

Installation Details and Design Properties



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IAPMO UES ER-0431

WEBshield Dimensions and Fastening Requirements

General Notes

1. Refer to IAPMO UES ER-0431 for details concerning product use and limitations. WEBshield is intended for use with Solid Sawn flange I-joists and when installed properly, will create an FRI Assembly. The FRI Assembly will provide the code required fire performance of floors as outlined in the 2012, 2015, 2018 and 2021 IRC (International Residential Code)
2. WEBshield is a thermal protection panel and is typically not intended to impart structural properties to the I-joist. WEBshield structural property uses are limited to the following conditions:
 - When used as part of a web stiffener
 - When used as web filler and/or backing
 - When used in conjunction with joist hanger requirements
 When used in the above conditions, it is necessary to fasten the WEBshields with additional fasteners. Use fastener type and quantity as prescribed in Table 6 or by hanger manufacturer.
3. WEBshield panel are constructed of DOC PS2 OSB (Oriented Strand Board). Composition and Product properties are available via SDS sheet at www.WEBshieldPanels.com.
4. Staples used in the fabrication of FRI Assembly I-joists are standard crown construction staples per **ASTM F1667—11AE1 Standard Specification for Driven Fasteners: Nails, Spikes and Staples**.
5. WEBshield panels require proper storage and handling. Always protect ends and edges from physical damage. When moving bundles of panels with a forklift, place bundles on pallet or lumber bunks to avoid damaging them with fork tines. When transporting panels on open bed trucks cover the bundles with a tarp.
6. When storing WEBshield panels outside, stack them on a level surface on top of stringers or other blocking. Never leave panels in contact with the ground. Cover stacks with plastic or a tarp. Make sure bundle is well ventilated.

Dimensions

TABLE 1 - WEBshield Dimensions

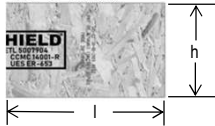
Part Number	I-Joist Depth	Flange (in)		Min Specific Gravity	Dimensions (in) ^a		
		Min Depth	Min Width		Thickness	Length (l)	Height (h)
WS10	9-1/2"	1-1/2	2-1/2	0.42	15/32	24 / 12	6-7/16
WS12	11-7/8"	1-1/2	2-1/2	0.42	15/32	24 / 12	8-13/16
WS14	14"	1-1/2	2-1/2	0.42	15/32	24 / 12	10-15/16
WS16	16"	1-1/2	2-1/2	0.42	15/32	24 / 12	12-15/16"

a) WEBshield dimensions may be $\pm 0.10"$ in any dimension.

Standard WEBshield



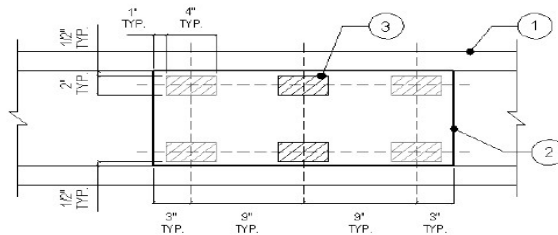
Half WEBshield



Evaluation Services Report number is printed twice on the WEBshield for 1/2 panel allowance

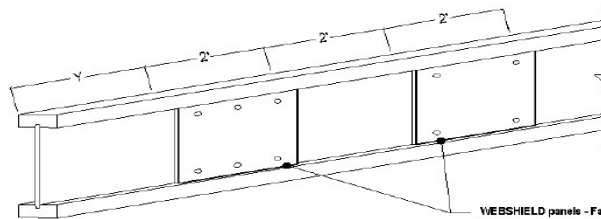
Fastening

1. WEBshield panels are attached using four (4) or six (6) 16-gauge min, 7/16" wide min standard crown construction staples. Staples may be installed at 90° to the web surface for a WEBshield-web-WEBshield connection, or at an Angle to provide a WEBshield-web-flange connection.



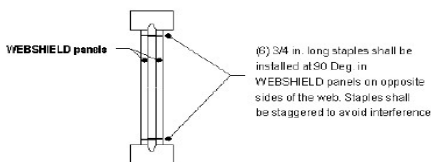
- 1) PKI Series 10, 20, 23, 36 Plus, 40 and 50
- 2) WEBSHIELD panels
- 3) Fastener zones - one fastener to be installed in each of the required zones

WEBSHIELD panels shall be installed tightly against the I joist web at prescribed intervals, back-to-back on each side, to protect the web against exposure to flame. Fasten each panel according to Option A or Option B.

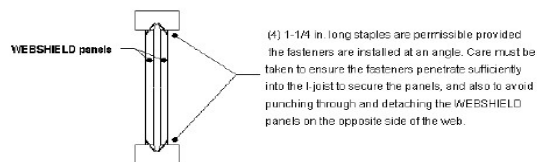


WEBSHIELD panels shall be installed at 4-foot-on centers spacing intervals with a maximum 0.5" spacing tolerance. End panels shall begin with the panel edge within 2 feet from the ends of the I-joists (dimension Y).

WEBSHIELD panels - Fastening option A and B



Section View Option A
90 Degrees



Section View Option B
Angle into Flange

For SI: 1 inch = 25.4 mm

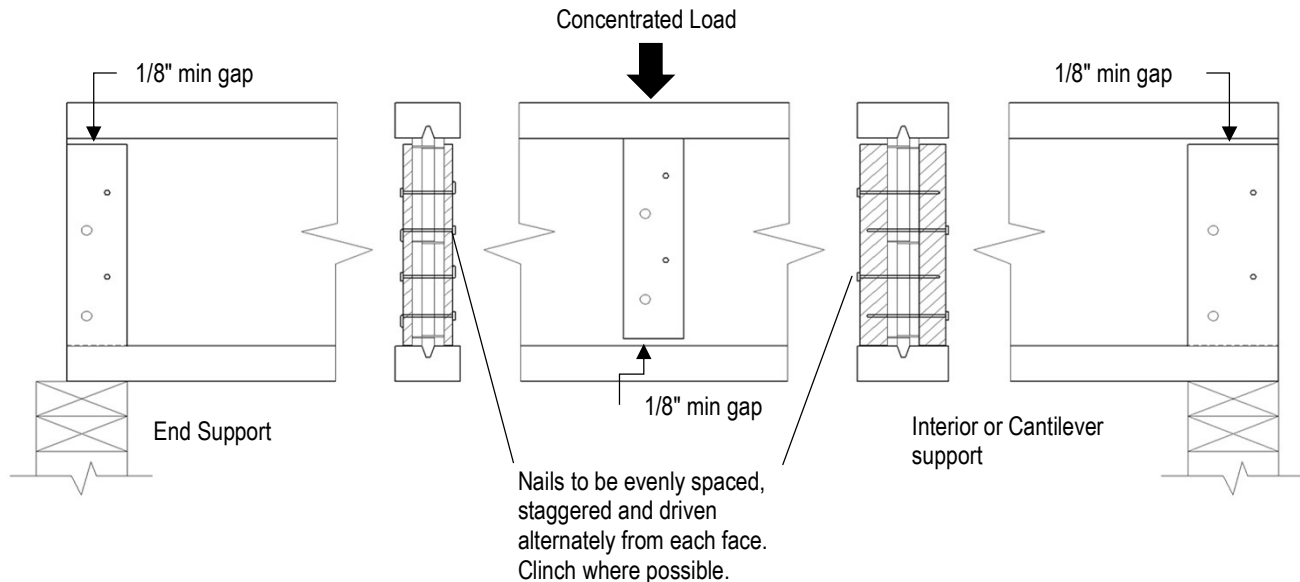
Using WEBshield with Web Stiffeners

Notes

1. Web stiffeners are to be installed per the I-joist manufacturers requirements.
2. When installing web stiffeners in non-WEBshield protected areas, refer to the joist manufacturers recommendation for attachment materials and methods.
3. When installing web stiffeners over WEBshield panels, utilize PS-1 or PS-2 rated sheathing with the face grain parallel to the long axis of the stiffener.
4. Web stiffener thickness is as outlined in Table 5 below.
5. Fasten web stiffeners with the indicated type and quantity of fasteners listed below. Nails must be equally spaced, staggered and driven alternateately from each face.
6. Web stiffeners, when required, must be installed in pairs - one to each side of the web.
7. Some hangers require web stiffeners to comply with nailing requirements through side plates. In the even web stiffeners are not used in hanger supports, the sides of the hanger must extend up to laterally support the joist top flange.

TABLE 5 - WEB STIFFENER REQUIREMENTS

JOIST DEPTH	MAXIMUM WEB STIFFENER HEIGHT	Joist Series			
		Solid Sawn Lumber Flange with .42 Min SG			
		2-1/2" Wide Flange		3-1/2" Wide Flange	
		3/8" Thick Web	7/16" Thick Web	3/8" Thick Web	7/16" Thick Web
		WEBshield Thickness			
		15/32"	15/32"	15/32"	15/32"
		Minimum Web Stiffener Thickness over WEBshield			
		3/8"	3/8"	1"	1"
		NAIL SIZE			
		8d Box (2-1/2" x 0.113")	8d Box (2-1/2" x 0.113")	10d Box (3" x 0.128")	10d Box (3" x 0.128")
TOTAL NAILS REQUIRED					
9-1/2"	6-3/8"	4	4	4	4
11-7/8"	8-3/4"	4	4	4	4
14"	10-7/8"	4	4	4	4
16"	12-7/8"	4	4	4	4



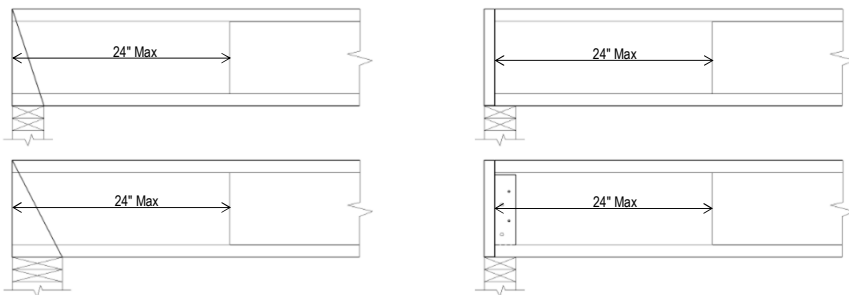
Minimum WEBshield Coverage Diagram

- The Diagram listed below depicts minimum WEBshield quantities for spans ≤ 3' thru 26'. Longer spans are allowed provided they maintain the same coverage pattern as indicated.
- Joist Span refers to the exposed length of I-joist including bearing and NOT the distance between the inside face of bearings.
- Figure 3 illustrates the various bearing conditions in relation to WEBshield spacing.
- Web stiffeners do not extend spacing allowances and are not intended to provide Fire Performance characteristics.

DIAGRAM 1 - Minimum Number of WEBshield Panels by Span

Joist Span ≤	2' Gap		2' Shield		2' Gap		2' Shield		2' Gap		2' Shield		2' Gap		2' Shield		2' Gap		2' Shield		Panel Qty		Joist Span ≤				
	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'		23'	24'	25'	26'
26'	[Diagram showing 12 panels]																								12	26'	
25'	[Diagram showing 12 panels]																								12	25'	
24'	[Diagram showing 12 panels]																								12	24'	
23'	[Diagram showing 10 panels]																								10	2	23'
22'	[Diagram showing 10 panels]																								10	22'	
21'	[Diagram showing 10 panels]																								10	21'	
20'	[Diagram showing 10 panels]																								10	20'	
19'	[Diagram showing 8 panels]																								8	2	19'
18'	[Diagram showing 8 panels]																								8	18'	
17'	[Diagram showing 8 panels]																								8	17'	
16'	[Diagram showing 8 panels]																								8	16'	
15'	[Diagram showing 6 panels]																								6	2	15'
14'	[Diagram showing 6 panels]																								6	14'	
13'	[Diagram showing 6 panels]																								6	13'	
12'	[Diagram showing 6 panels]																								6	12'	
11'	[Diagram showing 4 panels]																								4	2	11'
10'	[Diagram showing 4 panels]																								4	10'	
9'	[Diagram showing 4 panels]																								4	9'	
8'	[Diagram showing 4 panels]																								4	8'	
7'	[Diagram showing 2 panels]																								2	2	7'
6'	[Diagram showing 2 panels]																								2	6'	
5'	[Diagram showing 2 panels]																								2	5'	
4'	[Diagram showing 2 panels]																								2	4'	
3'	[Diagram showing 2 panels]																								2	3'	

WEBshield Distance at bearing



NOTES

- Distances from end of I-joist to the edge of the first WEBshield panel may be less than 24".
- Maximum distance may not exceed 24-1/2".
- When WEBshield panels are placed as indicated above, the joist may be trimmed on either end without concern for panel location.

Figure 3



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