

Tapcon[®]

Concrete and
Masonry Anchors



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
- Excellent corrosion protection—Climaseal™ coated
- Available in 410 Stainless Steel

Tapcon Anchors



Hex Head style on Tapcon Anchors is available for majority of fixture anchoring needs

Climaseal™ Coating is standard on all Tapcon anchors to provide extended corrosion resistance

Now available in 410 Stainless Steel

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

Advanced Threadform cuts into masonry materials for greater pullout values

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 Starter Kit

Starter Kit

Part Number: 7904050

Kit Contains:

- 1 Box HW4-114 (includes 1 drill bit)
- 1 Box HW4-134 (includes 1 drill bit)
- 1 Condrive 1000

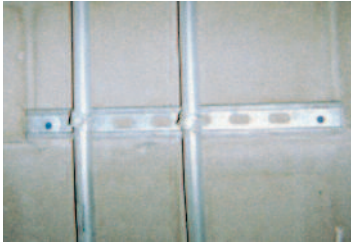


Tapcon® is a registered trademark of Buildex, a division of Illinois Tool Works, Inc.

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.

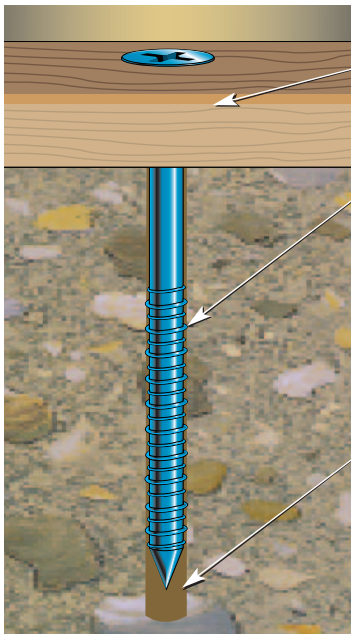


Many horizontal or “wall” applications are attached with Tapcon Anchor because it is removable and works well in block and brick.



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

APPROVALS/LISTINGS

ICC Evaluation Service, Inc. — #ESR-1671

ICC Evaluation Service, Inc. — #ESR-2202

Miami-Dade County – #07-0315.03

Florida Building Code

INSTALLATION STEPS

Read instructions before using (installation)!



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 bit based upon diameter 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).



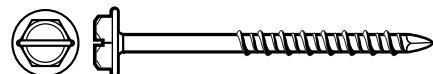
WARNING:

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 CHART

Tapcon® Anchors

PART NO. 3/16" HEX HEAD	PART NO. 1/4" HEX HEAD	PART NO. 3/16" FLAT HEAD	PART NO. 1/4" FLAT HEAD	RECOMMENDED TAPCON LENGTH In. (mm)	FIXTURE THICKNESS INCHES	BIT LENGTH In. (mm)	BITS FOR 3/16" TAPCON PART NO.	BITS FOR 1/4" TAPCON PART NO.	BITS FOR 3/16" SDS BIT NO.	BITS FOR 1/4" SDS BIT NO.
HW3-114	HW4-114	PF3-114	PF4-114	1-1/4 (31.8)	0" - 1/4"	3-1/2 (88.9)	7900814	7901014	----	----
HW3-134	HW4-134	PF3-134	PF4-134	1-3/4 (44.5)	1/4" - 3/4"	3-1/2 (88.9)	7900814	7901014	----	----
HW3-214	HW4-214	PF3-214	PF4-214	2-1/4 (57.2)	3/4" - 1-1/4"	4-1/2 (114.3)	7900818	7901018	----	----
HW3-234	HW4-234	PF3-234	PF4-234	2-3/4 (69.9)	1-1/4" - 1-3/4"	4-1/2 (114.3)	7900818	7901018	----	----
HW3-314	HW4-314	PF3-314	PF4-314	3-1/4 (82.6)	1-3/4" - 2-1/4"	5-1/2 (139.7)	7900822	7901022	----	----
HW3-334	HW4-334	PF3-334	PF4-334	3-3/4 (95.3)	2-1/4" - 2-3/4"	5-1/2 (139.7)	7900822	7901022	----	----
HW3-400	HW4-400	PF3-400	PF4-400	4 (101.6)	2-1/2" - 3"	5-1/2 (139.7)	7900822	7901022	----	----
----	HW4-500	----	PF4-500	5 (127.0)	3-1/2" - 4"	6-1/2 (165.1)	----	7901026	----	7901060
----	HW4-600	----	PF4-600	6 (152.4)	4-1/2" - 5"	7-1/2 (190.5)	----	7901030	790059	7901059

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).

SELECTION CHART

Tapcon® Stainless Steel Anchors

PART NO. 1/4" HEX HEAD	PART NO. 1/4" FLAT HEAD	RECOMMENDED TAPCON LENGTH In. (mm)	FIXTURE THICKNESS INCHES	BIT LENGTH In. (mm)	DRILL BIT PART NO.
SHW4-114	SPF4-114	1-1/4 (31.8)	0" - 1/4"	3-1/2 (88.9)	7901014
SHW4-134	SPF4-134	1-3/4 (44.5)	1/4" - 3/4"	3-1/2 (88.9)	7901014
SHW4-214	SPF4-214	2-1/4 (57.2)	3/4" - 1-1/4"	4-1/2 (114.3)	7901018
SHW4-234	SPF4-234	2-3/4 (69.9)	1-1/4" - 1-3/4"	4-1/2 (114.3)	7901018
SHW4-314	SPF4-314	3-1/4 (82.6)	1-3/4" - 2-1/4"	5-1/2 (139.7)	7901022
SHW4-334	SPF4-334	3-3/4 (95.3)	2-1/4" - 2-3/4"	5-1/2 (139.7)	7901022

SELECTION CHART

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)

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)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)	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 TABLE

**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.

PERFORMANCE TABLE

**Tapcon®
Anchors**

Allowable Edge and Spacing Distances

PARAMETER	ANCHOR DIA. Inch	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
Edge Distance - Tension	3/16	1-7/8	1	0.71	4	2	0.91
	1/4	2-1/2	1-1/4	0.78	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
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

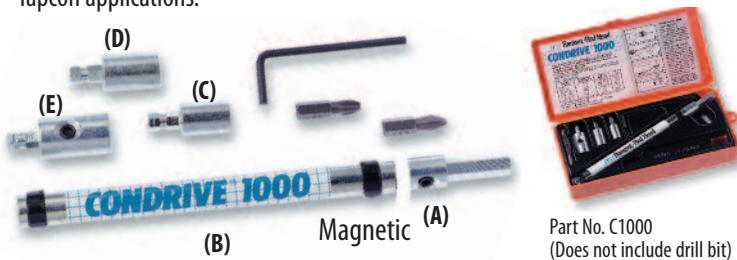
For SI: 1 inch = 25.4 mm

Tapcon® Condrive 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.



Part No. C1000
(Does not include drill bit)

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
- Includes bits for all sizes hex and phillips head

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.

Condrive 1000 Spare Parts

PART NO.	DESCRIPTION	QTY/WT
(A) 7901001	Drill Adapter	1/.06
(B) 7901002	Sleeve	1/.01
7901003	Black Band	1/.02
7901004	5/32" Ball Bearing	1/.02
(C) 7901006	3/16" Socket	1/.04
(D) 7901007	1/4" Socket	1/.05
7901008	#2 Phillips bit for 3/16" anchor	1/.10
7901009	#3 Phillips bit for 1/4" anchor	1/.12
(E) 7901010	Phillips Socket	1/.44
7902006	Set Screw	1/.02
7902008	1/16" Ball Bearing	1/.02
7902010	1/8" Hex Key	1/.10

(Note: 1 matching bit is included in each box of Tapcon anchors. For part numbers see selection chart on page 85.)