Tapcon Screw Anchor - Technical Data

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 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 Maxi-Set Anchor - Technical Data

PERFORMANCE TABLES

Tapcon® Maxi - Set 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)
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. Divide by 4

Tapcon® Maxi-Set 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)
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. Divide by 4.

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

Tapcon® Maxi-Set 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	1/4	4	2	0.66	4	2	0.84
Spacing Between Anchors - Shear	1/4	4	2	0.82	4	2	0.81
Edge Distance - Tension	1/4	2-1/2	1-1/4	0.82	4	2	0.88
Edge Distance -Shear	1/4	3	1-1/2	0.59	4	2	0.80

For SI: 1 inch = 25.4 mm

Tapcon SCOTS Screw Anchor - Technical Data

PERFORMANCE TABLES

Tapcon® SCOTS 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)
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.

Tapcon® SCOTS Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Hollow Concrete Masonry Units

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)
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® SCOTS 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	1/4	4	2	0.66	4	2	0.84
Spacing Between Anchors - Shear	1/4	4	2	0.82	4	2	0.81
Edge Distance - Tension	1/4	2-1/2	1-1/4	0.82	4	2	0.88
Edge Distance -Shear	1/4	3	1-1/2	0.59	4	2	0.80

For SI: 1 inch = 25.4 mm

Tapcon XL Screw Anchor - Technical Data

PERFORMANCE TABLES

Tapcon® XL Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Concrete

ANCHOR DIA. In. (mm)	MIN. DEPTH OF EMBEDMENT In. (mm)	EDGE DISTANCE	f'c = 3000 PSI (20.7 MPa)	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)
5/16 (7.9)	1-1/4 (31.8)	1-9/16 (39.7)	1,050 (4.7)	1,330 (5.9)
		2-3/16 (55.6)	1,205 (5.4)	1,725 (7.7)
	1-3/4 (44.5)	1-9/16 (39.7)	2,020 (9.0)	1,530 (6.8)
		2-3/16 (55.6)	2,250 (10.0)	2,505 (11.1)
	2-1/4 (57.2)	1-9/16 (39.7)	2,850 (12.7)	1,955 (8.9)
		2-3/16 (55.6)	3,120 (13.9)	3,250 (14.4)

Safe working loads for single installation under static loading should not exceed 25% of the ultimate load capacity. Divide by 4.

1. Pilot hole diameter shall be 0.263" and drilled 1/4" longer than the necessary embedment.
2. Allowable loads are based ultimate test load divide by 4.
3. Recommended center to center distance of 3-3/4" is required for 100% efficiency and 1-7/8" for 50% efficiency.
4. Embedment is through 1-1/4" face shell of hollow block.

Tapcon® XL Anchors — Ultimate Tension & Shear Values in Concrete Masonry Units

ANCHOR DIA. In. (mm)	MINIMUM DEPTH OF EMBEDMENT In. (mm)	EDGE DISTANCE (Inches)	HOLLOW CORE[1]		GROUT-FILLED[2]	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
5/16 (7.9)	1-1/4 (31.8)	4	1,045 (4.6)	2,280 (10.1)	1,045 (4.6)	2,280 (10.1)
	1-3/4 (44.5)	4	NOT RECOMMENDED	NOT RECOMMENDED	1,950 (8.7)	2,825 (12.6)
	2-1/4 (57.2)	4	NOT RECOMMENDED	NOT RECOMMENDED	3,770 (16.8)	3,140 (14.0)

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

1 CMU = 1,600 PSI minimum compressive strength.

2 CMU = 1,600 PSI minimum compressive strength with 2,000 PSI grout.

Tapcon Storm Guard Screw Anchor - Technical Data

PERFORMANCE TABLES

Tapcon® Storm Guard Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Concrete

ANCHOR DIA. In. (mm)	MIN. DEPTH OF EMBEDMENT In. (mm)	EDGE DISTANCE	f'c = 3000 PSI (20.7 MPa)	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)
1/4 (6.4)	1 (25.4)	1-1/4 (31.8)	1,230 (5.5)	1,339 (6.0)
	1 (25.4)	2-1/2 (63.5)	1,701 (7.6)	2,333 (10.4)
	1-3/4 (44.5)	1-1/4 (31.8)	2,704 (12.0)	1,375 (6.1)
	1-3/4 (44.5)	2-1/2 (63.5)	2,844 (12.6)	2,618 (11.6)

Safe working loads for single installation under static loading should not exceed 25% of the ultimate load capacity. Divide by 4.

Tapcon® Storm Guard Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Hollow Concrete Masonry Units

ANCHOR DIA. In. (mm)	MIN. DEPTH OF EMBEDMENT In. (mm)	EDGE DISTANCE	f'c = 1500 PSI (10.4 MPa)	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)
1/4 (6.4)	1-1/4 (31.8)	1-1/4 (31.8)	1,955 (8.7)	536 (2.4)
	1-1/4 (31.8)	2-1/2 (63.5)	1,940 (8.6)	1,088 (4.8)

Tapcon® Storm Guard Anchors — Ultimate Tension and Shear Values (Lbs/kN) in Grout-Filled (CMU)

ANCHOR DIA. In. (mm)	MIN. DEPTH OF EMBEDMENT In. (mm)	EDGE DISTANCE	GROUT-FILLED (CMU) f'c = 2000 PSI (13.8 MPa)	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)
1/4 (6.4)	1-3/4 (44.5)	1-1/4 (31.8)	3,335 (14.8)	1,207 (5.4)
	1-3/4 (44.5)	2-1/2 (63.5)	3,779 (16.8)	2,061 (9.2)