

Tapcon[®] Concrete and Masonry Anchors

THE ORIGINAL
Tapcon



Blue Climaseal™



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 phillips flat head styles.
- Extended corrosion protection—Blue Climaseal™.
- Available in 410 Stainless Steel.

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

Phillips Flat Head style is available when flush seating is necessary in countersink applications

Advanced Threadform cuts into concrete and masonry for reduced installation torque and increased pullout performance

Lengths of Tapcon Anchors range from 1-1/4" to 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.

CORROSION RESISTANCE

Kesternich Results (DIN 40018 2.0L)

30 Cycles - 10% or less rust

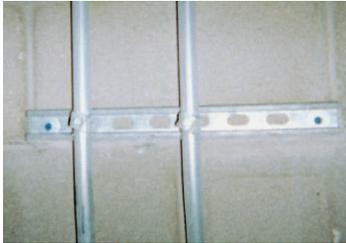
Salt Spray Results (ASTM B117)

720 Hrs - 10% 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.

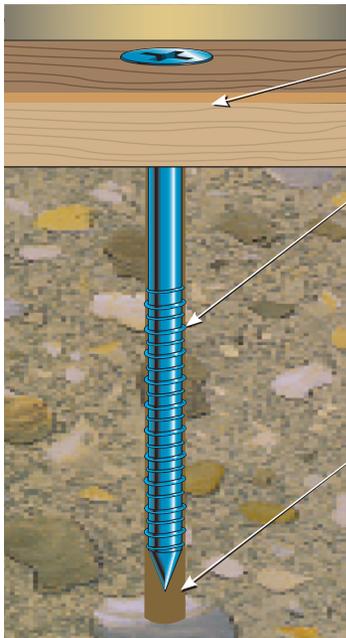


Many horizontal or "wall" applications are attached with Tapcon Anchor because it is removable and works well in block and brick.



The picture shows the Condrive 1000 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 bits, and 1/4" anchors require 3/16" diameter bits**

APPROVAL/LISTINGS

Blue Climaseal™

ICC Evaluation Service, Inc. – #ESR-1671

ICC Evaluation Service, Inc. – #ESR-2202

Miami-Dade County – #11-0616.05

Florida Building Code FL#7556.1

410 Stainless Steel

Miami-Dade County – #11-0616.05

Florida Building Code FL#7556.1

For the most current approvals/listings visit: www.itw-redhead.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 1-800-899-7890. 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) Choose appropriate drill of Tapcon Anchor.
 - b) Drill hole minimum 1/4" deeper than Tapcon Anchor to be embedded.
 - Minimum anchor embedment: 1"
 - Maximum anchor embedment: 1-3/4"
3. Drive Anchor.



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.

Head Styles

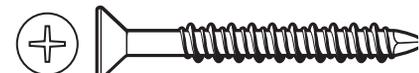
3/16" diameter has a 1/4" slotted hex washer head (HWH)

1/4" diameter has a 5/16" slotted hex washer head (HWH)



3/16" diameter uses a #2 phillips flat head (PFH)

1/4" diameter uses a #3 phillips flat head (PFH)



SELECTION CHARTS

Tapcon® Anchors with Blue Climaseal™

Diameter.....3/16" and 1/4" Thread Form.....Advanced Threadform Technology™
 Point Type.....Nail Finish.....Blue Climaseal™
 All boxes of ITW Tapcon come packaged with matching carbide-tipped bit. Tapcon is packaged 100 pieces per box and 500 pieces per master carton except HW4-600 and PF4-600 (400 in master carton).

FIXTURE THICKNESS INCHES	RECOMMENDED TAPCON LENGTH In. (mm)	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 In. (mm)	STRAIGHT SHANK BITS FOR 3/16" TAPCON PART NO.	STRAIGHT SHANK BITS FOR 1/4" TAPCON PART NO.
0" – 1/4"	1-1/4 (31.8)	HW3-114	HW4-114	PF3-114	PF4-114	3-1/2 (88.9)	7900814	7901014
1/4" – 3/4"	1-3/4 (44.5)	HW3-134	HW4-134	PF3-134	PF4-134	3-1/2 (88.9)	7900814	7901014
3/4" – 1-1/4"	2-1/4 (57.2)	HW3-214	HW4-214	PF3-214	PF4-214	4-1/2 (114.3)	7900818	7901018
1-1/4" – 1-3/4"	2-3/4 (69.9)	HW3-234	HW4-234	PF3-234	PF4-234	4-1/2 (114.3)	7900818	7901018
1-3/4" – 2-1/4"	3-1/4 (82.6)	HW3-314	HW4-314	PF3-314	PF4-314	5-1/2 (139.7)	7900822	7901022
2-1/4" – 2-3/4"	3-3/4 (95.3)	HW3-334	HW4-334	PF3-334	PF4-334	5-1/2 (139.7)	7900822	7901022
2-1/2" – 3"	4 (101.6)	HW3-400	HW4-400	PF3-400	PF4-400	5-1/2 (139.7)	7900822	7901022
3-1/2" – 4"	5 (127.0)	N/A	HW4-500	N/A	PF4-500	6-1/2 (165.1)	N/A	7901026
4-1/2" – 5"	6 (152.4)	N/A	HW4-600	N/A	PF4-600	7-1/2 (190.5)	N/A	7901030

Additional Tapcon bits are available 10 per tube.

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 Climaseal™
 All boxes of ITW Tapcon come packaged with matching carbide-tipped bit. Tapcon is packaged 100 pieces per box and 500 pieces per master carton except 3461907 (400 in master carton).

FIXTURE THICKNESS INCHES	RECOMMENDED TAPCON LENGTH In. (mm)	PART NO. 1/4" HEX HEAD	PART NO. 3/16" FLAT HEAD	PART NO. 1/4" FLAT HEAD	BIT LENGTH In. (mm)	STRAIGHT SHANK BITS FOR 3/16" TAPCON PART NO.	STRAIGHT SHANK BITS FOR 1/4" TAPCON PART NO.
0" – 1/4"	1-1/4 (31.8)	SHW4-114	3434907	SPF4-114	3-1/2 (88.9)	7900814	7901014
1/4" – 3/4"	1-3/4 (44.5)	SHW4-134	3418907	SPF4-134	3-1/2 (88.9)	7900814	7901014
3/4" – 1-1/4"	2-1/4 (57.2)	SHW4-214	3419907	SPF4-214	4-1/2 (114.3)	7900818	7901018
1-1/4" – 1-3/4"	2-3/4 (69.9)	SHW4-234	3420907	SPF4-234	4-1/2 (114.3)	7900818	7901018
1-3/4" – 2-1/4"	3-1/4 (82.6)	SHW4-314	3421907	SPF4-314	5-1/2 (139.7)	7900822	7901022
2-1/4" – 2-3/4"	3-3/4 (95.3)	SHW4-334	3322907	SPF4-334	5-1/2 (139.7)	7900822	7901022
2-1/2" – 3"	4 (101.6)	3459907	N/A	N/A	5-1/2 (139.7)	N/A	3100910
3-1/2" – 4"	5 (127.0)	3460907	N/A	N/A	6-1/2 (165.1)	N/A	3102910
4-1/2" – 5"	6 (152.4)	3461907	N/A	N/A	7-1/2 (190.5)	N/A	3461907

Tapcon® SDS Bits

PART NUMBER	DESCRIPTION
790059	7" (SDS Rotohammer Bits for use with 3/16" Tapcon)
7901060	5" (SDS Rotohammer Bits for use with 1/4" Tapcon)
7901059	7" (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 Concrete

ANCHOR DIA. In. (mm)	MIN. DEPTH OF EMBEDMENT In. (mm)	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 Lbs. (kN)	SHEAR 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 TABLES

Tapcon® Anchors

Ultimate Tension and Shear Values (Lbs/kN) in Hollow Block

ANCHOR DIA. In. (mm)	ANCHOR EMBEDMENT In. (mm)	LIGHTWEIGHT BLOCK		MEDIUM WEIGHT BLOCK	
		TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/16 (4.8)	1 (25.4)	220 (1.0)	400 (1.8)	340 (1.5)	730 (3.2)
1/4 (6.4)	1 (25.4)	250 (1.1)	620 (2.8)	500 (2.2)	1,000 (4.4)

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

NOTE: 3/16" Tapcon requires 5/32" bit, 1/4" Tapcon requires 3/16" bit.

Tapcon® Anchors

Allowable Edge and Spacing Distances

PARAMETER	ANCHOR DIA. In. (mm)	NORMAL WEIGHT CONCRETE			CONCRETE MASONRY UNITS (CMU)		
		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	3	1-1/2	0.73	3	1-1/2	1.00
	1/4	4	2	0.66	4	2	0.84
Spacing Between Anchors - Shear	3/16	3	1-1/2	0.83	3	1-1/2	1.00
	1/4	4	2	0.82	4	2	0.81
Edge Distance - Tension	3/16	1-7/8	1	0.83	4	2	0.91
	1/4	2-1/2	1-1/4	0.82	4	2	0.88
Edge Distance -Shear	3/16	2-1/4	1-1/8	0.70	4	2	0.93
	1/4	3	1-1/2	0.59	4	2	0.80

For SI: 1 inch = 25.4 mm

Tapcon® Condrive 1000 Tool Kit

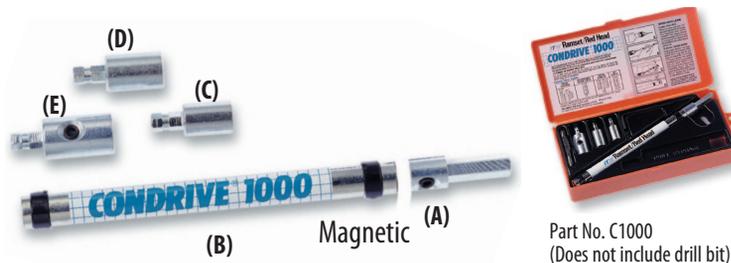
DESCRIPTION/SUGGESTED SPECIFICATIONS

Condrive 1000 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® 1000 - 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 1000 has a reusable plastic case.

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



APPLICATIONS



The picture shows the Condrive 1000 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 1000 Spare Parts

PART NO.	DESCRIPTION	QTY/WT
(A) 7901001	Drill Adapter	1/.06
(B) 7901002	Sleeve	1/.01
(C) 7901006	3/16" Socket	1/.04
(D) 7901007	1/4" Socket	1/.05
(E) 7901010	Phillips Socket	1/.44