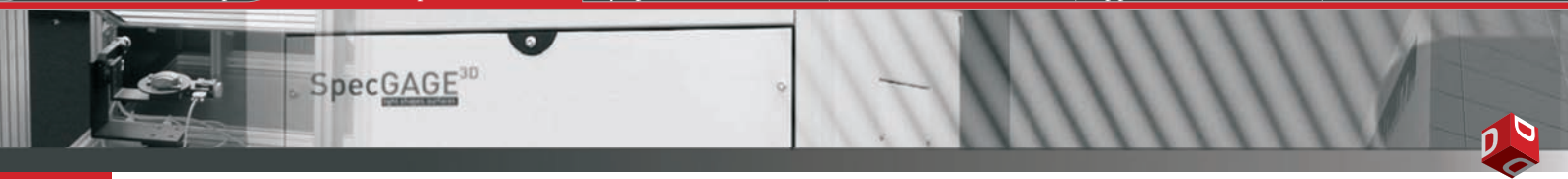


SpecGAGE[3D]

3D-Shape

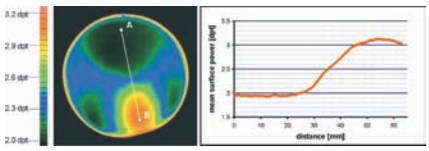
SpecGAGE[3D] as a tabletop unit

With SpecGAGE[3D] it is possible to carry out non-contact, absolute and full surface measurements of reflective surfaces in just a few seconds.

Measuring specular free-form surfaces is a challenging task for optical metrology. Looking at a mirror, for example, you will not see the mirror itself but the mirrored image of your face. You only can see the effect a surface has on the reflected light.

Applications

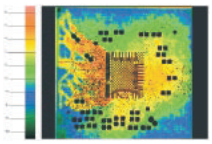
Testing of aspherical lenses:
Full surface inspection of a progressive eyeglass with up to one million measuring points on 80 × 80 mm². Measurement uncertainty of 0.01 D at refraction power (for surface elements of only 3 × 3 mm²).



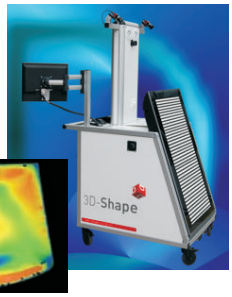
High precision is achieved by both the robust measuring principle and the application of sophisticated algorithms. The sensor is not sensitive to vibration, reliable and easy to handle. As a stand alone device with integrated PC and accessories, it is a compact solution for a cost-effective testing method in industrial quality control.

Examples

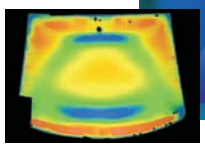
- Optical elements such as lenses and mirrors
- Wafers (non structured and structured), solar cells
- Painted and polished components
- Windshields and similar parts



Electronic chip



Cracked solar cell



Windscreen

Your Benefit

Fast & Precise Data Acquisition
- Data collection in less than 10 Seconds
- Sensitivity in the nanometer range
- Shape accuracy in the micrometer range

Comprehensive Software
- User-friendly operation
- Visualization, analysis and export
- Nominal/actual value comparison

Info:

To measure specular free-form surfaces we developed Phase-Measuring Deflectometry: Sinusoidal fringes are projected on a screen and observed by a camera using the specular surface under test as a mirror. Local variations of the surface's gradient cause deformations of the reflected fringe pattern. Thus, compared to other optical 3D sensors, deflectometry does not measure the local height of a surface but the local gradient. Measuring the local gradient instead of the height is very advantageous regarding information theory because the information about the working distance has not to be transferred through the channel. This sensor principle has very high information efficiency and therefore needs less expensive channel capacity.

www.3d-shape.com

Competence in optical 3D-Metrology

3D-Shape GmbH develops and markets worldwide optical sensors for the three-dimensional acquisition of a wide variety of objects and surfaces as well as the corresponding software.

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