

Concurrent Characterization of ITO/TCO/Hard-Coated Film: Coating Monitoring - Particle Detection - Defect Inspection



Dr. Schenk solution for the inspection of ITO/TCO/Hard-coated film

The Dr. Schenk inspection solutions EasyInspect and EasyMeasure ensure optimum OLED and TFT quality of the base material and of the coatings of the finished product.

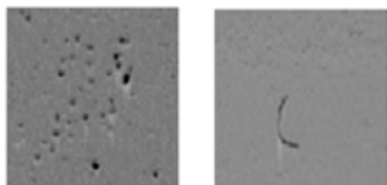
Advanced Dr. Schenk technology monitors and reports production quality, covering 100% of the material with a single system.

Using the system with the fastest camera and the most powerful illumination means that with Dr. Schenk's EasyInspect you can see defects that others cannot see.

High Performance

EasyInspect detects particles down to 1 μm in size. High resolution detection of contrast and deflecting defects is paired with monitoring of coating homogeneity at sub-nm level.

EasyInspect helps manufacturers to minimize sputter target waste during production and reduce the costs caused by poor quality products (ISO 14001).



Scratches and holes - typical defects in ITO/TCO-coated films

YOUR BENEFITS

Cost Savings with Superior Technology

- Improved defect detection and classification through Multiple Image Defect Analysis (MIDA)
- Super-fast cameras allow multiple optical channels in one camera line
- Reduced costs and installation space through Twin-Line illumination – 2 optical channels in one illumination

Unparalleled User-Friendliness

- Easy and automatic creation of classification rules with the Auto-Classifer
- Configurable reports with the Dr. Schenk Reporting Tool

100% Material Monitoring

- Easy Measure for 100% monitoring of the material properties e.g. haze, thickness, and many more

Complete MIDA solution for laminated film production

With Dr. Schenk's unique Multiple Image Defect Analysis (MIDA) all kinds of laminated film defects can be fully analyzed in one inspection run. Thanks to ultra-high speed illumination switching and multiple optical channels per camera line all issues can be detected and classified with more information per defect, at higher production speed, than any other inspection technology can.

TCO Monitoring ...for OLED Lighting & Display Applications

The brightness of an OLED-based illumination or display is determined by the following factors:

- Area distribution of local coating thickness
- Uniformity of optical density
- Quality of the TCO coating

By measuring electrical resistivity, coating variations become visible as variations in brightness and color, and can be displayed and monitored by EasyMeasure.

...for Touchscreen Applications

The surface sensitivity of touchscreens depends largely on the local surface resistivity or capacity which is mainly influenced by the TCO coating thickness and/or doping. Deviations in this can cause different levels of light transmissibility which are monitored by EasyMeasure.

EasyMeasure: 100% process control

The combination of EasyInspect with EasyMeasure allows full control over the extrusion, laminating and finishing processes:

- 100 % coverage of the TCO coated film
- In-line defect detection of contrast and deflecting defects, particles & monitoring of web properties in a single system
- Industry proven design without moving parts
- Operator-friendly visualization and real time 2D map in machine and cross web direction

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 and converting of many materials, e.g. plastics, textile materials, nonwovens, paper, metal, or glass, for a multitude of markets like display glass, automotive, packaging, medical, renewable energy, and many more. From modular standard units to highly customized systems - Dr. Schenk's solutions have precision in focus!

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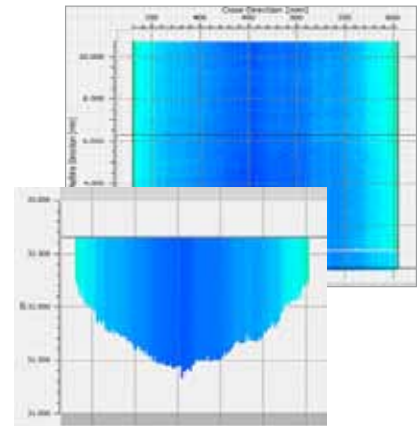
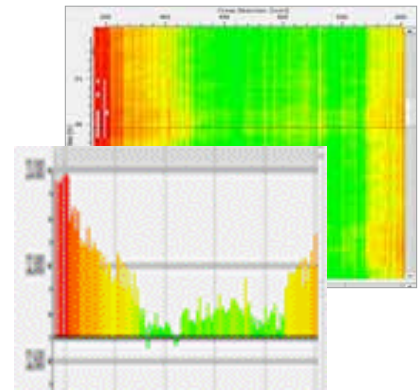
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Screen shots of EasyMeasure showing coating non-uniformities

