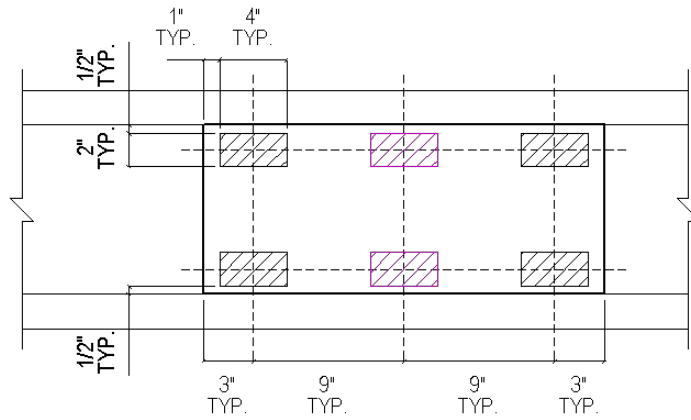


FIGURE 2 – Connector zones and pattern (See UES-ER0431 for Connection Options)

What does the system look like when installed?

The below images show a typical I-joist configuration with WEBSHIELD.



SafeJoist PKI Series I-joist (-FRI Assembly) Image

If you have any questions, please contact PK-USA for details.

