



SURE-FAST
INDUSTRIAL FASTENERS

Mechanical Testing

Steel-Fast Steel Fixing SD screws were tested for determination of withdrawal properties in accordance with AS 3566.1-2002 (R2015) *Self-Drilling Screws for the Building and Construction Industries – Part 1: General Requirements and Mechanical Properties*.

The test procedure included being driven into galvanized steel substrates of 1.5mm nominal thicknesses.



Screw Type: Steel-Fast Self Drilling (SD) – 12-14 x 20mm long
Head Type: Hexagon Head
Head Markings: SX4
Head (Nominal): 7.8mm Across Flats (A/F) – To suit 5/16" driver
Coating Type: Sure-guard 3

Self Drilling Screws were driven into galvanised steel substrates of 1.5mm nominal thickness.

For all testing into steel substrates, several full pitch threads were protruding from the underside of the test plate. Axial withdrawal force was then applied individually to the screw head at a constant rate until the screws achieved the peak tensile force and withdrew from the test plate.

**Table 1: Withdrawal Test Data for Self Drilling Screws 12-14 x 20mm long;
1.5mm Thick Steel (Purlin)**

Screw & Substrate Type	Specimen No.	Peak Test Force (kN)	AS 3566.1 Min. Force (kN)	Test Observations/Comments
(ST 5.5) 12 - 14 x 20 mm long Steel Substrate 1.5 mm	1	3.06	2.80	Withdrawal from the steel substrate, no signs of damage to the screw thread - PASS
	2	3.49		"
	3	3.44		"
	4	3.41		"
	5	3.20		"
	6	3.49		"
	7	3.20		"
	8	3.64		"
	9	3.70		"
	10	3.11		"
Mean:		3.38		
Minimum:		3.06		
Maximum:		3.70		