

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

Engineered Wood & Structural Composite Lumber Connectors

The W, WP, WPU, HWU and HW series purlin hangers offer the greatest design flexibility and versatility. WMs are designed for use on standard 8" grouted masonry block wall construction.

MATERIAL: See tables on pages 94-108; W, WI—12 ga. top flange and stirrup; WM, WMI, WMU—12 ga. top flange and stirrup; WPU, WP—7 ga. top flange, 12 ga. stirrup; HW, HWI—3 ga. top flange, 11 ga. stirrup; HWU—3 ga. top flange, 10 ga. stirrup.

FINISH: Simpson gray paint; hot-dipped galvanized available; specify HDG.

FACTORED RESISTANCES: For hanger heights exceeding the joist height, the factored resistance is 0.50 of the tabulated resistance.

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, WI, 3/16" for WP, WPI, and 1/4" for HW, HWI, by 1 1/2" fillet welds located at each end of the top flange. Weld-on applications produce maximum factored resistance listed. Uplift resistances do not apply to this application.
- 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 - 3/8":12 use 85% of table value.
- Embed WM into block with a minimum of one course above and one course below the top flange with one 15M vertical rebar minimum 24" long in each cell. Minimum grout strength is 15 MPa.
- Web stiffeners are required for standard joist nailing configuration with this hanger.

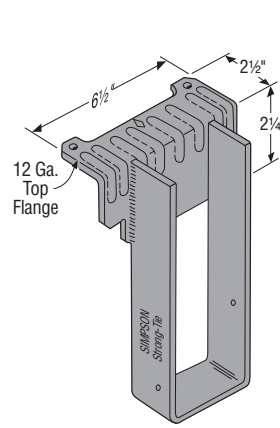
OPTIONS: • Specify alternate nailing pattern when web stiffeners are not being used (up to 16" in depth). Add X ANP after model number for nailing into the flange, available for 90° applications only. Uplift resistances do not apply to this application.

- See Hanger Options, page 183 for hanger modifications and associated load reductions.

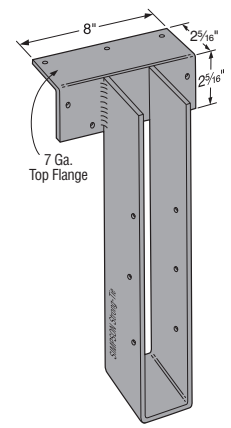
NAILER TABLE

The table indicates the maximum factored normal resistances 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. This table also applies to sloped-seat hangers.

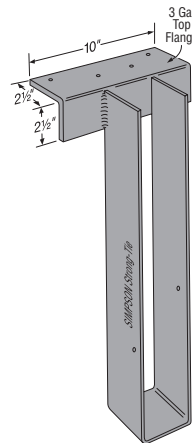
Model	Nailer	Top Flange Nailing	Factored Resistance (K _p =1.00)		
			D.Fir-L	S-P-F	LSL
			lbs	lbs	lbs
			kN	kN	kN
W/WI	2x	2-10dx1 1/2	2470	2470	—
			11.00	11.00	—
	2-2x	2-10d	2730	2730	—
			12.16	12.16	—
	3x	2-16dx2 1/2	2895	2855	—
12.90			12.72	—	
WP/WNP/WPI	2x	2-10dx1 1/2	3665	3630	4900
			16.33	16.17	21.82
	2-2x	2-10d	4475	3760	—
			19.93	16.75	—
	3x	2-16dx2 1/2	4125	3760	4900
18.37			16.75	21.82	
4x	2-10d	4475	3760	—	
			19.93	16.75	—
HW/HWI	4x	4-16d	7670	4695	—
			34.16	20.91	—



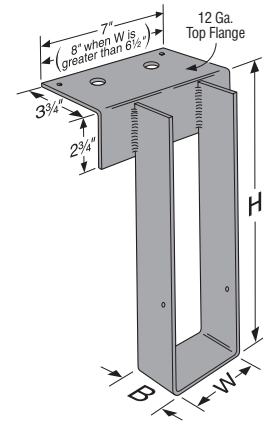
W/WI



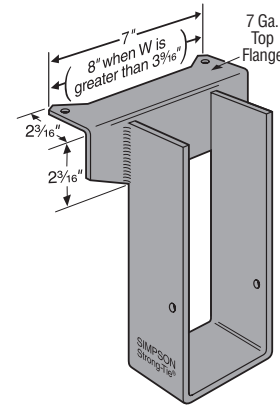
WPU



HW/HWI
(HWU similar)

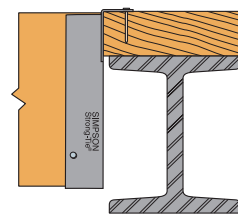


WM/WMI
(WMU similar)

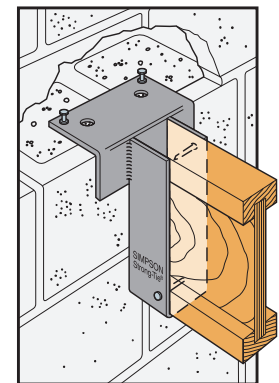


WP/WPI

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



Correct Nailer Attachment



Typical WM Installation with Alternate Nailing Pattern (ANP)

W SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Joist		Fasteners			Factored Resistance							
	Width (in)	Depth (in)	Top	Face	Joist	Uplift (K _D =1.15)	Normal (K _D =1.00)						
							D.Fir-L	S-P-F	LVL ⁵	PSL	LSL	Masonry	
							lbs	lbs	lbs	lbs	lbs	lbs	
kN	kN	kN	kN	kN	kN								
W/WI	1½ to 4	3½ to 30	2-10dx1½	—	2-10dx1½	—	2455	2375	2675	2850	—	—	
						—	10.94	10.58	11.92	12.69	—	—	
	1½ to 4	3½ to 30	2-10d	—	2-10dx1½	—	2920	2375	3425	3305	—	—	
						—	13.00	10.58	15.26	14.72	—	—	
	1½ to 4	3½ to 30	2-16d	—	2-10dx1½	—	2955	2375	3820	3190	—	—	
						—	13.16	10.58	17.02	14.21	—	—	
WM/WMI	1½ to 4	3½ to 30	2-16d DPLX	—	2-10dx1½	—	—	—	—	—	—	6060	
						—	—	—	—	—	—	26.99	
	1½ to 4	3½ to 30	2-¼x1¼" Titens	—	2-10dx1½	—	—	—	—	—	—	5300	
						—	—	—	—	—	—	23.61	
WMU	1½ to 7½	9 to 18	2-16d DPLX	4-¼x1¼" Titens	6-10dx1½	1305	—	—	—	—	—	6060	
						5.81	—	—	—	—	—	26.99	
	1½ to 7½	18½ to 22½	2-16d DPLX	4-¼x1¼" Titens	6-10dx1½	1190	—	—	—	—	—	6060	
						5.30	—	—	—	—	—	26.99	
	1½ to 7½	23 to 28	2-16d DPLX	4-¼x1¼" Titens	6-10dx1½	860	—	—	—	—	—	6060	
						3.83	—	—	—	—	—	26.99	
WP/WNP/WPI	1½ to 7½	3½ to 30	3-10dx1½	—	2-10dx1½	—	4095	3545	4695	4720	—	—	
						—	18.24	15.79	20.91	21.02	—	—	
	1½ to 7½	3½ to 30	3-10d	—	2-10dx1½	—	4095	3550	3665	4720	5980	—	
						—	18.24	15.81	16.33	21.02	26.64	—	
	1½ to 7½	3½ to 30	3-16d	—	2-10dx1½	—	4430	3855	5950	5430	5980	—	
						—	19.73	17.17	26.50	24.19	26.64	—	
WPU/WNPU	1½ to 5½	7¼ to 18	3-16d	4-16d	6-10dx1½	1085	6390	6390	6825	7085	5980	—	
						4.83	28.46	28.46	30.40	31.56	26.64	—	
	1½ to 5½	18½ to 22½	3-16d	4-16d	6-10dx1½	560	6390	6390	6825	7085	5980	—	
						2.49	28.46	28.46	30.40	31.56	26.64	—	
	1½ to 5½	23 to 28	3-16d	4-16d	6-10dx1½	365	6390	6390	6825	7085	5980	—	
						1.63	28.46	28.46	30.40	31.56	26.64	—	
HW/HWI	1½ to 7½	3½ to 32	4-10d	—	2-10dx1½	—	6900	5285	4695	5810	—	—	
						—	30.73	23.54	20.91	25.88	—	—	
	1½ to 7½	3½ to 32	4-16d	—	2-10dx1½	—	7040	5285	7695	5810	6870	—	
						—	31.36	23.54	34.28	25.88	30.60	—	
	HWU	1¼ to 3½	9 to 18	4-16d	4-16d	6-10dx1½	1320	10375	8485	10375	8325	8925	—
							5.88	46.21	37.80	46.21	37.08	39.76	—
1¼ to 3½		18½ to 22½	4-16d	4-16d	6-10dx1½	895	10375	8485	10375	8325	8925	—	
						3.99	46.21	37.80	46.21	37.08	39.76	—	
1¼ to 3½		23 to 28	4-16d	4-16d	6-10dx1½	735	10375	8485	10375	8325	8925	—	
						3.27	46.21	37.80	46.21	37.08	39.76	—	
1¼ to 3½		28½ to 32	4-16d	4-16d	8-10dx1½	1645	10375	8485	10375	8325	8925	—	
						7.33	46.21	37.80	46.21	37.08	39.76	—	
4½ to 7½		9 to 18	4-16d	4-16d	6-10dx1½	1320	8250	8485	8250	8325	8925	—	
						5.88	36.75	37.80	36.75	37.08	39.76	—	
4½ to 7½		18½ to 22½	4-16d	4-16d	6-10dx1½	895	8250	8485	8250	8325	8925	—	
						3.99	36.75	37.80	36.75	37.08	39.76	—	
4½ to 7½	23 to 28	4-16d	4-16d	6-10dx1½	735	8250	8485	8250	8325	8925	—		
					3.27	36.75	37.80	36.75	37.08	39.76	—		
4½ to 7½	28½ to 32	4-16d	4-16d	8-10dx1½	1645	8250	8485	8250	8325	8925	—		
					7.33	36.75	37.80	36.75	37.08	39.76	—		

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Catalogue C-CAN08 © 2008 SIMPSON STRONG-TIE COMPANY INC.

1. Factored uplift resistances shown are for D.Fir-L. Multiply tabulated resistances x 0.71 for either SPF joist or header.
2. Factored resistances shown are for header connection only. The Designer must ensure the joist is capable of generating the factored resistances shown.
3. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.
4. WP/WPI quantity of nail holes in top flange varies.
5. Applies to LVL headers made primarily from Douglas Fir or Southern Pine. For LVL made primarily from Spruce Pine Fir or similar less dense veneers, use the values found in the S-P-F column.
6. Titen ¼x1¼ installed on top of wall after grout has cured.
7. **NAILS:** 16d and 16d DPLX = 0.162" dia. x 3½" long, 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long. See page 16-17 for other nail sizes and information.

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