USP Series	Width	Skewed (Maximum)	Sloped Seat (Maximum)	Sloped / Skewed	Sloped Top Flange (Maximum)	Top Flange Offset	Saddle Hanger	Ridge Hanger (Maximum)	Inverted Flange	Uplift	Weldability	USP Series Catalog Page Reference
BPH	all	50º	45º	•	45º					•	•	115, 118-133
HD[1]	1-3/4˝ or less	67-1/2º	45º	•					• width ≥ 2-1/4˝	•		89, 91-95, 109, 112-114
	> 1-3/4˝	50º										
HJC	all	30º	60º									158
HLBH	all	50º	45º	•	45º	•	•	45º		•	•	116, 121-125, 129-133
HUS	all								• width ≥ 2-1/4˝	•		88, 91-94
KB	all									•	•	100, 102-103
KEG	all	45º	45º			•				•		136
KGB	all									•	•	137
KGLS	all	50º	45º	•	30º	•	•			•	•	139
KGLST	all						•			•	•	139
KGLT	all	50º	45º	•	45º	•	•			•	•	138
KHB	all									•	•	100, 102
KHGB	all									•	•	137
KHGLS	all	50º	45º		30º	•	•			•	•	139
KHGLST	all						•			•	•	139
KHGLT	all	50º	45º	•	45º	•	•			•	•	138
KHHB	all									•	•	100, 103
KHW	all	84º	45º	•	35º	•	•	45º			•	101-103
KLB	all										•	100, 102
KLEG	all	45º	45º			•				•		136
KMEG	all	45º	45º			•				•		136
LBH	all	50º	45º	•	45º	•	•	45º		•	•	116, 121-124, 129-132
LSSH	all	45º	45º	•						•		96, 135
MPH[1]	all	60º	45º	•		•						99, 116-133
PHM[1]	all	84º	45º	•	35º	•	•	45º			•	116-117, 122, 130
PHX[1]	all	84º	45º	•	35º	•	•	45º			•	116-117, 120, 122-123, 128, 130-131
PHXU[1]	all	60º	45º	•	35º	•	•			•	•	116-118, 121-126, 129-133
SKH	all	45º								•		97-98
SKHH	all	45º								•		97-98
SUH	1-3/4˝ or less	67-1/2º	45º	•						•		87, 91-95
	> 1-3/4˝	50º										
SW[1]	all	84º	45º	•	35º	•	•	45º			•	101-102
SWH[1]	all	84º	45º	•	35º	•	•	45º			•	101-103
THD	all	45º	45º	•					• one flange width ≥ 3˝	•		111-114, 151
THDH	all	45º	45º	•						•		111-114, 152-153
THF	1-3/4˝ or less	67-1/2º	45º	•					• width ≥ 2-1/4˝	•		109, 112-114
	> 1-3/4˝	50º										

1) Skews greater than 45° will have square (butt) cut joist with back plate.
Refer to Typical PH hanger skewed, left shown, Type B illustration on page 182.

The information listed only applies to hangers manufactured by USP Structural Connectors® and installed according to the instructions listed in this catalogue. Some of the options listed may not have been evaluated on a single hanger. The designer must always evaluate each connection, including the joist and header capacities, before specifying a specialty connector. USP sloped hangers are manufactured with the plumb cut of the joist already calculated. If a hanger with a different height is needed, it must be specified at the time of ordering.

Materials: Steel gauge may vary from that specified depending on the specialty option and manufacturing process used. Some formed hangers may be welded when modifying the hanger. Hanger configurations, fastener schedules, and height may vary from the tables depending on the joist size, skew, and slope.

Finish: See specific hanger option tables. Welded hangers are painted with USP gray primer. Custom hangers available in Hot-dip galvanized, use **HDG** after product number.

Factored Resistance: For multiple options for the same connector, use the most conservative reduction to give the lowest design load.

Installation:
- Fill all nail holes with fasteners specified in the tables.
- Fastener quantities may increase from the amount listed in the tables depending on hanger option.
- NA16D-RS, NA20D, and NA25D nails are supplied with hangers.
- For type A skewed hangers, the end of joist must be bevel cut; for type B skewed hangers, the end of joist must be butt-cut.

Face Mount Hanger Specialty Details

See the Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

Skewed Hanger:

- Consider SKH or SKHH hangers for 45° skews.
- Joist nails may be located on obtuse side to ensure proper nailing.
- Specify skew angle, type (A or B), and direction when ordering.

Sloped Seat Hanger:

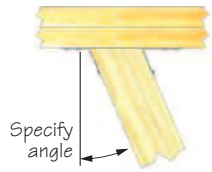
- Consider LSSH series for sloped applications.
- Additional nail holes may be added to joist flanges.
- Specify slope angle and direction when ordering.

Sloped/Skewed Hanger:

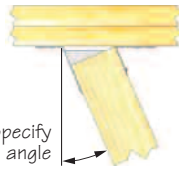
- See nailing notes for both skewed and sloped hangers.
- Specify skew and slope angles as well as skew/slope directions and skew type (A or B) when ordering.

Inverted Flange Hanger:

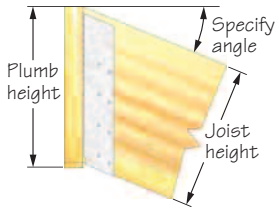
- For skewed-only hangers, the flange on the cut side can be inverted at 100% of the table load. Consult USP for skew limitations.
- When nailing into the carrying member's end grain, the factored resistance is 0.65 of the table load.
- Hangers with one flange inverted achieve 100% of listed table load.
- Specify right or left flange when inverting only one flange.



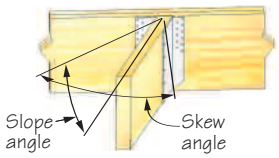
Typical *SUH* hanger skewed, right shown, Type A (bevel cut required)



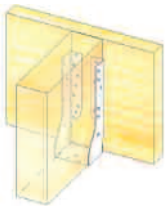
Typical *SUH* formed hanger skewed, right shown, Type B



Typical *HD* hanger sloped seat, down shown



Typical *HD* hanger sloped down, skewed left shown



Typical *HD* hanger inverted flange

See Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

Skewed Hanger:

- Joist nails may be located on obtuse side to ensure proper nailing.
- Specify skew angle, type (A or B), and direction when ordering.

Sloped Seat Hanger:

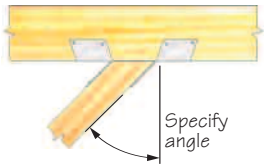
- Additional nail holes may be added to joist flanges.
- Specify slope angle, direction, and joist height when ordering.

Sloped/Skewed Hanger:

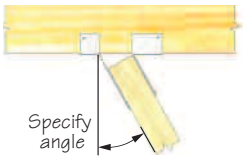
- See nailing notes for both skewed and sloped hangers.
- Specify skew and slope angles as well as skew/slope directions, and skew type (A or B) when ordering.
- Similar to face mount skewed/sloped hanger, refer to illustration on page 162: Typical HD hanger sloped down, skewed left shown.
- Specify if hanger is to be high side flush, low side flush, or centre flush.

Sloped/Skewed/Sloped Top Flange Hanger:

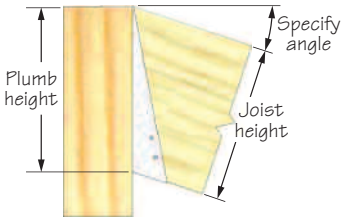
- See nailing notes for both skewed and sloped hangers.
- Specify skew, slope, and top flange slope angles as well as skew/slope and top flange slope directions when ordering.
- Skewed/sloped/top flange sloped hangers can be made galvanized or painted.



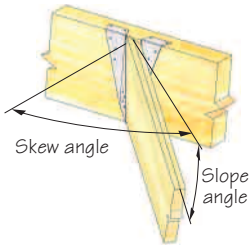
Typical *BPH* hanger skewed, left shown Type A (bevel cut required)



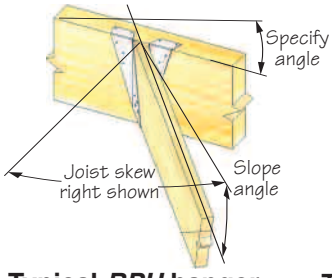
Typical *BPH* hanger skewed, right shown Type B



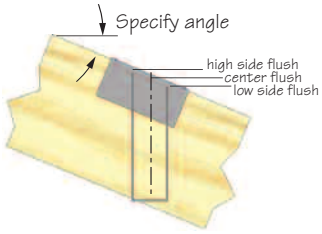
Typical *BPH* hanger sloped seat, down shown



Typical *BPH* hanger sloped down, skewed right, low side flush shown



Typical *BPH* hanger skewed right, sloped down, top flange sloped



Typical *LBH* hanger sloped top flange right shown

Solid Top Flange Hanger Specialty Details

See Specialty Options Chart for each hanger series for load reductions and hanger maximum range of skew, slope, etc.

Skewed Hanger:
- Joist nails may be located on obtuse side to ensure proper nailing.
- Specify skew angle, type (A or B), and direction when ordering.

Sloped Seat Hanger:
- Additional nail holes may be added to joist flanges.
- Specify slope angle, direction, and joist height when ordering.

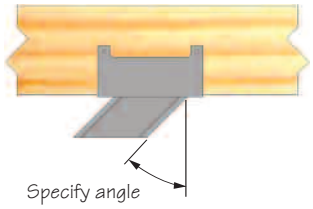
Sloped/Skewed Hanger:
- See nailing notes for both skewed and sloped hangers.
- Specify skew and slope angles as well as skew/slope directions, and skew type (A or B) when ordering.
- Specify if hanger is to be high side flush, low side flush, or centre flush.

Sloped Top Flange Hanger:
- Additional nail holes may be added to top angle.
- Specify top flange slope and direction when ordering.
- Specify if hanger is to be high side flush, low side flush, or centre flush.

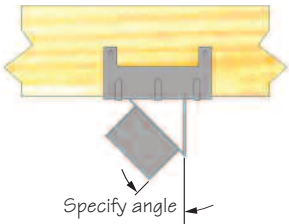
Ridge Hanger:
- Specify flush top of beam at centre, right side, or left side.
- Specify angle of slope when ordering.

Top Flange Offset Hanger:
- Specify offset, left (L) or right (R), when ordering.

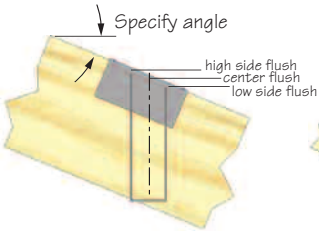
Saddle Hanger:
- Specify saddle width, "SA" when ordering. Allow clearance for saddled member.



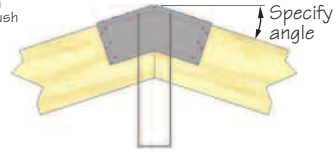
Typical *PH* hanger skewed, left shown Type A (bevel cut required)



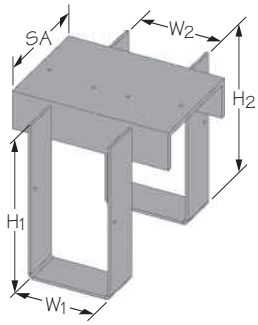
Typical *PH* hanger skewed, left shown Type B



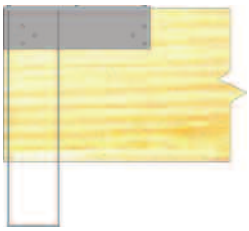
Typical *LBH* hanger sloped top flange, right shown



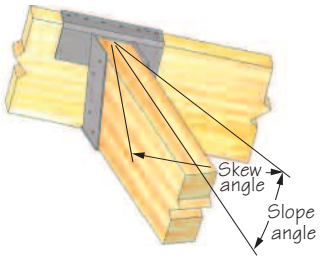
Typical *LBH* hanger ridge, top flange slope



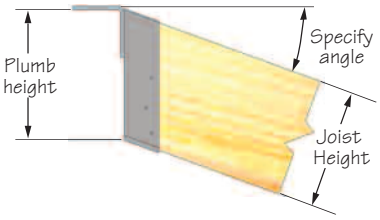
Typical *PH* hanger saddle option



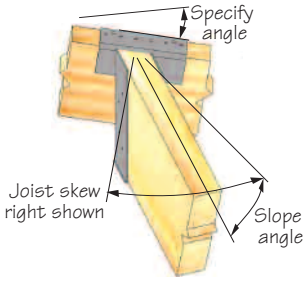
Typical *LBH* hanger top flange offset, right shown



Typical *LBH* hanger sloped down, skewed right, low side flush shown



Typical *LBH* hanger sloped seat, down shown



Typical *LBH* hanger skewed right, sloped down, top flange sloped

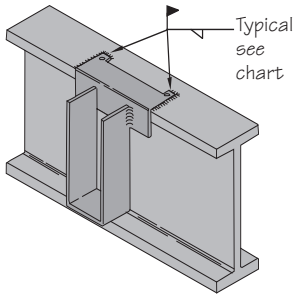
• Weld sizes and lengths shown on chart.

Top Angle Weld Length chart

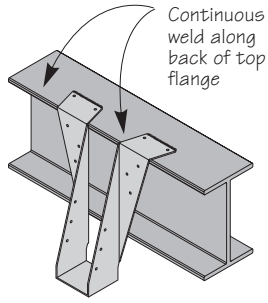
USP Welded Hanger Series	Weld Length
PH, SW	3″
BPH, PHM, SWH	4″
KLB, KHW, PHX, PHXU	6″
KB, KHB, LBH, KGB, KHGB, KHHB, KGLS, KGLST, KGLT, KHGLS, KHGLST	8″
HLBH, KHGLT	10″

Weld shall be distributed evenly.

Top Angle Steel Gauge	Weld Size
10 gauge or lighter	1/8″
7 gauge	3/16″
3 gauge	1/4″



Typical *Top Angle* welded installation



Typical *Top Flange* welded installation

Part Number System

Part Numbers assigned to *TFL*, *THO,* and *THF* I-Joist hangers reveal the I-Joist sizes to be used with the specific hanger. This guide will teach you how to recognize I-Joist dimensions in the part numbers.

1st, 3rd, and sometimes 4th digits are whole numbers
(This example denotes 2 and 11)
4th digit may be part of a decimal –
ex.: THO16925

TFL 23118

2nd and 5th digits are decimals (see guide below)
(This example denotes .3125 [5/16] and .875 [7/8])
5th digit may be (0) or dropped if height is even

Part Number Guide for Decimals

1 = .125	or	1/8 inch
2 or 25 = .25	or	1/4 inch
3 = .3125	or	5/16 inch
5 = .5	or	1/2 inch
6 = .625	or	5/8 inch
7 = .75	or	3/4 inch
8 = .875	or	7/8 inch

THO35925-2

THO	35	925	-2
Letters refer to **Hanger Series** ex.: THO	**First (2) Digits** refer to **Member Width** ex.: 3.5 inches	**Last (2) or (3) Digits** refer to **Member Height** ex.: 9.25 inches	**Digits after Dash** refer to **Number of Plys** ex.: 2 ply

Some Examples:

THO15950 .....1-1/2″ x 9-1/2″
THF17925 .....1-3/4″ x 9-1/4″
THO16925-2.....double 1-5/8″ x 9-1/4″
THF23140-2.....double 2-5/16″ x 14″

Note: USP's *Full Line Catalog* lists a range of heights for *THF* hangers. Face mount hangers can usually accommodate more than one I-Joist height. The hanger height must be tall enough to support the top chord of the I-Joist to eliminate web stiffener requirements on solid sawn or joists with web stiffeners. The *THF* hanger must be a minimum of 60% of the joist height.