

MS4737M
Self Tapping Masonry Screw 4.7mm x 37mm & washers



Product Details

Designed for: Fixing of Firefly clips to trunking, timber track and general components into concrete and masonry.
 Head style: Countersunk
 Drive bit: Phillips 2
 Drill point: Nail point
 Coating: 500hr Evoshield®
 Shank material: Carbon steel
 Material grade: AISI C1022



Size	Fixture Thickness mm	Minimum Drill Depth mm	Minimum Embedment Depth mm	Pilot Hole mm
4.7 x 37mm	5.0 – 20.0	35.0	25.0	4.35

Characteristic pull out loads				
Embedment depth mm	35N /mm ² concrete kN	Common masonry kN	Dense block kN	Hollow block kN
25	2.3	1.3	1.4	n/a
30	4.3	1.5	2.0	5.0
35	5.2	2.3	2.8	5.4
40	6.1	3.2	4.9	n/a

Hardness Rating (Vickers scale)	
Surface Hardness HV	Core Hardness HV
630.0	430.0

Ultimate mechanical performance	
Tensile Strength kN	Shear Strength kN
10.8	13.0



Influence of Concrete Strength on Performance

Concrete Strength (As per BS EN 206-1:2000)	Nominal Embedment Depth mm	Concrete Grade						
		C20/25	C25/30	C30/37	C34/45	C40/50	C50/60	>C50/60
30N/mm ²	32.0	0.70	1.00	1.00	1.10	1.15	1.20	1.25

Advanced Setting Data

Substrate Type	Category	
n/a	Nominal embedment depth	32.0mm
Non cracked concrete (>30N/mm ²)	Minimum base material thickness	100.0mm
	Minimum screw spacing	50.0mm
	Minimum edge distance	50.0mm
Cracked concrete (>30N/mm ²)	Minimum base material thickness	100.0mm
	Minimum screw spacing	50.0mm
	Minimum screw spacing	50.0mm

Influence of Edge Distance on Performance

% of stated minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Reduction Factor	0.45	0.55	0.65	0.70	0.7	0.75	0.80	0.85	0.90	1.0

Influence of Anchor Spacing on Performance

% of stated minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Reduction Factor	0.45	0.55	0.65	0.70	0.7	0.75	0.80	0.85	0.90	1.0

Testing

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