



PRODUCT DATASHEET

SELF TAPPING MASONRY SCREW



Product Details

Designed for:	<i>Fixing timber battens, trunking, track and general components into concrete and masonry</i>
Head style:	<i>Countersunk or slotted hexagonal</i>
Drive bit:	<i>Phillips 2 / Phillips 3 and 5/16 hex for slotted hex head</i>
Drill point:	<i>Nail point</i>
Coating:	<i>500hr Evoshield®</i>
Shank material:	<i>Carbon steel</i>
Material grade:	<i>AISI C1022</i>

Self tapping masonry screw with countersunk head

Product Code	Size	Fixture Thickness	Pilot Hole
MSCSK4.8-32-2	4.8 x 32.0mm	0.0 – 7.0mm	4.35mm
MSCSK4.8-45-2	4.8 x 45.0mm	5.0 – 20.0mm	4.35mm
MSCSK4.8-57-2	4.8 x 57.0mm	17.0 – 32.0mm	4.35mm
MSCSK4.8-70-2	4.8 x 70.0mm	30.0 – 45.0mm	4.35mm
MSCSK4.8-82-2	4.8 x 82.0mm	42.0 – 57.0mm	4.35mm
MSCSK4.8-100-2	4.8 x 100.0mm	60.0 – 75.0mm	4.35mm
MSCSK6.3-32-3	6.3 x 32.0mm	0.0 – 7.0mm	5.15mm
MSCSK6.3-45-3	6.3 x 45.0mm	5.0 – 20.0mm	5.15mm
MSCSK6.3-57-3	6.3 x 57.0mm	17.0 – 32.0mm	5.15mm
MSCSK6.3-70-3	6.3 x 70.0mm	30.0 – 45.0mm	5.15mm
MSCSK6.3-82-3	6.3 x 82.0mm	42.0 – 57.0mm	5.15mm
MSCSK6.3-100-3	6.3 x 100.0mm	60.0 – 75.0mm	5.15mm
MSCSK6.3-125-3	6.3 x 125.0mm	85.0 – 100.0mm	5.15mm

Self tapping masonry screw with slotted hex head

Product Code	Size	Fixture Thickness	Pilot Hole
MSHH6.3-32-516	6.3 x 32.0mm	0.0 – 7.0mm	5.15mm
MSHH6.3-45-516	6.3 x 45.0mm	5.0 – 20.0mm	5.15mm
MSHH6.3-57-516	6.3 x 57.0mm	17.0 – 32.0mm	5.15mm
MSHH6.3-70-516	6.3 x 70.0mm	30.0 – 45.0mm	5.15mm
MSHH6.3-82-516	6.3 x 82.0mm	42.0 – 57.0mm	5.15mm
MSHH6.3-100-516	6.3 x 100.0mm	55.0 – 75.0mm	5.15mm

NOTE: The results expressed in the datasheet are taken as mean loads from a range of empirical tests and are ultimate unfactored loads. Each specifier or end user should make his/ her own decision on what safety factors to use relevant to their design application (such as BS 5950, EN 1991, etc).

Errors and Omissions Excepted.

Copyright © 2017 Evolution Fasteners (UK) Ltd. All rights reserved.



Technical Data

Characteristic Pull Out Loads								
Embedment Depth	C30/37 concrete		7.3 N/mm ² Masonry Block		17.5N/mm ² Masonry Bloc		C40/50 Precast Concrete	
	4.8mm	6.3mm	4.8mm	6.3mm	4.8mm	6.3mm	4.8mm	6.3mm
25.0mm	0.63kN	1.4kN	0.33kN	0.50kN	0.38kN	0.63kN	n/a	n/a
30.0mm	0.83kN	1.75kN	0.38kN	0.63kN	0.43kN	0.75kN	1.05kN	2.43kN
35.0mm	1.05kN	2.20kN	0.58kN	0.75kN	0.50kN	1.00kN	1.25kN	2.55kN
40.0mm	1.30kN	2.75kN	0.80kN	1.00kN	0.63kN	1.18kN	n/a	n/a

Ultimate Pull Out Values								
Embedment Depth	C30/37 concrete		7.3 N/mm ² Masonry Block		17.5N/mm ² Masonry Bloc		C40/50 Precast Concrete	
	4.8mm	6.3mm	4.8mm	6.3mm	4.8mm	6.3mm	4.8mm	6.3mm
25.0mm	2.3kN	2.6kN	1.3kN	2.0kN	1.4kN	1.8kN	n/a	n/a
30.0mm	4.3kN	4.9kN	1.5kN	2.5kN	2.0kN	2.3kN	4.0kN	9.7kN
35.0mm	5.2kN	6.4kN	2.3kN	3.0kN	2.8kN	3.1kN	5.0kN	10.2kN
40.0mm	6.1kN	7.6kN	3.2kN	4.0kN	4.9kN	5.4kN	n/a	n/a

Hardness Rating (Vickers scale)		
Diameter	Surface Hardness	Core Hardness
4.8mm	630.0HV	430.0HV
6.3mm	610.0HV	440.0HV

Ultimate mechanical performance		
Diameter	Tensile Strength	Shear Strength
4.8mm	10.8kN	13.0kN
6.3mm	12.9kN	16.2kN

Influence of Concrete Strength on Performance									
Concrete Strength (as per BS EN 206-1:2000)	Screw Diameter	Nominal Embedment Depth	Concrete Grade						
			C20/25	C25/30	C30/37	C35/45	C40/50	C50/60	>C50/60
C30/37	4.8mm	35.0mm	0.70	1.00	1.00	1.10	1.15	1.20	1.25
	6.3mm		0.70	1.00	1.05	1.15	1.25	1.40	1.50

Advanced Setting Data			
Substrate Type	Category	Screw diameter	
		4.8mm	6.3mm
n/a	Nominal embedment depth	35.0mm	
Non cracked concrete (>30N/mm²)	Minimum base material thickness	100.mm	
	Minimum screw spacing	50.0mm	55.0mm
	Minimum edge distance		
Cracked concrete (>30N/mm²)	Minimum base material thickness	100.0mm	
	Minimum screw spacing	50.0mm	40.0mm
	Minimum edge distance		55.0mm

Influence of Edge Distance on Performance										
Percentage of Stated Minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Reduction Factor	0.45	0.55	0.65	0.70	0.70	0.75	0.80	0.85	0.90	1.0

Influence of Anchor Spacing on Performance										
Percentage of Stated Minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Reduction Factor	0.45	0.55	0.65	0.70	0.70	0.75	0.80	0.85	0.90	1.0

ABOUT OUR TESTING



7485

All test results were derived from empirical testing performed by ETAS (Evolution Testing & Analytical Services), a UKAS (United Kingdom Accreditation Service) accredited testing laboratory (Accreditation No. 7485). The following tests were performed to the following standards.

Testing Procedures

Test/ Parameter	Standard/ Method/ Procedure
Ultimate Tensile	ISO 6892-1: 2009 <i>"Metallic materials – tensile testing – Part 1: Method of test at room temperature".</i>
Ultimate Shear	MIL-STD-1312-13 <i>"Military Standard: Fastener test method (Method 13) Double shear test".</i>
Pull Out (Withdrawal Force)	EN 14566: 2009 <i>"Mechanical fasteners for gypsum plasterboard systems. Definitions, requirements and test methods".</i>
Pull Over	EN 14592: 2008 <i>"Timber structures. Dowel type fasteners. Requirements".</i>
Hardness	ISO 650 7-1: 2005 <i>"Metallic materials – Vickers hardness test – Part 1: Test method".</i>
Corrosion Resistance	EN ISO 9227: 2012 <i>"Corrosion tests in artificial atmospheres. Salt spray tests".</i>
Drilling Time Test	EN 14566: 2009 <i>"Mechanical fasteners for gypsum plasterboard systems. Definitions, requirements and test methods".</i>

Laboratory Contact Details

Evolution Testing & Analytical Services

Units 2A & 2B Clyde Gateway Trade Park
Dalmarnock Road
Rutherglen
South Lanarkshire
G73 1AN

T: (0141) 643 4125

F: (0141) 647 5100

E: sales@etasuk.com