

DRILLING PERFORMANCE

Roofing screw test

A good roofing screw drills quickly through the steel sheet being fastened, precisely at the intended point. Fast and accurate drilling speeds up the installation work. A good roofing screw does not slip on the surface of a painted steel sheet and therefore does not scratch it, which reduces the need for touch-up painting and the risk of rusting. A good roofing screw does not tear off metal swarf that would scratch the surface of the roof sheeting or reduce the water tightness of the EPDM washer.

PURPOSE OF THE TEST

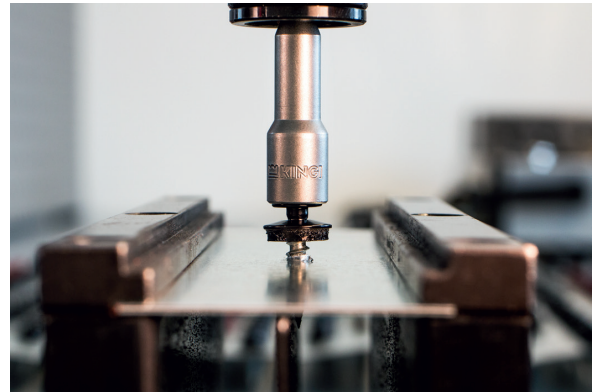
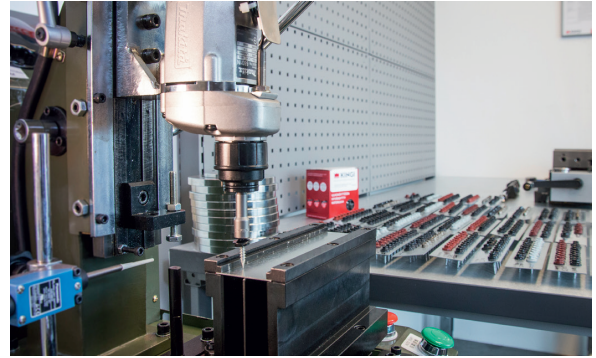
The test examined the drilling speeds of roofing screws from different screw suppliers.

TEST EQUIPMENT

The test equipment consists of an Edison Machinery Industrial drilling tester, model T-25, with an integrated Makita 500 W drill, a speed controller and a digital timer.

HOW THE TEST WAS CARRIED OUT

Ten different roofing screws from eight different screw suppliers were examined. From every supplier, 10 sample screws were tested, chosen at random from a single retail pack. A rotation speed of 2300 rpm was used in the test. The test screws were driven through two 0.5 mm thick steel sheets placed one on top of the other, with a hardness of 110 to 165 HV30 measured according to ISO 6507-1. The drilling results were recorded in a measurement log to an accuracy of 0,1 seconds.



RESULTS OF THE DRILLING TESTS

The drilling test examined the drilling performance of both drill point and needle point screws. The test results show that the drilling properties of KINGI® roofing screws are excellent compared with other needle point screws. The KINGI® roofing screw has the FastFX quick point™, thanks to which KINGI® roofing screws drill on average 262 % faster than other needle point roofing screws.

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Screw type	Drilling time										Time avg.	Standard deviation	KINGI® faster	AVG.
Drill point 1	1	0.8	1.2	1	0.8	0.9	0.8	0.9	1.2	1	0.96	0.151	66 %	1.0
Drill point 2	1.1	0.7	0.9	0.9	1.2	1.1	1.2	1.2	0.8	1	1.01	0.179	74 %	
Drill point 3	1.3	0.9	0.8	1.1	0.7	1.2	1.4	1.1	1.1	0.8	1.04	0.232	79 %	
Needle point 1	2.9	2.4	2.6	1.2	0.7	1.3	1.4	1.3	1.4	1.3	1.65	0.717	184 %	2.1
Needle point 2	2.2	1.7	1.7	3.4	5.8	5.6	1.8	2.5	2.4	5.6	3.27	1.728	464 %	
Needle point 3	2.8	2.1	1.3	1.6	3.7	1.2	1.6	2.1	2.7	1.2	2.03	0.825	250 %	
Needle point 4	2.3	1.7	2.2	3.8	4.5	2.9	2.7	4.9	3	2.3	3.03	1.049	422 %	
Needle point 5	2.5	1.3	1.1	1.5	1	1.5	1.9	1.2	1.3	1.5	1.48	0.439	155 %	
Needle point 6	0.9	2.5	1.2	0.7	1.2	1	1.1	1.1	0.8	0.8	1.13	0.512	95 %	
KINGI®	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.58	0.042		

The results in the table were obtained by drilling the roofing screw through sheets of 0.5 mm + 0.5 mm thickness at a rotation speed of 2300 rpm.