

WP/HWP/HWPH

Purlin Top-Flange Hangers

The WP, HWP and HWPH series purlin hangers offer the greatest design flexibility and versatility.

The HWP and HWPH high-wind purlin hangers have enhanced uplift. They are ideal for high-wind applications.

Material: (Top flange/stirrup): WP — 7/12 gauge; HWP — 7/12 gauge; HWPH — 3/7 gauge

Finish: Simpson Strong-Tie gray paint; hot-dip galvanized available: specify HDG, contact Simpson Strong-Tie

Installation:

- Use all specified fasteners.
- H dimensions are sized to account for normal joist shrinkage. W dimensions are for dressed timber widths.
- WP/HWP/HWPH hangers may be welded to steel headers with a minimum 1½"-long fillet weld on each side of the top flange to the header. Weld sizes: WP = 3/16", HWP = 3/16", HWPH = 1/4" (see p. 20, note k for weld information). Weld-on applications achieve maximum allowable download. Uplift loads do not apply to this application. For uplift loads, refer to technical bulletin T-C-WELDUPLFT at strongtie.com.
- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- If joist is shorter than hanger by more than ½", then use only 50% of the table loads.

Options:

- See Hanger Options General Notes on p. 101.
- Refer to technical bulletin T-C-SLOPEJST at strongtie.com for information regarding load reductions on selected hangers which can be used without modification to support joists which have shallow slopes ($\leq 3/4:12$).
- Some model configurations may differ from those shown. Contact Simpson Strong-Tie for details. For special order WP hangers, see technical bulletin T-C-WP-WS at strongtie.com.
- WP models are available in Type A (bevel-cut) or Type B (square-cut) style. Contact Simpson Strong-Tie when ordering.
- HWP may have a sloped and/or skewed seat up to 45°. WP and HWPH may be sloped up to 45° and/or skewed up to 84°.
- Hangers with a skew greater than 15° may have all the joist nails on the outside angle.
- For skewed condition, top flange width can increase up to 18". Contact Simpson Strong-Tie for specific application.
- Specify the slope up or down in degrees from the horizontal plane and/or the skew right or left in degrees from the perpendicular vertical plane. Specify whether low side, high side or center of joist will be flush with the top of the header (see illustration).

Ridge Hanger (only available for WP)

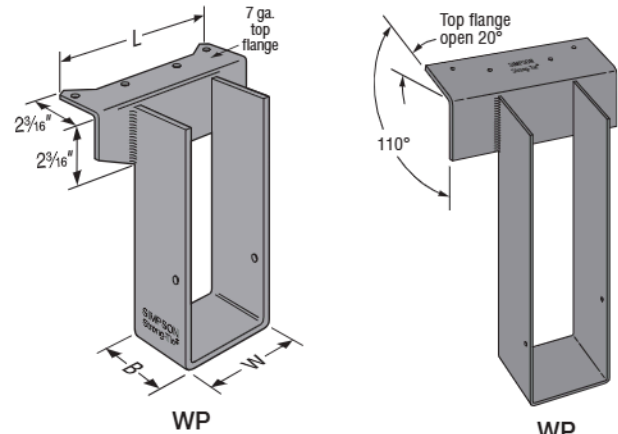
- Top flange may be sloped to a maximum of 35° to accommodate a ridge (see illustration). Specify angle of the slope. Reduce allowable load using straight-line interpolation. See Open/Closed example. Specify H/L/C flush when ordering sloped top flange.

Saddle Hanger (WPD)

- WPD saddle hanger allowable loads are WP loads for each stirrup. Saddle hangers on stud walls do not achieve catalog loads.
- Recommended S dimension is 1/16" oversized for carrying members 2½" wide and less or 1/8" oversized for greater than 2½" wide.

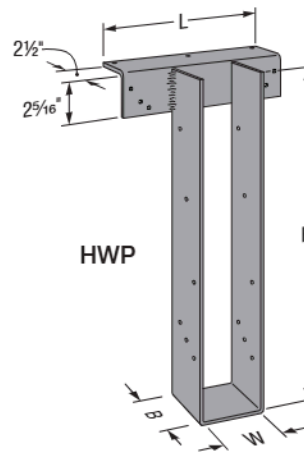
Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/hs to access our Hanger Selector web application.

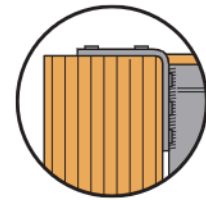


WP

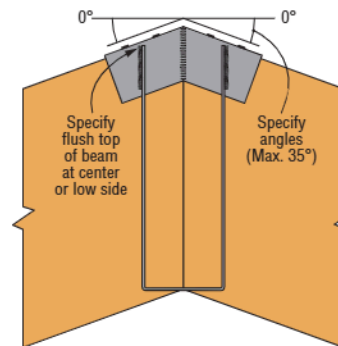
WP
with Open
Top Flange



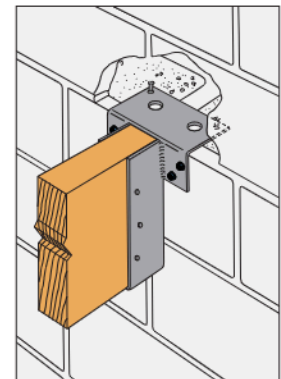
HWP



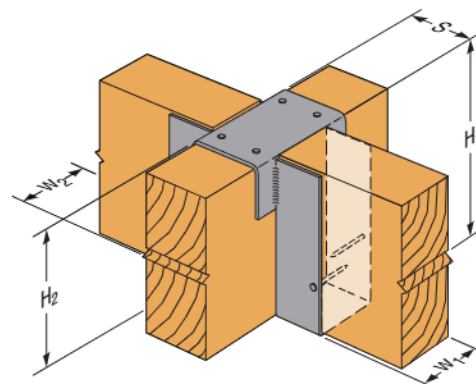
Eased Edge
Flatten edge of header to match top flange radius.



WP Ridge Installation



WMU Mid-Wall Installation
See pp. 250-251 for models and information

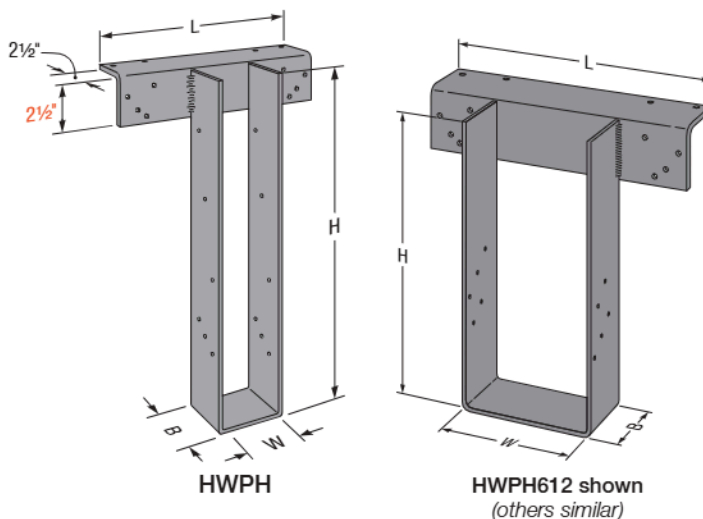


Typical WPD
Saddle Hanger
Installation

WP/HWP/HWPH

Purlin Top-Flange Hangers (cont.)

Model	Stirrup Width (W) (in.)	Stirrup Seat Depth (B) (in.)	Top Flange Length (L) (in.)
WP	1 9/16 – 2 1/16	See load table	7
	2 1/8 – 3 3/8	2 1/2	7
	3 1/16 – 7 1/8	2 1/2	8
	7 3/16 – 7 1/2	2 1/2	10
HWP	1 9/16	5	10
	1 13/16	4	10
	2 3/8 – 5 3/8	3	10
	5 1/16 – 7 1/8	3	12
HWPH	1 13/16 – 2 1/2	See load table	10
	2 3/8 – 2 3/4	4	10
	3 1/4 – 3 3/8	3 1/4	10
	3 13/16 – 6 3/4	3 1/4	12
	6 13/16 – 7 1/2	3 1/4	14

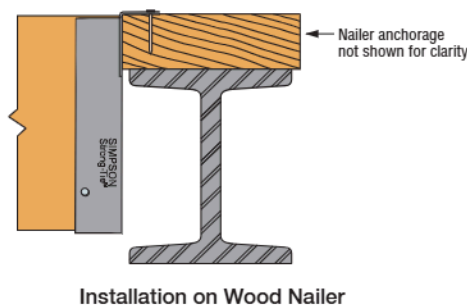


Solid Sawn Joist Hangers

Nailer Table

The table indicates the maximum allowable loads for WP, HWP and HWPH hangers used on wood nailers. Nailers are wood members attached to the top of a steel beam, concrete or masonry wall.

Model	Nailer	Fasteners (in.)		Uplift ¹ (160)	Allowable Down Loads		
		Header	Joist		DF/SP	SPF/HF	LSL
WP	2x	(4) 0.148 x 1 1/2	(2) 0.148 x 1 1/2	—	2,465	1,985	3,150
	(2) 2x	(4) 0.148 x 2 1/2	(2) 0.148 x 1 1/2	—	2,985	2,230	—
	3x or 4x	(4) 0.162 x 2 1/2	(2) 0.148 x 1 1/2	—	2,985	2,230	3,375
HWP	(2) 2x	(9) 0.148 x 3	(10) 0.148 x 1 1/2	710	4,415	3,860	4,415
	3x	(9) 0.162 x 2 1/2	(10) 0.148 x 1 1/2	970	4,415	3,860	—
	4x	(9) 0.162 x 2 1/2	(10) 0.148 x 1 1/2	1,535	4,920	3,860	4,920
HWPH	(2) 2x	(12) 0.162 x 2 1/2	(10) 0.148 x 1 1/2	710	5,910	4,820	5,910
	3x	(12) 0.162 x 2 1/2	(10) 0.148 x 1 1/2	970	5,970	5,125	—
	4x	(12) 0.162 x 3 1/2	(10) 0.148 x 1 1/2	1,550	5,970	5,125	5,970



1. Attachment of nailer to supporting member is the responsibility of the designer.
2. Uplift loads are based on DF/SP lumber. For SPF/HF, use 0.86 x DF/SP uplift load.
3. **Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.

Various Header Applications

Model	Joist (in.)		Fasteners (in.)			Allowable Loads Header Type						Code Ref.	
	Width	Height	Top	Face	Joist	Uplift (160)	LVL	PSL	LSL	DF/SP	SPF/HF		I-Joist
WP	1 1/2 to 7 1/2	5 3/8 to 30	(4) 0.148 x 1 1/2	—	(2) 0.148 x 1 1/2	—	2,935	3,150	—	2,465	1,985	2,030	—
	2 1/2 to 7 1/2	5 3/8 to 30	(4) 0.148 x 2 1/2	—	(2) 0.148 x 1 1/2	—	2,935	3,150	3,150	2,985	2,230	—	IBC®, FL, LA
	3 1/2 to 7 1/2	5 3/8 to 30	(4) 0.162 x 2 1/2	—	(2) 0.148 x 1 1/2	—	3,095	3,605	3,605	2,985	2,230	—	
HWP	1 1/2 to 7	6 to 15 3/8	(3) 0.162 x 3 1/2	(6) 0.162 x 3 1/2	(10) 0.148 x 1 1/2	1,535	3,995	4,500	4,350	3,955	3,955	—	
	1 1/2 to 7	15 3/4 to 28	(3) 0.162 x 3 1/2	(6) 0.162 x 3 1/2	(12) 0.148 x 1 1/2	1,570	3,995	4,500	4,350	3,955	3,955	—	
HWPH	1 13/16 to 7 1/2	6 to 15 3/8	(4) 0.162 x 3 1/2	(8) 0.162 x 3 1/2	(10) 0.148 x 1 1/2	1,685	6,595	7,025	5,450	5,920	4,740	—	
	1 13/16 to 7 1/2	15 3/4 to 32	(4) 0.162 x 3 1/2	(8) 0.162 x 3 1/2	(12) 0.148 x 1 1/2	2,075	6,595	7,025	5,450	5,920	4,740	—	

1. Code values are based on DF/SP header species.
2. Uplift loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
3. For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.
4. **Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.

WP/HWP/HWPH

Purlin Top-Flange Hangers (cont.)

Modifications and Associated Load Reductions for WP/HWP/HWPH

Solid Sawn Joist Hangers

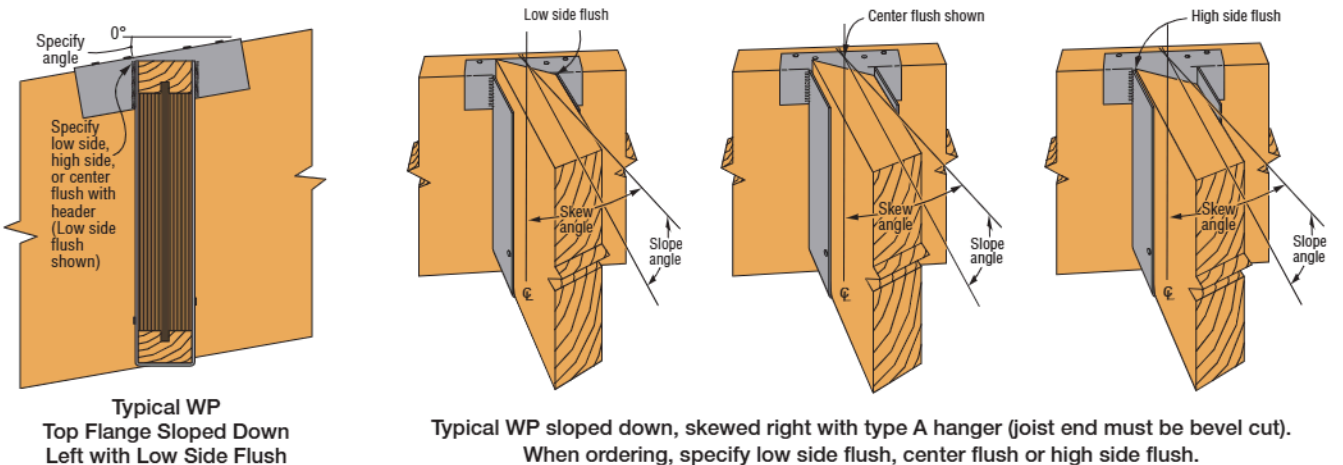
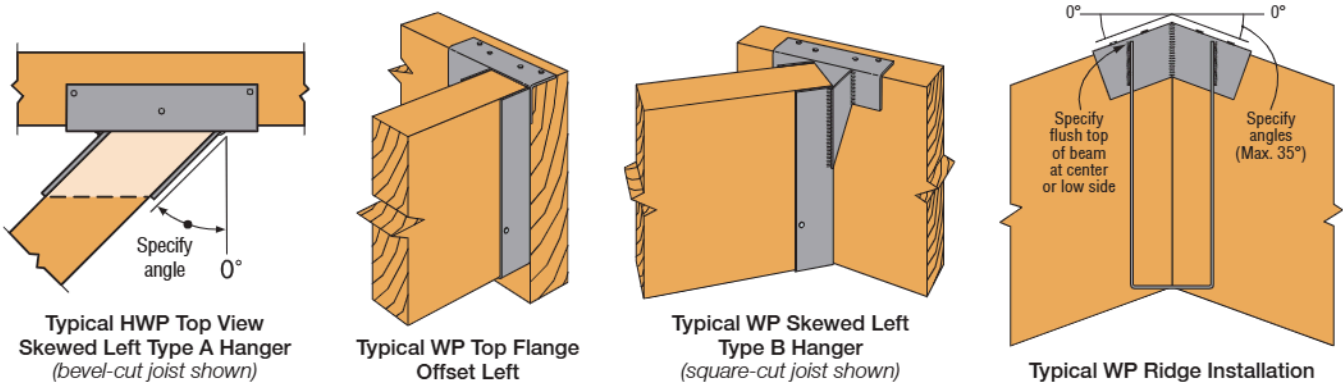
Models	Seat						Top Flange			Top Flange and Seat				Joist Height		
	Seat Sloped 45° Max.		Seat Skewed Type A	Seat Skewed Type B		Seat Sloped and Skewed Type A 1°–45°		Top Flange Sloped 35° Max.	Top Flange Bent Open or Closed 30° Max.	Top Flange Offset		Top Flange Offset and Skewed Seat Type A, Bevel Cut 1°–45°		Top Flange Offset and Skewed Seat Type B, Plumb Cut 1°–84°		Joist Shorter Than Hanger
	Slope Up	Slope Down	1°–45°	1°–45°	46°–84°	Up	Down			Narrow	Wide	Narrow	Wide	Narrow	Wide	
WP		1.0		1.0			1.0			0.5		0.5		0.25	0.3	
HWP	1.0	0.8	1.0	N/A		1.0	0.8	(90–a)/90	(90–a)/90	0.5	0.6	0.5	0.6	N/A		
HWPH				0.8	0.7									0.5		

1. For straight-line interpolation, "a" is the specified angle.
2. Reduction factors are not cumulative. Use the lowest factors that apply.
3. Narrow ≤ 3½", Wide > 3½".
4. HWP and HWPH options receive catalog uplift loads except: top flange offset 30% of the table load, skewed type A is 75% of the table load and HWPH only skewed type B is 50% of the table load.
5. Top flange bent closed is not available for HWP or HWPH.

Reduction Factor Instructions

Allowable Download = (lowest of Seat, Top Flange, or Joist Height) × (Table Load). See pp. 136–140 for table loads.

Allowable Uplift = as noted in table per height, see table above.



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