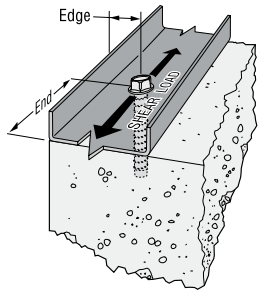
ANCHOR SYSTEMS - TITEN HD® *Threaded Anchor for Concrete & Masonry*

The Titen HD is a patented, high-strength threaded anchor for concrete and masonry. The self-undercutting, non-expansion characteristics of the Titen HD makes it the ideal anchor for structural applications, even at minimum edge distances and under reduced spacing conditions. The proprietary cutting teeth enable the Titen HD to be installed in significantly less time than traditional expansion anchors, and at significantly reduced installation torques. This heat-treated anchor undercuts the concrete to form a strong mechanical interlock over the entire length of the anchor. The anchor can be installed with a standard ANSI masonry drill bit and is removable. The Titen HD is recommended for permanent dry, non-corrosive applications or temporary outdoor applications.

FEATURES:

- **Higher load capacity and vibration resistance:** Threads along the length of the anchor efficiently transfer the load to the base material.
- **Less spacing and edge distance required:** The anchor does not exert expansion forces on the base material.
- **No special drill bit needed:** Designed to install using standard sized drill bits.
- **Installs with 50% less torque:** Testing shows that when compared with a major competitor, the Titen HD requires 50% less torque to be installed in concrete.
- **Less installation time:** No secondary setting or torquing is required.
- **Stamped Hex-washer head:** Requires no separate washer and provides a clean installed appearance. The head is stamped with the Simpson sign and the anchor length in inches for easy inspection. *(Some local building jurisdictions may require a separate washer.)*
- **Removable:** Ideal for temporary anchoring *(e.g. formwork, bracing)* or applications where fixtures may need to be moved.
- Mechanical galvanized coating is available. Refer to www.strongtie.com/info for corrosion information.

CODES: ICC ESR-1056; City of L.A. RR25560; Florida FL 2304.2; Factory Mutal 3017082; ¾" dia. Meadow-Burke approved for tilt-up wall bracing.



Edge and end distances for Titen HD in concrete slab corner condition

U.S. Patent 5,674,035

For complete technical information please refer to our Anchor Systems Catalog.

For information on installing Simpson connectors with Anchor Systems products, request T-ANCHORSPEC.

SHEAR LOADS IN NORMAL-WEIGHT CONCRETE

Anchor Callout (Dia. x L)	Minimum Embedment Depth[1] (E)	Minimum Edge	End Distance	Anchor Spacing	Allowable Shear Load (100)				
					Concrete[3] (f'c ≥ 2500 psi) (lbs/ft)	Cold Formed Steel			
						68 mils (14 ga)[4] (lbs/ft)	54 mils (16 ga)[4] (lbs/ft)	43 mils (18 ga)[4] (lbs/ft)	33 mils (20 ga)[4] (lbs/ft)
⅜" x 3" Titen HD[2]	2¾"	4½"	6"	0' - 6"	3,250	3,125	2,485	1,370	1,020
				1' - 0"	1,625	1,565	1,240	685	510
				2' - 0"	810	780	620	340	255
				3' - 0"	540	520	415	230	170
				4' - 0"	405	390	310	170	130
				5' - 0"	325	315	250	135	100
				6' - 0"	270	260	205	115	85
½" x 4" Titen HD	3½"	1¾"	8"	0' - 8"	2,565	3,125	2,485	1,320	895
				1' - 0"	1,710	2,085	1,655	880	595
				2' - 0"	855	1,040	830	440	300
				3' - 0"	570	695	550	295	200
				4' - 0"	425	520	415	220	150
				5' - 0"	340	415	330	175	120
				6' - 0"	285	345	275	145	100
⅝" x 4" Titen HD	3½"	1¾"	10"	0' - 10"	2,115	3,125	2,400	1,190	770
				1' - 0"	1,765	2,606	2,000	995	640
				2' - 0"	880	1,305	1,000	495	320
				3' - 0"	585	870	665	330	215
				4' - 0"	440	650	500	250	160
				5' - 0"	350	520	400	200	130
				6' - 0"	290	435	335	165	105

1. Washer and CFS member thickness to be considered by Designer.
2. Refer to ICC ESR-1056 reduction factors for edge distance less than 4½".
3. Shear parallel to the edge of slab (except shear can be applied in any direction for ⅜ Titen HD). Allowable loads may be increased 1/3 for short-term loading due to seismic or wind forces where permitted by code (See page 12).
4. 2001 AISI NAS, Eq. E3.3.1-1, Ω = 2.5. See page 11 for CFS thickness standards and General Notes (e) on page 9 for CFS properties.
5. Allowable loads must be the lesser of the concrete or CFS strength.

TENSION LOADS IN NORMAL-WEIGHT CONCRETE

Dia. (D) (in)	Embed. Depth (in)	Min. Edge	Allowable Tension Load (100)				
			Concrete	Cold Formed Steel (Pull-Over)			
			f'c ≥ 2500 psi[1,2,5] (lbs)	68 mils (14 ga)[3] (lbs)	54 mils (16 ga)[3] (lbs)	43 mils (18 ga)[3] (lbs)	33 mils (20 ga)[3] (lbs)
⅜"	2¾"	1¾"	990	580	460	255	195
½" & ⅝"	2¾"	1¾"	855				

1. Use interaction formula for combined tension/shear $(P_s/P_t)^{5/3} + (V_s/V_t)^{5/3} \leq 1.0$.
2. Critical spacing distance = 16D. Critical end distance = 8D.
3. 2001 AISI NAS, Eq. E4.4.2-1 divided by 2.0 (one-sided loading), Ω = 3.0, d_w = 0.5". See page 6 for CFS thickness standards and General Notes (e), on page 9 for CFS properties.
4. Allowable loads must be the lesser of the concrete or CFS strength.
5. Allowable loads may be increased ⅓ for short-term loading due to seismic or wind forces where permitted by code (see page 12).

Get the rest of the information on Simpson Strong-Tie® Anchor Systems

The information in this catalog is an introduction to Simpson Anchor Systems. You can get the rest of the technical information four ways:

- Call Simpson Strong-Tie at (800) 999-5099 and request the current Simpson Anchor Systems Catalog.
- For a full Simpson Anchor Systems Technical Manual/Binder, call Simpson and ask to speak with your local Technical Sales Representative or Field Engineer. This binder features the Anchor Systems catalog in easy-to-use tabular format, as well as code reports, MSDS sheets and more!
- Visit Simpson Anchor Systems at ***www.simpsonanchors.com***. You can access technical and product application information, code reports, new product information and much more. E-Mail The Simpson Anchor Man for answers to your questions or check our Frequently Asked Questions section for the information you are looking for.
- Call Simpson and request an Anchor Systems CD-ROM which contains all of the information you need for your anchoring and fastening needs. In addition to complete product information and the Anchor Designer, Drill Bit Selector and Adhesive Estimator programs, the CD also contains product code reports, MSDS sheets and product fliers.