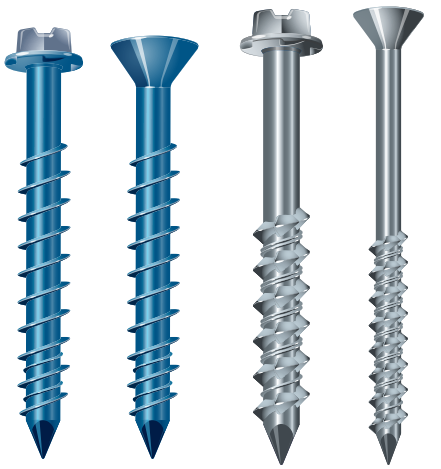
RED HEAD®
CONCRETE ANCHORING SPECIALISTS

# Tapcon®
## Concrete and Masonry Anchors

THREADMAX TECHNOLOGY



ThreadMax™ 410 Stainless Steel

## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Tapcon Anchors —
**SPECIFIED FOR ANCHORAGE INTO CONCRETE, BRICK OR BLOCK**

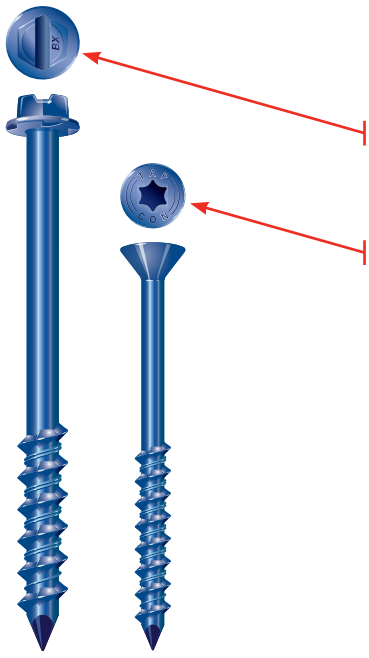


The "original masonry" anchor that cuts its own threads into concrete, brick, or block. Maximum performance is achieved because the Tapcon Anchor, the Condrive Installation Tool, and the carbide-tipped Tapcon Drill Bits are designed to work as a system. It is essential to use the Condrive tool and the correct drill bit to assure consistent anchor performance.

## ADVANTAGES

- Works in all masonry base materials.
- Fast and easy—3 anchors per minute.
- No hole spotting or inserts required.
- Removable.
- Slotted hex and star drive head styles
- Extended corrosion protection—Blue Climaseal™.
- Available in 410 Stainless Steel.
- Pressure treated wood compatible

### Tapcon Anchors



**Blue Climaseal™** provides extended corrosion protection

**Available in 410 Stainless Steel** (see photo on left)

**Hex Head** style on Tapcon Anchors is available for majority of fixture anchoring needs
Patented underhead ribs prevent head snap

**Star Drive Flat Head** style is available when flush seating is necessary in countersink applications

**ThreadMax™ Technology*** cuts into concrete and masonry for reduced installation torque and while maintaining pullout performance

**Lengths** of Tapcon Anchors range from 1-1/4" to 3-1/4" in 3/16" and up to 6" in 1/4" diameters

**Nail-Type Point** guides the anchor into the pre-drilled hole. Excellent for wood to concrete applications

Tapcon® is a registered trademark of Buildex, a division of Illinois Tool Works, Inc.
* ThreadMax Technology applied to Blue ClimasealTM Tapcon

## CORROSION RESISTANCE

**Carbon Steel with Blue Climaseal™ Salt Spray Results (ASTM B117)**

720 Hours - 10% or less rust

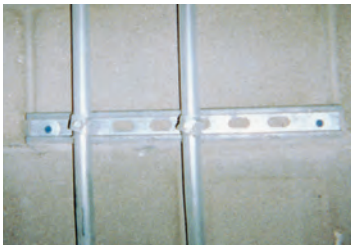
**410 Stainless Steel with Silver Climashield™ Salt Spray Results (ASTM B117)**

1,600 Hours - 5% or less rust

## APPLICATIONS



The Tapcon Anchor is especially well suited for window and door frames because it performs well in block, is available in a flat head style, and is fast to install.

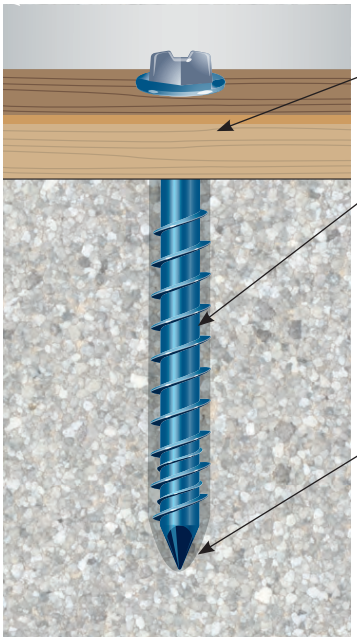


Many horizontal or "wall" applications are attached with Tapcon Anchor because it is removable and works well in block and brick.



The picture shows the Condrive Installation Kit in action. The kit makes for fast and easy change over from drill bit to driver and controls the driving torque to prevent thread stripping and head snapping in hard base materials.

## FEATURES



**Fixture Thickness**—determine the fixture thickness to be anchored

**Anchor Embedment**—with a minimum recommended embedment of 1", the correct Tapcon anchor choice can be made. Hole depth must be a minimum **1/4" deeper** than the anchor embedment to allow for displaced material

**Hole Diameter**—proper hole diameter is very important to insure consistent performance and maximum pullout strength. **3/16" anchors require 5/32" diameter Tapcon bits, and 1/4" anchors require 3/16" diameter Tapcon bits**

## APPROVAL/LISTINGS

**Blue Climaseal™**

ICC Evaluation Service, Inc. – ESR-2202 (Concrete)
IAPMO UES ER-994 (CMU)
Florida Building Code

**410 Stainless Steel**

Miami-Dade County NOA 26-0403.01
Florida Building Code

**For the most current approvals/listings visit: www.itwredhead.com**

## INSTALLATION STEPS

**Read installation instructions before using!**

**WARNING:** If there are any questions concerning proper installation, applications or appropriate use of this product, please call our Technical Services Department at 1-800-848-5611. Failure to follow these instructions can result in serious personal injury.

1. **Select proper fastener – diameter / head style / length.**
   a) **Use selection chart to choose proper length.**
2. **Drill Hole – use selection chart to determine drill bit length and depth of hole.**
   a) **Use 5⁄32" diameter Tapcon bit for 3⁄16" dia. Tapcon Anchor. Use 3⁄16" diameter Tapcon bit for 1⁄4" dia. Tapcon Anchor.**
   b) **Drill hole minimum 1⁄4" deeper than Tapcon Anchor to be embedded.**
   Minimum anchor embedment: 1"
   Maximum anchor embedment: 1¾"
3. **Drive Anchor using rotary (spin mode) drill.**

**WARNING:** Failure to wear safety glasses with side shields can result in serious personal injury. Always wear ANSI compliant eye protection (ANSI Z87.1-2003).

**WARNING:** Using the wrong size drill bit will affect performance values and may cause failure.

### Drive Styles

3/16" Hex uses 1/4" diameter drive socket
1/4" Hex uses 5/16" drive socket



3/16" Star uses T25 drive bit
1/4" Star uses T30 drive bit



## SELECTION CHART

### Tapcon® Anchors with ThreadMax

Diameter..... 3/16" and 1/4" Thread Form ..... ThreadMax™ Technology
Point Type..... Nail Finish ..... Blue Climaseal™
All boxes of Tapcon anchors come packaged with matching carbide-tipped bit. Tapcon is packaged 100 pieces per box and 500 pieces per master carton except 3205407 and 3203407V2 (400 in master carton).

| FIXTURE THICKNESS INCHES | RECOMMENDED TAPCON LENGTH | | PART NO. 3/16" HEX HEAD | PART NO. 1/4" HEX HEAD | PART NO. 3/16" FLAT HEAD | PART NO. 1/4" FLAT HEAD | BIT LENGTH | | STRAIGHT SHANK BITS FOR 3/16" TAPCON PART NO. | STRAIGHT SHANK BITS FOR 1/4" TAPCON PART NO. |
|---|---|---|---|---|---|---|---|---|---|---|
| | in. | (mm) | | | | | in. | (mm) | | |
| 0" – 1/4" | 1-1/4 | (31.8) | 3139407 | 3153407 | 3169407V2 | 3183407V2 | 3-1/2 | (88.9) | – | 3098910 |
| 1/4" – 3/4" | 1-3/4 | (44.5) | 3141407 | 3155407 | 3171407V2 | 3185407V2 | 3-1/2 | (88.9) | – | 3098910 |
| 3/4" – 1-1/4" | 2-1/4 | (57.2) | 3143407 | 3157407 | 3173407V2 | 3187407V2 | 4-1/2 | (114.3) | 3096910 | 3099910 |
| 1-1/4 " – 1-3/4" | 2-3/4 | (69.9) | 3145407 | 3159407 | 3175407V2 | 3189407V2 | 4-1/2 | (114.3) | 3096910 | 3099910 |
| 1-3/4" – 2-1/4" | 3-1/4 | (82.6) | 3147407 | 3161407 | 3177407V2 | 3191407V2 | 5-1/2 | (139.7) | 3097910 | 3100910 |
| 2-1/4" – 2-3/4" | 3-3/4 | (95.3) | – | 3163407 | – | 3193407V2 | 5-1/2 | (139.7) | 3097910 | 3100910 |
| 2-1/2" – 3" | 4 | (101.6) | – | 3165407 | – | 3195407V2 | 5-1/2 | (139.7) | 3097910 | 3100910 |
| 3-1/2" – 4" | 5 | (127.0) | – | 3167407 | – | 3197407V2 | 6-1/2 | (165.1) | – | – |
| 4-1/2" – 5" | 6 | (152.4) | – | 3205407 | – | 3203407V2 | 7-1/2 | (190.5) | – | – |

Additional Tapcon bits are available 10 per tube.

## SELECTION CHART

### Tapcon® 410 SS Anchor

Diameter..... 3/16" and 1/4" Thread Form.... Original Notched Hi-Lo™
Point Type.... Nail Finish..... 410 Stainless Steel with Silver Climashield™
All boxes of Tapcon anchors come packaged with matching carbide-tipped bit. Tapcon is packaged 100 pieces per box and 500 pieces per master carton.

| FIXTURE THICKNESS INCHES | RECOMMENDED TAPCON LENGTH | | PART NO. 1/4" HEX HEAD | PART NO. 3/16" FLAT HEAD | PART NO. 1/4" FLAT HEAD | BIT LENGTH | | STRAIGHT SHANK BITS FOR 3/16" TAPCON PART NO. | STRAIGHT SHANK BITS FOR 1/4" TAPCON PART NO. |
|---|---|---|---|---|---|---|---|---|---|
| | in. | (mm) | | | | in. | (mm) | | |
| 0" – 1/4" | 1-1/4 | (31.8) | 3367907 | – | 3373907 | 3-1/2 | (88.9) | – | 3098910 |
| 1/4" – 3/4" | 1-3/4) | (44.5) | 3368907 | 3418907 | 3374907 | 3-1/2 | (88.9) | – | 3098910 |
| 3/4" – 1-1/4" | 2-1/4 | (57.2) | 3369907 | 3419907 | 3375907 | 4-1/2 | (114.3) | 3096910 | 3099910 |
| 1-1/4 – 1-3/4" | 2-3/4 | (69.9 | 3370907 | 3420907 | 3376907 | 4-1/2 | (114.3) | 3096910 | 3099910 |
| 1-3/4" – 2-1/4" | 3-1/4 | (82.6) | 3371907 | – | 3377907 | 5-1/2 | (139.7) | 3097910 | 3100910 |
| 2-1/4" – 2-3/4" | 3-3/4 | (95.3) | 3372907 | – | 3378907 | 5-1/2 | (139.7) | 3097910 | 3100910 |
| 2-1/2" – 3" | 4 | (101.6) | – | – | – | 5-1/2 | (139.7) | – | 3100910 |
| 3-1/2" – 4" | 5 | (127.0) | 3460907 | – | – | 6-1/2 | (165.1) | – | – |
| 4-1/2" – 5" | 6 | (152.4) | – | – | – | 7-1/2 | (190.5) | – | – |

### Tapcon® SDS Bits

| PART NUMBER | DESCRIPTION |
|---|---|
| 3311910 | 7" (SDS Rotohammer Bits for use with 3/16" Tapcon) |
| 7901060 | 5" (SDS Rotohammer Bits for use with 1/4" Tapcon) |

All SDS bits are sold individually.

## PERFORMANCE TABLE

### Tapcon® Anchors

### *Ultimate Tension and Shear Values (lbs/kN) in Solid Concrete*

| ANCHOR DIA. | | MIN. DEPTH OF EMBEDMENT | | f'c = 2000 PSI (13.8 MPa) | | | | f'c = 3000 PSI (20.7 MPa) | | | | f'c = 4000 PSI (27.6 MPa) | | | | f'c = 5000 PSI (34.5 MPa) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TENSION | | SHEAR | | TENSION | | SHEAR | | TENSION | | SHEAR | | TENSION | | SHEAR | |
| in. | (mm) | in. | (mm) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) |
| 3/16 | (4.8) | 1 | (25.4) | 600 | (2.7) | 720 | (3.2) | 625 | (2.8) | 720 | (3.2) | 650 | (2.9) | 720 | (3.2) | 800 | (3.6) | 860 | (3.8) |
| | | 1-1/4 | (31.8) | 845 | (3.7) | 720 | (3.2) | 858 | (3.8) | 720 | (3.2) | 870 | (3.9) | 720 | (3.2) | 1,010 | (4.5) | 860 | (3.8) |
| | | 1-1/2 | (38.1) | 1,090 | (4.8) | 860 | (3.8) | 1,090 | (4.8) | 860 | (3.8) | 1,090 | (4.8) | 860 | (3.8) | 1,220 | (5.4) | 860 | (3.8) |
| | | 1-3/4 | (44.5) | 1,450 | (6.5) | 870 | (3.9) | 1,455 | (6.5) | 870 | (3.9) | 1,460 | (6.5) | 990 | (4.4) | 1,730 | (7.7) | 990 | (4.4) |
| 1/4 | (6.4) | 1 | (25.4) | 750 | (3.3) | 900 | (4.0) | 775 | (3.4) | 900 | (4.0) | 800 | (3.6) | 1,360 | (6.1) | 950 | (4.2) | 1,440 | (6.4) |
| | | 1-1/4 | (31.8) | 1,050 | (4.7) | 900 | (4.0) | 1,160 | (5.2) | 900 | (4.0) | 1,270 | (5.6) | 1,360 | (6.1) | 1,515 | (6.7) | 1,440 | (6.4) |
| | | 1-1/2 | (38.1) | 1,380 | (6.1) | 1,200 | (5.3) | 1,600 | (7.2) | 1,200 | (5.3) | 1,820 | (8.1) | 1,380 | (6.1) | 2,170 | (9.7) | 1,670 | (7.4) |
| | | 1-3/4 | (44.5) | 2,020 | (9.0) | 1,670 | (7.4) | 2,200 | (9.8) | 1,670 | (7.4) | 2,380 | (10.6) | 1,670 | (7.4) | 2,770 | (12.3) | 1,670 | (7.4) |

Safe working loads for single installation under static loading should not exceed 25% of the ultimate load capacity.

## PERFORMANCE TABLE

### Tapcon Anchors — Allowable Tension and Shear Values (lbs/kN) in Hollow Block

| ANCHOR DIAMETER | | ANCHOR EMBEDMENT | | LIGHTWEIGHT BLOCK | | | | MEDIUM WEIGHT BLOCK | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TENSION | | SHEAR | | TENSION | | SHEAR | |
| in. | (mm) | in. | (mm) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) | lbs. | (kN) |
| 3/16 | (4.8) | 1 | (25.4) | 40 | (0.18) | 95 | (0.42) | 65 | (0.29) | 135 | (0.60) |
| 1/4 | (6.4) | 1 | (25.4) | 45 | (0.20) | 100 | (0.44) | 105 | (0.47) | 160 | (0.71) |

The allowable load values are for screw anchors installed in the face shell in CMU that conform with ASTM C90 as lightweight, medium weight, or normal weight. Safety factor 5 was used to calculated Allowable Loads.
**NOTE:** 3/16" Tapcon requires 5/32" bit, 1/4" Tapcon requires 3/16" bit.

## PERFORMANCE TABLE

### Tapcon® Anchors — Allowable Edge and Spacing Distances

| PARAMETER | ANCHOR DIAMETER | | NORMAL WEIGHT CONCRETE | | | CONCRETE MASONRY UNITS (CMU) | | |
|---|---|---|---|---|---|---|---|---|
| | in. | (mm) | FULL CAPACITY (Critical Distance Inches) | REDUCED CAPACITY (Minimal Distance Inches) | LOAD REDUCTION FACTOR | FULL CAPACITY (Critical Distance Inches) | REDUCED CAPACITY (Minimal Distance Inches) | LOAD REDUCTION FACTOR |
| Spacing Between Anchors - Tension | 3/16<br>1/4 | (4.8)<br>(6.4) | 3<br>4 | 1-1/2<br>2 | 0.73<br>0.66 | 3<br>4 | 1-1/2<br>2 | 1.00<br>0.84 |
| Spacing Between Anchors - Shear | 3/16<br>1/4 | (4.8)<br>(6.4) | 3<br>4 | 1-1/2<br>2 | 0.83<br>0.82 | 3<br>4 | 1-1/2<br>2 | 1.00<br>0.81 |
| Edge Distance - Tension | 3/16<br>1/4 | (4.8)<br>(6.4) | 1-7/8<br>2-1/2 | 1<br>1-1/4 | 0.83<br>0.82 | 4<br>4 | 2<br>2 | 0.91<br>0.88 |
| Edge Distance - Shear | 3/16<br>1/4 | (4.8)<br>(6.4) | 2-1/4<br>3 | 1-1/8<br>1-1/2 | 0.70<br>0.59 | 4<br>4 | 2<br>2 | 0.93<br>0.80 |

For SI: 1 inch = 25.4 mm

# Tapcon® Condrive Tool Kit

## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Condrive Installation Tool—

**SPECIFIED FOR ANCHORAGE INTO CONCRETE, BRICK OR BLOCK**

The key to Tapcon's fast and easy installation is the multi-purpose Condrive Installation Tool. The drive sleeve, along with the hex head and phillips sockets provide the installer with the flexibility necessary for the complete variety of Tapcon applications (tool does not include drill bit).

Condrive® Tool - A multi-purpose tool designed for installation of Tapcon hex head and Phillips flat head anchors up to 3-3/4" long. If driving hex head Tapcon, driver will automatically disengage. The Condrive Tool has a reusable plastic case.

Condrive Tools are designed to specifically install Tapcon Anchors and to fit standard hammer drills.






Part No. 3103910
(Does not include drill bit)

## APPLICATIONS



The picture shows the Condrive Installation Kit in action. The kit makes for fast and easy change over from drill bit to driver and controls the driving torque to prevent thread stripping and head snapping in hard base materials.

## ADVANTAGES

- Fast change from drilling to driving
- Eliminates need to change out chucks and bits
- Eliminates need for two tools
- Special nut driver is recessed for torque control to reduce head breakage

| Condrive Tool Kit Parts (sold only as a kit) | |
|---|---|
| A | Drill Adapter |
| B | Sleeve |
| C | 3/16" Socket |
| D | 1/4" Socket |
| E | Phillips/Star Socket |
| F | Hex Key |
| G | T25 Star Drive Bit |
| H | T30 Star Drive Bit |
| I | #2 Phillips Drive Bit |
| J | #3 Phillips Drive Bit |



RED HEAD®
Call our toll free number **800-848-5611** or visit our web site for the most current product and technical information at **www.itwredhead.com**