

S/HDS & S/HDB Holdowns

The S/HD series of holdowns is designed for installation with either screws or bolts into the studs or column. The S/HDS series installs with #14 screws and has been designed to utilize fewer fasteners to reduce installation time. The S/HDB series is ideal for bolt-on applications where the cold-formed stud manufacturer can pre-punch the bolt holes.

MATERIAL: See table

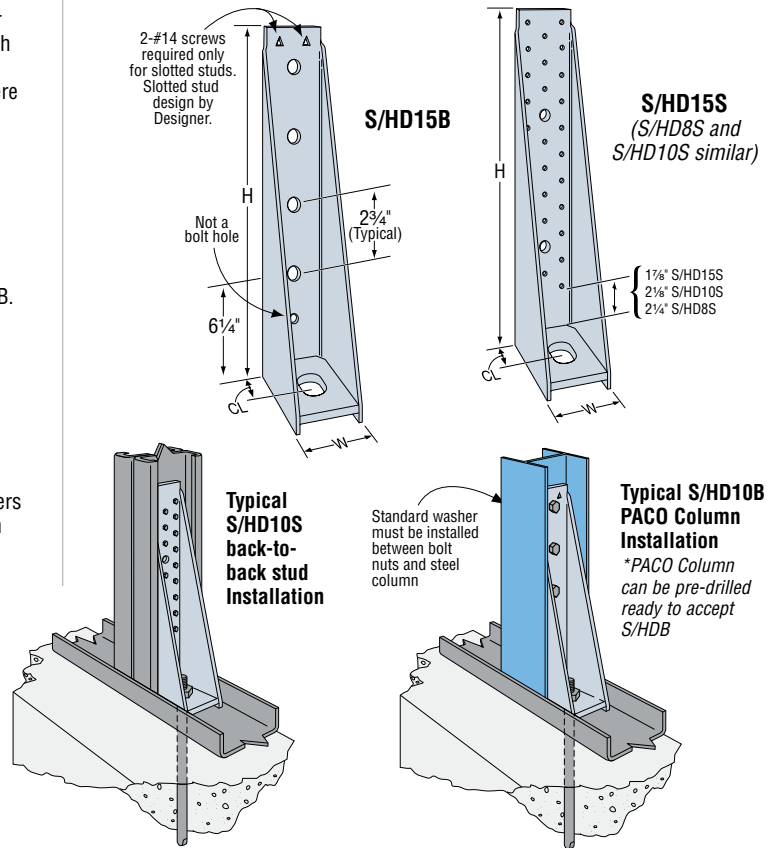
FINISH: Simpson gray paint. Hot-dip galvanized is available; see Corrosion-Information, page 12–13.

INSTALLATION: • Use all specified fasteners; some models have extra fastener holes. See General Notes.

- Anchor bolt washer is not required.
- Standard washers are required on stud bolt nuts for model S/HDB.
- Thin wall socket (OD=2" maximum) is required for S/HD15 to tighten the 1" anchor bolt.
- Stud bolts – use A307.
- Refer to technical bulletin T-ANCHORSPEC for post-installed anchorage solutions.
- Boundary members (*back-to-back studs*) design shall be by Designer.
- Welded connections used for cold-formed steel structural members in which the thickness of the thinnest connected part is 0.18 inch or less shall comply to 2001 AISI NAS Specification Section E2. S/HDS and S/HDB holdowns can be welded per Designer's recommendation and specification. To tie back-to-back stud members together, the Designer must determine the fasteners required to bind members to act as one unit. Welders and welding procedures shall be qualified as specified in AWS D1.3.

CODE: See page 8 for Code Listing Key Chart.

Anchors

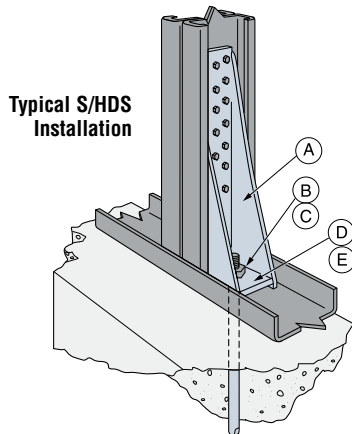


Available with additional corrosion protection. Check with factory.

Model No.	Material Thickness		Dimensions			Fasteners		Nominal Tension Load	Allowable Tension Loads								Holdown ⁶ Deflection at Highest Allowable Design Load	Code Ref.
	Body mil (ga)	Base inch	W	H	CL	Fdn Anchor Dia	Stud Fasteners		2- 33 mil (2-20ga) back-to-back stud		2- 43 mil (2-18ga) back-to-back stud		2- 54 mil (2-16ga) back-to-back stud		1- 97 mil minimum (1-12 ga) Single PACO Column			
									(100)	(133)	(100)	(133)	(100)	(133)	(100)	(133)		
S/HD8S	126 (10 ga)	1/2	2 5/16	11	1 1/2	7/8	17- #14	36570	8580	8580	11070	11070	11070	11070	11470	11470	0.0695	151
S/HD10S	126 (10 ga)	1/2	2 5/16	13 1/2	1 1/2	7/8	22- #14	41115	8580	8580	11120	11120	12200	12200	14840	14840	0.0960	
S/HD15S	171 (7 ga)	1/2	2 7/16	17	1 3/8	1	30- #14	49143	8580	8580	11120	11120	13500	13500	16420	16420	0.0970	
S/HD8B	126 (10 ga)	1/2	2 5/16	11	1 1/2	7/8	2- 3/4 Dia	—	3895	5195	5345	7125	8925	10215	8925	11900	0.0742	
S/HD10B	126 (10 ga)	1/2	2 5/16	13 1/2	1 1/2	7/8	3- 3/4 Dia	41115	5840	7790	8015	10690	13385	15320	13385	15635	0.1018	
S/HD15B	171 (7 ga)	1/2	2 7/16	17	1 3/8	1	4- 3/4 Dia	49143	7790	7865	10690	11510	17560	18295	17850	18295	0.1038	

- The Designer shall specify the anchor embedment and configuration. See SSTB Anchor Bolts and Additional Anchor Design.
- Back-to-back stud members are required unless otherwise specified.
- Nominal tension loads are based on static load test conducted on structural steel fixture.
- 1/4" self-drilling screws can be substituted for #14.
- See page 20 and 21 for anchor bolt retrofit.
- Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a steel fixture.
- Tabulated loads shown at (100) do not include steel stress increase. Tabulated loads shown at (133) include a 1/3 stress increase on the steel. Refer to page 12 for additional information.

Sources of Deflection at the Shearwall Holdown Connections



- Eccentricity in the Stud**—when a holdown is installed on only one side of the stud, an eccentricity exists during loading which can cause additional movement in the shearwall system.
- Nut Spin**—unrestrained anchor bolt nuts can spin loose during cyclic loading; the use of steel nylon locking nuts or thread adhesive may prevent nut spin.
- Lack of Nut Tightening**—additional movement can occur when nuts are not tightened sufficiently.
- Deflection of the Holdown**—deflection can occur in the holdown under load caused by stresses due to earthquake or high wind.
- Vertical Deflection at the Holdown Seat Caused by Stud Rotation**—lateral displacement at the top of the wall rotates the stud around its base causing the holdown base plate to displace vertically.