



SURE-FAST
INDUSTRIAL FASTENERS

Mechanical Testing

Sure-Fast Sureseal Self Drilling 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 substrate of 1.5mm nominal thickness.



- Screw Type 1:** Sure-Fast Sureseal Self Drilling (SD) – 14-14 x 125mm long
- Screw Type 2:** Sure-Fast Sureseal Self Drilling (SD) – 14-14 x 150mm long
- Head Type:** Hexagon Head
- Width (Nominal):** 9.4mm (A/F)
- Coating Type:** Zinc

Screws were driven into galvanized steel substrate 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 until the screws achieved the peak tensile force and withdrew from the test plate.

Table 1: Withdrawal Test Data for 14-14 x 125mm 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) 14-14 x 125 mm long; 1.5mm Thick Steel (Purlin)	1	4.1	3.1	Withdrawal from the steel material, minimal damage to the screw threads - PASS
	2	3.9		"
	3	3.8		"
	4	4.1		"
	5	4.0		"
	6	3.8		"
	7	4.0		"
	8	4.1		"
	9	3.7		"
	10	3.7		"

Mean**3.9****Minimum****3.7****Maximum****4.1****Table 2: Withdrawal Test Data for 14-14 x 150mm 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) 14-14 x 150 mm long; 1.5mm Thick Steel (Purlin)	1	3.9	3.1	Withdrawal from the steel material, minimal damage to the screw threads - PASS
	2	3.9		"
	3	4.0		"
	4	4.7		"
	5	3.9		"
	6	4.1		"
	7	3.6		"
	8	4.1		"
	9	3.9		"
	10	3.8		"

Mean**4.0****Minimum****3.6****Maximum****4.7**