

König Pendulum Hardness Instrument

Principle:

The Pendulum hardness is used to measure the hardness of a coating.

The amplitude of oscillation of a pendulum touching a surface is measured. The amplitude of oscillation decreases more rapidly in softer surfaces. A digital counter counts the oscillations between these amplitudes. Temperature, relative humidity and film thickness of the surface should be carefully controlled.

Differences in the hardness between samples can be evaluated by recording the number of oscillations that the pendulum makes between specified amplitudes.

Current model:



Figure: König pendulum hardness instrument

Video link: <https://www.youtube.com/watch?v=DFIPOGwAI10>

The Pendulum Hardness test can be conducted using two different pendula, a König or Persoz pendulum. CREST has a König pendula.

The König pendulum is triangular with an adjustable counterpoise and swings on two ball bearings of about 5mm diameter which rest on the test surface.



Instrument Description

Sub Folder: Physical Analysis



Typical samples:

Samples consist of a coated glass or metal substrate. For multi-coated systems, each coating must be tested separately. The coating may be a paint, a varnish or other related product.

Standards:

Samples can be assessed in accordance with standards such as DIN 53157, ASTM D 4366 and ISO 1522:2006.

Contact: Dr Brendan Duffy, brendan.duffy@tudublin.ie, +353-1-220-6907