

TOP FLANGE HANGERS ITS/LT/MIT/HIT Engineered Wood Products Hangers

Engineered Wood & Structural Composite Lumber Connectors



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.

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

NEW! 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".

LT

The LT series of top flange hangers is designed for use with wood I-joists. Installation is fast and easy. The hanger's top flange simplifies placement and the side flanges laterally support the I-joist top flange eliminating the need for web stiffeners. Securing the carried I-joist is simple with only one screw required into the bottom flange through the seat of the hanger.

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 94 to 108.

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

MATERIAL: ITS, LT—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 86-87.
- 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—optional triangle nail holes may be used for additional capacity. See load tables.
- MIT and LT—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.

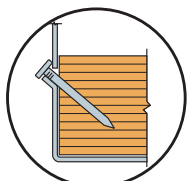
FACTORED RESISTANCES:

- The ITS, LT, 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 uplift capacities.

OPTIONS:

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

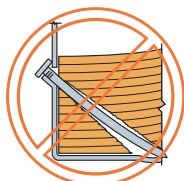
POSITIVE ANGLE NAILING



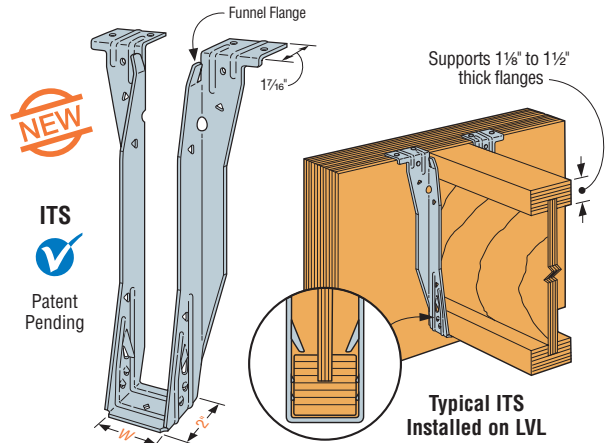
Correct Nailing
Approx. 45° angle



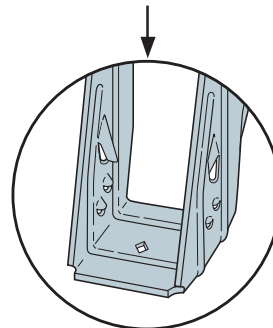
Nail at wrong angle
Do not bend tab back



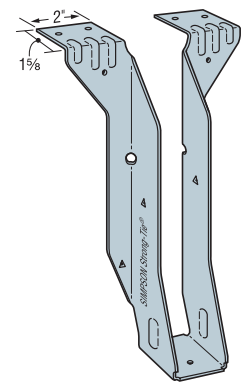
Nail too long



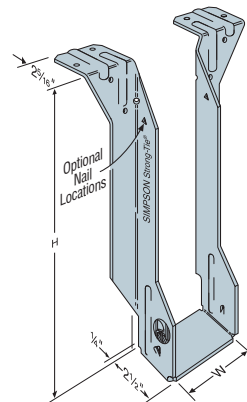
Supports 1 1/8" to 1 1/2" thick flanges
Typical ITS Installed on LVL



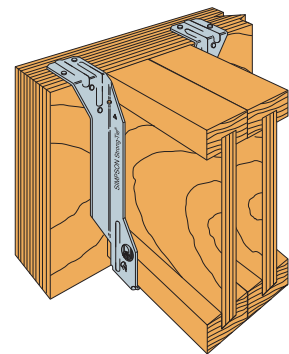
The Strong-Grip™ seat secures I-joists in position without joist nails



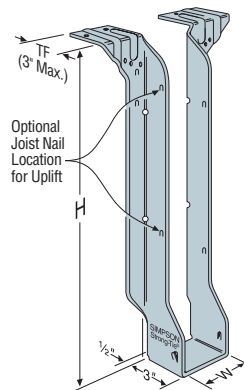
LT



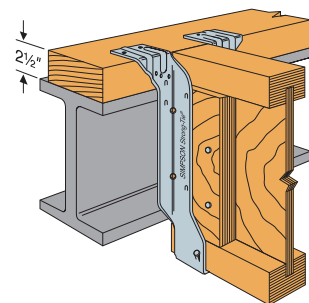
MIT



Typical MIT Installed on a Double LVL



HIT



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

TOP FLANGE HANGERS ITS/LT/MIT/HIT Engineered Wood Products Hangers

IT SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Fasteners			Factored Resistance						
	Top	Face	Joist	Uplift (K _D =1.15)	Normal (K _D =1.00)					
					D.Fir-L	S-P-F	LVL ⁴	PSL	LSL	S-P-F I-joist ⁵
					lbs	lbs	lbs	lbs	lbs	lbs
kN	kN	kN	kN	kN	kN	kN				
ITS Series (Standard Installation)	4-10dx1½	2-10dx1½	—	175 0.78	2115 9.42	1670 7.44	2050 9.13	1830 8.15	2390 10.65	1375 6.12
	4-10d	2-10d	—	175 0.78	2235 9.96	1690 7.53	2280 10.16	2005 8.93	2615 11.65	—
	4-16d	2-16d	—	175 0.78	2375 10.58	1795 8.00	2610 11.63	2550 11.36	2795 12.45	—
ITS Series (Optional Installation)	4-10d	4-10d	4-10dx1½	1065 4.74	2870 12.78	1805 8.04	2545 11.34	2345 10.45	2770 12.34	—
	4-16d	4-16d	4-10dx1½	1065 4.74	2870 12.78	1805 8.04	2610 11.63	2550 11.36	2795 12.45	—
	4-10dx1½	2-10dx1½	1-#8x1¼ WS	100 0.45	1910 8.50	1475 6.56	2175 9.67	1985 8.83	2215 9.85	1695 7.54
LT Series	4-10d	2-10d	1-#8x1¼ WS	100 0.45	2620 11.67	1725 7.68	2560 11.39	2480 11.03	2615 11.63	—
	4-16d	2-16d	1-#8x1¼ WS	100 0.45	2755 12.27	1850 8.24	2560 11.39	2480 11.03	2615 11.63	—
	4-10dx1½	4-10dx1½	2-10dx1½	535 2.38	3135 13.97	1820 8.10	3330 14.83	2455 10.94	2630 11.71	1900 8.46
MIT Series	4-10d	4-10d	2-10dx1½	535 2.38	3285 14.63	2415 10.76	3550 15.81	3025 13.47	2630 11.71	—
	4-16d	4-16d	2-10dx1½	535 2.38	3480 15.51	2415 10.76	3550 15.81	3025 13.47	2630 11.71	—
	4-16d	6-16d	2-10dx1½	535 2.38	4560 20.31	2700 12.03	3730 16.61	3220 14.34	3775 16.82	—

- When I-joist is used as header, all nails must be 10dx1½.
- Resistances may not be increased for short-term loading.
- Uplift resistances are based on D.Fir-L, and have been increased 15% for wind or earthquake loading with no further increase allowed. Divide by 1.15 for normal loading criteria like cantilever construction. For S-P-F use 0.71 x resistance.
- 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.
- For flanges less than 1½" thick multiply table values by a factor of 0.85.
- Minimum solid header thickness to achieve LT table loads is 1¾".
- Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.
- ITS optional installation requires web stiffeners installed per I-joist manufacturers recommendations.

Parallam and TimberStrand are registered trademarks of Trus Joist, a Weyerhaeuser company.

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			Factored Resistance	
	Top	Face	Joist	Uplift (K _D =1.15)	
				D.Fir-L	S-P-F
				lbs	lbs
kN	kN				
LT Series	4-10dx1½	4-10dx1½	2-10dx1½	545 2.43	390 1.74
	4-10d	4-10d	2-10dx1½	545 2.43	390 1.74
	4-16d	4-16d	2-10dx1½	545 2.43	390 1.74
HIT Series	4-16d	6-16d	4-10dx1½	1085 4.83	770 3.43
	4-16dx2½	6-16dx2½	4-10dx1½	1085 4.83	770 3.43
	4-16d	6-16d	6-10dx1½	1630 7.26	1155 5.14

- Factored resistances have been increased 15% 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-joist for additional nailing.

NAILER TABLE

This table indicates the maximum factored normal resistances for ITS/LT/MIT/HIT hangers used on wood nailers. The header nail type must be substituted for those listed in other tables.

Model	Nailer	Header Nailing	Factored Resistance (K _D =1.00)		
			D.Fir-L	S-P-F	LSL
			lbs	lbs	lbs
kN	kN	kN			
ITS Series (Standard Installation)	2x	6-10dx1½	1845 8.22	1845 8.22	—
	2-2x	6-10d	1845 8.22	1845 8.22	—
ITS Series (Optional Installation)	2-2x	8-10d	2560 11.40	2245 10.00	—
	4x	8-16d	2770 12.34	—	—
LT Series	2x	6-10dx1½	1770 7.87	1620 7.21	1995 8.87
	2-2x	6-10d	2310 10.28	1995 8.87	—
	4x	6-16d	2665 11.85	—	—
MIT Series	2x	6-10dx1½	2140 9.53	2140 9.53	2630 11.71
	2-2x	8-10d	2365 10.53	2055 9.15	—
	3x	8-16dx2½	2720 12.12	2430 10.82	—
	4x	8-16d	3090 13.76	—	—
HIT Series	2-2x	10-10d	3815 16.99	—	—
	3x	10-16dx2½	4645 20.69	—	—
	4x	10-16d	4670 20.80	—	—

- Maximum factored uplift resistance (K_D=1.15) for nailer applications is the lesser of the value shown in "Various Header Applications" table or 385 lbs. (1.71kN).

ITS INSTALLATION SEQUENCE

