

PHD *Predeflected Holddown* / **HDQ8** *Holddown*

PHD holddowns are predeflected during the manufacturing process, virtually eliminating deflection under load due to material stretch. The unique seat design of the HDQ8 greatly minimizes deflection under load. Each holddown uses SDS screws, which install easily, reduce fastener slip, and provides a greater net section area of the post compared to bolts.

SPECIAL FEATURES:

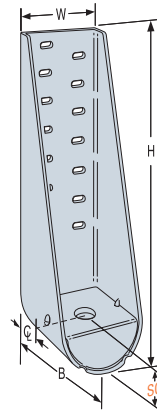
- Wood screws reduce slip due to overdrilled bolt holes.
- Smaller centerline reduces eccentricity in the stud.
- No stud bolts to countersink.
- Fits easily in a 2x4 stud wall.

MATERIAL: See table

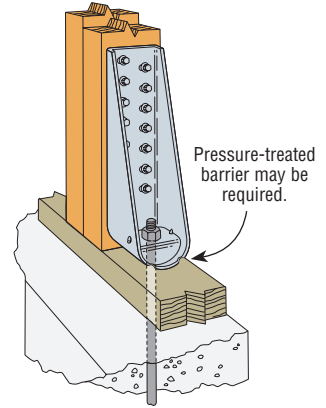
FINISH: Galvanized. PHD2 and PHD5 available in hot-dip galvanized (HDG SDS screws included)

INSTALLATION: • Use all specified fasteners. See General Notes.

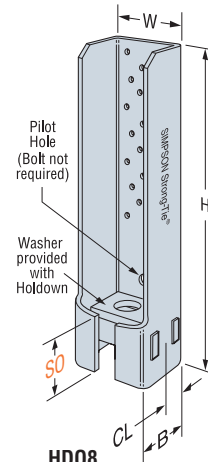
- Place the PHD or HDQ8 over the anchor bolt.
- HDQ8: 5/8" of adjustability perpendicular to the wall.
- HDQ8: 1 1/4" center line for reduced eccentricity.
- HDQ8: Use in vertical and horizontal applications.
- Install Simpson's SDS 1/4"x3" wood screws, which are provided with the holddown. (*Lag screws will not achieve the same load.*)
- For an improved connection, use a steel nylon locking nut or a thread adhesive on the anchor bolt. (*No washer required.*)
- See SSTB Anchor Bolts, page 20-21, for anchorage options. The Designer may specify any alternate anchorage calculated to resist the tension load for a specific job. Anchorage length should take the bearing plate/washer height into account, to ensure adequate length of threads to engage the nut. For 2-2x and 3x sill plates use SSTBL models.
- To tie multiple 2x members together, the Designer must determine the fasteners required to join members to act as one unit without splitting the wood. See page 15 for SDS values.
- **SDS screws install best with a low speed high torque drill with a 3/8" hex head driver.**
- Refer to technical bulletin T-ANCHORSPEC for post-installed anchorage solutions.



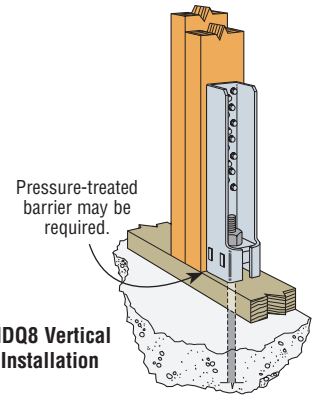
PHD5
(others similar)
US Patent 5,979,130



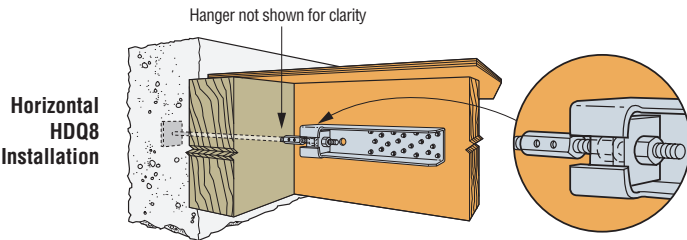
Vertical PHD Installation
(shown "flush", touching sill plate)



HDQ8
U.S. Patents 6,006,487 and 6,327,831



HDQ8 Vertical Installation



Horizontal HDQ8 Installation

For holddowns, per ASTM test standards, anchor bolt nut should be finger-tight plus 1/8 to 1/2 turn with a hand wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut. Impact wrenches should not be used.

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.	Ga	Dimensions (in.)					Fasteners		Factored Tensile Resistance (K _D =1.15)	
		W	H	B	℄	SO	Anchor Bolt Dia. (in.)	SDS Screws	D.Fir-L	S-P-F
								lbs	lbs	
								kN	kN	
PHD2-SDS3	14	2 7/8	9 5/16	2 7/8	1 3/8	1 3/8	5/8	10-SDS 1/4"x3"	5395	4725
PHD5-SDS3	14	2 7/8	11 1/16	2 7/8	1 3/8	1 3/8	5/8	14-SDS 1/4"x3"	24.03	21.05
									7550	6615
PHD6-SDS3	12	2 15/16	13 13/16	2 7/8	1 3/8	1 3/8	7/8	18-SDS 1/4"x3"	33.63	29.47
									9770	8570
HDQ8-SDS3	7	2 7/8	14	2 1/2	1 1/2	2 3/8	7/8	20-SDS 1/4"x3"	43.52	38.17
									11015	9730
									49.06	43.34

1. Factored resistances shown require a minimum of 2-2x vertical wood members.
2. Factored resistances have been increased 15% for short term loading with no further increase allowed; reduce where other loads govern.
3. The Designer must specify anchor bolt type, length and embedment. See SSTB Anchor Bolts (page 20-21).
4. PHD installed raised off the sill plate will have greater deflection values.
5. SDS 1/4"x3" screws required. Call Simpson Strong-Tie for loads using shorter screws.
6. HDQ8 compression resistance requires an additional standard nut and square washer (BP7/8-2) below the holddown. The maximum rod length is 6" from the concrete for compressive values to match tension values shown. If rod length is longer, Designer must check rod for buckling.

7. When using structural composite lumber columns, screws must be applied to the wide face of the column.
8. Tabulated values may be doubled when the PHD or HDQ8 are installed on both sides of the wood member provided either the post is large enough or the holddowns are offset to eliminate screw interferences.
9. Tension values are valid for holddowns flush and raised off of sill plate.
10. Post design by Designer. Factored resistances are based on a minimum wood member thickness in the direction of the fastener penetration. Posts may consist of multiple 2x members provided they are designed to act as one unit independently of the holddown fasteners. Holddowns shall be installed centered along the width of the attached post.