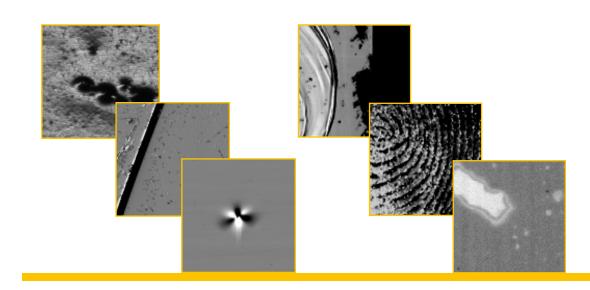
# Glass Inspect



# **Quality Assurance & Process Control for Mobile Display Glass Applications**



Solutions for every step in the production of smart phones, i-readers, and tablet-PCs



## Glass Inspect & Glass Measure

### Highest Product Quality in Mobile Display Glass Manufacturing with Reliable Inspection and Measurement Solutions

Mobile display glass has to meet the requirements of crystal clear images, withstand every day application and allow smooth touchscreen use. Inspection of the cover glasses at various production steps ensures that the steep quality requirements are met.

Dr. Schenk's automated optical inspection and measurement systems GlassInspect and GlassMeasure for mobile display glass make it possible to catch cosmetic defects, such as stains, scratches or inclusions in the glass early in the production process. The same goes for defects which could lead to glass breakage later in the production process.

This helps to save money, as glass that is defective or doesn't meet the pre-defined quality standards can be excluded from further processing. In addition, the results are fed back into the production line for continuous improvement of the production process.

Inspection Step 1 Mother Glass

#### **YOUR BENEFITS**

- Improved defect detection and classification through Multiple Image Defect Analysis (MIDA)
- Super-fast cameras allow multiple optical channels in one camera line
- Scalable defect resolution for all types of mobile display glass:
  - Bare glass
  - Decorated glass
  - Coated glass
  - OGS
- Fully integrated into production lines consistent quality control without delay
- Realistic high resolution defect images for best detection, classification, and qualification
- Automatic feedback into the production line for continuous process optimization
- Increased yield and fewer rejects for increased profit



#### SLT Illumination

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 glass defect.



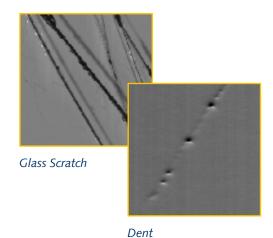
### **Ensures Quality, Improves Your Process**



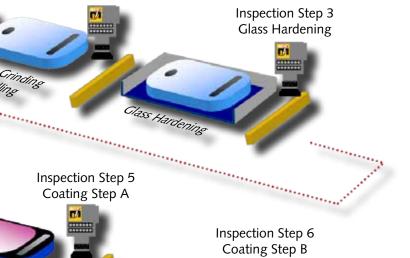
## The Benefits of Automated Optical Inspection

While a large part of today's production and quality control is done manually using highly trained operators, the automatic optical inspection offers unbeatable advantages.

Even though smaller defects can be detected by human operators, the slip-through rate increases dramatically with decreasing defect size and increasing working time. Applying automatic optical inspection ensures consistent performance with high reliability. Why settle for less?



Inspection Step 2 Grinding, Drilling



e.g. anti-fingerprint

Stain Fibre

Stain Cleaning Residue

### Complete MIDA Solution

GlassInspect features the unique and proprietary Dr. Schenk MIDA (Multiple Image Defect Analysis) concept. By multiplexing between different illumination setups MIDA enables quasi-simultaneous acquisition and evaluation of defect information from up to 12 different perspectives to inspect the top and bottom surface of the cover glass and its coatings.

The unique multichannel setup guarantees highest performance and maximum flexibility for automated inspection in mass production environments.





Dr. Schenk's production site

Dr. Schenk GmbH, established in 1985, is an innovative high-tech company based near Munich, Germany. Dr. Schenk develops, produces and markets optical surface inspection and measurement solutions for automated quality assurance and production process monitoring. The systems are a key success factor in the making and converting of many materials, e.g. plastics, glass, metal, PV modules, textiles & non-wovens, and the semiconductor industry.

Throughout the world Dr. Schenk's 220 employees continue to set new standards for the inspection of surfaces. Over 10,000 m<sup>2</sup> of modern production and testing facilities are available to research, development and production to apply cutting-edge optics and electronics to customer applications.

The company's objective is complete customer satisfaction. This is achieved through innovative and practical solutions that can be implemented into new and existing production lines. Local sales and service facilities around the world ensure fast support, technical service, training and consulting at any phase of a project.

From modular standard units to highly customized systems – Dr. Schenk's solutions have precision in focus!

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