

Pencil Hardness

Principle:

Pencil Hardness refers to the capacity of a given coated surface to resist scratching, marring, or gouging. Pencil Hardness Test is an effective method test and is dependent on the ductility, elastic stiffness, strength, and viscosity of the sample being examined.

Current model:



Figure: Pencil Hardness Tester

Link video: <https://www.youtube.com/watch?v=BgpVxWQ4yw4>

Operation

Pencils of known hardness-grade are pushed across the sample surface under a known pressure. The coating hardness is measured by the trace generated. An optical assessment is carried out to see which pencil hardness damages the surface.

The result may be the value of the pressure required to scratch through the sample if a scratching tool of constant hardness is used, or the hardness of the scratching is varied while constant pressure is applied.

Typical samples:

Samples which are tested by Pencil Hardness Tester include films (polyester and Polycarbonate), synthetic resins, furniture, metals, plastics, and ceramic coatings.



Instrument Description

Sub Folder: Physical Analysis



Standards:

Samples are assessed in accordance with standards such as: ISO 15184, ASTM D3363, JIS K-5400, JIS K-5600, ECCA-T4-1, BS 3900-E19, EN 13523-4

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