

DSP/SSP/SP/SPH/RSP4/TSP/CS

Stud Plate Ties



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 stud plate tie series offers general solutions for connecting the stud to the top and bottom plates. All models can be used to make a connection to either the top or bottom plate, and several are suitable for double top plates and studs.

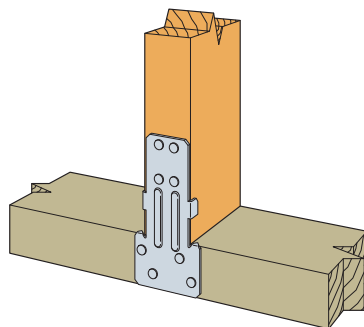
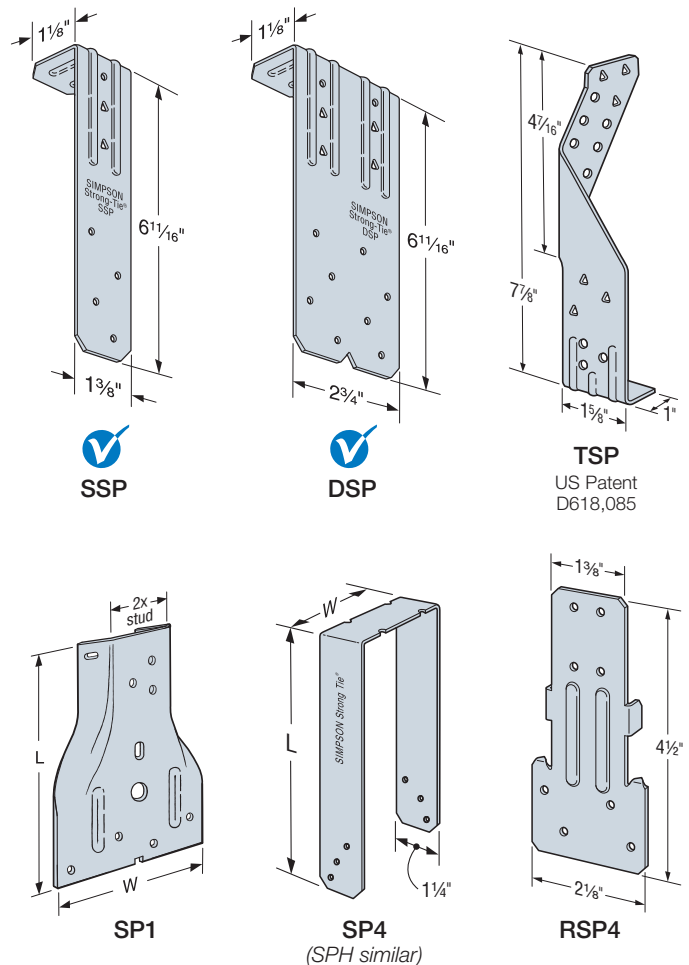
Material: DSP/SSP/SPH — 18 gauge;
TSP/CS16 — 16 gauge; all others — 20 gauge

Finish: Galvanized. Some products available in ZMAX® coating.

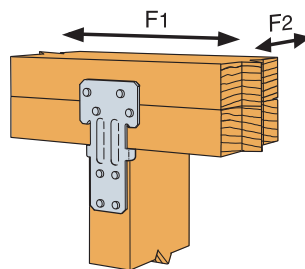
Installation:

- Use all specified fasteners; see General Notes.
- TSP/DSP/SSP — Sill-plate installation: fill all round holes.
- TSP/DSP/SSP — Top-plate installation: fill all round and triangle holes.
- SP1/SP2 — One of the 0.148" x 3" stud nails is driven at a 45° angle through the stud into the plate.
- CS — Slide the CS16 or CS20 strap underneath the mudsill with the appropriate length of strap protruding from the inside of the mudsill. See illustration on p. 292 for more details.
 - Each bend in the strap must be tight, and the strap must sit flush against the edge of the mudsill and the stud or sheathing.
 - Bend strap one time only.

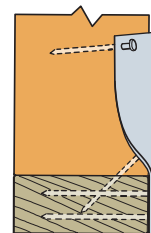
Codes: See p. 13 for Code Reference Key Chart



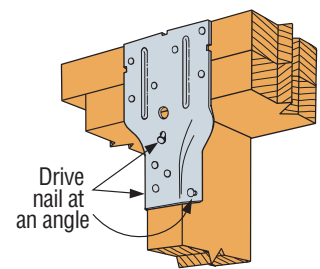
(1) Typical RSP4
Stud to Single Bottom Plate



(2) Typical RSP4
Stud to Double Top Plate
(see footnote 4)



SP1 Nailing
Profile



Typical SP2 Installation

DSP/SSP/SP/SPH/RSP4/TSP/CS

Stud Plate Ties (cont.)

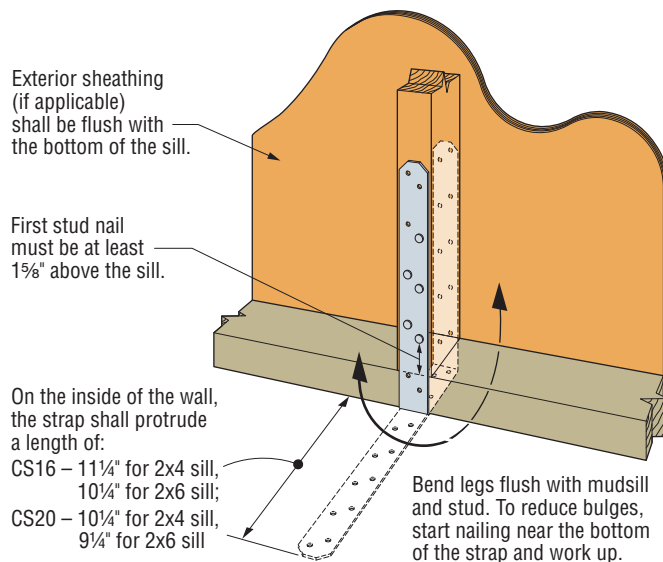
These products are available with additional corrosion protection. For more information, see p. 16.

SS For stainless-steel fasteners, see p. 23.

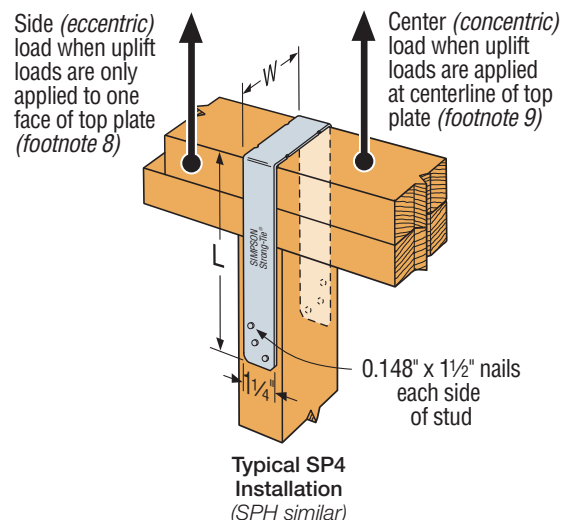
SD Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 362–366 for more information.

	Model No.	Dimensions (in.)		Stud	Plate Width	Fasteners (in.)		Allowable Uplift Loads				Code Ref.
		W	L			Stud	Plate	DF/SP		SPF/HF		
								Side ^a (160)	Center ^a (160)	Side ^a (160)	Center ^a (160)	
■	SP1	3½	5⅝	2x	—	(6) 0.148 x 3	(4) 0.148 x 3	555	555	535	535	IBC®, FL, LA
■	SP2	3½	6⅝	2x	—	(6) 0.148 x 3	(6) 0.148 x 3	1,010	1,010	605	605	
■	SP4	3⅞	7¼	2x	4x	(6) 0.148 x 1½	—	415	825	355	710	
■	SP6	5⅞	7¾	2x	6x	(6) 0.148 x 1½	—	415	825	355	710	
■	SP8	7⅞	8⅞	2x	8x	(6) 0.148 x 1½	—	415	825	355	710	
■	SPH4	3⅞	8¾	2x	4x	(10) 0.148 x 1½	—	520	1,040	450	895	
						(12) 0.148 x 1½	—	600	1,200	515	1,030	
■	SPH6	5⅞	9¼	2x	6x	(10) 0.148 x 1½	—	520	1,040	450	895	
						(12) 0.148 x 1½	—	600	1,200	515	1,030	
■	SPH8	7⅞	8⅞	2x	8x	(10) 0.148 x 1½	—	520	1,040	450	895	
						(12) 0.148 x 1½	—	600	1,200	515	1,030	
■	RSP4 (1)	2⅞	4½	2x	—	(4) 0.131 x 1½	(4) 0.131 x 1½	245	245	285	285	
	RSP4 (2)	2⅞	4½	2x	—	(4) 0.131 x 1½	(4) 0.131 x 1½	390	390	370	370	
	CS20	1¼	24	2x	—	(6) 0.148 x 1½	—	—	550	—	475	
					—	(10) 0.148 x 1½	—	—	915	—	790	
	SS CS16	1¼	26	2x	—	(12) 0.148 x 1½	—	—	1,135	—	980	
					—	(14) 0.148 x 1½	—	—	1,325	—	1,140	

- See pp. 276–277 for Straps and Ties General Notes.
- SP1/SP2 — drive one stud nail at an angle through the stud into the plate to achieve the table load (see illustration).
- RSP4 — see Installation details (1) and (2) for reference.
- RSP4 — F_2 is 225 lb. for Installation 1 and 245 lb. for Installation 2. F_1 load is 165 lb. for both installations.
- Maximum load for SPH in southern yellow pine is 1,415 lb. for center loading and 710 lb. for side loading.
- When cross-grain bending or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.
- For retrofit application, use CS16 and CS20. Total length of strap and total nail quantity are listed.
- Use Side (eccentric) load when uplift loads are applied to only one face of the top plate.
- Use Center (concentric) loads when uplift loads are applied at the centerline of the top plate, or where equal loads are applied to both sides of the top plate. Center loads should also be used for stud-to-bottom plate loads.
- Order SPH4R and SPH6R for installation over ½" sheathing with a maximum DF/SP load of 1,360 lb. for center loading.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.



Typical CS Installation Stud to Mudsill



DSP/SSP/SP/SPH/RSP4/TSP/CS

Stud Plate Ties (cont.)

These products are available with additional corrosion protection. For more information, see p. 16.

Model No.	Dimensions (in.)		Fasteners (in.)			Allowable Uplift Loads (160)			Code Ref.
	W	L	Studs	Double Top Plate	Single Sill Plate	Double Top Plate	Single Sill Plate		
						DF/SP/SPF	DF/SP	SPF/HF	
SSP	1⅜	6⅛	(4) 0.148 x 1½	(3) 0.148 x 1½	—	330	—	—	IBC®, FL, LA
				—	(1) 0.148 x 1½	—	395	310	
			(4) 0.148 x 3	(3) 0.148 x 3	—	410	—	—	
				—	(1) 0.148 x 3	—	430	400	
DSP	2¾	6⅛	(8) 0.148 x 1½	(6) 0.148 x 1½	—	730	—	—	
				—	(2) 0.148 x 1½	—	620	515	
			(8) 0.148 x 3	(6) 0.148 x 3	—	780	—	—	
				—	(2) 0.148 x 3	—	780	565	
TSP	1½	7⅞	(6) 0.148 x 1½	—	(3) 0.148 x 1½	—	465 ⁵	400	
			(9) 0.148 x 1½	(6) 0.148 x 1½	—	755 ⁴	—	—	
				(6) 0.148 x 3		1,015 ⁴			

1. See pp. 276–277 for Straps and Ties General Notes.

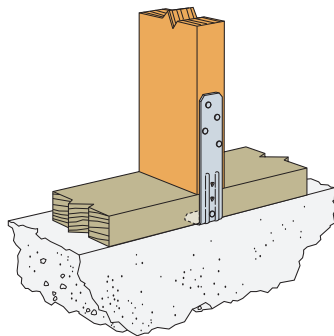
2. When cross-grain bending or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.

3. Allowable loads for DSP installed to a rim board are 620 lb. (DF/SP) and 515 lb. (SPF/HF).

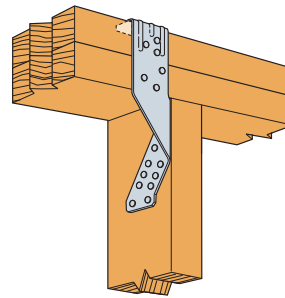
4. Noted values apply only to DF/SP members. For SPF values, multiply by 0.86.

5. Southern pine allowable uplift load is 520 lb.

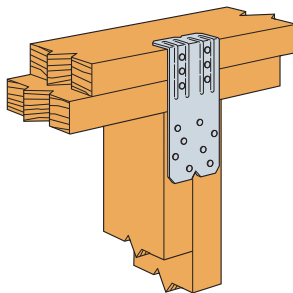
6. **Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.



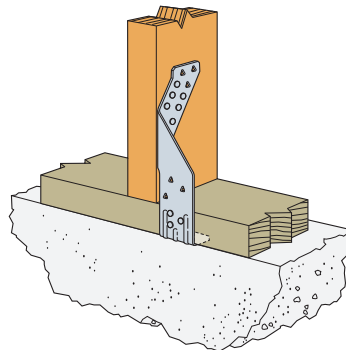
Typical SSP
Installed to Sill Plate
(DSP similar for double stud)



Typical TSP Installed
to Top Plate



Typical DSP
Installed to Top Plate
(SSP similar for single stud)



Typical TSP Installed
to Sill Plate

SSP/DSP/TSP Stud Plate Ties

The SSP, DSP and TSP are pre-bent strap designed to connect double studs in either top or bottom track applications. These versatile single- and double-stud-plate connector helps to create a continuous load path in uplift resistance.

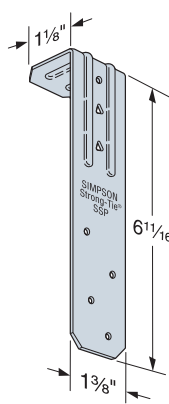
Material: SSP/DSP — 43 mil (18 ga.);
TSP — 54 mil (16 ga.)

Finish: Galvanized (G90). Some products available in ZMAX®; see Corrosion Information, pp. 19–23.

Installation:

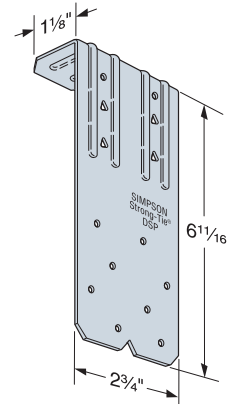
- Use all specified fasteners; see General Notes
- DSP/SSP — top track installation; fill all round and triangle holes

Codes: See p. 13 for Code Reference Key Chart



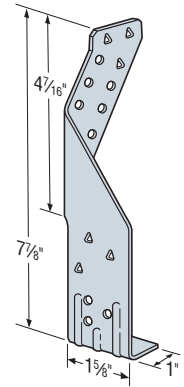
SSP

US Patent: 7,065,932



DSP

US Patent: 7,065,932



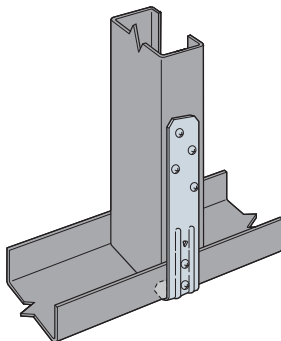
TSP

US Patent: D618,085

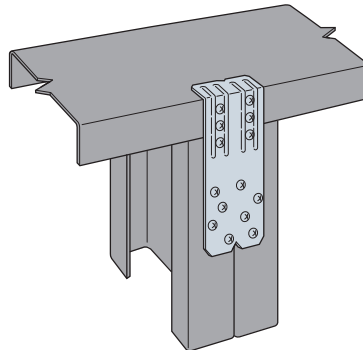
These products are available with additional corrosion protection. Additional products on this page may also be available with this option. Check with Simpson Strong-Tie for details.

Model No.	Fasteners ⁴				Allowable Uplift Load (lb.)		Code Ref.
	Studs	Top Track		Bottom Track	33 mil (20 ga.)	43 mil (18 ga.)	
	CFS	Wood	CFS	CFS			
SSP	(4) #10	—	—	(2) #10	355	625	IBC, FL, LA
		—	(2) #10	—	340	600	
		(2) #10 ³	(1) #10	—	405 ¹	715 ¹	
		(2) 10d	(1) #10	—	480 ¹	840 ¹	
DSP	(8) #10	—	—	(4) #10	430	695	
		—	(4) #10	—	475	775	
		(4) #10 ³	(2) #10	—	585 ¹	955 ¹	
		(4) 10d	(2) #10	—	730 ¹	1,200 ¹	
TSP	(6) #10	—	—	(3) #10	345	645	
		—	(3) #10	—	370	700	
	(9) #10	(3) #10 ³	(3) #10	—	360 ¹	685 ¹	
		(3) 10d	(3) #10	—	480 ¹	905 ¹	

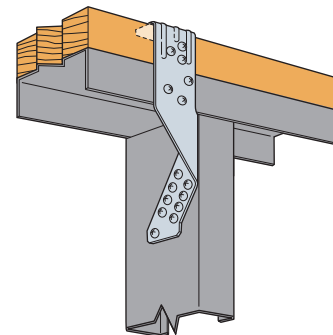
1. For wood plates, noted values only apply to DF/SP members where wood top plates are used. For SPF values, multiply by 0.86.
2. For wood plates, when cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
3. Screws installed into wood plates with a minimum #10 x 3/4" self-drilling screw.
4. See the current *Fastening Systems* catalog at strongtie.com for more information on Simpson Strong-Tie fasteners.



Typical SSP Installed to Bottom Track
(DSP similar for double stud)



Typical DSP Installed to Top Track
(SSP similar for single stud)



Typical TSP Installed to Top Track with Top Plate