

**TOP FLANGE HANGERS ITS/ITT/MIT/HIT** Engineered Wood Products Hangers



This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

Engineered Wood & Structural Composite Lumber Connectors

A dedicated range of Top Flange I-joint hangers meeting the unique needs of I-joists while offering superior performance and ease of installation.

**ITS**

The innovative ITS sets a new standard for engineered wood top flange hangers. The ITS installs faster and uses fewer nails than any other EWP top flange hanger. The new Strong-Grip™ seat and Funnel Flange™ features allow standard joist installation without requiring joist nails resulting in the lowest installed cost. The Strong-Grip seat firmly secures I-joists with flange thicknesses from 1 1/8" to 1 1/2". The ITS design maintains superior allowable download capacities equal to or greater than the ITT for Douglas Fir and all SCL headers.

**ITT**

The ITT's special bend-tabs constrains the I-joist, helping to reduce squeaks resulting from joist movement. I-joist flange thickness for bend-tab application is 1 1/8" to 1 1/2".

**MIT/HIT - Patented Positive Angle Nailing (PAN)**

PAN is specifically designed for I-joists when used with the MIT or HIT. With PAN, the nail hole material is not removed, but is formed to channel and confine the path of the nail at approximately 45°. PAN minimizes splitting of the flanges while permitting time-saving nailing from a better angle. See Top Flange tables on pages 96 to 105.

Refer to Joist Manufacturer's literature or appropriate Simpson Strong-Tie® Connector Selection Guide for actual joist sizes.

**MATERIAL:** ITS, ITT—18 gauge; MIT, HIT—16 gauge

**FINISH:** Galvanized

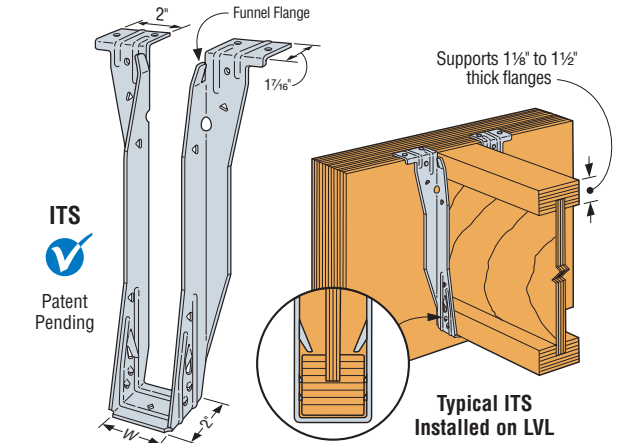
**INSTALLATION:** • Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.

- See product specific installation drawings pages 90-91.
- ITS—no joist nailing required for standard I-joist installation without web stiffeners. When supporting I-joists with web stiffeners or rectangular SCL member 2-10dx1 1/2" must be installed into optional triangle joist nail holes for standard installation values.
- ITS and ITT—optional triangle nail holes may be used for additional load. See allowable load tables. Refer to technical bulletin T-OPTUPLIFT for additional options (see page 191 for details).
- ITT—bend tabs may be installed unbent into web stiffeners.
- MIT—optional triangle nail holes may be used for increased uplift capacity. See Optional Nailing For Increased Uplift table.
- HIT—closed PAN nail holes may be used for increased uplift capacity. See Optional Nailing For Increased Uplift table.
- For sloped joists up to 1/4:12 there is no reduction, between 1/4:12 and up to 1/2:12, tests show a 10% reduction in ultimate hanger strength. Local crushing of the bottom flange or excessive deflection may be limiting; check with joist manufacturer for specific limitations on bearing of this type.

**ALLOWABLE LOADS:** • The ITS, ITT, MIT and HIT hangers have locations for optional nails if additional uplift is needed. Optional uplift nailing requires the addition of properly-secured web stiffeners. See the load tables for minimum required fasteners and allowable uplift loads.

**OPTIONS:** • Because these hangers are fully die-formed, they cannot be modified. However these models will normally accommodate a skew of up to 5°.

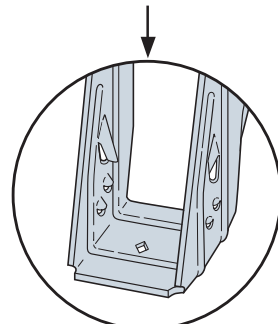
**CODES:** See page 12 for Code Reference Key Chart.



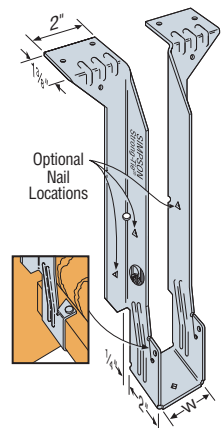
**ITS**  
Patent Pending

Supports 1 1/8" to 1 1/2" thick flanges

Typical ITS Installed on LVL

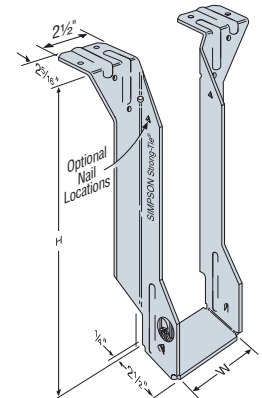


The Strong-Grip™ seat secures I-joists in position without joist nails

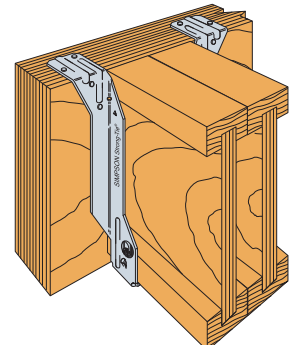


Optional Nail Locations

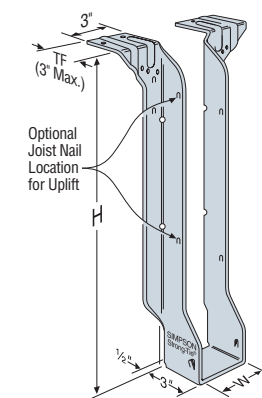
**ITT**  
U.S. Patent 5,555,694



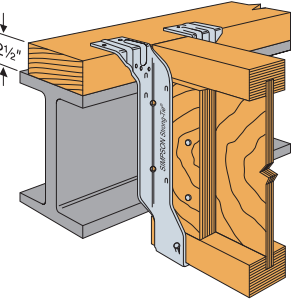
**MIT**



Typical MIT Installed on a Double LVL

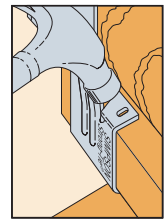


**HIT**

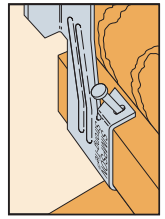


**HIT Installation**  
on a 3x Nailer mounted on a Steel Beam

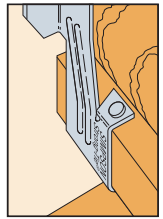
**IUT & ITT INSTALLATION (VPA SIMILAR)**



Bend the tab with a hammer.



Hammer 10dx1 1/2 nail at approximately 45°.



The tab is now correctly installed.

**TOP FLANGE HANGERS LBV/BA/B/HB I-Joist & Structural Composite Lumber Hangers**



This product is preferable to similar connectors because of  
a) easier installation, b) higher loads, c) lower installed cost,  
or a combination of these features.

The BA hanger is a cost effective hanger targeted at high capacity I-joists and common Structural Composite Lumber applications. A min/max joist nail option gives dual use of this hanger. Minimum values featuring positive angle nailing are targeted at I-joist without web stiffeners requirement and the maximum nailing generates higher loads to support structural composite lumber. The unique two level embossment provides added stiffness to the top flange.

The newly improved LBV, B and HB hangers offer wide versatility for I-joists and structural composite lumber. The enhanced load capacity widens the range of applications for these hangers. The LBV still features positive angle nailing and does not require the use of web stiffeners for standard non modified I-joist installations.

See Top Flange tables on pages 96 to 105. See Hanger Options on pages 181-183 for hanger modifications, which may result in reduced loads.

**MATERIAL:** See tables, pages 96 to 105.

**FINISH:** LBV, B, BA and HB—Galvanized; all saddle hangers and all welded sloped and special hangers—Simpson Strong-Tie® gray paint. LBV, B, BA and HB may be ordered hot-dip galvanized; specify HDG.

**INSTALLATION:** • Use all specified fasteners. See General Notes and nailer table.

- LBV, B, BA and HB may be used for weld-on applications. Weld size to match material thickness (*approximate thickness shown*). The minimum required weld to the top flanges is 1/8" x 2" fillet weld to each side of each top flange tab for 14 and 12 gauge and 3/16" x 2" fillet weld to each side of each top flange tab for 7 gauge and 10 gauge. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated, see page 14 for weld information. Weld on applications produce the maximum allowable down load listed. For uplift loads refer to T-WELDUPLFT.
- LBV hangers do not require the use of web stiffeners for non-sloped or non-skewed applications.
- B and HB hangers require the use of web stiffeners. BA MIN nailing does not require web stiffeners. BA MAX nailing requires the use of web stiffeners.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.
- Refer to technical bulletin T-SLOPEJST for information regarding load reductions on selected hangers which can be used without modification to support joists which have shallow slopes ( $\leq 4:12$ ).

**OPTIONS:** • LBV, B and HB

- Other widths are available; specify W dimension (*the minimum W dimension is 1 9/16"*).
- The coating on special B hangers will depend on the manufacturing process used. Check with your Simpson Strong-Tie representative for details. Hot-dip galvanized available; specify HDG.
- Refer to technical bulletin T-BSERIES for the complete line of LBV, BA, B and HB hangers, including models not shown here, their available modification combinations and their associated reduction factors.
- Modified hangers have reduced loads, see Hanger Options, pages 181-183.

**CODES:** See page 12 for Code Reference Key Chart.

Model No.	Nailer	Top Flange Nailing	Uplift <sup>1</sup> (160)	Allowable Loads	
				DF/SP	SPF/HF
LBV	2x	10-10dx1 1/2	265	2280	2085
	2-2x	10-10d	265	1955	1530
	3x	10-16dx2 1/2	265	2490	—
BA	4x	10-16d	255	2590	—
	2x	10-10dx1 1/2	265	2220	1755
	2-2x	14-10d	265	2695	2235
	3x	14-16dx2 1/2	265	3230	—
B	4x	14-16d	265	3300	—
	2-2x	14-10d	710	3615	2770
	3x	14-16dx2 1/2	825	3725	—
HB	4x	14-16d	825	3800	—
	4x	22-16d	1550	5500	—

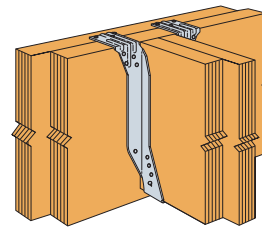
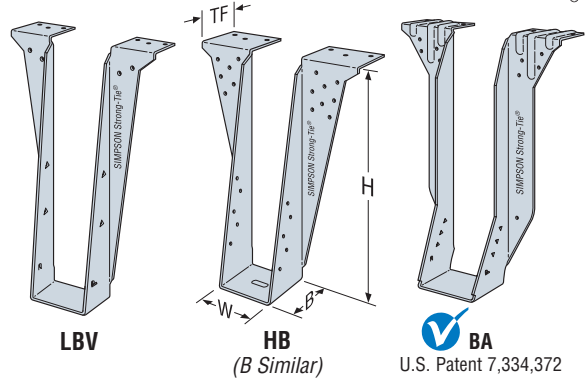
**NAILER TABLE**

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

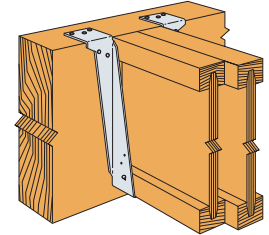
1. Uplift values are for DF/SP members only. LBV and BA hangers resist more uplift when web stiffeners are used. Refer to technical bulletin T-NAILERUPLFT for additional information (*see page 191 for details*).
2. See page 184 for reductions on modified hangers on nailers.
3. B hangers require 6-10dx1 1/2 joist nails to achieve published loads. For joist members 2 1/2" or wider, 16dx2 1/2" joist nails should be installed for additional uplift loads on the 3x and 4x nailer applications of 970 lbs. and 1010 lbs. respectively.

**B SERIES WITH VARIOUS HEADER APPLICATIONS**

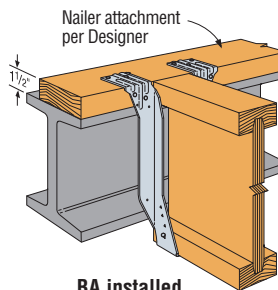
Model Series	Fasteners			Allowable Loads Header Type								Code Ref.
	Top	Face	Joist	Uplift <sup>1</sup> (160)	LVL <sup>8</sup>	PSL	LSL	DF/SP <sup>2</sup>	SPF/HF	I-Joist <sup>9</sup>		
										DF/SCL	SPF/HF	
LBV (Min)	6-10dx1 1/2	4-10dx1 1/2	2-10dx1 1/2	265	2295	2610	2270	1790	1835	1495	1340	11, F21
	6-10d	4-10d	2-10dx1 1/2	265	2295	2610	2645	2310	2060	—	—	
	6-16d	4-16d	2-10dx1 1/2	265	2910	2885	3190	2460	2060	—	—	
LBV (Max)	6-10dx1 1/2	4-10dx1 1/2	6-10dx1 1/2	635	2295	2610	2270	1790	1835	1495	1350	
	6-10d	4-10d	6-10dx1 1/2	785	2295	2610	2645	2310	2060	—	—	
	6-16d	4-16d	6-10dx1 1/2	895	2910	2885	3190	2460	2060	—	—	
BA (Min)	6-10dx1 1/2	10-10dx1 1/2	2-10dx1 1/2	—	—	—	—	—	—	1495	1495	
	6-10d	10-10d	2-10dx1 1/2	265	3230	3630	4005	3080	2425	—	—	
	6-16d	10-16d	2-10dx1 1/2	265	4015	3705	4005	3435	2665	—	—	
BA (Max)	6-10d	10-10d	8-10dx1 1/2	1170	3555	3630	4120	3625	2465	—	—	
	6-16d	10-16d	8-10dx1 1/2	1170	4715	4320	4500	3800	2665	—	—	
B <sup>3</sup>	6-10d	8-10d	6-10dx1 1/2	990	3575	3195	3640	3625	2190	—	—	
	6-16d	8-16d	6-16dx2 1/2	1010	4135	3355	4500	3800	2650	—	—	
HB <sup>2</sup>	6-16d	16-16d	10-16dx2 1/2	2610	5815	5640	6395	5650	3820	—	—	



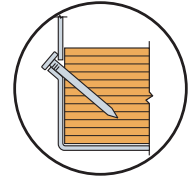
BA Installed LVL to LVL Max Nailing



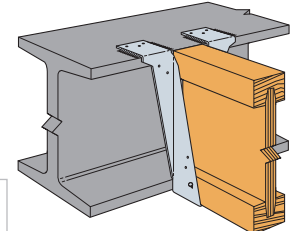
Typical Double LBV Hanger Installation



BA installed 2X nailer on steel beam minimum nailing



LBV features positive angle nailing, no web stiffeners are required



BA, B, HB and LBV are acceptable for weld-on applications (*LBV shown*). See Installation Information.

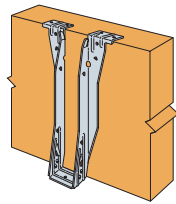
**NAILS:** 16d = 0.162" dia. x 3 1/2" long,  
16dx2 1/2 = 0.162" dia. x 2 1/2" long,  
10d = 0.148" dia. x 3" long,  
10dx1 1/2 = 0.148" dia. x 1 1/2" long.  
See page 16-17 for other nail sizes and information.

1. This table assumes joists with  $F_c \perp = 750$  psi. For other joists, check that bearing and joist nails are adequate.
2. Loads for B's and HB's assume a joist width of 2 1/2" or greater.
3. 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.
4. Loads may not be increased for short term loading.
5. Web stiffeners required when more than two joist nails are used.
6. SCL (*structural composite lumber*) is LVL (*laminated veneer lumber*), LSL (*laminated strand lumber*), and Parallam® PSL.
7. Code values are based on DF/SP header species.
8. 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 SPF/HF column.
9. DF I-joists include flanges made from solid sawn Douglas Fir, LVL made primarily of Douglas Fir/Southern Pine, or LSL. For flanges with thicknesses from 1 9/16" to 1", use 0.85 of the I-joist header load. For flanges with thicknesses from 1" to 1 1/4", use 0.75 of the I-joist header load.

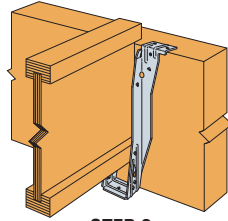
Parallam® is registered trademark of iLevel by Weyerhaeuser.

**TOP FLANGE HANGERS ITS/ITT/MIT/HIT** Engineered Wood Products Hangers

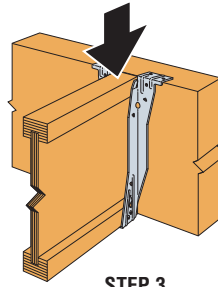
**ITS INSTALLATION SEQUENCE**



**STEP 1**  
Attach the ITS to the header

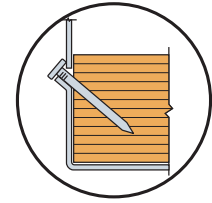


**STEP 2**  
Slide the I-joint downward into the ITS until it rests above the Strong-Grip™ seat.



**STEP 3**  
Firmly push or snap I-joint fully into the seat of the ITS.

**POSITIVE ANGLE NAILING**



Correct Nailing  
Approx. 45° angle

**IT SERIES WITH VARIOUS HEADER APPLICATIONS**

Model	Fasteners			Allowable Loads Header Type								Code Ref.
	Top	Face	Joist	Uplift <sup>1</sup> (160)	LVL <sup>2</sup>	PSL	LSL	DF/SP	SPF/HF	DF/SCL <sup>3</sup> I-Joist	SPF/HF I-Joist	
ITS Series <sup>5</sup> (Standard Installation)	4-10dx1½	2-10dx1½	—	105	1395	1245	1625	1440	1140	1085	940	I19, L12, F18
	4-10d	2-10d	—	105	1550	1365	1780	1520	1150	—	—	
	4-16d	2-16d	—	105	1785	1735	1905	1635	1225	—	—	
ITS Series <sup>5,8</sup> (Alternate Installation)	4-10d	4-10d	—	105	1735	1595	1885	1955	1230	—	—	170
	4-16d	4-16d	—	105	1785	1735	1905	1955	1490	—	—	
	4-10d	4-10d	4-10dx1½	630	1735	1595	1885	1955	1230	—	—	
ITT Series <sup>9</sup>	4-10dx1½	2-10dx1½	2-10dx1½	235	1235	1225	1435	1275	1065	1050	755	I19, L12, F18
	4-10d	2-10d	2-10dx1½	235	1450	1300	1435	1465	1200	—	—	
	4-16d	2-16d	2-10dx1½	235	1500	1535	1500	1635	1315	—	—	
ITTM Series	See page 142 for concrete and masonry installations.											
MIT Series <sup>9</sup>	4-10dx1½	4-10dx1½	2-10dx1½	215	2035	1500	1605	2035	1115	1230	885	I19, L12, F18
	4-10d	4-10d	2-10dx1½	215	2335	2000	1605	2245	1665	—	—	
	4-16d	4-16d	2-10dx1½	215	2550	2140	2115	2305	1665	—	—	
HIT Series	4-16d	6-16d	2-10dx1½	315	2550	2050	2500	2875	1950	—	—	

- 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.
- 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 SPF/HF column.

- DF I-joists include flanges made from solid sawn Douglas Fir, LVL made primarily of Douglas Fir/Southern Pine, or LSL. For flanges with thicknesses from 1½ to 1¾, use 0.85 of the I-joint header load. For flanges with thicknesses from 1¾ to 1⅞, use 0.75 of the I-joint header load.
- SCL (structural composite lumber) is LVL, LSL, and Parallam® PSL.
- Web stiffeners required for the ITS Alternate Installation when installing optional joist nails for additional uplift load.
- Code Values are based on DF/SP header species.
- I-joists with flanges less than 1½ thick used in combination with hangers thinner than 14 gauge may deflect an additional ½ inch beyond the standard ½ limit.

**8. For 2½" and 2⅞" wide joists, see tables on pages 96-105 for allowable loads.**

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**NAILER TABLE**

This table indicates various allowable loads for ITS/ITT/MIT/HIT hangers used on wood nailers. The header nail type must be substituted for those listed in other tables. See technical bulletin T-NAILERUPLFT for other uplift values and options (see page 191 for details).

Model	Nailer	Top Flange Nailing	Joist Nailing	Uplift <sup>2</sup> (160)	Allowable Loads	
					DF/SP	SPF/HF
ITS Series	2x	6-10dx1½	—	105	1260	1260
	2x	6-10dx1½	2-10dx1½	310	1260	1260
	2-2x	6-10d	—	105	1220 <sup>1</sup>	1220 <sup>1</sup>
	2-2x	8-10d	4-10dx1½	615	1745	1530
	3x	6-16dx2½	—	105	1500 <sup>1</sup>	—
	3x	8-16dx2½	4-10dx1½	615	1540	—
	4x	6-16d	—	105	1525 <sup>1</sup>	—
ITT Series	2x	6-10dx1½	2-10dx1½	190	1215	1215
	2-2x	6-10d	2-10dx1½	190	1215	1150
	3x	6-16dx2½	2-10dx1½	190	1500	—
	4x	6-16d	2-10dx1½	190	1525	—
MIT Series	2x	6-10dx1½	2-10dx1½	215	1570 <sup>1</sup>	1440
	2-2x	8-10d	2-10dx1½	215	1570	1255
	3x	8-16dx2½	2-10dx1½	215	1975 <sup>1</sup>	—
	4x	8-16d	2-10dx1½	215	2250 <sup>1</sup>	—
HIT Series	2-2x	10-10d	2-10dx1½	255	2525	—
	3x	10-16dx2½	2-10dx1½	255	2835	—
	4x	10-16d	2-10dx1½	255	3050 <sup>1</sup>	—

- These hangers may deflect an additional ½" at design load.
- Uplift loads are based on DF/SP members only.

**NAILS:** 16d = 0.162" dia. x 3½" long, 16dx2½ = 0.162" dia. x 2½" 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.

**OPTIONAL NAILING FOR INCREASED UPLIFT**

Model	Fasteners			Allowable Uplift Loads (160)
	Top	Face	Joist	
ITS	4-10d	4-10d	4-10dx1½	630
	4-16d	4-16d	4-10dx1½	630
ITT	4-10dx1½	4-10dx1½	4-10dx1½	575
	4-10d	4-10d	4-10dx1½	575
MIT	4-16d	4-16d	4-10dx1½	575
	4-10dx1½	4-10dx1½	4-10dx1½	575
HIT	4-16d	6-16d	4-10dx1½	575
	4-16dx2½	6-16dx2½	4-10dx1½	575
	4-16d	6-16d	6-10dx1½	850

- Loads are based on Doug Fir, and have been increased 60% for wind or earthquake loading with no further increase allowed. Reduce according to the code for normal loading criteria such as in cantilever construction.
- Web stiffeners are required on I-joint for additional nailing.

**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.

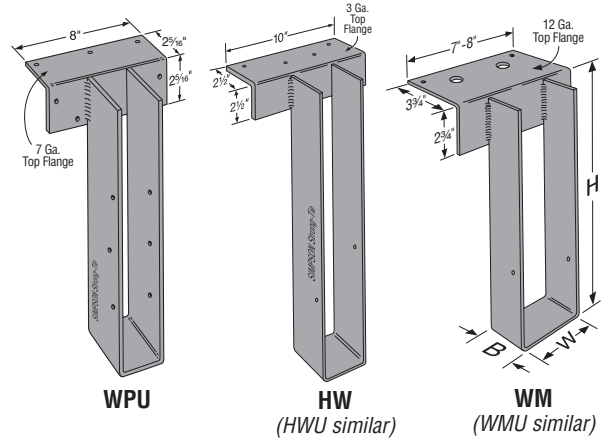
**CODES:** See page 12 for Code Reference Key Chart.

Model	Nailer	Top Flange Nailing	Uplift <sup>1</sup> (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.

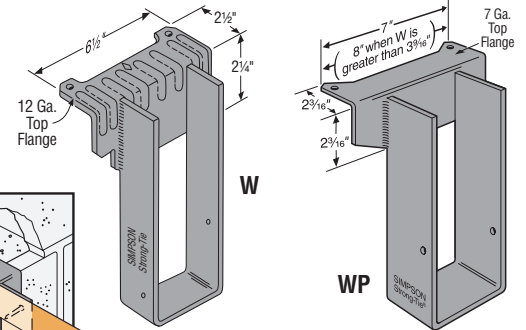
1. Uplift values for the WPU and HWU hangers are for depths ≤ 18" and are for DF/SP values only. Refer to uplift values in table below for taller depths.
2. Attachment of nailer to supporting member is the responsibility of the Designer.



WPU

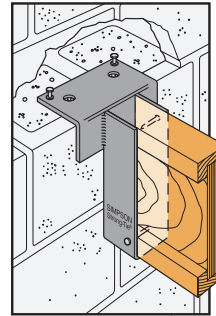
HW (HWU similar)

WM (WMU similar)

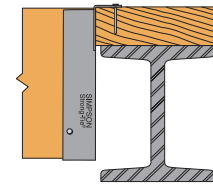


W

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 <sup>4</sup>	PSL	LSL	DF/SP	SPF/HF	DF/SCL I-Joist <sup>5</sup>		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	—	<b>MID-WALL INSTALLATION<sup>6</sup></b>						4175	IL12, L1
	1 1/2 to 4	3 1/2 to 30	2-1/4x1 3/4" Titens	—	2-10dx1 1/2	—	<b>TOP OF WALL INSTALLATION</b>						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	<b>MID-WALL INSTALLATION<sup>6</sup></b>						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	<b>TOP OF WALL INSTALLATION</b>						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<sub>m</sub> = 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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