



HEX HEAD AND COUNTERSUNK

TDS | 1014.3

Phillips #2 Countersunk Head

Flanged Hex Head

5MM | 6.5MM

6.5MM

Hex Head
Carbon Steel
Ruspert Coated

Countersunk
Carbon Steel
Ruspert Coated

Grabcon® Hex Head & Countersunk

■ STEP SHANK BIT included in each box of Grabcons

Grabcon® is part of ICCONS® concrete and masonry screw family, coated in a ruspert protective coating and available in a flanged Hex Head or Phillips #2 Countersunk Head styles, these fasteners are ideal for light to medium duty applications when fastening into concrete, brick & block.



GAL EXTERNAL USE



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Part No.	Drive	Part No.	Drive	Description	Inches	mm	mm	qty	qty
		GCCSK05032	PH2	5 x 32 Masonry Screw (3/16 x 1-1/4")	*5/32"	25	5	100	2500
		GCCSK05045	PH2	5 x 45 Masonry Screw (3/16 x 1-3/4")				100	2500
		GCCSK05058	PH2	5 x 58 Masonry Screw (3/16 x 2-1/4")				100	1600
		GCCSK05070	PH2	5 x 70 Masonry Screw (3/16 x 2-3/4")				100	1000
GCHX65032	Hex 5/16	GCCSK65032	PH3	6.5 x 32 Masonry Screw (1/4 x 1-1/4")	*3/16"	25	6.5	100	2500
GCHX65045	Hex 5/16	GCCSK65045	PH3	6.5 x 45 Masonry Screw (1/4 x 1-3/4")				100	1600
GCHX65058	Hex 5/16	GCCSK65058	PH3	6.5 x 58 Masonry Screw (1/4 x 2-1/4")				100	1000
GCHX65070	Hex 5/16	GCCSK65070	PH3	6.5 x 70 Masonry Screw (1/4 x 2-3/4")				100	1000
GCHX65083	Hex 5/16	GCCSK65083	PH3	6.5 x 83 Masonry Screw (1/4 x 3-1/4")				100	600
GCHX65100	Hex 5/16	GCCSK65100	PH3	6.5 x 100 Masonry Screw (1/4 x 4")				100	600

* Drill Bit included in each box.

Grabcon® SDS Plus 3 Cutter, Imperial Hammer Drill Bit



NEW

Also available



Part No.	Description	Inches	mm	mm	mm	qty
GCSDS532	5/32" x 100 / 170 - 3 Cutter for 5mm Grabcon Anchors	5/32"	170	5	100	1
GCSDS316	3/16" x 150 / 220 - 3 Cutter for 6.5mm Grabcon Anchors	3/16"	220	6.5	150	1

Information contained in this technical document is based on testing by the manufacturer and should be reviewed and approved by a design professional responsible for the given application. For safety critical fastening applications designed in accordance with SA TS 101:2015, please refer to the Iccons website for a complete suite of compliant post-installed chemical and mechanical anchoring products.



MATERIAL SPECIFICATIONS

GRABCON® Hex Head Masonry Screw



Anchor Size	6.5mm
Drill Size	3/16"
Fixture Clearance Hole	8mm
Socket Size	5/16"
Flanged Hex Head O.D.	10.6mm
Coating	ruspert protective coating (1000hrs SST)

GRABCON® Countersunk Masonry Screw



Anchor Size	5mm	6.5mm
Drill Size	5/32"	3/16"
Fixture Clearance Hole	6.5mm	8mm
Phillips Bit Size	2	3
Countersunk Head O.D.	10mm	13mm
Countersunk Head height	3.6mm	5mm
Coating	ruspert protective coating (1000hrs SST)	ruspert protective coating (1000hrs SST)

RECOMMENDED LOADS

Anchor (d) Size (mm)	Drill Size (inches)	Anchor Depth (mm)	(N _{rec})			(V _{rec})		
			TENSION (kN)			SHEAR (kN)		
			Concrete Block 10MPa (kN)	Brickwork 15MPa (kN)	Concrete 32MPa (kN)	Concrete Block 10MPa (kN)	Brickwork 15MPa (kN)	Concrete 32MPa (kN)
5	5/32"	25	1.0	1.0	1.1	1.5	1.6	1.7
		32	1.2	1.8	1.6	1.7	1.8	1.9
		38	1.6	2.0	1.8	1.9	2.0	1.9
		45	2.0	2.2	2.3	2.1	2.2	2.0
6.5	3/16"	25	1.2	1.6	1.4	1.9	2.8	2.5
		32	1.4	1.9	2.4	2.1	3.0	3.3
		38	1.8	2.2	2.8	2.4	3.2	3.4
		45	2.1	2.3	3.6	2.8	3.5	3.6

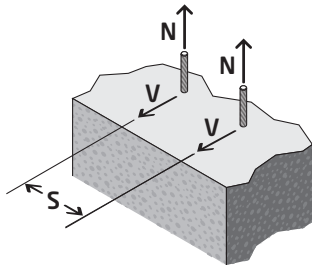
Note: The above performance information incorporates a safety factor of 3. All loads relate to a single anchor remote from an edge. Spacing 12d (Min.) and Edge Distance 12d (Min.).

Limit State Design - Multiply the above loads by 1.8 to determine the Limit State Design capacities.



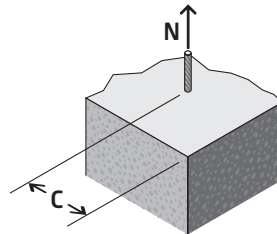
USING THE REDUCTION FACTORS

SPACING - TENSION & SHEAR (S)



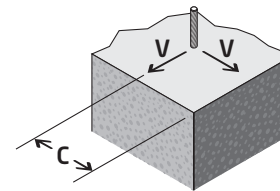
To achieve published tension and shear loads the anchors should be installed at least 12 x the anchor drill diameter between each other. If spacing between anchors is closer than 12 x the anchor drill diameter apply appropriate reduction factor as outlined in the SPACING TABLE to the published load to ascertain the reduced load.

EDGE DISTANCE - TENSION (C)



To achieve published tension loads the anchors should be installed at least 8 x the anchor drill diameter from a concrete edge. If edge distance is closer than 8 x the anchor drill diameter apply the appropriate reduction factor as outlined in the EDGE DISTANCE TENSION TABLE to the published load to ascertain the reduced load.

EDGE DISTANCE - SHEAR (C)



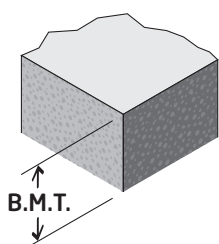
To achieve published shear loads the anchors should be installed at least 12 x the anchor drill diameter from a concrete edge. If edge distance is closer than 12 x the anchor drill diameter apply the appropriate reduction factor as outlined in the EDGE DISTANCE SHEAR TABLE to the published load to ascertain the reduced load.

Reduction Factors

Diameter (d)	Anchor Size (mm)		REDUCTION FACTORS			
	4 (5/32")	5 (3/16")	SPACING (S)		EDGE DISTANCE (C)	
			TENSION S_t	SHEAR S_s	TENSION C_t	SHEAR C_s
4(d)	16	20	0.50	0.75	0.76	0.24
5(d)	20	25	0.56	0.78	0.82	0.34
6(d)	24	30	0.63	0.81	0.88	0.43
7(d)	28	35	0.69	0.84	0.94	0.53
8(d)	32	40	0.75	0.88	1.00	0.62
9(d)	36	45	0.81	0.91		0.72
10(d)	40	50	0.88	0.94		0.81
11(d)	44	55	0.94	0.97		0.91
12(d)	48	60	1.00	1.00		1.00

Base Material Thickness

Base material thickness should be 1.5 x h_{embed} , or a minimum of 75mm, always use the greater of the two values.



Combined Tension & Shear Loading

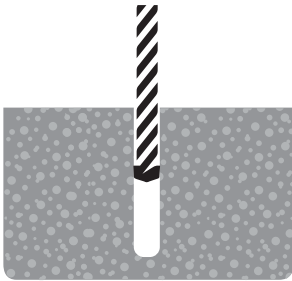
For combined tension and shear load applications the following equations shall be satisfied;
 $N_{applied} / N_{rec} \leq 1$ $V_{applied} / V_{rec} \leq 1$ $(N_{applied} / N_{rec}) + (V_{applied} / V_{rec}) \leq 1.2$

Where:

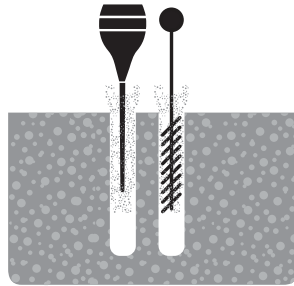
- $N_{applied}$ = Applied Tension Load
- N_{rec} = Recommended Tension Load
- $V_{applied}$ = Applied Shear Load
- V_{rec} = Recommended Shear Load



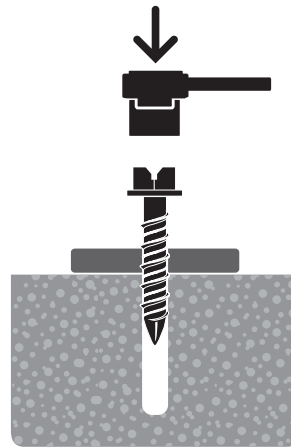
HEX HEAD INSTALLATION



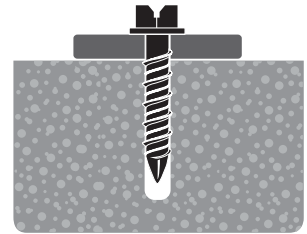
With the correct diameter drill bit, drill a hole to the depth of at least one diameter of the anchor deeper than required embedment.



Clean dust and other material from the hole.



Install with either a socket or cordless impact driver. Apply pressure against the fixing and rotate to engage the first thread.

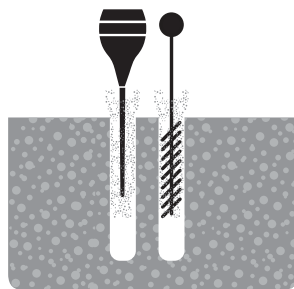


Continue to tighten the anchor until hex head is firmly seated against fixture. Installation complete!

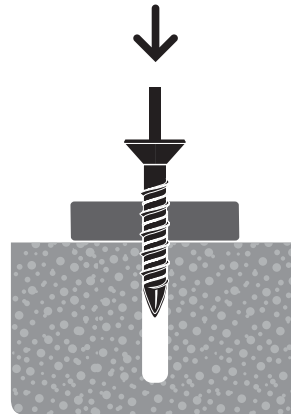
COUNTERSUNK HEAD INSTALLATION



With the correct diameter drill bit, drill a hole to the depth of at least one diameter of the anchor deeper than required embedment.



Clean dust and other material from the hole.



Install with either a socket hex driver or cordless impact driver. Apply pressure against the fixing and rotate to engage the first thread.



Continue to tighten the anchor until countersunk head is firmly seated against fixture. Installation complete!