

# CALOTESTER

Instrument for measuring thickness of thin hard coatings rapidly

## CALOTESTER highlights:

- Control unit with a microprocessor to program speed, time, size of a ball, as well as X and Y dimensions (see graph below)
- Microscope (magnification 50x) equipped with a reticule eyepiece 0,02 mm and LED lighting
- Automatic calculation of thickness
- Timer for working from 1 to 30 minutes
- Sets of balls: 10 mm; 15 mm; 20 mm; 25 mm; 30 mm
- Rotation axe with a variable speed from 200 to 1000 tr/min

## Upgradable

## BENEFIT FROM OUR ULTIMATELY VERSATILE CALOTESTER!

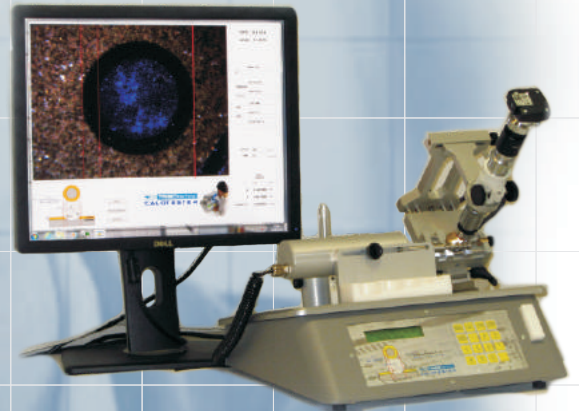
Having bought a basic standard model for the most attractive price, you could always update your calotester to the following options:

- Sample holder to fasten **cylindrical parts** with a diameter from 5 to 30 mm
- Microscope holder which allows precise X&Y cross-setting

OR

- Video color camera USB2 high resolution 1280 x 1024 (SXGA) pixel DELL PC with LCD display 19" with a software for measurement of X and Y dimensions with an automatic report **which goes together with** a microscope holder which allows precise X&Y cross-setting
- Articulated arm to perform calotest on large industrial parts with a holder for samples up to 115 x 50 mm diameter (see the picture below)

➤ **Two instruments in one:** the only CALOTESTER in the world which suits both for laboratory samples and big industrial parts



## Multi-task

### Applications:

The method is applicable in the following fields:

- PVD and CVD coatings
- Sputtering, ion plating
- Evaporation in vacuum
- Anodic oxidation
- Galvanized coatings
- Chemical coatings

### Resolution of measurement:

The precision depends on the following factors:

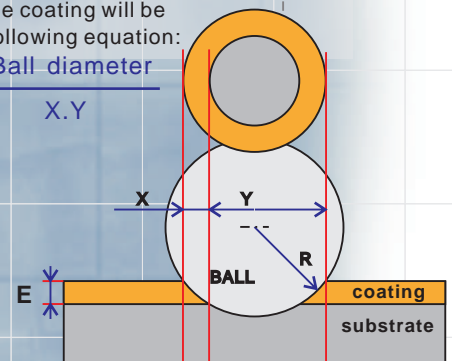
- Roughness of surface
- Contrast of layers
- Features of microscope

The resolution in the range of +/- 5% and can be +/- 10% for coatings with thickness less than 1µm.

### Procedure:

A ball coated with an abrasive paste is kept in rotation on the specimen by a shaft with a groove.  
A form of a spherical cap is abraded into the specimen, X and Y are measured with an optical microscope.  
The thickness E of the coating will be calculated with the following equation:

$$E = \frac{\text{Ball diameter}}{X.Y}$$



For your comfort we have developed a new integrated illumination system.



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