

Automatic Digital Pull off Adhesion Tester (PsiaTester)

In order to perform satisfactorily, coatings must adhere to the substrates on which they are applied. There are three different adhesion test procedures to assess the resistance of paints to separate from the substrate. The cross cut test, also described as cross-hatch, uses a blade to cut through the coating to the substrate. At least two cuts are made that intersect at 90 degrees to get a right angle lattice pattern. The cross-cut area is observed for any adhesion failure. The second method to test the coating adhesion is using a stylus or loop that an increasing amount of weight is applied until the coating is removed from the substrate. The third method called pull-off adhesion, measures the amount of tensile stress to pull the coating off the substrate. A dolly is glued to the coating surface, after the glue is cured, a testing apparatus is attached to the loading fixture and aligned to apply tension perpendicular to the test surface. The force applied is gradually increased and monitored until either a plug of coating material is detached, or a specified value is reached.

BGD 500/S automatical digital pull-off adhesion tester is a portable, hand-operated instrument which is used to measure the force required to pull a specified test diameter of coating away from its substrate using hydraulic pressure. The pressure is displayed on a digital LCD and represents the coating's strength of adhesion to the substrate.

It evaluates the adhesion (pull-off strength) of a coating by determining the greatest tensile pull-off force that it can bear before detaching. Breaking points, demonstrated by fractured surfaces, occur along the weakest plane within the system consisting of dolly, adhesive, coating layers and substrate.

Characters

CONVENIENT

- ◆ Portable design, can be used anywhere.
- ◆ Built-in rechargeable lithium battery, no need any external power source.
- ◆ Selectable directly four different sizes dolly for different resolution and testing range
- ◆ Get the testing results from LCD directly.
- ◆ Includes all tools needed for testing

AUTOMATICAL

- ◆ Originated in China, it can test automatically adhesion between coating and substrate by pull-off way and get good repeatable test results.
- ◆ Electronically controlled hydraulic pump automatically applies smooth and continuous pull-off pressure. Greatly reduces user effort and the risk of influencing the pulling process.
- ◆ Internal memory stores maximum pull-off pressure, rate of pull, test time, dolly size.
- ◆ Pull rate is controlled by PID closed-loop, stable and adjustable.
- ◆ Can set a constant pull force to judge if the coating could be separated from substrate under a certain force.
- ◆ 5.0 inch big touch screen, display pull-off force curve, operator can see clearly how it change throughout the test.

PRECISE

- ◆ Each **PsiaTester's** pressure system is calibrated to within 1% accuracy by NIST traceable load cells
- ◆ High-precise professional sensor ensures 0.01MPa resolution
- ◆ Self-aligning dollies ensure to get a reliable testing results for smooth or uneven surfaces.
- ◆ Come with calibration certificate

INTELLIGENT

- ◆ Store all test results (includes Max. pull-off power, pull-off rate, dolly size and time)
- ◆ Two units (MPa and psi) for selection and can be converted automatically.
- ◆ USB interface as standard, No need any software, **PsiaTesteris** also a U disk, when connecting the computer, operator can read all data directly which is recorded during testing.
- ◆ Showing pull-off rate allows users monitor and adjust pull speed according to different test requirements.

DURABLE

- ◆ Dustproof and shockproof design meets any harshest operating environment
- ◆ Strong plastic carrying case
- ◆ One year warranty

Main Technical Parameters:

- ★ Dolly Size: 20mm (Standard) ; 10mm、14mm、50mm (Optional)
- ★ Resolution: 0.01MPa (1psi)
- ★ Accuracy: $\pm 1\%$ Full scale
- ★ Max. Pull-off Pressure: Φ 10mm dolly \rightarrow 2.8-80MPa; Φ 14mm dolly \rightarrow 1.4-40MPa;
 Φ 20mm dolly \rightarrow 0.7-20MPa; Φ 50mm dolly \rightarrow 0.4-3.5MPa;
- ★ Pull-off Rate Set Range: 10mm dolly \rightarrow 0.4-6 MPa/s; 14mm dolly \rightarrow 0.2-3 MPa/s;
20mm dolly \rightarrow 0.1-1.5 MPa/s; 50mm dolly \rightarrow 0.02-0.24MPa/s;
- ★ Power: Built-in rechargeable lithium battery, and standard configuration charging adapter.
- ★ Tester Size (L \times W \times H) : 240mm \times 138mm \times 81mm
- ★ Tester Weight: 4KG

★ Packing List:

- ① Adhesion Tester with digital display
- ② 20mm Aluminum test dollies (20 pcs)
- ③ Cutting toll for 20mm dollies,
- ④ 3M Adhesive and glue gun
- ⑤ Micro-USB cable
- ⑥ Operation Manual
- ⑦ Carrying case

★ Ordering Information:

- BGD 500/S-----Automatic Digital Pull-off Adhesion Tester
BGD 1520-----10mm Dolly (10 pcs/package)
BGD 1521-----14mm Dolly (10 pcs/package)
BGD 1522-----20mm Dolly (10 pcs/package)
BGD 1523-----50mm Dolly (10 pcs/package)
BGD 1524-----50mm Dolly Base
BGD 1525-----Cutting Tool for 50mm dolly
BGD 1527-----3M Adhesive

