



SURE-FAST
INDUSTRIAL FASTENERS

Mechanical Testing

Sure-Fast Shed-Fast steel fixing SD screws were tested for determination of withdrawal properties in accordance with AS 3566.1-2002 *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 1: Sure-Fast Shed-Fast Self Drilling (SD) – 14 x 22mm long
Head Type: Hexagon Washer Head
Head Markings: SX3
Head (Nominal): 7.8mm Across Flats (A/F) – To suit 5/16" driver
Coating Type: Zinc

Screws were driven into galvanised steel substrates measuring thicknesses of 1.5mm nominal thicknesses.

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 until the screws achieved the peak tensile force and withdrew from the test plate.

**Table 1: Withdrawal Test Data for Shed-Fast screws ST 6.3 (No. 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 6.3 (No.14) x 20 mm long; 1.5mm Thick Steel (Purlin)	1	4.5	3.1	Withdrawal from the steel material, minor damage to the screw threads - PASS
	2	4.5		"
	3	4.6		"
	4	4.3		"
	5	4.5		"
	6	4.3		"
	7	4.4		"
	8	4.5		"
	9	4.4		"
	10	4.3		"
Mean		4.4		
Minimum		4.3		
Maximum		4.6		