Evolution Fasteners (UK) Ltd
Units 2A & 2B Clyde Gateway Trade Park
Dalmarnock Road, Rutherglen, Glasgow G73 1AN
Tel: +44 (0)141 647 7100 / Fax: +44 (0)141 647 5100
Email: technical@evolutionfasteners.co.uk

www.evolutionfasteners.co.uk

PRODUCT DATASHEET
A4 STAINLESS MULTI-FIX COUNTERSUNK SCREW

Product Details

Designed for:	Fixing timber battens, trunking, track and general components into concrete, masonry and timber
Head style:	*12mm* countersunk head
Material grade:	AISI 316/ A4
Shank Material:	Stainless Steel

A4 stainless steel multi-fix countersunk product range

Product Code	Size	Drill Point	Box Quantity	Carton Quantity
A4CSK6.3-45-GP	6.3mm x 45mm	Gash Point	100	1,000
A4CSK6.3-57-GP	6.3mm x 57mm	Gash Point	100	1,000
A4CSK6.3-75-GP	6.3mm x 75mm	Gash Point	100	1,000

Technical Data

Hardness Rating (Vickers scale)		
Diameter	**Surface Hardness**	**Core Hardness**
6.3mm	577.4 HV0.3	465.1 HV0.3

Unfactored Mechanical Performance		
Diameter	**Tensile Strength**	**Shear Strength**
6.3mm	18.7kN	8.9kN

Ultimate pull out loading from steel			
Steel substrate (S275 JR mild steel)			
Major diameter	**Steel thickness**	**Steel thickness**	**Steel thickness**
6.3mm	0.7mm	1.0mm	1.2mm
Force	1.0kN	1.4kN	2.0kN

>

Technical Data continued...

Ultimate pull out loading from timber			
Major diameter	**Timber grade**	**Embedment depth**	**Load**
6.3mm	C16	25.0mm	2.3kN
		35.0mm	3.7kN

Ultimate Loading: Withdrawal Resistance (Concrete and Masonry Substrates)			
Embedment Depth (mm)	**C25/30 Concrete (30N/mm2)**	**Aerated Concrete Block (7N/mm2)**	**Class A Engineering Brick (75 N/mm2)**
25.0	2,850 N	650 N	3,690
35.0	6,890 N	1,010 N	9,670

Characteristic/ Safe Loading: Withdrawal Resistance (Concrete and Masonry Substrates, γ = 3.0)			
Embedment depth (mm)	**C25/30 Concrete (30N/mm2)**	**Aerated Concrete Block (7N/mm2)**	**Class A Engineering Brick (75 N/mm2)**
25.0	950 N	210 N	1,230
35.0	2,290 N	330 N	3,220

Concrete and masonry setting information		
Substrate type	**Category**	**Data**
All	Nominal embedment depth	35.0mm
Non cracked concrete (>30N/mm2)	Minimum base material thickness Minimum screw spacing Minimum edge distance	100.0mm 55.0mm 55.0mm
Cracked concrete (>30N/mm2)	Minimum base thickness Minimum screw spacing Minimum edge distance	100.0mm 40.0mm 55.0mm

Influence of Compressive Strength on Withdrawal Resistance (Reduction Factors)									
Nominal Anchor Diameter (mm)	**Drill Hole Diameter (mm)**	**Embedment Depth (mm)**	**Compressive Strength – Cube (EN 1992)**						
			C20/25	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**≥C50/60**
6.3	5.15	25/0	0.6	1.0			1.2		1.3
		35.0	0.7	1.0	1.1	1.2	1.3	1.4	1.5

Influence of edge distance on loadings (reduction factor)										
Percentage of stated minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Reduction factor	N/A	N/A	N/A	N/A	N/A	0.75	0.80	0.85	0.90	1.00

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.

ABOUT OUR 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.

7485

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".*

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