

CALOTESTER kaloMAX NT II

Ball cratering test device for the determination of wear coefficients and layer thicknesses

Quality assurance of coatings needs expressive test procedures, which allow quick and reliable valuation of the coating quality.

The Calotest device kaloMAX NT II has been developed in cooperation with the Fraunhofer Institut for Surface Engineering and Thin Films (IST) especially for the characterization of hard coatings. The method is usable for thin coatings (1 μm) as well as for the materials or lacquers. The procedure supplies a material characteristic which enables a function-oriented evaluation of the coating quality.



Methodology of abrasion testing by wear craters:

- Grinding-in the wear crater into the coating
- Determination of the diameter by microscope
- Calculation of the wear coefficient from normal force, sliding distance and volume of the wear crater

Advantages:

- Test takes only a few minutes
- Test parameters optimized for measuring hard coatings are available
- High reproducibility and accuracy by means of a special abrasive slurry
- High accuracy in grinding of the wear crater
- Useable for plane and curved parts
- Exact determination of coating thickness without calibration even for multilayered coatings
- Easy positioning by cross table

FEATURES

- Reproducible measurement of wear and scratching resistance
- Fast and easy measurement of layer thickness
- Comfortable operation
- Suitable for hard material films, lacquers, plastic coatings etc.
- For quality assurance and coating development

TECHNICAL PARAMETER

Item	Parameter
Ball diameter	Min. \varnothing 15 mm, max. \varnothing 30 mm
Speed range	20 - 500 1/min
Programmable	Grinding path, grinding period, number of revolutions, dosage time etc.
Clamping range for plane parts	50 mm
Clamping range for round parts	\varnothing 3 - 30 mm (clamping jaws for other dimensions available upon request)
Cross table travel	25 x 25 mm
Dimension	305/295/295 (h/w/d)
Weight	Approx. 8 kg
Compressed air supply	Max. 6 bar

DELIVERY SCOPE

- Calotester kaloMAX NT II with cross table
- Pneumatic dosing device for the abrasive slurry
- Manual

ACCESSORIES

- Abrasive slurry with reference sample
- Calibration certificate by IST
- Laser pointer
- Gauge for adjusting the normal force on the sample
- Microscopes (optionally with video camera to measure the diameter of the wear crater)
- Software for easy calculation of the wear coefficient

