

SurfCheck®

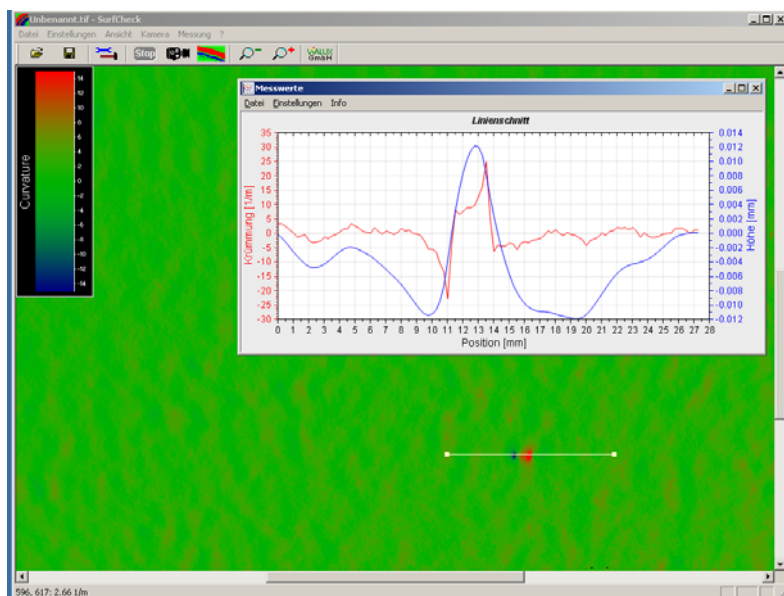
Testing glossy surfaces with high sensitivity



The operation of the compact sensor is based upon an innovative approach – the phase reflection technique. This method allows to check a variety of surface qualities, from moderate to high gloss. *SurfCheck*® analyses the *curvature* of the surface under test and is therefore insensitive to small displacements or vibrations during the measurement, it proved reliable for testing both plane and curved parts. The high measuring rate and the robust operation in harsh environments, combined with high measuring resolution are the outstanding features of the *SurfCheck*® sensor. The sensor can be calibrated to provide quantitative curvature data.

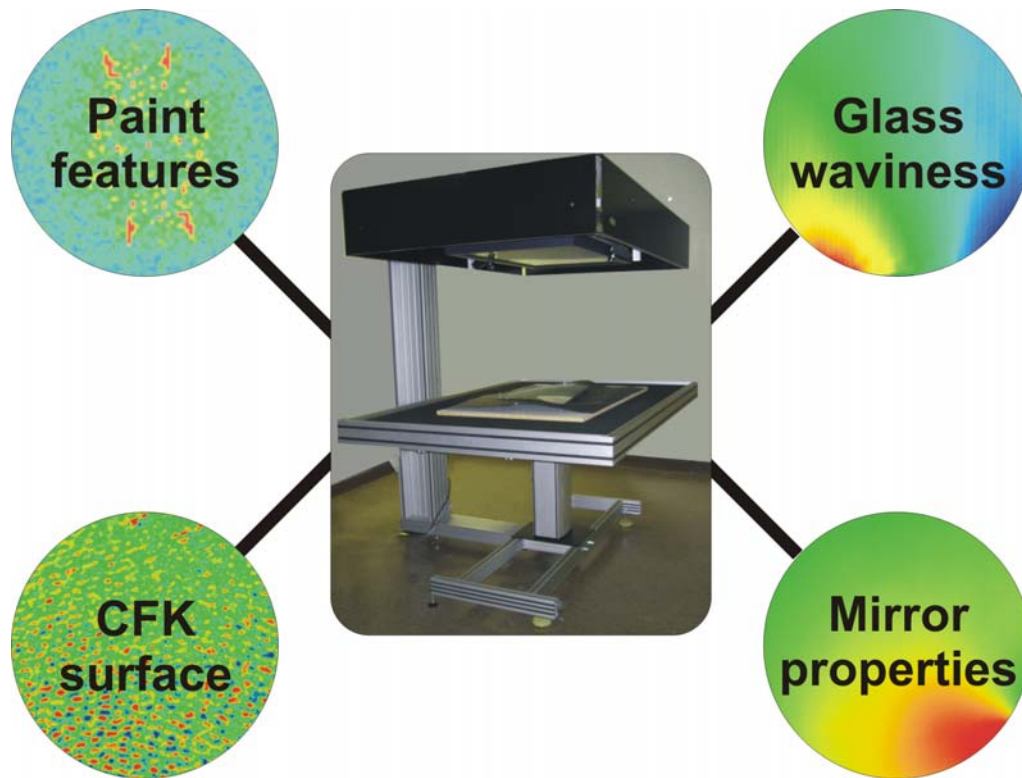
The device has found application in testing car windows for micrometer waviness, the detection of flaws in high-gloss paints, and the evaluation of surface structures of composite materials.

The standard sensor has a 200 mm full field of view. For the inspection of large parts, the sensor can be scaled using multiple cameras and large TFT modules, or the hand-held sensor (picture above) can be mounted on a x-y translation stage.



The example shows a result of glass testing. The color coded view of the curvature in the picture reveals the waviness of a car window along its boundary. The shape deviation detected is in the order of several micrometer only but may cause serious distortions in the observation of objects reflected by the window.

Tiny flaws in painted surfaces can be detected as well and the screen shot shows a typical result where the corresponding height profile over the flaw is also printed.



SurfCheck® specifications

<i>Dimensions:</i>	430 x 430 x 70 [mm]
<i>Weight:</i>	~ 8.000 g
<i>Full field of view:</i>	200 mm
<i>Camera resolution:</i>	1392 x 1040 pixel
<i>Object resolution:</i>	0.1 mm / pixel
<i>Surface:</i>	high to medium gloss
<i>Measuring time:</i>	800 ms recording, 400 ms data processing
<i>Presentation of result:</i>	color coded field of curvature, data profiles
<i>Measuring data:</i>	surface curvature (1.300.000 data points) in x, y, x+y directions
<i>Environment:</i>	temperature: operating 10 ... 35° C, non-operating -40 ... +70° C, humidity: 20-93 % non-condensing

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