

Automatic Scratch Tester: ISO 1518-1 - Constant-loading BGD 520-1

Product Description

BGD 520-1 Automatic Scratch Tester: ISO 1518:1-2019 - Constant-loading

Coatings and paints can protect, decorate substrate or conceal the defects of substrate, and these three functions are related with coatings hardness. And hardness is the important performance for paint mechanical strength, as well as the important indicator to judge paint quality. One of important indicators to evaluate coatings hardness is scratch tester.

ISO 1518 (Paints and varnishes - Determination of scratch resistance) specifies a test method for determining under defined conditions the resistance of a single coating or a multi-coat system of paint, varnish or related product to penetration by scratching with a scratch stylus loaded with a specified load. Penetration of the stylus is to the substrate, except in the case of a multi-coat system, in which case the stylus can penetrate either to the substrate or to an intermediate coat.

This test has been found to be useful in comparing the scratch resistance of different coatings. It is most useful in providing relative ratings for a series of coated panels exhibiting significant differences in scratch resistance. Before 2011, there was only one standard which was used to evaluate paint scratch resistance, which against to evaluate scientifically to paints scratch resistance under different applications. After revision of this standard in 2011, this test method was divided two parts: One is constant-loading, i.e the loading to panels is constant during the scratch test, and the test results is shown as max. weights which don't damage coatings.

The other test method is variable loading, i.e. the loading on which stylus loads test panel is increased continuously from 0 during the whole test, then measure the distance from final point to the other point when the paint appear scratch. Testing result is shown as critical loads.



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Standards

ISO 1518:1-2019; Constant Loading

BS 3900 ; E2 ; BS EN13523-12

Technical Specification

- Large working table can be moved left and right - convenient for measuring different areas in the same panel
- Special fixing device for sample which will allow the use substrates of different sizes
- Sound-light Alarm system for puncturing through sample panel: more visual
- High hardness material stylus which is more durable

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Main Technical Parameters

	Models	
	BGD 520-1	BGD 520-2
Technical Parameters		
Conform Standards	ISO 1518:1-2019	ISO 1518:1-2019
	BS 3900 ; E2	
Stylus	Hemispherical hard metal tip with radius of 0,5mm	Coned sapphire or diamond tip with radius of 0.03mm
Weight	Constant Loading: (0.5Nx2; 1Nx2; 2Nx1; 5Nx1; 10Nx1)	Variable Loading: (0g-50g; 0g-100g; 0g-200g)
Working Distance	120 mm	100 mm
Stylus Moving Speed	35±5mm/s	10±2mm/s
Angle between stylus and sample	90°	
Motor	60W/220V/50 Hz (on request: 120V/60Hz)	
Maximum Panel Size	200 x 100 mm	
Maximum Panel Tickness	Less than 1mm	Less than 12 mm
Dimensions (mm)	500x260x360	500x260x340
Weight	17 KG	17.5 KG

Accessories

- BGD 1003 - Stylus Scratch Stylus A with hard metal tip; radius 0.5 mm
- BGD 1004 - Stylus Scratch Stylus B with hard metal tip; radius 0.25 mm

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