Biuged

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Automatic Scratch Tester

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 is only one standard which is used to evaluate paint scratch resistance, which against to evaluate scientifically to paints scratch resistance under different applications. After revise this standard on 2011, this test method is 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 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 finial point to the other point when the paint appear scratch. Testing result is shown as critical loads.

As a important member of Chinese Paint & Coating Standard Committee , Biuged is responsible for drafting the relative Chinese standards on the base of ISO 1518, and developed BGD 520 scratch testers which conforms the newest ISO 1518:2011.

Characters

- Big working table can be moved left and right---convenient for measuring different areas in the same panel
- Special fixing device for sample---can test different size substrate
- Sound-light Alarm system for puncturing through sample panel---more visual
- High hardness material stylus--more durable

BGD 520/1

Scan for video

BGD 520/2

Scan for video

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Main Technical Parameters

Ordering information→ Technical parameter ↓	BGD 520/1 Automatic Scratch Teter (Constant-loading)	BGD 520/2 Automatic Scratch Teter (Variable-loading)
Conform standards	ISO 1518–1; BS 3900：E2; BS EN 13523–12	ISO 1518–2
Stylus	Having a hemispherical hard–metal tip of radius 0.5mm	Coned sapphire or diamond, the tip radius is 0.03mm
Weight	0.5N×1，1N×1，2N×2，5N×1，10N×1	0g～50g or 0g～100g or 0g～200g
Working distance	120mm	100mm
Stylus moving speed	(35±5) mm/s	(10±2) mm/s
Angle between stylus and sample	90°	90°
Motor	30W 220V 50Hz	60W 220V 50Hz
Max. panel size	200mm ×100mm	200mm ×100mm
Max. panel thickness	Less than 1mm	Less than 12mm
Overall Size（L×W×H）	560mm×270mm×380mm	580mm×270mm×300mm
Net weight	17 KG	17.5 KG

Optional Accessories

BGD 1003---Scratch stylus A, having a hemispherical hard–metal tip of radius (0,50 ± 0,01) mm.

BGD 1004---Scratch stylus B, having a hemispherical hard–metal tip of radius (0,25 ± 0,01) mm.

BGD 1007---Stylus for BGD 520/2