

TRACEiT®

3D Topography

Roughness Ra opt, Rq opt, and Rz opt

Visual Documentation

Height Distribution

Porosity Distribution

Effective Contact Area

Basic Functions

Surface profile is a key parameter for a product's quality, it also affects the coating's overall performance. The height value (often refers to valley and peaks) of the surface determines many functional features, eg. abrasion, adhesion, etc. The analysis of a wear or abrasion after many mechanical tests are also needed to determine the quality of the surface coating. Therefore, an accurate measurement and documentation of the surface profile helps to make the right decision for the quality control.

TRACEiT® is by far the only mobile testing machine which measures the surface profile in a fast, mobile, non-contact fashion. The real-time measurement of 3D topography as well as the visual impression documentation makes it widely used for new material development as well as the quality control of manufacturing process.

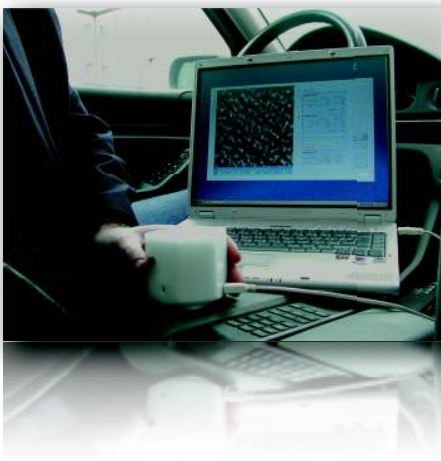
Parameters can be measured with TRACEiT® include:

- Roughness
- 3D Topography/Mapping
- Light intensity
- Porosity
- Effective contact area ratio

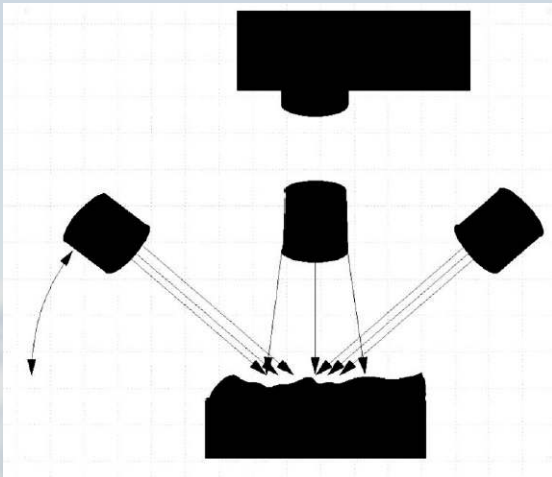
Additionally TRACEiT® can be applied either on a lab sample or a finished product with handheld, or a positioning adapter, or a tripod or a robotics.

Highlights

- Mobile
- Fast
- Easy use
- Non-contact measurement
- Reproducible and calibratable
- Real time documentation of topography & visual impression
- Tribological analysis



Test Principle



- Measuring head with 3 white light optics for topography
- Additional built-in camera for visual impression documentation
- 1500 times both in x- and y- directions
- 5mm*5mm fixed measurement area
- Quantitative analysis of **all measurements** with the **same resolution** at the same sample area at the **same time**

Applications

- Automobile interior and exterior parts (leather, plastics, textiles, coating, paints)
- Paper: painting, drawing, safety paper, ancient paper
- Security paper: banknote, counterfeit identification, passport, ID
- Medical: skin structure, skin cancer, scar
- Cosmetics: skin type and structure
- Cultural heritage: wall painting, sculpture, sandstone, wood
- Customs: counterfeit identification
- Textile: handbag, wallet, functional clothes



Options

Transmitted Light

Providing the standard light for the user to recognize and rate structures in transparent or translucent materials, like glass, foils, paper or fabrics.



Positioning Device

For accurate positioning the sample measurement location and further stitching functionality. Standard tripod can be also provided.



Robotic Device

Compatible with Battenberg Robotic for on-site measurement in lab and manufacturing plants.

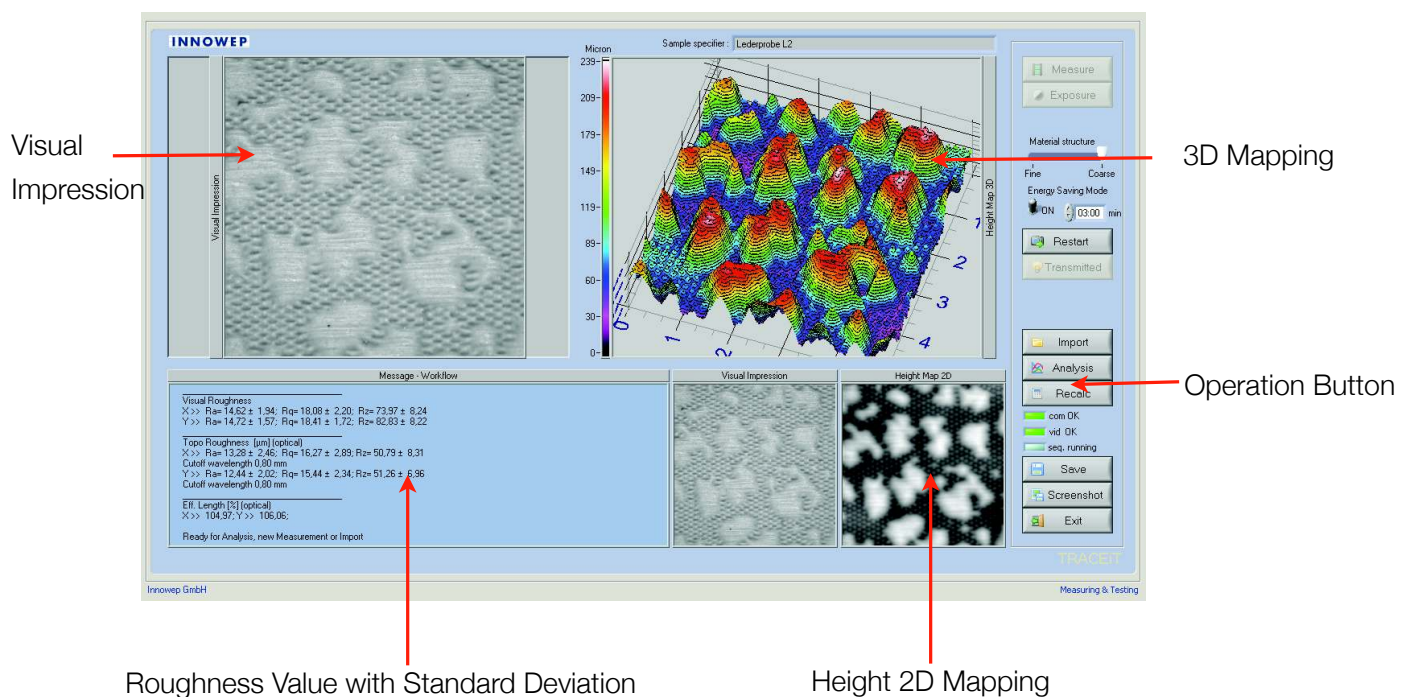


Software Illustration-Main Analysis

The topography values and the visual impression are not only documented but are also transformed by an analysis tool into various roughness, structural and graining index with standard deviation.

All measurements and calculations are realized via interaction of the measuring head and the notebook, in which data storage, evaluation and analysis take place. Data can be exported to other programs for further calculation.

Software Main Analysis Window



- Visual Impression: overall appearance to the human eye
- Roughness Value: complex micro- and macro- structure
- 3D Mapping: physical topography
- Height 2D Mapping: 2 dimensional topography

Software Analysis

Direct Comparison with the same resolution of a) Visual Impression; b) Top view of topography; c) cloudiness of a paper under transmitted light mode and d) effective contact area marked in turquoise.

