

Glass Inspect & Glass Measure



The perfect off-line quality control solution for all kinds of flat glass



Besides in-line quality control, a modern float oder sheet glass production requires a fast and accurate off-line analysis beyond the inspection capabilities of an in-line system. The off-line LabInspect system analyses glass sample sheets and provides results which are verified with the same hardware and software as the inline inspection system for valid feedback to the production line.

With up to 8 optical channels, the LabInspect system is a cost-effective tool for production support and a must-have for quality control and R&D purposes.

Compact solution for off-line production testing/lab use

Dr. Schenk's LabInspect was specifically developed for off-line or random testing of glass samples. The compact inspection solution features both Dr. Schenk's MIDA (Multiple Image Defect Analysis) and SLT (Sirius Light Technology) concepts.

LabInspect is ideally suited for quick, but statistically relevant quality checks of all kinds of glass samples as well as for testing prototypes and pre-series materials under lab conditions.

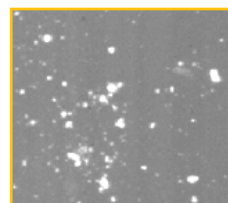
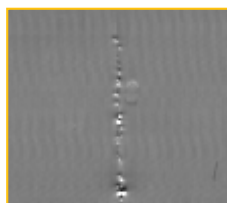
YOUR BENEFITS

Cost Savings with Superior Technology

- Off-line defect evaluation under identical optical conditions as the production - recipe development allows direct transfer from Lab to Fab
- Easy verification of customer claims
- Best defect qualification & classification through MIDA (Multiple Image Defect Analysis) and SLT (Sirius Light Technology)

Efficient and Versatile Application

- Perfectly suited for fast research and process development
- Training tool for employees
- Up to 8 optical channels for comprehensive defect coverage



LabInspect

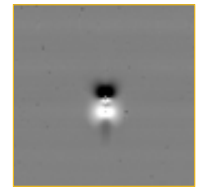
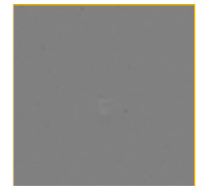
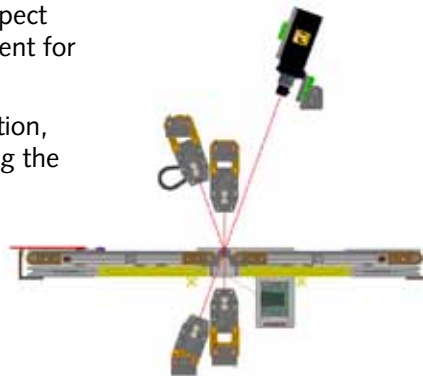
MIDA and SLT: Perfect combination for defect detection

Dr. Schenk's Multiple Image Defect Analysis lets you view defects simultaneously in different channels, from different perspectives (brightfield/darkfield, reflection/transmission), with different illuminations (diffuse/focussed, multiple wavelengths), resulting in up to 8 different channels with one camera.

You even have the option to generate and inspect color images of a material - a crucial requirement for example when inspecting low-e glass quality.

For this type of advanced and versatile inspection, powerful illumination is necessary - introducing the Dr. Schenk Sirius Light Technology (SLT).

SLT uses ultra-bright, longtime stable, and uniform LEDs so no defect can go unnoticed. The LEDs are arranged in illumination units that can be multiplexed. This can be crucial in determining whether a defect is a simple surface contamination that can be washed off or if it is a critical material inclusion like a stone.



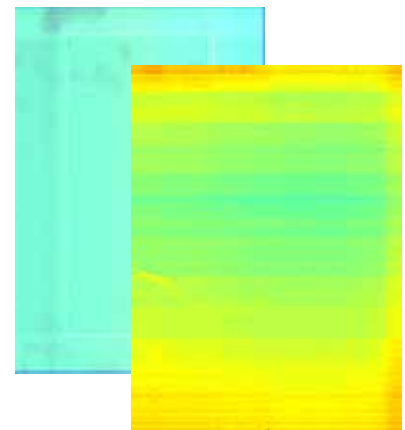
MIDA's distortion channel (bottom) reveals a knot which would otherwise remain invisible (top)

Monitoring material properties with GlassMeasure

Correct monitoring of material is a crucial component for the quality of all glass products. Dr. Schenk's GlassMeasure generates a homogeneity map of layer properties (i.e. thickness, surface roughness, transmittance) for any glass samples provided.

GlassMeasure on a LabInspect system lets you control coating thickness/distribution, color variations and many other large-scale material properties that may impact the material quality.

A range of false color displays is available to highlight different aspects of the sample material homogeneity.



Color map of window sheet, displayed in the software

Technical Data

Sample Size	up to 300 x 400 mm / flat	Optical Setup	
Dimensions (HxWxD)	System: 1924 x 1000 x 800 mm Length with conveyor = 1610 mm	• Channels	up to 2x brightfield, 2x darkfield; transmission and reflection (Multiplex)
Weight	approx. 420 kg with conveyor	• Illuminations	LED Illuminations / various setups
Power Supply	3/N/PE/230/400 V, 50...60 Hz + separate ground	• Camera	1x 8 K, 12 bit CMOS line-scan camera
Cooling for Illumination	Water/Air	Resolution	38 µm
Conveyor Type/Speed	Belt conveyor/ 0...10 m/min		

About Dr. Schenk

Dr. Schenk GmbH offers inspection and measurement solutions for automated quality assurance and production process control - a key success factor in the making/converting of plastics, glass, metal, PV modules, textile materials & nonwovens, and the semiconductor industry.

CONTACT

Dr. Schenk GmbH
Industriemesstechnik
Einsteinstrasse 37
(Martinsried)
82152 Planegg, Germany

Phone: +49-89-85695-0
Fax: +49-89-85695-200

USA
Phone: +1-651-730-4090
Fax: +1-651-730-1955

Hong Kong
Phone: +852-2425-1860
Fax: +852-2425-6775

Taiwan
Phone: +886-2-2920-7899
Fax: +886-2-2920-8198

Korea
Phone: +82-2-527-1633
Fax: +82-2-527-1635

China-Beijing
Phone: +86-10-6503-2159
Fax: +86-10-6503-2161

China-Shanghai
Phone: +86-21-5836-6700
Fax: +86-21-5836-6701