

EWP PRODUCT GUIDE

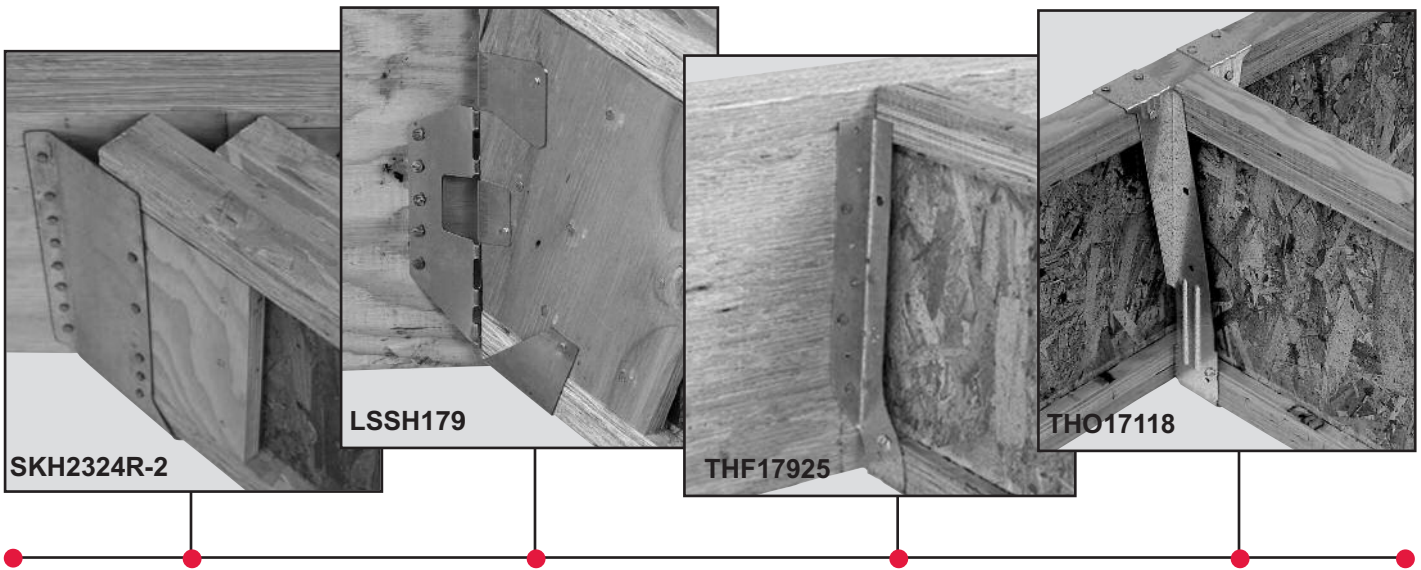
www.USPconnectors.com

For Use With Products
Manufactured
by



LIMIT
STATES
DESIGN

Trus Joist™
ENGINEERED WOOD PRODUCTS



Canadian Specifiers Guide

Lumberton • Largo • Montgomery • Humble • Corona • Livermore • Thornhill, Ontario

GENERAL NOTES

Follow these instructions to ensure the proper installation of USP products.

General Notes

- 1) See current USP Full Line Catalog for General Notes, Warranty, and installation information for hanger models, joist sizes, and header situations not shown.
- 2) Loads listed address hanger/header/fastener limitations as well as joist/hanger limitations assuming header material is Douglas Fir-Larch (DF-L), or Microllam® LVL, Parallam® PSL, or TimberStrand® LSL. Joist reaction should be checked by a qualified designer to ensure proper hanger selection.
- 3) Uplift loads have been increased 15% for wind or seismic loads and no further increase shall be permitted. Reduce loads according to code for normal duration loading such as cantilever construction.
- 4) If hanger height is less than 60% of joist height for solid sawn beams, joist rotation may occur, therefore supplemental lateral restraints are required, see page 3.
- 5) The type and quantity of fasteners used to install USP products is critical to connector performance. To achieve the allowable loads shown in this catalog, install with the fasteners specified for that particular

product. All specified fasteners must be properly installed prior to applying load of any kind to the connection.

- 6) Throughout this guide, dimensions are expressed in inches and loads in pounds, unless specifically noted otherwise.
- 7) Load values for 10d and 16d designations in the fastener schedules throughout this catalog refer to common wire nails, unless noted otherwise.
- 8) The allowable loads shown in this catalog are based on Limit States Design methodology.
- 9) *Multiple TJI® Joist Plies*: Fasten together multiple plies of wood TJI® Joist's, in accordance with Weyerhaeuser's installation guidelines, such that the joists act as a single unit.
- 10) *Sloped TJI® Joists*: Use sloped seat hangers and beveled web stiffeners whenever the slope exceeds the following: 1/2:12 for seat bearing lengths of 2 1/2" or less; 3/8:12 for bearing lengths between 2 1/2" and 3 1/2"; and 1/4:12 for bearing lengths in excess of 3 1/2".

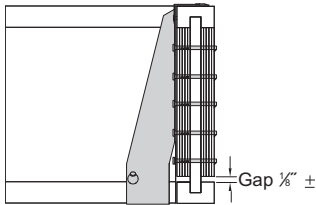
Backer Blocks – Pattern the nails used to install backer blocks or web stiffeners in wood TJI® Joist's to avoid splitting the block. The nail pattern should be sufficiently spaced to avoid the same grain line, particularly with solid sawn backer blocks. Backer blocks must be installed on wood TJI® Joist's acting as the header, or supporting member. Install in accordance with the Weyerhaeuser installation guidelines. The nails used to install hangers mounted to a TJI® Joist header must penetrate through the web and into the backer block on the opposite side.

Filler and Backer Block sizes

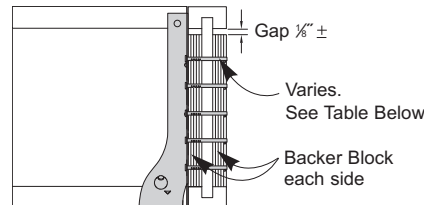
With top flange hangers, backer block required only for downward loads exceeding 395 lbs or for uplift conditions

TJI®	110		210		230 or 260		360	s31 or s33		s47 or 560			
Depth	9-1/2" or 11-7/8"	14"	9-1/2" or 11-7/8"	14" or 16"	9-1/2" or 11-7/8"	14" or 16"	18" or 20"	9-1/2" or 11-7/8"	14" or 16"	9-1/2" or 11-7/8"	14" or 16"	18" or 20"	
Filler Block ⁽¹⁾	2x6	2x8	2x6 + 3/8" sheathing	2x8 + 3/8" sheathing	2x6 + 1/2" sheathing	2x8 + 1/2" sheathing	2x12 + 1/2" sheathing	2x6 + 5/8" sheathing	2x8 + 5/8" sheathing	Two 2x6	Two 2x8	Two 2x12	
Cantilever Filler	2x6 4'-0" long	2x10 6'-0" long	2x6 + 3/8" sheathing, 4'-0" long	2x10 + 3/8" sheathing, 6'-0" long	2x6 + 1/2" sheathing, 4'-0" long	2x10 + 1/2" sheathing, 6'-0" long	Not Applicable	2x6 + 5/8" sheathing, 4'-0" long	2x10 + 5/8" sheathing, 6'-0" long	Not Applicable			
Backer Block ⁽¹⁾	5/8" or 3/4"		3/4" or 7/8"		7/8" or 1" net		1" net		2x6			2x8	2x12
Nail Size	Filler	10d (0.128" x 3")											
	Backer	16d (0.135" x 3-1/2")											
Nail Quantity ⁽²⁾	Filler	10 (15 for multi-family applications)						15 one side	10 (15 for multi-family)		10 (15 for multi-family) each side		15 each side
	Backer	10 (15 for multi-family applications)						15	10 (15 for multi-family)		10 (15 for multi-family)		15

- (1) If necessary, increase filler and backer block height for face mount hangers and maintain 1/8" gap at top of joist. See Web Stiffener Attachment detail. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.
- (2) Clinch nails when possible.



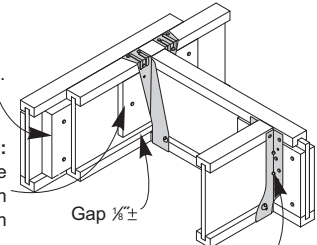
Typical THO backer block installation



Typical THF backer block installation

Filler Block Installation:
Attach per table below.

Backer Block Installation:
Install tight to top flange (tight to bottom flange with face mount hangers). Attach per table above.



Backer Block (both sides) of web with single TJI® Joist.

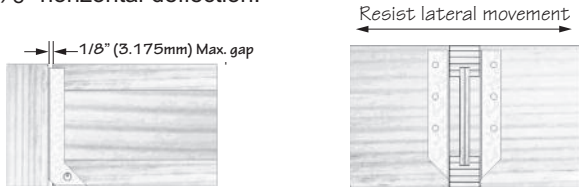
Web Stiffener Attachment for TJI® Joists

TJI®	Min. Web Stiffener Size	Nailing Requirements	
		Type	Quantity
110	5/8" x 2-5/16" ⁽¹⁾	8d (0.113" x 2-1/2")	3
210	3/4" x 2-5/16" ⁽¹⁾		
230, 360	7/8" x 2-5/16" ⁽¹⁾		
s31, s33	1" x 2-5/16"	16d (0.135" x 3-1/2")	3
s47, 560	2x4 ⁽²⁾		

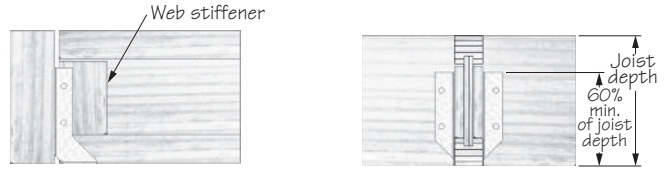
(1) CSA standards 0151, 0325, or 0437 with face grain vertical
(2) Construction grade or better

Support Height & Lateral Stability

Hangers for joists without web stiffeners must support the TJI® Joist's top flange and provide lateral resistance with no more than 1/8" horizontal deflection.



Hangers for joists with web stiffeners must support a minimum of 60% of joist depth or potential joist rotation must be addressed.



(Top flange support requirements can be verified in EWP Top Mount Hangers charts under the Web Stiffener Req. column of USP's Full Line Catalog.)

Nailer Installations

Correct Hanger Attachment to Nailer

A nailer or sill plate is considered to be any wood member attached to a steel beam, concrete block wall, concrete stem wall (or other type of support unsuitable for nailing), which is used as a nailing surface for top mount hangers to support beams or joists.

Nailer Sized Correctly

Top flange of hanger is fully supported and recommended nails have full penetration into nailer, resulting in a carried member hanging safely at the proper height.

The nailer must be sized to fit the support width as shown and be of sufficient thickness to satisfy recommended top flange nailing requirements. A design professional must specify nailer attachment to steel beams.

Nailer Options – chart represents maximum allowable loads for hangers used on wood nailers.

USP Series	Nailer Size	Fastener Schedule ^{2,3}				Factored Resistance ⁴			
		Header		Joist		DF-L (Lbs)		S-P-F (Lbs)	
		Qty	Type	Qty	Type	Vertical	Uplift ¹	Vertical	Uplift ¹
						100%	115%	100%	115%
TFL	2X	6	10d x 1-1/2	2	10d x 1-1/2	1830	375	1575	325
	3X	6	16d x 2-1/2	2	10d x 1-1/2	2305	375	1980	325
	(2) 2X	6	10d	2	10d x 1-1/2	1845	375	1585	325
	4X	6	16d	2	10d x 1-1/2	2535	375	2180	325
THO	2X	6	10d x 1-1/2	2	10d x 1-1/2	1960	375	1685	325
	3X	6	16d x 2-1/2	2	10d x 1-1/2	2115	375	1820	325
	(2) 2X	6	10d	2	10d x 1-1/2	1965	375	1690	325
	4X	6	16d	2	10d x 1-1/2	2210	375	1900	325
THO (Double) 16 gauge	2X	6	10d x 1-1/2	6	10d	2095	375	1800	325
	3X	6	16d x 2-1/2	6	10d	3360	520	2890	445
	(2) 2X	10	10d	6	10d	3415	520	2935	445
	4X	10	16d	6	10d	3840	520	3300	445
THO (Double) 12 gauge	2X	6	10d x 1-1/2	6	10d	2095	375	1800	325
	3X	6	16d x 2-1/2	6	10d	3360	520	2890	445
	(2) 2X	10	10d	6	10d	3415	520	2935	445
	4X	10	16d	6	10d	3840	520	3300	445
TFI	4X	6	16d	2	10d x 1-1/2	3685	375	3170	325
	4X	10	16d	2	10d x 1-1/2	4675	375	4020	325
BPH	2X	6	10d x 1-1/2	4	10d x 1-1/2	2995	240	2575	205
	3X	8	16d x 2-1/2	4	10d x 1-1/2	3400	555	2925	475
	(2) 2X	8	10d	4	10d x 1-1/2	3325	555	2860	475
	4X	8	16d	4	10d x 1-1/2	3235	555	2780	475

1) Factored resistances have been increased 15% for short-term loads such as wind and earthquake; reduce for other load durations in accordance with the code.

2) Listed loads shall not be increased.

3) Minimum nail embedment shall be 8 nail diameters (typ).

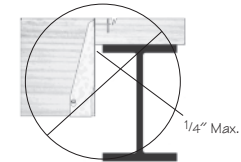
4) **NAILS:** 10d x 1-1/2" nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.

Wrong Nailer Size Causes Component Failure



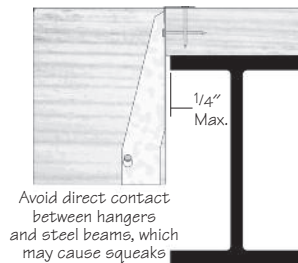
Too Narrow

Top flange not fully supported can cause nail breakout. Or, by fully supporting top flange, hanger is tilted back, causing lifting of carried member which results in uneven surfaces and squeaky floors.



Too Wide

Loading can cause cross grain splitting of nailer. The recommended nailer overhang is 1/4" maximum per side.

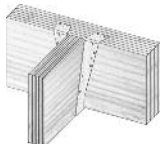


Too Thin

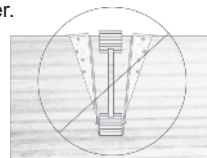
Top flange nailing cannot fully penetrate nailer, causing reduced allowable loads. Never use hangers which require multiple face nails since the allowable loads are dependent on all nail holes being used.

Top Flange Hangers

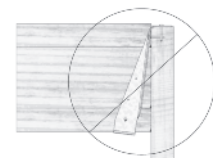
The thickness of the hanger metal and nail heads on top mount hangers must be evaluated for the effect on subsequent sheathing. Ensure the top mount hanger is installed so the flanges of the hanger are not *over-spread* which tends to elevate the supported TJI® Joist, causing uneven floor surfaces and squeaking. Similarly, ensure the hanger is installed plumb such that the face flanges of the hanger are mounted firmly against the wide-face surface of the header.



Flush framing

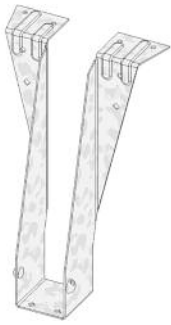


Hanger over-spread

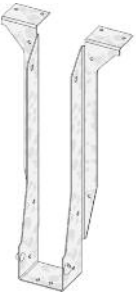


Hanger not plumb

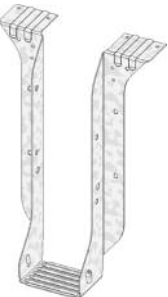
SINGLE TJI® JOISTS - FACTORED RESISTANCE



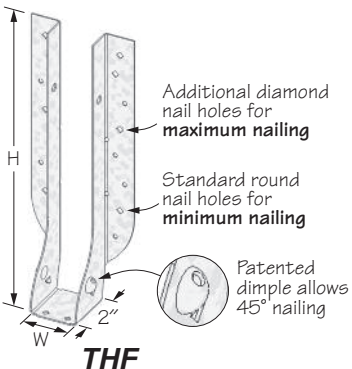
THO



TFL



TFI



THF

Joist Height	Top Mount Hangers ^{4,7}										Face Mount Hangers					
	USP Stock No. ^{1,6}	D Dim ⁸	Fastener Schedule ⁵		Uplift ³		Down 100% ²		USP Stock No. ^{1,6}	D Dim ⁸	Fastener Schedule ⁵		Uplift ³		Down 100% ²	
			Header	Joist	115%	DF-L	S-P-F	Header			Joist	115%	DF-L	S-P-F		
TJI® 110																
Joist Width = 1-3/4"																
9-1/2	THO17950	2	(6) 10d	(2) 10d x 1-1/2	505	1860	1560	THF17925 Max	2	(12) 10d	(2) 10d x 1-1/2	525	3225	2290		
11-7/8	THO17118	2	(6) 10d	(2) 10d x 1-1/2	505	1860	1555	THF17112 Max	2	(16) 10d	(2) 10d x 1-1/2	525	4135	2936		
14	TFL1714	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF17140 Max	2	(20) 10d	(2) 10d x 1-1/2	525	4045	2872		
TJI® 210																
Joist Width = 2-1/16"																
9-1/2	TFL2095	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF20925 Max	2	(12) 10d	(2) 10d x 1-1/2	525	3225	2290		
11-7/8	TFL20118	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF20112 Max	2	(16) 10d	(2) 10d x 1-1/2	525	4135	2936		
14	TFL2014	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF20140 Max	2	(20) 10d	(2) 10d x 1-1/2	525	4045	2872		
16	TFL2016	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF20157	3-3/8	(24) 10d	(2) 10d x 1-1/2	525	4435	3149		
TJI® 230																
Joist Width = 2-5/16"																
9-1/2	TFL2395	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23925	2-1/2	(12) 10d	(2) 10d x 1-1/2	335	3310	2350		
11-7/8	TFL23118	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23118	2-1/2	(14) 10d	(2) 10d x 1-1/2	720	3310	2350		
14	TFL2314	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23140	2-1/2	(18) 10d	(2) 10d x 1-1/2	720	4405	3128		
16	TFL2316	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23160	2-1/2	(22) 10d	(2) 10d x 1-1/2	720	4405	3128		
TJI® 360																
Joist Width = 2-5/16"																
9-1/2	TFL2395	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23925	2-1/2	(12) 10d	(2) 10d x 1-1/2	335	3310	2350		
11-7/8	TFL23118	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23118	2-1/2	(14) 10d	(2) 10d x 1-1/2	720	3310	2350		
14	TFL2314	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23140	2-1/2	(18) 10d	(2) 10d x 1-1/2	720	4405	3128		
16	TFL2316	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF23160	2-1/2	(22) 10d	(2) 10d x 1-1/2	720	4405	3128		
18	TFI3518	3	(6) 16d	(2) 10d x 1-1/2	545	3220	2975	THF23180	2-1/2	(24) 10d	(8) 10d x 1-1/2	2435	6235	4427		
20	TFI3520	3	(6) 16d	(2) 10d x 1-1/2	545	3220	2975	THF23180	2-1/2	(24) 10d	(8) 10d x 1-1/2	2435	6235	4427		
TJI® s31 & TJI® s33																
Joist Width = 2-1/2"																
9-1/2	TFL2595	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF25925	2-1/2	(12) 10d	(2) 10d x 1-1/2	335	3310	2350		
11-7/8	TFL25118	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF25112	2-1/2	(14) 10d	(2) 10d x 1-1/2	720	3310	2350		
14	TFL2514	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF25140	2-1/2	(18) 10d	(2) 10d x 1-1/2	720	4405	3128		
16	TFL2516	2	(6) 10d	(2) 10d x 1-1/2	265	2305	1771	THF25160	2-1/2	(22) 10d	(2) 10d x 1-1/2	720	4405	3128		
TJI® s47 & TJI® 560																
Joist Width = 3-1/2"																
9-1/2	THO35950	2	(10) 10d	(2) 10d x 1-1/2	500	2950	2115	THF35925	2-1/2	(16) 10d	(2) 10d x 1-1/2	465	5240	3720		
11-7/8	THO35118	2	(10) 10d	(2) 10d x 1-1/2	500	2950	2115	THF35112	2-1/2	(16) 10d	(2) 10d x 1-1/2	465	5240	3720		
14	THO35140	2	(12) 10d	(2) 10d x 1-1/2	500	3910	3160	THF35140	2-1/2	(20) 10d	(2) 10d x 1-1/2	465	6680	4743		
16	THO35160	2	(12) 10d	(2) 10d x 1-1/2	500	3910	3160	THF35157	2-1/2	(22) 10d	(2) 10d x 1-1/2	465	6680	4743		
18	TFI418	3	(6) 16d	(2) 10d x 1-1/2	545	3220	2975	THF35157	2-1/2	(22) 10d	(2) 10d x 1-1/2	465	6680	4743		
20	TFI420	3	(6) 16d	(2) 10d x 1-1/2	545	3220	2975	THF35157	2-1/2	(22) 10d	(2) 10d x 1-1/2	465	6680	4743		

- 1) Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by Weyerhaeuser.
- 2) Loads listed are based on hanger attachment to a DF-L species solid sawn, TJI® Joist or Microllam® LVL, Parallam® PSL, or TimberStrand® LSL header. Contact your local Weyerhaeuser or USP Structural Connectors Technical Representative for additional duration of load values.
- 3) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 4) Top Mount Hangers require minimum 3" header width for THO series hangers; 3-1/2" minimum header thickness for all other stock numbers.
- 5) 10d x 1-1/2 nails are 0.148" diameter x 1-1/2" long, 10d nails are 0.148" diameter x 3" long, and 16d nails are 0.162" diameter x 3-1/2" long. Minimum nail embedment shall be 8 nail diameters (typ). 16d sinkers are 0.148" diameter x 3-1/4" long and may be used where 10d common (0.148" x 3") nails are specified.
- 6) For additional sizes, stock numbers, and modifications not shown, refer to USP's Product Catalog.
- 7) For top mount hangers supported by TJI® headers with a flange thickness less than 1-1/2", consult USP and Weyerhaeuser for hanger limitations.
- 8) D Dim is the length of the hanger seat.

SINGLE TJI® JOISTS - FACTORED RESISTANCE

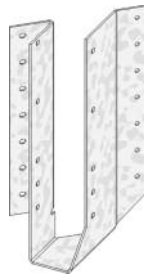
Joist Height	Adjustable Height						Field Slope & Skew ³						Skewed 45° Hangers												
	USP		D	Fastener Schedule ⁴		Down 100% ²		USP		D	Fastener Schedule ⁴		Uplift ³		Down 100% ²		USP		D	Fastener Schedule ^{4,7}		Uplift ³		Down 100% ²	
	Stock No. ^{1,6}	Dim ¹⁰		Header	Joist	DF-L	S-P-F	Stock No. ^{1,6}	Dim ¹⁰		Header	Joist	115%	DF-L	S-P-F	Stock No. ^{1,6}	Dim ¹⁰	Header		Joist	115%	DF-L	S-P-F		
TJI® 110																									
Joist Width = 1-3/4"																									
9-1/2	---	---	---	---	---	---	LSSH179	3	(10) 10d	(7) 10d x 1-1/2	2005	2775	1970	SKH1720L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	3515	2495					
11-7/8	---	---	---	---	---	---	LSSH179	3	(10) 10d	(7) 10d x 1-1/2	2005	2775	1970	SKH1720L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	3515	2495					
14	MSH1722	1-3/4	(6) 10d	(4) 10d x 1-1/2	3550	2520	LSSH179	3	(10) 10d	(7) 10d x 1-1/2	2005	2775	1970	SKH1720L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	3515	2495					
TJI® 210																									
Joist Width = 2-1/16"																									
9-1/2	See current USP Product Catalog or Trus Joist software for specialty hanger options						LSSH20	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2020L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
11-7/8							LSSH20	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2020L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
14							LSSH20	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2020L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
16							LSSH20 ⁸	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2024L/R	1-7/8	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
TJI® 230																									
Joist Width = 2-5/16"																									
9-1/2	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2320L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
11-7/8	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2320L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
14	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2324L/R	3-1/2	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
16	MSH2322	1-3/4	(6) 10d	(4) 10d x 1-1/2	3550	2520	LSSH23 ⁸	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2324L/R	3-1/2	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
TJI® 360																									
Joist Width = 2-5/16"																									
9-1/2	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2320L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
11-7/8	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2320L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	2175	1545					
14	---	---	---	---	---	---	LSSH23	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2324L/R	3-1/2	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
16	MSH2322	1-3/4	(6) 10d	(4) 10d x 1-1/2	3550	2520	LSSH23 ⁸	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2324L/R	3-1/2	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
18	---	---	---	---	---	---	LSSH23 ⁸	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	SKH2324L/R	3-1/2	(16) 10d	(10) 10d x 1-1/2	2910	4740	3365					
20	---	---	---	---	---	---	LSSH23 ⁸	3	(10) 10d	(7) 10d x 1-1/2	1845	2620	1860	---	---	---	---	---	---	---					
TJI® s31 & TJI® s33																									
Joist Width = 2-1/2"																									
9-1/2	---	---	---	---	---	---	LSSH25	3	(14) 16d	(12) 10d x 1-1/2	2250	2985	2120	SKH2520L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	3265	2320					
11-7/8	---	---	---	---	---	---	LSSH25	3	(14) 16d	(12) 10d x 1-1/2	2250	2985	2120	SKH2520L/R	1-7/8	(14) 10d	(10) 10d x 1-1/2	2910	3265	2320					
14	---	---	---	---	---	---	LSSH25	3	(14) 16d	(12) 10d x 1-1/2	2250	2985	2120	SKH2524L/R	1-7/8	(16) 10d	(10) 10d x 1-1/2	2910	3265	2320					
16	---	---	---	---	---	---	LSSH25 ⁸	3	(14) 16d	(12) 10d x 1-1/2	2250	2985	2120	SKH2524L/R	1-7/8	(16) 10d	(10) 10d x 1-1/2	2910	3265	2320					
TJI® s47 & TJI® 560																									
Joist Width = 3-1/2"																									
9-1/2	MSH422	1-3/4	(6) 10d	(4) 10d	3240	2300	LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH410L/R ⁵	2-1/2	(16) 16d	(10) 16d	3560	3690	2620					
11-7/8	MSH422	1-3/4	(6) 10d	(4) 10d	3240	2300	LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH410L/R ⁵	2-1/2	(16) 16d	(10) 16d	3560	3690	2620					
14	See current USP Product Catalog or Trus Joist software for specialty hanger options						LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH414L/R ⁵	2-1/2	(22) 16d	(10) 16d	3560	7405	5260					
16							LSSH35 ⁸	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH414L/R ⁵	2-1/2	(22) 16d	(10) 16d	3560	7405	5260					
18							LSSH35 ⁸	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH414L/R ⁵	2-1/2	(22) 16d	(10) 16d	3560	7405	5260					
20							LSSH35 ⁸	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH414L/R ⁵	2-1/2	(22) 16d	(10) 16d	3560	7405	5260					

- 1) Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by Weyerhaeuser.
- 2) Loads listed are based on hanger attachment to a DF-L species solid sawn, Microllam® LVL, Parallam® PSL, or TimberStrand® LSL header. Contact your local Weyerhaeuser or USP Structural Connectors Technical Representative for additional duration of load values.
- 3) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 4) 10d x 1-1/2 nails are 0.148" diameter x 1-1/2" long, 10d nails are 0.148" diameter x 3" long, and 16d nails are 0.162" diameter x 3-1/2" long. Minimum nail embedment shall be 8 nail diameters (typ).

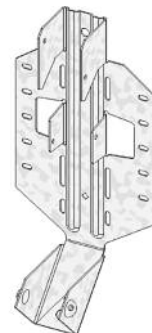
- 5) Miter cut required on end of joist to achieve design loads.
- 6) For additional sizes, stock numbers, and modifications not shown, refer to USP's Product Catalog.
- 7) Hangers utilizing 16d nails are not compatible with TJI® joist headers.
- 8) LSTA24 strap required along top chord for lateral restraint.
- 9) See page 10 for LSSH installation instruction.
- 10) D Dim is the length of the hanger seat.



MSH

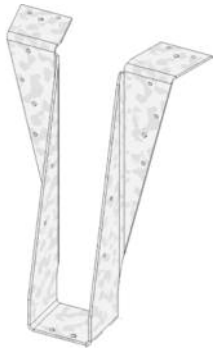


SKH_L
left shown

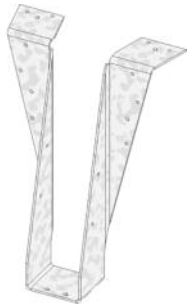


LSSH

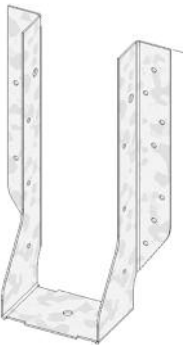
DOUBLE TJI® JOISTS - FACTORED RESISTANCE



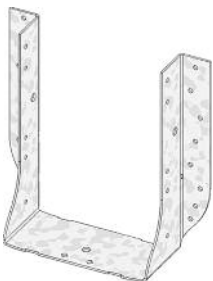
THO Double



BPH



THF Double



HD

Joist Height	Top Mount Hangers ^{4,7}							Face Mount Hangers						
	USP Stock No. ^{1,6}	D Dim ⁸	Fastener Schedule ⁵		Uplift ³		Down 100% ²	USP Stock No. ^{1,6}	D Dim ⁸	Fastener Schedule		Uplift ³		Down 100% ²
			Header	Joist	115%	DF-L				S-P-F	Header	Joist ⁵	115%	
Double TJI® 110														
Joist Width = 3-1/2"														
9-1/2	THO35950	2-3/8	(10) 10d	(2) 10d x 1-1/2	500	2950	2115	THF35925	2-1/2	(12) 10d	(2) 10d x 1-1/2	465	5240	3720
11-7/8	THO35118	2-3/8	(10) 10d	(2) 10d x 1-1/2	500	2950	2115	THF35112	2-1/2	(16) 10d	(2) 10d x 1-1/2	465	5240	3720
14	THO35140	2-3/8	(12) 10d	(2) 10d x 1-1/2	500	3910	3160	THF35140	2-1/2	(20) 10d	(2) 10d x 1-1/2	465	6680	4743
Double TJI® 210														
Joist Width = 4-1/8"														
9-1/2	THO20950-2	3	(10) 16d	(6) 10d	2210	3355	3100	THF20925-2	2-1/2	(12) 10d	(6) 10d	3325	5255	3731
11-7/8	THO20118-2	3	(10) 16d	(6) 10d	2210	3355	3425	THF20112-2	2-1/2	(16) 10d	(6) 10d	3325	6855	4867
14	THO20140-2	3	(10) 16d	(6) 10d	2210	3355	4305	THF20140-2	2-1/2	(20) 10d	(6) 10d	3325	6735	4782
16	THO20160-2	3	(10) 16d	(6) 10d	2210	3355	4305	THF20140-2	2-1/2	(20) 10d	(6) 10d	3325	6735	4782
Double TJI® 230														
Joist Width = 4-5/8"														
9-1/2	THO23950-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF23925-2	2-1/2	(14) 10d	(6) 10d	3325	5240	3720
11-7/8	THO23118-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF23112-2	2-1/2	(16) 10d	(6) 10d	3325	6855	4867
14	THO23140-2	3	(12) 16d	(6) 10d	2210	5090	5175	THF23140-2	2-1/2	(20) 10d	(6) 10d	3325	6680	4743
16	THO23160-2	3	(12) 16d	(6) 10d	2210	5090	5175	THF23160-2	2-1/2	(24) 10d	(6) 10d	3325	6680	4743
Double TJI® 360														
Joist Width = 4-5/8"														
9-1/2	THO23950-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF23925-2	2-1/2	(14) 10d	(6) 10d	3325	5240	3720
11-7/8	THO23118-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF23112-2	2-1/2	(16) 10d	(6) 10d	3325	6855	4867
14	THO23140-2	3	(12) 16d	(6) 10d	2210	5090	5175	THF23140-2	2-1/2	(20) 10d	(6) 10d	3325	6680	4743
16	THO23160-2	3	(12) 16d	(6) 10d	2210	5090	5175	THF23160-2	2-1/2	(24) 10d	(6) 10d	3325	6680	4743
18	THO23180-2	3	(14) 16d	(6) 10d	2210	5090	6745	THF23160-2	2-1/2	(24) 10d	(6) 10d	3325	6680	4743
20	THO23200-2	3	(14) 16d	(6) 10d	2210	5090	6745	THF23160-2	2-1/2	(24) 10d	(6) 10d	3325	6680	4743
Double TJI® s31 & TJI® s33														
Joist Width = 5"														
9-1/2	THO25950-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF25925-2	2-1/2	(12) 10d	(6) 10d	3325	5240	3720
11-7/8	THO25118-2	3	(10) 16d	(6) 10d	2210	5090	4265	THF25112-2	2-1/2	(16) 10d	(6) 10d	3325	5240	3720
14	THO25140-2	3	(12) 16d	(6) 10d	2210	5090	4715	THF25140-2	2-1/2	(20) 10d	(6) 10d	3325	6680	4743
16	THO25160-2	3	(12) 16d	(6) 10d	2210	5090	4715	THF25160-2	2-1/2	(24) 10d	(6) 10d	3325	6680	4743
Double TJI® s47 & TJI® 560														
Joist Width = 7"														
9-1/2	BPH7195	3	(10) 16d	(6) 10d	1245	5055	4725	HD7100	2-1/2	(12) 16d	(6) 10d	4435	7215	5123
11-7/8	BPH71118	3	(10) 16d	(6) 10d	1245	5055	4725	HD7120	2-1/2	(16) 16d	(6) 10d	4435	7215	5123
14	BPH7114	3	(10) 16d	(6) 10d	1245	5055	4725	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	5123
16	BPH7116	3	(10) 16d	(6) 10d	1245	5055	4725	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	5123
18	BPH7118	3	(10) 16d	(6) 10d	1245	5055	4725	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	5123
20	BPH7120	3	(10) 16d	(6) 10d	1245	5055	4725	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	5123

- 1) Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by Weyerhaeuser.
- 2) Loads listed are based on hanger attachment to a DF-L species solid sawn, TJI® Joist or Microllam® LVL, Parallam® PSL, or TimberStrand® LSL header. Contact your local Weyerhaeuser or USP Structural Connectors Technical Representative for additional duration of load values.
- 3) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 4) Top Mount Hangers require minimum 3" header width for THO series hangers; 3-1/2" minimum header thickness for all other stock numbers.
- 5) 10d x 1-1/2 nails are 0.148" diameter x 1-1/2" long, 10d nails are 0.148" diameter x 3" long, and 16d nails are 0.162" diameter x 3-1/2" long. Minimum nail embedment shall be 8 nail diameters (typ).
16d sinkers are 0.148" diameter x 3-1/4" long and may be used where 10d common (0.148" x 3") nails are specified.
- 6) For additional sizes, stock numbers, and modifications not shown, refer to USP's Product Catalog.
- 7) For top mount hangers supported by TJI® headers with a flange thickness less than 1-1/2", consult USP and Weyerhaeuser for hanger limitations.
- 8) D Dim is the length of the hanger seat.

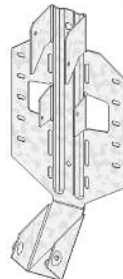
DOUBLE TJI® JOISTS - FACTORED RESISTANCE

Joist Height	Adjustable Height						Field Slope & Skew ⁹						Skewed 45° Hangers							
	USP Stock No. ^{1,5}	D Dim ¹⁰	Fastener Schedule ^{4,7}		Down 100% ²		USP Stock No. ^{1,5}	D Dim ¹⁰	Fastener Schedule ^{4,7}		Uplift ³	Down 100% ²	USP Stock No. ^{1,5}	D Dim ¹⁰	Fastener Schedule ^{4,7}		Uplift ³	Down 100% ²		
			Header	Joist	DF-L	S-P-F			Header	Joist					115%	DF-L			S-P-F	Header
Double TJI® 110																				
Joist Width = 3-1/2"																				
9-1/2	MSH422	1-3/4	(6) 10d	(4) 10d	3240	2300	LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH410L/R ^{7,8}	2-1/2	(16) 16d	(10) 16d	3560	3690	2620
11-7/8	MSH422	1-3/4	(6) 10d	(4) 10d	3240	2300	LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH410L/R ^{7,8}	2-1/2	(16) 16d	(10) 16d	3560	3690	2620
14	---	---	---	---	---	---	LSSH35	3	(14) 16d	(12) 10d x 1-1/2	2985	3145	2235	SKH410L/R ^{7,8}	2-1/2	(16) 16d	(10) 16d	3560	3690	2620
Double TJI® 210																				
Joist Width = 4-1/8"																				
9-1/2	See current USP Product Catalog or Trus Joist software for specialty hanger options						See current USP Product Catalog or Trus Joist software for specialty hanger options						SKH2020L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
11-7/8													SKH2020L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
14													SKH2024L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
16													SKH2024L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
Double TJI® 230																				
Joist Width = 4-5/8"																				
9-1/2	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280	See current USP Product Catalog or Trus Joist software for specialty hanger options						SKH2320L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
11-7/8	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2320L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
14	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2324L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
16	---	---	---	---	---	---							SKH2324L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
Double TJI® 360																				
Joist Width = 4-5/8"																				
9-1/2	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280	See current USP Product Catalog or Trus Joist software for specialty hanger options						SKH2320L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
11-7/8	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2320L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
14	MSH2322-2 ⁸	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2324L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
16	---	---	---	---	---	---							SKH2324L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
18	---	---	---	---	---	---							SKH2324L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
20	---	---	---	---	---	---							---	---	---	---	---	---	---	
Double TJI® s31 & TJI® s33																				
Joist Width = 5"																				
9-1/2	MSH2622-2	1-3/4	(6) 10d	(4) 10d	3210	2280	See current USP Product Catalog or Trus Joist software for specialty hanger options						SKH2520L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
11-7/8	MSH2622-2	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2520L/R-2 ⁸	3-1/2	(14) 10d	(10) 10d	3565	5430	3855	
14	MSH2622-2	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2524L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
16	MSH2622-2	1-3/4	(6) 10d	(4) 10d	3210	2280							SKH2524L/R-2 ⁸	3-1/2	(16) 10d	(10) 10d	3560	5055	3590	
Double TJI® s47 & TJI® 560																				
Joist Width = 7"																				
9-1/2	MSH422-2	2	(8) 16d	(6) 16d	6185	4390	See current USP Product Catalog or Trus Joist software for specialty hanger options						HD7120-SK45L/R ^{6,8}	2-1/2	(16) 16d	(6) 10d	3325	7215	5123	
11-7/8	MSH422-2	2	(8) 16d	(6) 16d	6185	4390							HD7120-SK45L/R ^{6,8}	2-1/2	(16) 16d	(6) 10d	3325	7215	5123	
14	MSH422-2	2	(8) 16d	(6) 16d	6185	4390							HD7140-SK45L/R ^{6,8}	2-1/2	(20) 16d	(8) 10d	3325	7215	5123	
16	MSH422-2	2	(8) 16d	(6) 16d	6185	4390							HD7140-SK45L/R ^{6,8}	2-1/2	(20) 16d	(8) 10d	3325	7215	5123	
18	MSH422-2	2	(8) 16d	(6) 16d	6185	4390							HD7140-SK45L/R ^{6,8}	2-1/2	(20) 16d	(8) 10d	3325	7215	5123	
20	---	---	---	---	---	---							HD7140-SK45L/R ^{6,8}	2-1/2	(20) 16d	(8) 10d	3325	7215	5123	

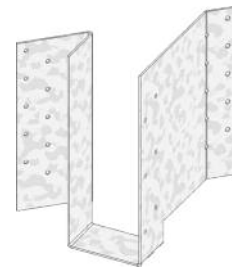
- 1) Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by Weyerhaeuser.
- 2) Loads listed are based on hanger attachment to a DF-L species solid sawn, Microlam® LVL, Parallam® PSL, or TimberStrand® LSL header. Contact your local Weyerhaeuser or USP Structural Connectors Technical Representative for additional duration of load values.
- 3) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 4) 10d x 1-1/2 nails are 0.148" diameter x 1-1/2" long, 10d nails are 0.148" diameter x 3" long, and 16d nails are 0.162" diameter x 3-1/2" long. Minimum nail embedment shall be 8 nail diameters (typ). 16d sinkers are 0.148" diameter x 3-1/4" long and may be used where 10d common (0.148" X 3") nails are specified.
- 5) For additional sizes, stock numbers, and modifications not shown, refer to USP's Product Catalog.
- 6) Hangers are special order. Consult USP for pricing and lead times.
- 7) Hangers utilizing 16d nails are not compatible with TJI® joist headers.
- 8) Miter cut required on end of joist to achieve design loads.
- 9) See page 10 for LSSH installation instruction.
- 10) D Dim is the length of the hanger seat.



MSH



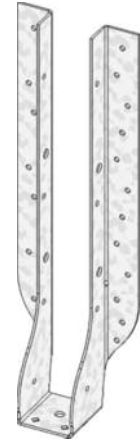
LSSH



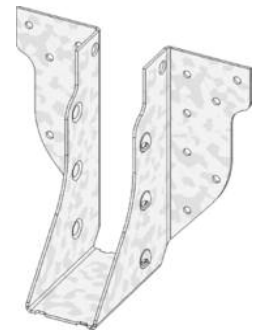
SKH_L Double
left shown

MICROLLAM® LVL, PARALLAM® PSL, OR TIMBERSTRAND® LSL BEAMS & HEADERS - FACTORED RESISTANCE

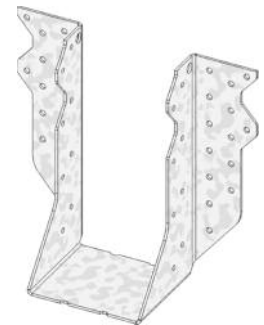
Joist Height	Top Mount Hangers ³								Face Mount Hangers						
	USP Stock No. ⁶	D Dim ⁷	Fastener Schedule ⁴			Uplift ²	Down 100% ¹			USP Stock No. ⁶	D Dim ⁷	Fastener Schedule ⁴		Uplift ²	Down 100% ¹
			Header	Joist	115%		LVL	PSL	LSL			Header	Joist		
3 Ply 1-3/4" or 5-1/4" Microllam® LVL or Parallam® PSL or TimberStrand® LSL															
7-1/4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
9-1/4	PHXU55925	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD610	3	(38) 16d	(20) 10d	6425	12455	
	HLBH55925	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH610 ⁵	4	(46) 16d	(16) 16d	7030	13190	
9-1/2	PHXU5595	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD610	3	(38) 16d	(20) 10d	6425	12455	
	HLBH5595	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH610 ⁵	4	(46) 16d	(16) 16d	7030	13190	
11-1/4	PHXU55112	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD610	3	(38) 16d	(20) 10d	6425	12455	
	HLBH55112	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH612 ⁵	4	(56) 16d	(20) 16d	9105	15465	
11-7/8	PHXU55118	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD610	3	(38) 16d	(20) 10d	6425	12455	
	HLBH55118	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH612 ⁵	4	(56) 16d	(20) 16d	9105	15465	
14	PHXU5514	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD610	3	(38) 16d	(20) 10d	6425	12455	
	HLBH5514	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH614 ⁵	4	(66) 16d	(22) 16d	10760	18810	
16	PHXU5516	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD612	3	(48) 16d	(20) 10d	9850	13785	
	HLBH5516	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH614 ⁵	4	(66) 16d	(22) 16d	10760	18810	
18	PHXU5518	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD612	3	(48) 16d	(20) 10d	9850	13785	
	HLBH5518	6	(15) NA16D-RS	(6) 16d	1770	15295	15215	13825	THDH614 ⁵	4	(66) 16d	(22) 16d	10760	18810	
18-3/4	---	---	---	---	---	---	---	---	THD614	3	(58) 16d	(20) 10d	9850	13785	
	---	---	---	---	---	---	---	---	THDH614 ⁵	4	(66) 16d	(22) 16d	10760	18810	
19	---	---	---	---	---	---	---	---	THD614	3	(58) 16d	(20) 10d	9850	13785	
	---	---	---	---	---	---	---	---	THDH614 ⁵	4	(66) 16d	(22) 16d	10760	18810	
4 Ply 1-3/4" or 7" Microllam® LVL or Parallam® PSL or TimberStrand® LSL															
9-1/4	PHXU71925	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD7210	3	(38) 16d	(20) 10d	6425	12455	
	HLBH71925	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7210 ⁵	4	(46) 16d	(12) 16d	7480	14760	
9-1/2	PHXU7195	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD7210	3	(38) 16d	(20) 10d	6425	12455	
	HLBH7195	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7210 ⁵	4	(46) 16d	(12) 16d	7480	14760	
11-1/4	PHXU71112	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD7210	3	(38) 16d	(20) 10d	6425	12455	
	HLBH71112	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7212 ⁵	4	(56) 16d	(14) 16d	9845	16130	
11-7/8	PHXU71118	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD7210	3	(38) 16d	(20) 10d	6425	12455	
	HLBH71118	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7212 ⁵	4	(56) 16d	(14) 16d	9845	16130	
14	PHXU7114	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	THD7210	3	(38) 16d	(20) 10d	6425	12455	
	HLBH7114	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7214 ⁵	4	(66) 16d	(16) 16d	11335	16130	
16	PHXU7116	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	HD7120	2-1/2	(16) 16d	(6) 10d	4435	7215	
	HLBH7116	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7214 ⁵	4	(66) 16d	(16) 16d	11335	16130	
18	PHXU7118	3-1/4	(8) 16d	(6) 10d	1290	9575	8330	9575	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	
	HLBH7118	6	(15) NA16D-RS	(6) 16d	1930	15295	14935	13825	THDH7214 ⁵	4	(66) 16d	(16) 16d	11335	16130	
18-3/4	---	---	---	---	---	---	---	---	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	
	---	---	---	---	---	---	---	---	THDH7214 ⁵	4	(66) 16d	(16) 16d	11335	16130	
19	---	---	---	---	---	---	---	---	HD7140	2-1/2	(20) 16d	(8) 10d	4435	7215	
	---	---	---	---	---	---	---	---	THDH7214 ⁵	4	(66) 16d	(16) 16d	11335	16130	



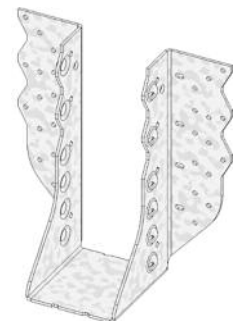
HD



HUS



THD

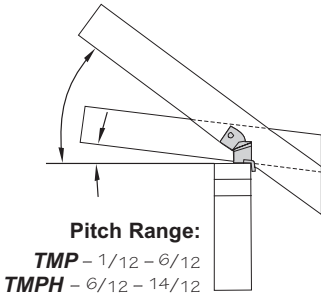


THDH

- 1) Loads listed are based on hanger attachment to a DF-L species solid sawn or Microllam® LVL, Parallam® PSL, or TimberStrand® LSL header. Contact your local Weyerhaeuser or USP Structural Connectors Technical Representative for additional duration of load values.
- 2) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 3) Top Mount Hangers require a minimum 3" header width for THO series hangers; 3-1/2" minimum header thickness for all other stock numbers.
- 4) 10d nails are 0.148" diameter x 3" long and 16d nails are 0.162" diameter x 3-1/2" long. Minimum nail embedment shall be 8 nail diameters (typ). 16d sinkers are 0.148" diameter x 3-1/4" long and may be used where 10d common (0.148" x 3") nails are specified.
- 5) Joist nails need to be toe nailed at a 30° to 45° angle to achieve listed loads for THDH and HUS models.
- 6) For additional sizes, stock numbers, and modifications not shown, refer to USP's Product Catalog.
- 7) D Dim is the length of the hanger seat.

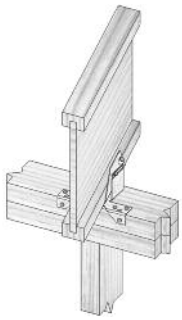
GENERAL INSTALLATION

Variable Pitch Connectors – TMP & TMPH series



Installation:

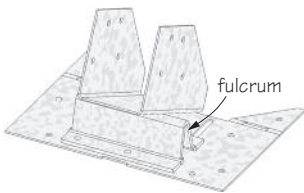
- Use all specified fasteners.
- Position connector on top plate. Fasten connector to outside of top plate with specified nails. Insert rafter into rafter pocket. Adjust rafter and pocket to correct pitch. Fasten rafter to connector with specified nails. Installing the TMP requires driving specified nails through the opposing slots in the pocket. TMPH installation involves sliding the fulcrum until it supports the pocket at the desired pitch and nailing down through the fulcrum base into the top plate to lock the fulcrum into position.



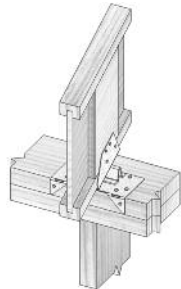
Typical TMP installation



TMP



TMPH



Typical TMPH installation

USP Stock No. ¹	Fastener Schedule ⁴		DF-L	
	Header	Joist	Down ² 100%	Uplift ³ 115%
TJI® 110	Joist Width = 1-3/4"			
TMP175	(6) 10d	(4) 10d x 1-1/2	1655	230
TMPH175	(10) 10d	(8) 10d x 1-1/2	3485	250
TJI® 210	Joist Width = 2-1/16"			
TMP21	(6) 10d	(4) 10d x 1-1/2	1860	230
TMPH21	(10) 10d	(8) 10d x 1-1/2	3485	250
TJI® 230 or 360	Joist Width = 2-5/16"			
TMP23	(6) 10d	(4) 10d x 1-1/2	2835	230
TMPH23	(10) 10d	(8) 10d x 1-1/2	3485	250
TJI® s31 or s33	Joist Width = 2-1/2"			
TMP25	(6) 10d	(4) 10d x 1-1/2	2835	230
TMPH25	(10) 10d	(8) 10d x 1-1/2	3485	250
TJI® s47 or 560	Joist Width = 3-1/2"			
TMP4	(6) 10d	(4) 10d x 1-1/2	2835	230
TMPH4	(10) 10d	(8) 10d x 1-1/2	3485	250

- 1) Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by Weyerhaeuser.
- 2) Loads listed are based on hanger attachment to a DF-L species solid sawn or LVL header. Loads are governed by test results; no further increase shall be permitted.
- 3) Uplift loads have been increased 15% for wind and seismic loading; no further increase shall be permitted.
- 4) 10d x 1-1/2" nails are 0.148" diameter x 1-1/2" long and 10d nails are 0.148" diameter x 3" long. Minimum nail embedment shall be 8 nail diameters (typ).

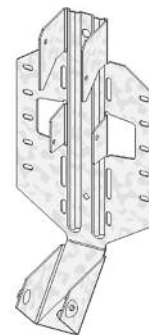
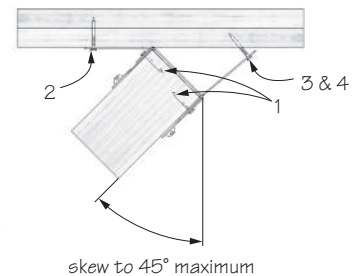
Field Slope & Skew Hangers - LSSH Series

LSSH Installation:

- Use all specified fasteners.

Steps:

1. Position LSSH connector against plumb-cut end of joist. Fasten joist side flanges on both sides with 10d (0.148") x 1-1/2" nails. Bend seat up to fit against joist bottom and drive (1) 10d (0.148") x 1-1/2" nail through bottom seat into rafter bottom. Drive (2) 10d (0.148") x 1-1/2" nails at downward angle through dimpled nailing guides.
 2. Lean connector and rafter end against ridge beam at desired position. Install 10d (0.148" dia. x 3" long) or 16d (0.162" dia. x 3-1/2" long) nails through nail holes into ridgebeam at right 90° angle. If skewing the rafter, only drive nails into ridge beam on inside flange.
 3. Bend flange to desired angle.
 4. Hammer outside flange until edge touches header. Fasten outside flange to ridge by driving 10d (0.148" dia. x 3" long) or 16d (0.162" dia. x 3-1/2" long) nails through nail holes.
- Web stiffeners are required for all wood TJI® I-Joist installations.
 - Designer may consider adding a tension restraint for the supported member for roof slopes exceeding 6/12.

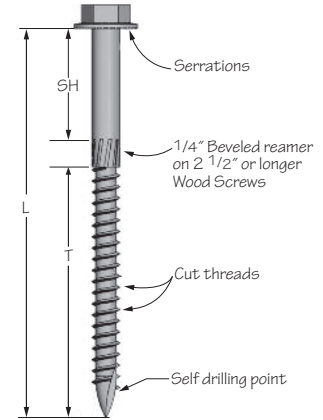
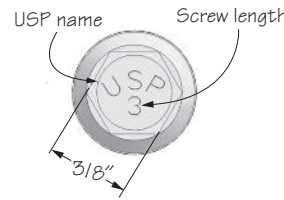


LSSH

WS Series Wood Screw Applications - Joining 2, 3, or 4 Ply Microllam® LVL, or Parallalam® PSL Members

Installation:

- Screws are self-drilling.
- Install using a low speed clutch drill with 3/8" hex head driver. The washer head should be flat to the surface and the serrations will oppose turning and release the clutch. Do not over-tighten the screws.
- For 2 ply members, wood screws shall installed with the screw heads in the loaded ply.
- For 3 or 4 ply members, wood screws shall be installed in both outer plys.
- Designer shall specify all wood screws locations.
- Increase edge and end distances if wood splitting occurs.
- Stagger all screws installed into the opposite face.
- A minimum of 2 rows of screws shall be used for all members with $H = 5\frac{1}{2}$ " and larger.



Recommended Row Guidelines

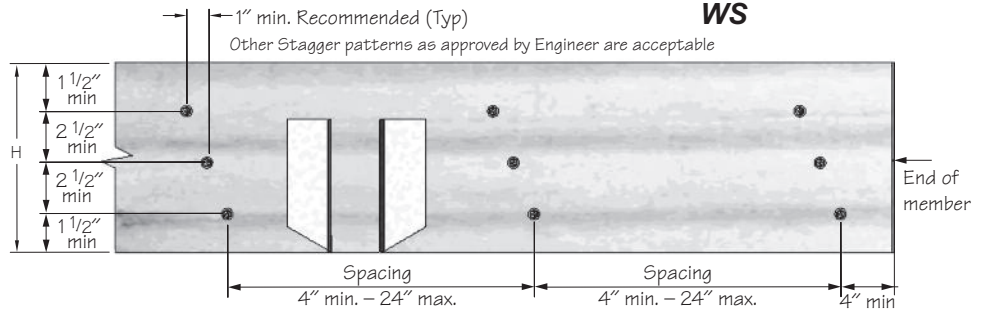
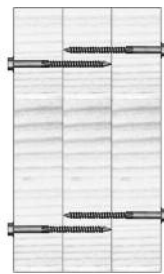


Figure 1



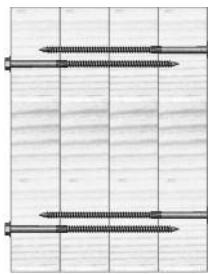
WS35 installed in (2) 1 3/4" Ply

Figure 2



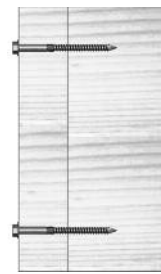
WS35 installed in (3) 1 3/4" Ply

Figure 3



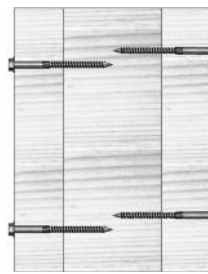
WS6 installed in (4) 1 3/4" Ply

Figure 4



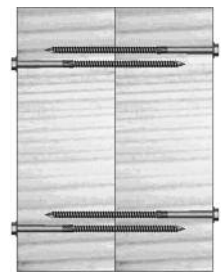
WS35 installed in (1) 1 3/4", (1) 3 1/2" Ply

Figure 5



WS35 installed in (2) 1 3/4", (1) 3 1/2" Ply

Figure 6



WS6 installed in (2) 3 1/2" Ply

USP Stock No.	Ref. No.	Description (in)	Dimensions (in)			Multiple Members Installation Figure ^{3,9,10}	Maximum Allowable Uniform Loads that can be applied to either outside member ^{1,2,3,4,5,6,7}											
			L	SH	T		LVL/PSL (S.G. = 0.46)											
							Wood Screw Spacing											
							12" O.C.			18" O.C.			24" O.C.					
2 Rows		3 Rows		2 Rows		3 Rows		2 Rows		3 Rows								
Lbs/ft	kN/m	Lbs/ft	kN/m	Lbs/ft	kN/m	Lbs/ft	kN/m	Lbs/ft	kN/m	Lbs/ft	kN/m							
WS35	SDS25312	1/4 x 3-1/2	3-1/2	3/4	2-1/2	1	1695	24.75	2545	37.13	1130	16.50	1695	24.75	850	12.38	1270	18.56
						2	1270	18.56	1910	27.85	850	12.38	1270	18.56	635	9.28	955	13.92
						4	1270	18.56	1910	27.85	850	12.38	1270	18.56	635	9.28	955	13.92
						5	1130	16.50	1695	24.75	755	11.00	1130	16.50	565	8.25	850	12.38
WS6 ⁸	SDS25600	1/4 x 6	6	1-3/4	4	3	1455	21.25	2185	31.87	970	14.17	1455	21.25	730	10.62	1090	15.94
						6	2550	37.19	3820	55.78	1700	24.79	2550	37.19	1275	18.59	1910	27.89

1) Factored Resistance values determined in accordance with CSA O86-09 Clause 10.11.
 2) Loads are based on SCL with an equivalent S.G. = 0.46 and a side member thickness of not less than 1-3/4". Table values may be increased by 8% when using SCL with an equivalent S.G. = 0.50
 3) Load values depicted assume that the uniform load is applied to the most narrow outside ply only.
 4) Load values neglect any contribution of screws installed to opposite side, even if they extend significantly into the loaded ply.
 5) Loads are for normal (100%) duration of load, and may be increased in accordance with the code.
 6) Uniform loads in table represent the capacity of the fasteners. The capacity of the LVL or PSL beam may be less and should be checked by a qualified designer or with the manufacturer's literature.
 7) A qualified designer shall ensure the adequacy of a 7" wide beam to resist the applied load on one edge; otherwise, the loads shall be uniformly distributed across the width or applied equally on both sides.
 8) Wood screws longer than 3-1/2" are not recommended for use with Parallam® PSL or TimberStrand® LSL.
 9) For Figure 1: The head of the wood screw is on the same side as the loaded ply.
 10) For Figures 2, 3, 5, and 6: Stagger the screws on opposite face by half minimum spacing requirements.

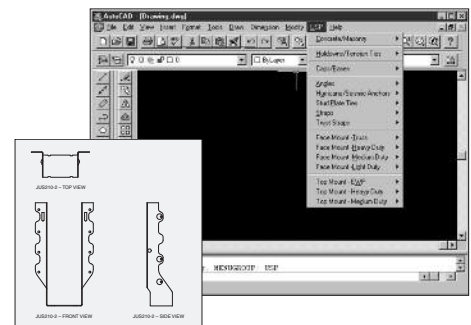


Comprehensive Web Site

- Contains all USP literature in a printable .pdf format
- **CAD Menu Program** and **Drawing Library** downloads
- **Quick and Easy** literature ordering
- Register on-line at **Web Site Watch Registration** and automatically receive product updates through your e-mail

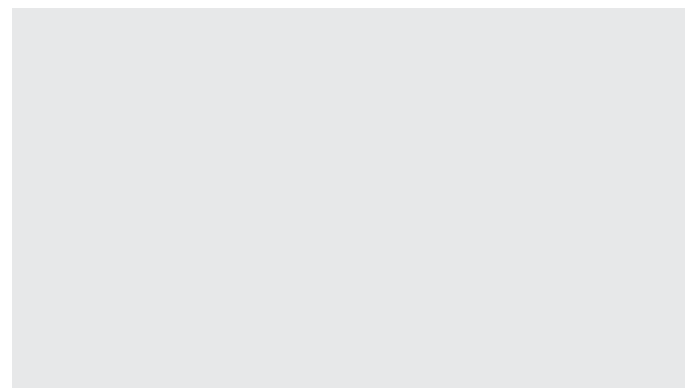
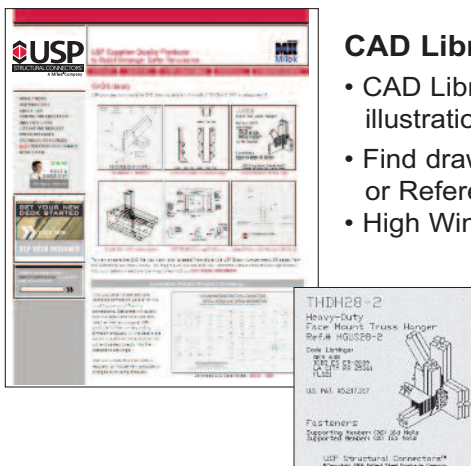
CAD Menu Program

- Install a new **USP Drop Down Menu** in your AutoCAD menu bar (AutoCAD r14, AutoCAD 2000, 2000i, 2002, 2004, 2005, 2011, 2012)
 - Import scalable USP product drawings directly into your details or section drawings
- Available in 3-view format; top, front, and side where applicable**



CAD Library

- CAD Library contains over 350 illustrations in .DXF and .DWG formats
- Find drawings quickly by USP Stock No. or Reference No.
- High Wind Illustrations are also available



Your Local Dealer / Distributor

Weyerhaeuser Microllam, Parallam, Timberstrand and TJI are registered trademarks of Weyerhaeuser NR.