

**Assessment of
Performance AP-23405-M4.0-150923-1537
- Screws -**

Timber Services

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Client Name Phillips Screw Company U.K Limited		TC Job Code 23405		Batch M4.0	
Client Address Suite 1, 3rd Floor, 1-12 St. James's Square, London, SW1Y 4LB					
Signatories					
Compiled by:			Approved by:		
Fastener Description					
Manufacturer's brand name Pozisquare Driv Ulti-Mate III Screw M4.0 Carbon Steel SAE1022					
Fastener type Screw					
Detailed description of type Screw - Countersink head					
Coating Zinc & yellow passivation					
Collation Loose					
Head shape Round countersink					
Driver bit PD1					
Nominal Geometry					
Dimension	Symbol	Units	Value		
Outer diameter	d	mm	4.00		
Inner diameter	d_1	mm	2.86		
Head diameter	d_h	mm	Min 7.75, Max 8.25		
Overall length	l	mm	Min 30, Max 200		
Threaded length	l_g	mm	Full, 2/3 of l , or 100mm depending on screw length		

Assessment Reference: AP-23405-M4.0-150923-1537

Performance Characteristics in Accordance with Table 2 of BS EN 14592:2008+A1:2012						
Characteristic	Method	Symbol	Units	Value	Certificate or other basis	
Material						
Description of steel grade	SAE1022 Carbon Steel				Supplier's declaration	
Performance of coating	Cl. 3.12	-	-	1	Supplier's declaration	
Geometry as measured						
Length - measured	Cl. 5.1	l	mm	69.1	GM23405-M4.0145167	
Outer diameter - measured	Cl. 5.2	d	mm	4.03	GM23405-M4.0145167	
Inner thread diameter - measured	Cl. 5.2	d_1	mm	2.80	GM23405-M4.0145167	
Head diameter - measured	Cl. 5.3	d_h	mm	8.00	GM23405-M4.0145167	
Length of the threaded part - measured	Cl. 5.4	l_g	mm	47.1	GM23405-M4.0145167	
Mechanical Strength and Stiffness						
Characteristic yield moment	EN 409	$M_{y,k}$	Nmm	4827	YM123405-M4.045176	
Characteristic withdrawal parameter	EN 1382	$f_{ax,k}$	N/mm ²	16.7	WD23405-M4.01PE45167	
Characteristic head pull-through parameter	EN 1383	$f_{head,k}$	N/mm ²	10.3	PT23405-M4.0145167	
Characteristic tensile capacity	EN 1383	$f_{tens,k}$	kN	7.07	PO23405-M4.0145167	
Characteristic torsional strength	EN ISO 10666	$f_{tor,k}$	Nm	5.03	TS23405-M4.0145167	
Characteristic torsional resistance	EN 14592	$R_{tor,k}$	Nm	2.41	TR23405-M4.0145167	
Characteristic torsional ratio	EN 14592	$f_{tor,k} / R_{tor,k}$	-	2.09	≥ 1.5 ?	YES
Durability						
Corrosion protection	Cl. 6.1.5	-	-	Fe/Zn 12c	Supplier's declaration	

NOTES

- The Method is either the test standard or the BS EN 14592 Clause
- Coating Types:
 - Coating type 1: Corrosion protection
 - Coating type 2: Lubricant to facilitate insertion
 - Coating type 3: Adhesive coating for improving withdrawal strength and/or for collation purposes
- Values reported on the basis of a Supplier's declaration have not been verified by the Approved Testing Laboratory
- Characteristic values are calculated in accordance with BS EN 14358
 Characteristic strength values are 5%ile values except for $R_{tor,k}$ which is a 95%ile value
 Characteristic strength values are calculated assuming a log-normal distribution
- Corrosion protection specifications are based on Table 4.1 of EN 1995-1-1 (Eurocode 5)

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Test Substrates					
Material	Method	Symbol	Units	Value	Certificate or other basis
Structural softwood - strength class C16					
Withdrawal tests - characteristic density	ISO 3131	$\rho_{\omega,k}$	kg/m ³	363.7	DMC23405-M4.0WD4516
Withdrawal tests - moisture content	EN 13183-1	ω	%	14.5%	DMC23405-M4.0WD4516
Oriented strand board - OSB3 - 11 mm thick					
Pull-through tests - characteristic density	EN 323	$\rho_{\omega,k}$	kg/m ³	528.1	DMC23405-M4.0PT45167
Pull-through tests - moisture content	EN 322	ω	%	10.0%	DMC23405-M4.0PT45167
Structural softwood - strength class C16					
Torsion resistance tests - characteristic density	ISO 3131	$\rho_{\omega,k}$	kg/m ³	288.7	DMC23405-M4.0TR45167
Torsion resistance tests - moisture content	EN 13183-1	ω	%	14.8%	DMC23405-M4.0TR45167