

## Optimized Process and Quality Control for Highest Standards and Yields



Mobile devices must meet consumer requirements as regards clarity and durability - Dr. Schenk offers the tools for it

Crystal clear presentation of information on mobile devices (e.g. smartphones, tablet PCs, eReaders, etc.) calls for displays of the highest quality. They must be free from defects or inferior cosmetic appearance to ensure optimum user experience and durability.

To meet these expectations, manufacturers have to control mobile display glass at dedicated production steps throughout the production process.

Dr. Schenk's GlassInspect allows 100% in-line inspection of mobile display glass from above and beneath. Defects on the outside and inside of the glass are detected reliably at printing, coating and assembly steps according to defined quality criteria.

### GlassInspect for Cover Glass: Smart inspection for smart displays

Design and perfect surface quality are crucial to ensure the attractiveness of mobile displays. The quality standards are high, calling for visual inspection to be replaced with automatic optical control solutions.

GlassInspect offers comprehensive automatic quality and process control. It detects defects and their possible causes on

- the topside and underside of the cover glass
- the glass edges

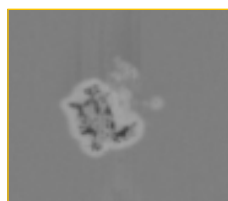
GlassInspect can be adapted to different manufacturing processes, including integrated handling systems to transport the glass into the production line.

A unique multi-channel setup applying different angles enables inspection from above and beneath. This ensures that every defect is caught and classified according to defined quality rules. Edges can be inspected for cutting defects e.g. edge chips or roughness.

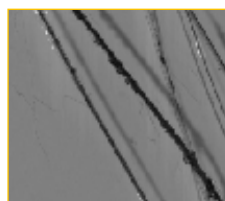
#### KEY BENEFITS

- Objective and repeatable quality control
- All-in-one tool for surface and edge control
- 100% inline operation
- Fast feedback for process optimization
- Consistent performance 24 / 7

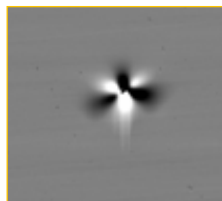
Coating Stain



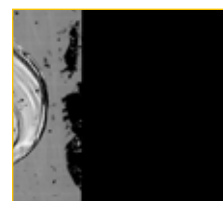
Glass Crack



Glass Stone



Print Overflow



## Ensure product quality and optimize the cover glass production process with GlassInspect

Applying GlassInspect during the production of mobile devices offers comprehensive quality control to meet the demands consumers have regarding the perfection of the display.

GlassInspect helps manufacturers to detect defects such as

- Stains, scratches and dents on the glass surface
- Bubbles and inclusions inside the glass
- Glass dents
- Printing irregularities (e.g. pinholes, print edge defects, particles in print layer, defects in logo and text)
- Edge chips and cracks

## Glass Measure

### Monitoring options for cover glass production:

<b>Coating Homogeneity:</b>	Thickness variations in e.g. anti-reflective coating
<b>Printing</b>	Opacity, print ink thickness
<b>Drill Hole:</b>	Position and dimension
<b>Logo / Print Mask:</b>	Position and alignment
<b>Glass Dimension:</b>	Length and width, angle measurement



Visualization software for defect overview (top)

Interface for inspection parameter set-up (below)



Example of a print mask defect

### KEY FEATURES

- Advanced multi-channel camera & illumination technology for highest contrast & optimized resolution
- Cutting-edge switched illumination for more defect information in a single pass
- Ultra-bright LED units for maximum light & lifetime
- Different wave lengths for inspection from above and beneath
- Reliable & accurate classification of defects
- In-line capability including adaptable handling system for easy integration into production lines (one-stop shopping)
- Data storage function for quality evaluation & process optimization

### About Dr. Schenk

Dr. Schenk GmbH, established in 1985, is a globally active, innovative high-tech company based in Munich, Germany. For the third decade now Dr. Schenk offers comprehensive solutions for automated quality assurance and production process monitoring for the solar, flat glass, film and foil, converting, optical media and semiconductor industries.

## 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