

TOP FLANGE HANGERS W/WP/WPU/WM/WMU/HW/HWU I-Joist & Structural Composite Lumber Hangers

The W, WP, WPU, HWU and HW series are designed to hang joists, purlins or beams. WM and WMU hangers are designed for use on standard 8" grouted masonry block wall construction. Some models have an "I" in the model number which indicates a size specific for an I-Joist and have the same properties and modifications as the standard series.

MATERIAL: See tables on pages 96 to 105.

FINISH: Simpson Strong-Tie® gray paint; HDG available. Contact Simpson Strong-Tie.

- INSTALLATION:**
- Use all specified fasteners. WM—two 16d duplex nails must be installed into the top flange and embedded into the grouted wall. Verify that the header can take the required fasteners specified in the table.
 - Hangers may be welded to steel headers with 1/8" for W, 3/16" for WP, WPU, and 1/4" for HW, HWU by 1 1/2" fillet welds located at each end of the top flange, see page 14 for weld information. Weld-on applications produce maximum allowable load listed. For uplift loads refer to T-WELDUPLFT (WPU and HWU hangers only).
 - 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.
 - Hangers can support joists sloped up to 1/4:12 using table loads. For joists sloping between 1/4:12 and 3/4:12 use 85% of the table loads.
 - Web stiffeners are required for standard joist nailing configuration with these hangers.
 - **MID-WALL INSTALLATION:** Installed between blocks with duplex nails cast into grout with a minimum of one grouted course above and below the top flange grouted and one #5 vertical rebar minimum 24" long in each adjacent cell.
 - **TOP OF WALL INSTALLATION:** Install on top of wall to a grouted beam with masonry screws.

- OPTIONS:**
- Specify alternate nailing pattern when web stiffeners are not being used (up to 16" in depth). Add X ANP after model number for nailing into the flange, available for 90° applications only. Uplift loads do not apply to this application.
 - See Hanger Options, pages 181-183 for hanger modifications and associated load reductions.

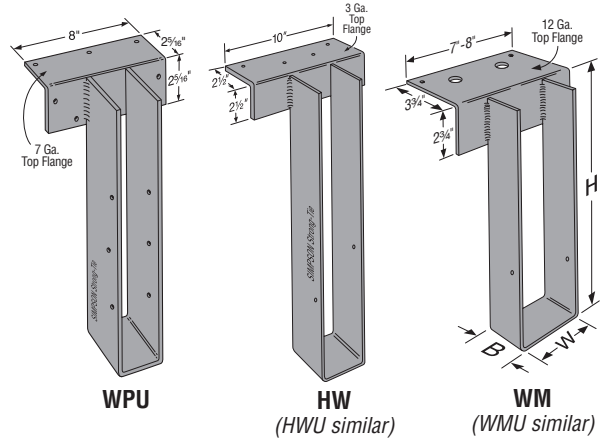
CODES: See page 12 for Code Reference Key Chart.

Model	Nailer	Top Flange Nailing	Uplift ¹ (160)	Allowable Loads	
				DF/SP	SPF/HF
W	2x	2-10dx1 1/2	—	1600	1600
	2-2x	2-10d	—	1665	—
	3x	2-16dx2 1/2	—	1765	—
	4x	2-10d	—	2200	—
WP	2x	2-10dx1 1/2	—	2525	2500
	2-2x	2-10d	—	3255	3255
	3x	2-16dx2 1/2	—	3000	2510
	4x	2-10d	—	3255	3255
WPU	2-2x	7-10d	700	3255	—
	3x	7-16dx2 1/2	775	3000	—
	4x	7-16d	775	3255	—
HW	2-2x	4-10d	—	4845	—
	3x	4-16dx2 1/2	—	4860	—
	4x	4-16d	—	5285	—
HWU	2-2x	8-16dx2 1/2	710	5430	—
	3x	8-16dx2 1/2	810	5430	—
	4x	8-16d	810	5430	—

NAILER TABLE

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

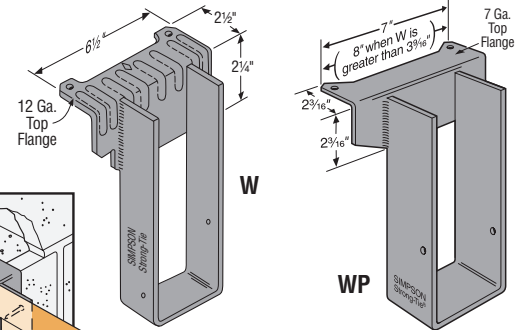
1. Uplift values for the WPU and HWU hangers are for depths ≤ 18" and are for DF/SP values only. Refer to uplift values in table below for taller depths.
2. Attachment of nailer to supporting member is the responsibility of the Designer.



WPU

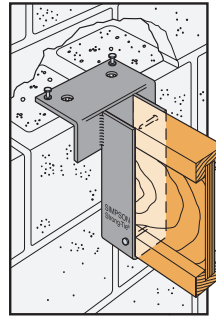
HW (HWU similar)

WM (WMU similar)

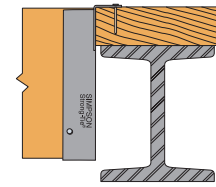


W

WP



Typical WM Installation with Alternate Nailing Pattern (ANP)



Correct Nailer Attachment

Some model configurations may differ from those shown. Contact Simpson Strong-Tie for details.

W SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Joist		Fasteners			Allowable Loads Header Type							Code Ref.	
	Width	Depth	Top	Face	Joist	Uplift (160)	LVL ⁴	PSL	LSL	DF/SP	SPF/HF	DF/SCL I-Joist ⁵		Masonry
W	1 1/2 to 4	3 1/2 to 30	2-10dx1 1/2	—	2-10dx1 1/2	—	1635	1740	—	1600	1415	—	—	170
	1 1/2 to 4	3 1/2 to 30	2-10d	—	2-10dx1 1/2	—	2150	2020	—	2200	1435	—	—	I19, F18
	1 1/2 to 4	3 1/2 to 30	2-16d	—	2-10dx1 1/2	—	2335	1950	2335	1765	1435	—	—	—
WM	1 1/2 to 4	3 1/2 to 30	2-16d DPLX	—	2-10dx1 1/2	—	MID-WALL INSTALLATION⁶						4175	IL12, L1
	1 1/2 to 4	3 1/2 to 30	2-1/4x1 3/4" Titens	—	2-10dx1 1/2	—	TOP OF WALL INSTALLATION						3380	—
WMU	1 1/2 to 7 1/2	9 to 28	2-16d DPLX	4-1/4x1 3/4" Titens	6-10dx1 1/2	625	MID-WALL INSTALLATION⁶						4175	170
	1 1/2 to 7 1/2	9 to 28	2-1/4x1 3/4" Titens	4-1/4x1 3/4" Titens	6-10dx1 1/2	545	TOP OF WALL INSTALLATION						3380	—
WP	1 1/2 to 7 1/2	3 1/2 to 30	3-10d	—	2-10dx1 1/2	—	2865	3250	—	2500	2000	2030	—	—
	1 1/2 to 7 1/2	3 1/2 to 30	3-16d	—	2-10dx1 1/2	—	2525	3250	3650	3255	2525	—	—	—
	1 1/2 to 7 1/2	3 1/2 to 30	3-16d	—	2-10dx1 1/2	—	3635	3320	3650	3255	2600	—	—	—
WPU	1 1/2 to 5 1/2	7 1/4 to 18	3-16d	4-16d	6-10dx1 1/2	775	4700	4880	3650	4165	4165	—	—	—
	1 1/2 to 5 1/2	18 1/2 to 22 1/2	3-16d	4-16d	6-10dx1 1/2	485	4700	4880	3650	4165	4165	—	—	—
	1 1/2 to 5 1/2	23 to 28	3-16d	4-16d	6-10dx1 1/2	315	4700	4880	3650	4165	4165	—	—	—
HW	1 1/2 to 7 1/2	3 1/2 to 32	4-10d	—	2-10dx1 1/2	—	3100	4000	—	5285	3100	—	—	—
	1 1/2 to 7 1/2	3 1/2 to 32	4-16d	—	2-10dx1 1/2	—	5100	4000	4500	5285	3665	—	—	—
HWU	1 3/4 to 3 1/2	9 to 18	4-16d	4-16d	6-10dx1 1/2	810	6335	5500	5535	6335	5415	—	—	I19, F18
	1 3/4 to 3 1/2	18 1/2 to 22 1/2	4-16d	4-16d	6-10dx1 1/2	765	6335	5500	5535	6335	5415	—	—	—
	1 3/4 to 3 1/2	23 to 28	4-16d	4-16d	6-10dx1 1/2	635	6335	5500	5535	6335	5415	—	—	—
	1 3/4 to 3 1/2	28 1/2 to 32	4-16d	4-16d	8-10dx1 1/2	1005	6335	5500	5535	6335	5415	—	—	—
	4 1/2 to 7	9 to 18	4-16d	4-16d	6-10dx1 1/2	810	6000	5500	5535	6000	5415	—	—	—
	4 1/2 to 7	18 1/2 to 22 1/2	4-16d	4-16d	6-10dx1 1/2	765	6000	5500	5535	6000	5415	—	—	—
	4 1/2 to 7	23 to 28	4-16d	4-16d	6-10dx1 1/2	635	6000	5500	5535	6000	5415	—	—	—
	4 1/2 to 7	28 1/2 to 32	4-16d	4-16d	8-10dx1 1/2	1005	6000	5500	5535	6000	5415	—	—	—

1. 16d sinkers (9 ga x 3") may be used where 10d commons are called out with no load reduction.
2. Uplift loads are based on DF/SP lumber and have been increased 60% for wind or earthquake loading with no further increase allowed. For normal loading applications such as cantilever construction refer to Simpson Strong-Tie® Connector Selector™ software or conservatively divide the uplift load by 1.6. For SPF/HF use 0.86 x DF/SP uplift load.
3. SCL, structural composite lumber, is laminated veneer lumber, laminated strand lumber, and Parallam® PSL.
4. Applies to LVL headers made primarily from Douglas Fir or Southern Pine.

5. For LVL made primarily from Spruce Pine Fir or similar less dense veneers, use the values found in the SPF/HF column.
 6. I-joist header with SPF/HF flanges will support 2030 lbs.
 7. WP quantity of nail holes in top flange varies.
 8. Top Flange Hangers on the following pages with "I" in the model name (e.g. HWI) use the same design information in the above tables for the models without the "I" in the name (e.g. HW).
 9. Minimum f_m = 1500 psi. Refer to Installation Notes for further explanation of applications.
 10. For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.
- 10. NAILS:** 16d and 16d DPLX = 0.162" dia. x 3 1/2" long, 10d = 0.148" dia. x 3" long, 10dx1 1/2 = 0.148" dia. x 1 1/2" long. See page 16-17 for other nail sizes and information.
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