

Pencil Hardness Tester

MPK 710 Pencil Hardness Tester

The **MapakPlus Pencil Hardness Tester** is designed to determine the relative surface hardness of paints, varnishes and coating films using graded graphite pencils. It provides a simple and reliable method for evaluating a coating's resistance to scratching and surface marking.

During testing, the pencil is held at a constant angle of 45° and moved across a smooth, flat coated surface under a controlled load of 750 ± 5 g. The coating is tested with pencils of different hardness grades to identify the grade corresponding to the specified scratch or damage criterion.

Its compact, lightweight and manually operated construction makes the instrument suitable for laboratory testing, production inspection and on-site quality control.

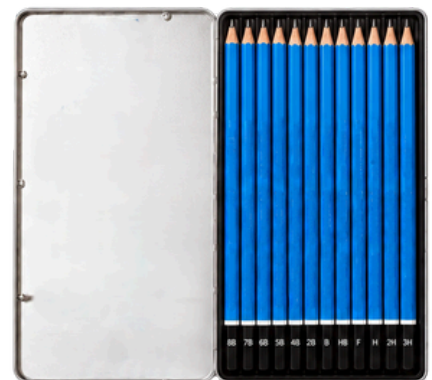


Testing Procedure

- Sharpen the selected pencil and prepare a smooth, flat lead edge using suitable abrasive paper.
- Insert the prepared pencil securely into the tester.
- Position the instrument on the coated panel at the fixed 45° test angle.
- Push the tester steadily across the coating under the controlled load.
- Inspect the surface and repeat the test with adjacent pencil grades until the required hardness rating is determined.

Applications

- Paint and varnish film evaluation
- Powder and industrial coating inspection
- Automotive component finishing
- Appliance and furniture coatings
- Coated metal and test panels
- Coil-coated metallic surfaces
- Research and development laboratories
- Production and incoming quality control



Standards: ASTM D3363 ISO 15184 | EN 13523-4 | JIS K 5600-5-4 | BS 3900-E19 | IS 101

Specifications

Parameter	Specification
Test Method	Manual pencil hardness testing
Test Angle	Constant 45°
Applied Load	750 ± 5 g
Approximate Test Force	7.5 N
Test Medium	Graded graphite pencils
Suitable Surface	Smooth and flat coated surfaces
Test Result	Pencil grade at the specified failure point
Operation	Manual
Power Requirement	None
Usage	Laboratory and on-site testing

Features and Functions

- Measures coating hardness through standardized graded-pencil testing
- Holds the pencil at a constant 45° angle
- Applies a controlled load of 750 ± 5 g
- Supports consistent and repeatable comparative test results
- Compact, lightweight design suits laboratory and site use
- Manual operation requires no electrical power or setup
- Suitable for smooth, flat painted and coated surfaces
- Ideal for inspection, development and production quality control