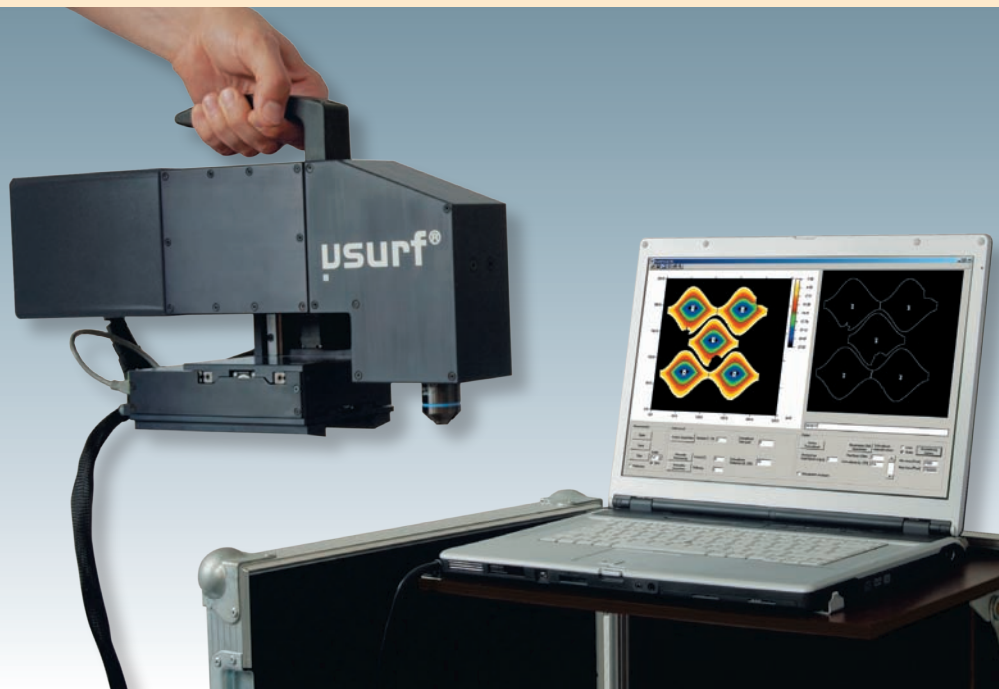


# µsurf mobile



## Mobile 3D measurement technology for production environments.

The optical 3D measurement system µsurf mobile was developed especially for measuring large objects, such as rolls and vehicle bodywork. The device is based on the robust µsurf confocal technology and is therefore suitable for use in harsh production environments. The µsurf device weighs only 5.5 kilograms. It is stored in a rollable container which fits in the trunk of every car. The system is ready for use on-site within a few minutes.

µsurf mobile can be used for DIN EN ISO compliant roughness determination, analyses of 3D structures and measurement of micro geometry. The evaluation of structure and

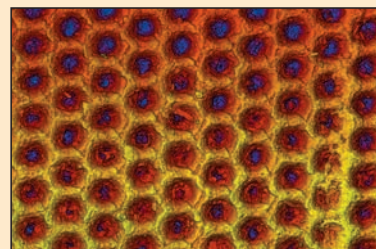
volume parameters can be performed automatically. The results are transferred to a freely definable measurement protocol.

The quality of roll textures or the geometry of recessed cells, for example, can be exactly inspected and evaluated.

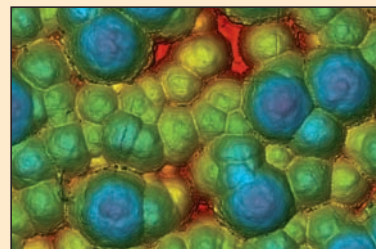
The technology is successfully deployed in numerous companies. These include renowned companies from the automotive industry, the printing and paper industry, medical technology, micro electronics, as well as a large number of research institutes.

- ▶ Robust and reliable
- ▶ Mobile deployment with battery operation
- ▶ Light weight: 5.5 kg
- ▶ Measurement in seconds
- ▶ High optical resolution
- ▶ Real 3D measurement data
- ▶ Motorized xyz-axes

## Printing and paper industry



## Steel industry



## Hardware

<b>Image acquisition module</b>	Fast digital camera with progressive scan technology, up to 55 fps, 512x512 Pixel, 10 bit, firewire
<b>Light Source</b>	High efficiency LED ( $\lambda = 505 \text{ nm}$ ), MTBF: 50,000 h
<b>x,y-axis module MN 50</b>	Precision positioning module, x,y-table, 50x50 mm <sup>2</sup>
<b>z-axis module MN 35</b>	Precision scanning module, range: 35 mm
<b>z-axis module V 250</b>	Fast precision scanning module (piezo), range: 250 $\mu\text{m}$ , resolution: < 10 nm
<b>Peripherals &amp; controller</b>	PC/ notebook/tablet pc, Windows XP professional, 1 GB RAM, firewire, DVD-RW incl. NeroExpress, ethernet, 3D mouse navigator, integrated into space-saving rollable and transportable container
<b>Mounting hardware</b>	Special feet for use on roll surfaces, for roll diameters > 200 mm


## Software

<b>µsoft control</b>	NanoFocus measurement and analysis software, measurement control, setting of measurement parameters, analysis of 2D and 3D parameters in accordance with DIN EN ISO. Illustration: profiles, 2D view, 3D reconstruction, reflection image, confocal curve
<b>Stitch</b>	µsoft control plugin for extending the measurement field
<b>Winsam (optional)</b>	µsoft control plugin for calculation and display of functional 3D parameters (tribology)
<b>µsoft analysis (optional)</b>	Software to analyse 3D measurement data, layout function, templates for series measurement and analysis

## Optic modules

	<b>1600 S</b>	<b>800 L, S, XS</b>	<b>320 L, S, XS</b>	<b>260 XS</b>	<b>160 S</b>
<b>Magnification</b>	10x	20x	50x	60x	100x
<b>Measuring field (<math>\mu\text{m}</math>)</b>	1600x1600	800x800	320x320	260x260	160x160
<b>Numerical aperture</b>	0.3	0.4/0.45/0.6	0.5/0.8/0.95	0.9	0.9
<b>Working distance (mm)</b>	11.0	12.1/3.1/0.9	10.6/1.0/0.3	0.4	1.0
<b>Resolution in z-direction (nm)</b>	20	6/5/4	4/2/2	2	2
<b>Resolution in x,y-direction (<math>\mu\text{m}</math>)</b>	3.1	1.6	0.7	0.5	0.31

## Allgemein

<b>File size/ file format</b>	Size: single measurement approx. 0.8 MB format: NMS, OMS, ACII, SDF, TIF, BMP	
<b>Typical measuring time</b>	5-10 seconds, depending on the amount of confocal images	
<b>Sample properties</b>	Reflectivity: 1-100%, coated, non coated, reflective, diffuse	
<b>Vibration</b>	Isolation unnecessary for most measurements	
<b>Power supply</b>	90-265 V, Frequency 50-60 Hz, input < 50 W, optional: lead gel battery powered	
<b>Cable length</b>	Measurement device: 6 m, power cable 10m (with internal cable reel)	
<b>Weight/dimensions</b>	Measurement device: 5.5 kg, 380x110x155 mm (lxwxh) rollable container: 25 kg, 460x360x700 mm (lxwxh)	
<b>Miscellaneous</b>	Protection class: IP 52	

**Are you interested in other NanoFocus-Technology?**  
Please call us +49 208 62 000 -0 or write an email to [sales@nanofocus.de](mailto:sales@nanofocus.de).

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