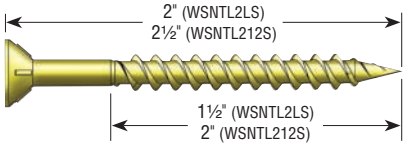
WSNTL COLLATED SCREW SYSTEM

Simpson Strong-Tie® Quik Drive® auto-feed screw driving systems offer superior performance and reduced installation time in floor and roof applications. The holding power of screws increases withdrawal resistance and reduces the gaps that cause floor squeaks. The 20" tool extension enables stand-up-and-drive installation.



Allowable Shear in Pounds per Foot for Horizontal Diaphragms with WSNTL2LS or WSNTL212S Screws and Douglas Fir-Larch or Southern Pine[1,5] Framing

Panel Grade	Panel Thickness	Minimum Nominal Width of Framing Member	BLOCKED DIAPHRAGMS Screw spacing at diaphragm boundaries (all cases), at continuous panel edges parallel to load (Cases 3 and 4), andat all panel edges (Cases 5 and 6)				UNBLOCKED DIAPHRAGMS[2] Screws spaced 6 inches, maximum, at supported edges	
			6	4	2½[4]	2[4]	Case 1 (No unblocked edges or continuous joints parallel to load)	All other configurations (Cases 2, 3, 4, 5 and 6)
			Screw Spacing at Other Panel Edges					
			6	6	4	3		
Sheathing, single floor and other grades covered in DOC PS1 and PS2	15/32	2	290	385	575	655	255	190
		3	325	430	650	735	290	215
	19/32	2	320	425	640	730	285	215
		3	360	480	720	820	320	240
	1⅛[4,5]	2	320	425	640	730	285	215
		3	360	480	720	820	320	240

1. Minimum fastener penetration of 1¼" into the framing member is required.
2. For IBC wind design, shear capacities may be increased 40% per IBC 2306.3.1. For normal loading, shear capacities shall be reduced 25%. These two adjustments are not included in the Code Report.
3. Space screws at 12" on center along intermediate framing members or as required by design to resist wind suction forces on roofs where applicable.
4. Framing at adjoining panel edges must be 3 inches nominal or wider, and screws must be staggered where screws are spaced 2" or 2½" on center.
5. When noted in the table, WSNTL212S screws required.
6. The values for this application are not included in the Code Report.
7. See 2003 IBC chapter 23 for additional requirements and information.
8. Allowable withdrawal loads, based on thread penetration into the main member, are 151 lb/in for SP, 125 lb/in for DF, and 88 lb/in for SPF. Values may be increased as permitted by the applicable building code.

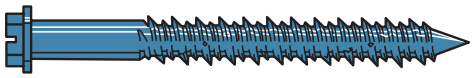
TITEN® *Screws* / TITEN HD® *Heavy Duty Screw Anchors*

Titen® screws are 3/16" and ¼" diameter masonry screws for attaching various components to concrete and masonry. Available in hex and phillips head designs in three colors *(blue, silver and white)*. Use with appropriately sized Titen drill bits included with each box.

WARNING: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, use this product in dry and noncorrosive environments only, or provide moisture barrier.

Titen® Screw Anchors for Concrete or Masonry

Titen Dia. (in)	Drill Bit Dia. (in)	Embed. Depth (in)	Critical Spacing (in)	Critical Edge Dist. (in)	Allowable Loads			
					Concrete		CMU	
					Tension	Shear	Tension	Shear
3/16	5/32	1	2¼	1⅛	125	255	110	205
3/16	5/32	1½	2¼	1⅛	305	415	—	—
¼	3/16	1	3	1½	145	225	150	250
¼	3/16	1½	3	1½	365	400	—	—



Titen® Hex Head screw

1. Allowable loads may not be increased for short term loading due to wind forces.
2. Concrete shall have a minimum f'_c = 2000 psi. CMU is based on installation into face shell of hollow or grout-filled CMU.
3. The attached member or element may govern the allowable load. The Designer shall verify allowable load.
4. Refer to the Simpson Strong-Tie® *Anchoring and Fastening Systems for Concrete and Masonry* catalog (C-SAS) for complete information on the Titen® screws.

Titen HD® Tension and Shear Loads in Face Shell of 8-inch Lightweight, Medium-Weight and Normal-Weight Grout Filled CMU

Size (in)	Drill Bit Dia. (in)	Min. Embed. Depth (in)	Critical Edge Dist. (in)	Critical Spacing Dist. (in)	Values for 8-inch Lightweight, Medium-Weight or Normal-Weight Grout Filled CMU	
					Allowable Tension Load (100)	Allowable Shear Load (100)
⅜	⅜	2¾	12	6	480	870
½	½	3½	12	8	690	1385
⅝	⅝	4½	12	10	1060	2085
¾	¾	5½	12	12	1600	3000

1. The tabulated allowable loads are based on a safety factor of 5.0 for installations under the IBC.
2. Values for 8-inch wide CMU Grade N, Type II, lightweight, medium-weight and normal-weight concrete masonry units conforming to ASTM C90.
3. The masonry units must be fully grouted with grout complying with IBC Section 2103.12.
4. Mortar is prepared in accordance with IBC Section 2103.8.
5. The minimum specified compressive strength of masonry, f'_m, at 28 days is 1,500 psi.
6. Embedment depth is measured from the outside face of the concrete masonry unit.
7. Allowable loads may be increased 33⅓% for short-term loading due to wind forces where permitted by code.
8. Grout filled CMU wall design must satisfy applicable design standards and be capable of withstanding applied loads.
9. Refer to the Simpson Strong-Tie® *Anchoring and Fastening Systems for Concrete and Masonry* catalog (C-SAS) for load adjustment factors for spacing and edge distance less than critical.
10. Recommended for permanent dry, interior non-corrosive environments or temporary outdoor applications, or provide moisture barrier.

Titen HD® anchor

U.S. Patent 5,674,035 & 6,623,228