# THD — Titen HD Heavy Duty Screw Anchor (Concrete & Masonry)

### Material

Carbon Steel

### Material

Mechanically Galvanised

Corrosion Resistance Level
MEDIUM

**Size:** See the table below

### Features & Benefits

- Serrated cutting teeth and patented thread design reduce installation torque, enable quick and easy installation
- Head Stamp with the Simpson Strong-Tie "≠" sign and the anchor size for easy post-installation inspection
- Specialised Heat-Treatment Process creates tip hardness to facilitate cutting while the anchor body remains ductile
- With high ductility it can be bent to a right angle (90 degrees) and remain intact without snapping or breakage
- Hex-Washer Head increases bearing surface and requires no separate washer, unless required by specification and provides a clean installed appearance
- No special drill bit required — designed to install using standard-sized ANSI tolerance drill bits
- Testing shows the Titen HD installs in concrete with 50% less torque than competitor anchors
- Removable — ideal for temporary anchoring (e.g., formwork, bracing) or applications where fixtures may need to be moved
- Vibration and Shock Resistance
- Excellent minimum edge distance performance
- Qualified for static and seismic loading conditions
- Available in a wide range of diameters and lengths

**THD**

**Serrated Teeth** facilitate cutting and reduce installation torque

**Easy Post-installation Inspection:** The head is stamped with the Simpson Strong-Tie "≠" sign and the anchor size in mm

**Highly Ductile:** Can be bent to a right angle (90 degrees) and remain intact without snapping or breakage

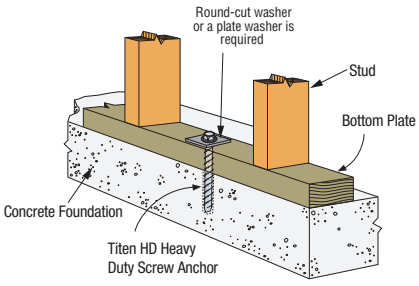
### Approvals

- Complies with AS5216
- ETA-12/0060 (Option 1)
- Code listed under IBC/IRC in accordance with ICC-ES AC193 and ACI 355.2 for cracked and uncracked concrete per ICC-ES ESR-2713
- Code listed under IBC/IRC in accordance with ICC-ES AC106 for masonry per ICC-ES ESR-1056
- BRANZ Appraisal 983 (2018) for applications related to bottom plate fixings and holdown applications per NZS 3604 using Titen HD

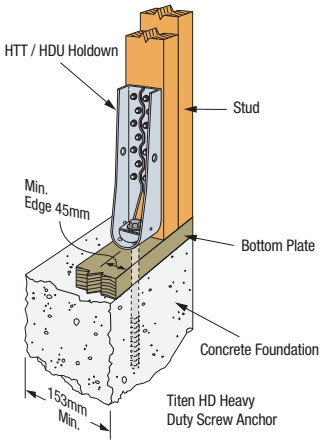
### Applications

- Electrical Boxes
- Light Fixtures
- Window Frames
- Timber Strapping
- Pipe and calbe Clips

### Construction Details




**Titen HD Bottom Plate Fixing**




**Titen HD With HTT/HDU Holdown Bottom Plate Fixing**

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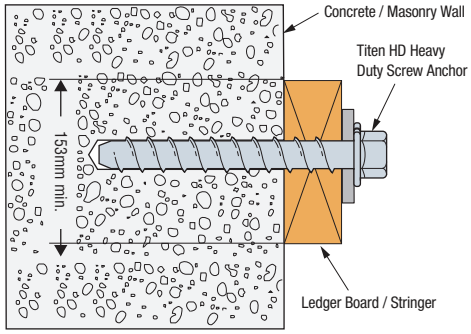
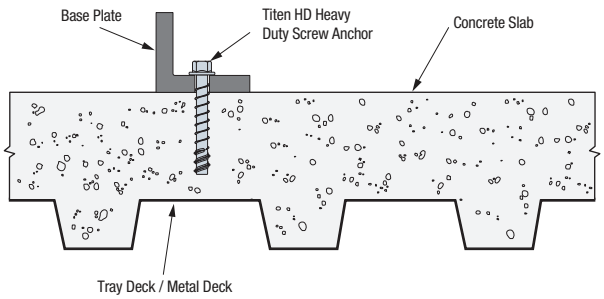



**Titen HD Fastening Ledger / Stringer on Concrete Wall**




**Titen HD Fastening on Tray Deck / Metal Deck**

## Specifications - THD

| Model No. | Size | | Head | Thread | Material & Finish | Box Qty | Ctn Qty |
|---|---|---|---|---|---|---|---|
| THD10060MG | M10 | 60mm | Hex Head | Serrated Threads | Mechanically Galvanised | 50 | 200 |
| THD10100MG | | 100mm | | | | | |
| THD12075MG | M12 | 75mm | | | | 20 | 80 |
| THD12110MG | | 110mm | | | | | |
| THD12130MG | | 130mm | | | | | |
| THD12150MG | | 150mm | | | | | |
| THD16130MG | M16 | 130mm | | | | 10 | 40 |
| THD16150MG | | 150mm | | | | | |
| THD20150MG | M20 | 150mm | | | | 5 | 20 |
| THD20170MG | | 170mm | | | | | 10 |

1. Mechanically galvanised finish is ≥ 12 microns in accordance with EN ISO 12683, Type 1. Not for use in highly corrosive or outdoor environments.
2. Other sizes available in MG finish by special order, contact Simpson Strong-Tie for details.
3. Length is measured from the underside of the head to the tip of the anchor.
4. The max. fixture holes are limited to the outside diameter of the anchor based on ETAG 001, Annex C.

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# THD — Titen HD Heavy Duty Screw Anchor (Concrete & Masonry)

## Installation Data

| Description | Symbol | Units | Anchor Size | | | | |
|---|---|---|---|---|---|---|---|
| | | | M8 | M10 | M12 | M16 | M20 |
| Drill Hole Diameter | $d_o$ | mm | 8 | 10 | 12 | 16 | 20 |
| Maximum Diameter of Drill Bit | $d_{cut,\ max}$ | | 8.45 | 10.45 | 12.5 | 16.5 | 20.55 |
| Drill Depth | $h_1$ | | 75 | 85 | 105 | 130 | 150 |
| Nominal Embedment Depth | $h_{nom}$ | | 65 | 75 | 95 | 115 | 135 |
| Anchor Length Range | L | | 70–140 | 60–160 | 75–150 | 130–150 | 150–170 |
| Clearance Hole Diameter in Fixture | $d_f$ | | 12 | 14 | 16 | 22 | 26 |
| Maximum Thickness of Fixture | $t_{fix,max}$ | | 85 | 85 | 85 | 85 | 85 |
| Recommended impact screw driver with max. power output specified according to manufacturer's instructions. | | | | | | | |
| Installation Torque | $T_{inst,\ max}$ | Nm | 200 | | 515 | | |

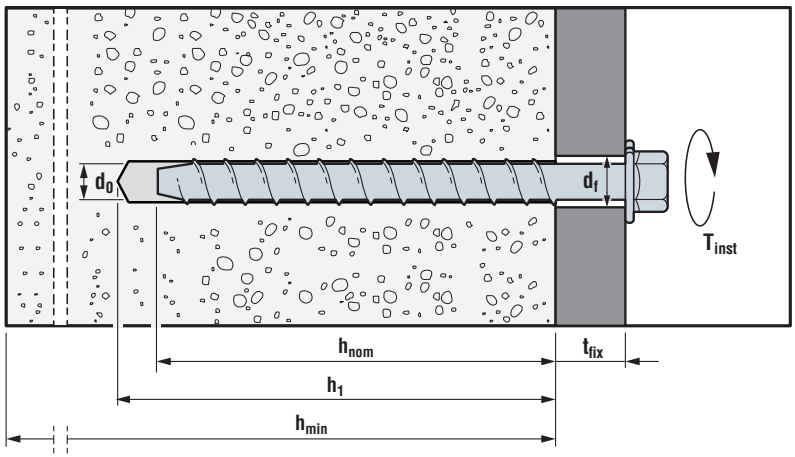
## Concrete Thickness, Edge Distance and Spacing

| Description | Symbol | Units | M8 | M10 | M12 | M16 | M20 |
|---|---|---|---|---|---|---|---|
| Minimum Concrete Thickness | $h_{min}$ | mm | 105 | 125 | 150 | 180 | 220 |
| Minimum Edge Distance | $c_{min}$ | | 50 | 60 | 80 | 100 | 120 |
| Minimum Spacing | $s_{min}$ | | 50 | 60 | 80 | 100 | 120 |
| Critical Edge Distance (cone) | $c_{cr,N}$ | | $1.5 \times h_{ef}$ | | | | |
| Critical Spacing (cone) | $s_{cr,N}$ | | $3 \times h_{ef}$ | | | | |
| Critical Edge Distance (splitting) | $c_{cr,sp}$ | | $1.5 \times h_{ef}$ | | | | |
| Critical Spacing (splitting) | $s_{cr,sp}$ | | $3 \times h_{ef}$ | | | | |

## Design Resistance — Single Anchor, No Concrete Edge or Spacing Influence

| Description | Symbol | Units | M8 | M10 | M12 | M16 | M20 |
|---|---|---|---|---|---|---|---|
| Embedment Depth | $h_{ef}$ | mm | 47 | 55 | 70 | 86 | 102 |
| Minimum Concrete Thickness | $h_{min}$ | | 105 | 125 | 150 | 180 | 220 |
| **Uncracked Concrete** | | | | | | | |
| **TENSION** | $N_{Rd}$ | kN | **5.1** | **7.1** | **16.9** | **20.3** | **33.8** |
| **SHEAR** | $V_{Rd}$ | | **11.7** | **18.3** | **25.2** | **46.7** | **73.6** |
| **Cracked Concrete** | | | | | | | |
| **TENSION** | $N_{Rd}$ | kN | **4.1** | **5.1** | **8.1** | **16.9** | **23.7** |
| **SHEAR** | $V_{Rd}$ | | **11.7** | **18.3** | **25.2** | **46.7** | **60.2** |

1. Concrete strength is 30MPa (cylinder) unreinforced.
2. Tabulated loads are based on no edge distance, no anchor spacing and installed at min. allowable concrete thickness and embedment depth
3. $N_{Rd}$ and $V_{Rd}$ is based on use of a Carbon Steel, Zinc plated bolt, or mechanically galvanised.
4. All design resistances are derived from the product's ETA (European Technical Assessment).

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