TRIOPTICS
See the Difference

OptiSurf® PRO AR

Precise testing
of waveguide stacking

OptiSurf® PRO AR

TRIOPTICS has many years of experience in non-contact low coherence interferometry for single lenses, flat optics and optical systems. The OptiSurf® PRO AR is a measurement device for characterizing geometrical properties of single waveguides and other plano-optical elements and stacks of waveguides.

Stacked waveguides consist of two or three elements and the tilting of the individual elements relative to each other can cause unwanted color errors. The OptiSurf® PRO AR accurately measures this tilt of the single elements of the waveguide relative to each other or to a mechanical reference.

Another important application is the measurement of the total thickness variation (TTV) over the area of the waveguide as too much thickness variation will severely reduce the contrast (MTF) of the generated image.
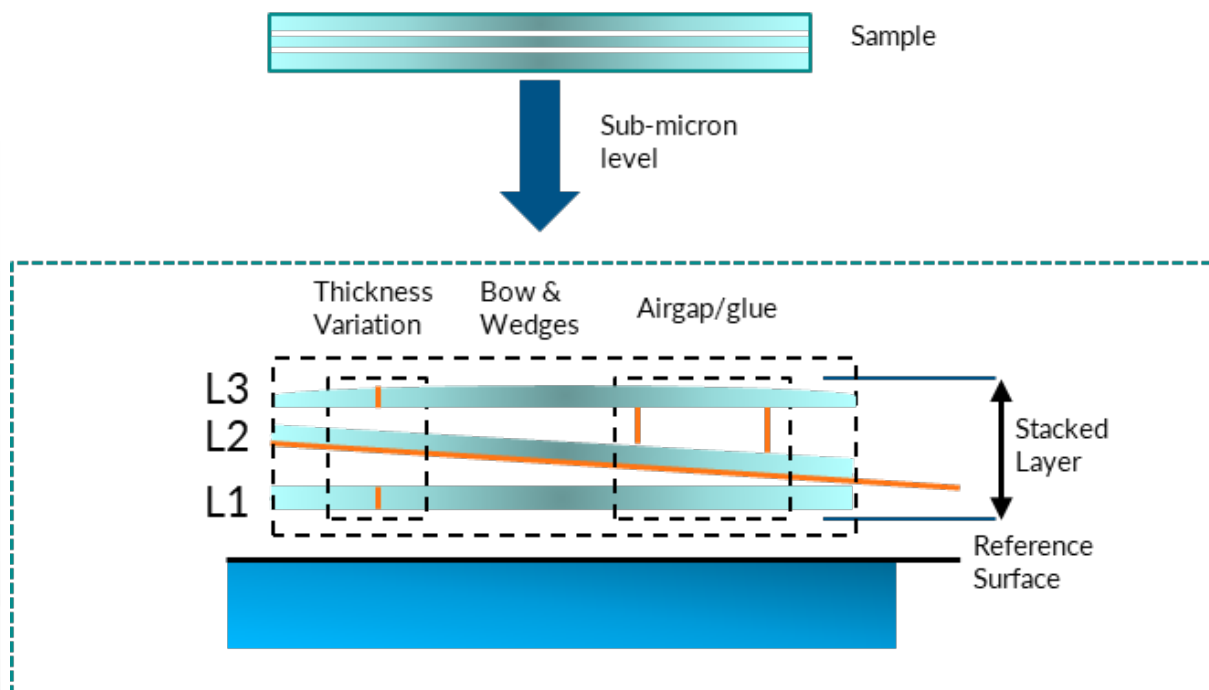
Factors affecting image quality:

- Uneven thickness of layer/sample
- Airgap/glue between the stacked layer
- Tilt of layers
- Internal bow of stacked layers

Key features

- Characterization of the geometrical properties of individual waveguides in single or stacked form
- State-of-the-art: OptiSurf® + X/Y scanning
- R&D and production system
- Measurement of spatially resolved individual thickness (TTV) and air gaps between components in a stack with sub-micron precision
- Capable of tilt, surface shape, bow, and wedges analysis in the software
- Measure minimum airgap of 30 µm
- Possibility of scan analysis over the surface of the sample

Technical data

	OptiSurf® PRO AR
Machine dimension (h x w x d)	1,900 mm x 860 mm x 860 mm
Sample dimension (h x w x d)	Max. 100 mm x max. 200 mm x 200 mm,
Sample weight	Max. 5 kg
Low coherence interferometer Measurement range Accuracy Measurement wavelength Measurement time	Upt o 200 mm optical path Up to 0.15 µm 1,310 nm 1.4 s per 10 mm scanning range
Motorized X/Y sample tray Tray dimensions (w x d) Yaw pitch error	225 mm x 225 mm 10 arcsec over 100 mm
Device under test	Waveguide, VR lens, stacked waveguide, plano optics

![TRIOPTICS - See the Difference]

TRIOPTICS GmbH

Strandbaddamm 6
22880 Wedel
Germany

+49 4103 18006-0
sales@trioptics.com
www.trioptics.com