thermoscientific

PRODUCT SPECIFICATIONS

SOFTWARE - Phenom 3DRR

Phenom 3D Roughness Reconstruction Software

Interpreting sample characteristics

ThermoFisher SCIENTIFIC

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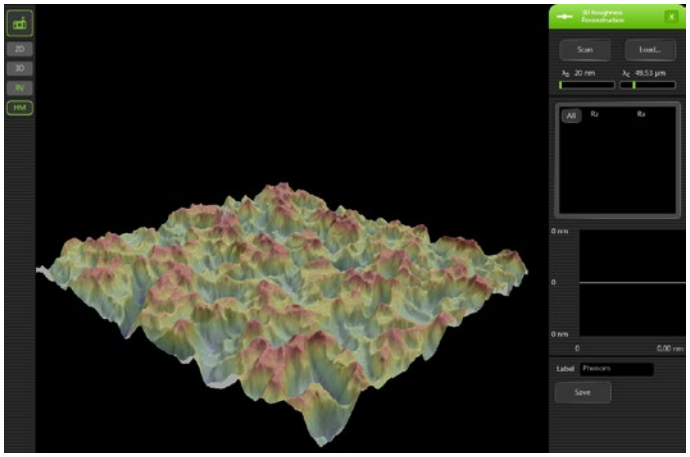
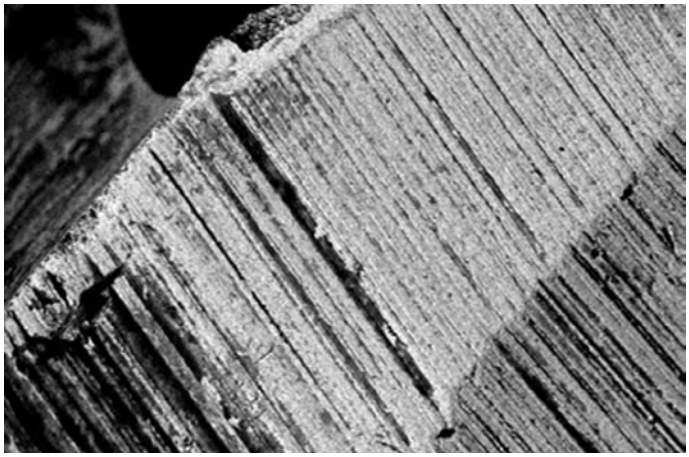


3D roughness reconstruction and colored height map of abrasive material



Drill bit, top view at 2,900x magnification

With the Thermo Scientific™ 3D Roughness Reconstruction software application, the Phenom desktop scanning electron microscope (SEM) is able to generate three dimensional images and submicrometer roughness measurements. Based on "shape from shading" technology, 3D imaging helps to interpret sample characteristics.

3D

3D imaging helps to interpret sample characteristics and makes images understandable for a larger group of users. It is often difficult, for example, to identify dents, scratches and burrs from flat 2D images.

Roughness

Measuring the average roughness (Ra) and the roughness height (Rz) is critical for controlling and understanding production processes. By using SEM imaging for data collection, a much better resolution can be achieved than by using traditional (indirect) methods.

The 3D Roughness Reconstruction application is a desirable addition to the Phenom desktop SEM when one or more of the following are required:

- Quality control in machining
- Texture analysis
- Evidence characterization
- Defect & failure analysis
- Wear analysis-tribology

The 3D Roughness Reconstruction application is available in the Phenom ProSuite that contains multiple Phenom desktop SEM specific applications.

Benefits

- Outperforms optical and mechanical measurement systems: High resolution, insensitive for reflective samples, direct method and non-destructive
- Intuitive fully automated user interface
- Based on "shape from shading" technology, no stage tilt required
- Integrated solution
- Fast reconstruction
- Intuitive single page user interface

3DRR Specifications
Automated 3D
Full 3D
Image creation
2D or 3D with colored height indication Filtered 3D for surface roughness • Based on "shape from shading" technology, no stage tilt required • Fast reconstruction
Automated roughness measurements
Ra (average roughness) and Rz (roughness height) User defined waviness filtering Up to 5 line measurements
Field of view
2 mm - 10 µm
Resolution
1024 x 1024 pixels
Output
Line profiles, CSV files, 2D/3D view images and Word report
Part of ProSuite
Network storage enabled Phenom integrated system

Find out more at **thermofisher.com/phenomworld**

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Phenom-World B.V. Dillenburgstraat 9T, 5652 AM Eindhoven, The Netherlands.

DS0312-EN-09-2019