SURE-FAST
INDUSTRIAL FASTENERS

Mechanical Testing

Self-Drilling Timber Screws, suitable for fixing timber, were tested for determination of withdrawal strength 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 90mm wide x 45mm thick seasoned Radiata Pine.

Screw Type: Timber Self Drilling (SD); Type 17 ST 5.5 12-11 x 40mm long

Head Type: Hexagon Head

Head Markings: SX4

Head (Nominal): 7.8mm Across Flats – To suit 5/16” Driver Bit

Coating Type: Zinc

Testing was conducted in accordance with AS3566.1 Appendix D. Type 17 Timber SD screws were driven into 90 x 45mm seasoned Radiata Pine with a nominal embedment depth of 30mm. Screws were driven into the 90mm wide face of the timber susbtrate.

Axial withdrawal force was then applied individually to the screw head at a constant rate until the screws achieved the peak tensile force and were observed to withdraw from the test plate.

Table 1: 12-11 x 40mm Withdrawal Test Data

Screw & Substrate Type	Specimen No.	Peak Test Force (kN)	AS 3566.1 Min. Force (kN)	Test Observations/Comments
(ST 5.5) T17 12-11 x 40 mm long; MGP10 Substrate 30 mm Penetration Depth	1	4.47	2.80	Withdrawal from the timber substrate, no signs of damage to the screw threads - PASS
	2	4.32		"
	3	4.68		"
	4	4.70		"
	5	4.63		"
	6	4.60		"
	7	4.57		"
	8	4.62		"
	9	4.83		"
	10	4.59		"
Mean		**4.60**		
Minimum		**4.32**		
Maximum		**4.83**		