

# Titen® Stainless-Steel Concrete and Masonry Screw

Stainless-steel Titen screws are ideal for attaching various types of components to concrete and masonry, such as fastening electrical boxes or light fixtures. They offer the versatility of our standard Titen screws with enhanced corrosion protection. Available in hex and Phillips flat head.

## Features



- Suitable for concrete, brick, grout-filled CMU and hollow-block applications
- Suitable for some preservative-treated wood applications
- Titen drill bits included in each box
- Available in lengths from 1 ¼"-4"

**Codes:** Florida FL2355 (concrete and masonry)

**Material:** Type 410 stainless steel

**Coating:** Zinc plated with a protective overcoat

## Installation

-  **Caution:** Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Steps must be taken to prevent inadvertent sustained loads above the listed allowable loads. Overtightening and bending moments can initiate cracks detrimental to the hardened screw's performance.
-  **Caution:** Oversized holes in the base material will reduce or eliminate the mechanical interlock of the threads with the base material and will reduce the anchor's load capacity.

1. Drill a hole in the base material using the appropriate diameter carbide drill bit as specified in the table. Drill the hole to the specified embedment depth plus ½" to allow the thread tapping dust to settle and blow it clean using compressed air. Overhead installations need not be blown clean. Alternatively, drill the hole deep enough to accommodate embedment depth and dust from drilling and tapping.
2. Position fixture, insert screw and tighten using drill fitted with a hex socket or Phillips bit.

The 410 stainless-steel Titen screw with top coat provides "medium" corrosion protection. Refer to p. 236 for more information. Recommendations are based on testing and experience at the time of publication and may change. Simpson Strong-Tie cannot provide estimated on-service life of screws.



**Titen**  
**Stainless-Steel**  
**Phillips Flat Head Screw**  
**(PFSS)**



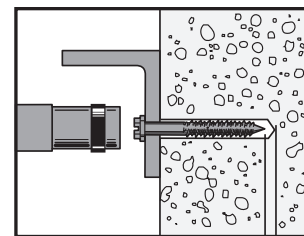
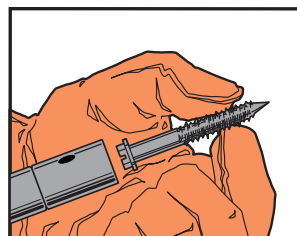
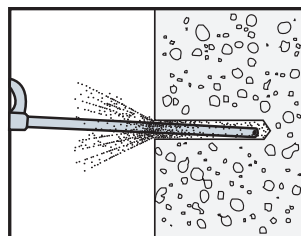
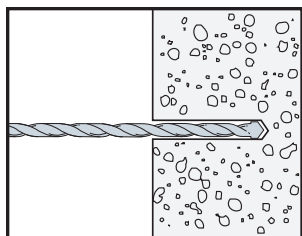
**Titen**  
**Stainless-Steel**  
**Hex-Head Screw**  
**(HSS)**

## Stainless-Steel Titen Product Data

| Size (in.) | Head Style         | Model No.    | Drill Bit Diameter (in.) | Quantity |        |
|------------|--------------------|--------------|--------------------------|----------|--------|
|            |                    |              |                          | Box      | Carton |
| ¼ x 1 ¼    | Hex Head           | TTN25114HSS  | ⅜                        | 100      | 1600   |
| ¼ x 1 ¾    |                    | TTN25134HSS  |                          | 100      | 500    |
| ¼ x 2 ¼    |                    | TTN25214HSS  |                          | 100      | 500    |
| ¼ x 2 ¾    |                    | TTN25234HSS  |                          | 100      | 500    |
| ¼ x 3 ¼    |                    | TTN25314HSS  |                          | 100      | 400    |
| ¼ x 3 ¾    |                    | TTN25334HSS  |                          | 100      | 400    |
| ¼ x 4      |                    | TTN25400HSS  |                          | 100      | 400    |
| ¼ x 1 ¼    | Phillips Flat Head | TTN25114PFSS | ⅜                        | 100      | 1600   |
| ¼ x 1 ¾    |                    | TTN25134PFSS |                          | 100      | 500    |
| ¼ x 2 ¼    |                    | TTN25214PFSS |                          | 100      | 500    |
| ¼ x 2 ¾    |                    | TTN25234PFSS |                          | 100      | 500    |
| ¼ x 3 ¼    |                    | TTN25314PFSS |                          | 100      | 400    |
| ¼ x 3 ¾    |                    | TTN25334PFSS |                          | 100      | 400    |
| ¼ x 4      |                    | TTN25400PFSS |                          | 100      | 400    |

One drill bit is included in each box.

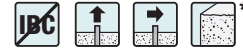
## Installation Sequence



1 ½" max. ← → ½" min.

# Titen® Stainless-Steel Concrete and Masonry Screw

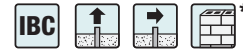
## Stainless-Steel Titen Allowable Tension and Shear Loads in Normal-Weight Concrete



| Dia. in. (mm) | Drill Bit Dia. in. | Embed. Depth in. (mm) | Critical Spacing in. (mm) | Critical Edge Dist. in. (mm) | Tension Load                              |                 |   |                 | Shear Load                                |                 |
|---------------|--------------------|-----------------------|---------------------------|------------------------------|---|-----------------|---|-----------------|---|-----------------|
|               |                    |                       |                           |                              | $f'_c \geq 2,000$ psi (13.8 MPa) Concrete |                 | $f'_c \geq 4,000$ psi (27.6 MPa) Concrete |                 | $f'_c \geq 2,000$ psi (13.8 MPa) Concrete |                 |
|               |                    |                       |                           |                              | Ultimate lb. (kN)                         | Allow. lb. (kN) | Ultimate lb. (kN)                         | Allow. lb. (kN) | Ultimate lb. (kN)                         | Allow. lb. (kN) |
| 1/4 (6.4)     | 3/16               | 1 (25.4)              | 3 (76.2)                  | 1 1/2 (38.1)                 | 600 (2.7)                                 | 150 (0.7)       | 935 (4.2)                                 | 235 (1.0)       | 760 (3.4)                                 | 190 (0.8)       |
| 1/4 (6.4)     | 3/16               | 1 1/2 (38.1)          | 3 (76.2)                  | 1 1/2 (38.1)                 | 1,040 (4.6)                               | 260 (1.2)       | 1,760 (7.8)                               | 440 (2.0)       | 810 (3.6)                                 | 200 (0.9)       |

1. Maximum anchor embedment is 1 1/2" (38.1 mm).
2. Minimum concrete thickness is 1.5 x embedment.

## Stainless-Steel Titen Allowable Tension and Shear Loads in Face Shell of Hollow and Grout-Filled CMU



| Dia. in. (mm) | Drill Bit Dia. in. | Embed. Depth in. (mm) | Critical Spacing in. (mm) | Critical Edge Dist. in. (mm) | Values for 6" or 8" Lightweight, Medium-Weight or Normal-Weight CMU |                 |                   |                 |
|---------------|--------------------|-----------------------|---------------------------|------------------------------|---|-----------------|-------------------|-----------------|
|               |                    |                       |                           |                              | Tension Load  |                 | Shear Load        |                 |
|               |                    |                       |                           |                              | Ultimate lb. (kN)   | Allow. lb. (kN) | Ultimate lb. (kN) | Allow. lb. (kN) |
| 1/4 (6.4)     | 3/16               | 1 (25.4)              | 4 (101.6)                 | 1 1/2 (38.1)                 | 550 (2.4)   | 110 (0.5)       | 495 (2.2)         | 100 (0.4)       |

1. The tabulated allowable loads are based on a safety factor of 5.0.
2. Maximum anchor embedment is 1 1/2" (38.1 mm).

## Length Identification Head Marks on Stainless-Steel Titen Screw Anchors (corresponds to anchor length in inches)

| Length ID Marking on Head |                         | —     | A     | B     | C     | D     | E     | F     | G     | H     | I     | J     |
|---------------------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Length of Anchor (in.)    | From                    | 1     | 1 1/2 | 2     | 2 1/2 | 3     | 3 1/2 | 4     | 4 1/2 | 5     | 5 1/2 | 6     |
|                           | Up To But Not Including | 1 1/2 | 2     | 2 1/2 | 3     | 3 1/2 | 4     | 4 1/2 | 5     | 5 1/2 | 6     | 6 1/2 |

For SI: 1 inch = 25.4 mm.

\*See p. 14 for an explanation of the load table icons.