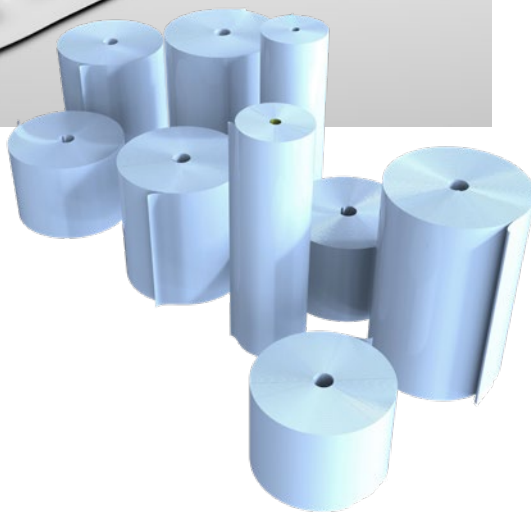
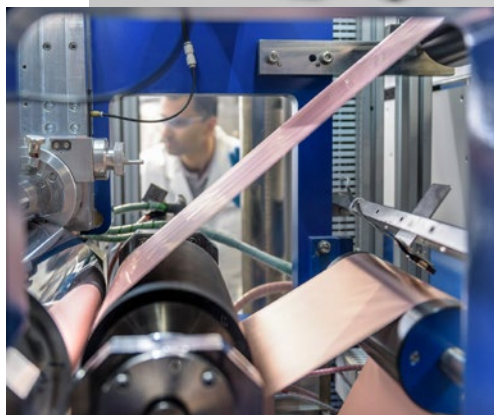
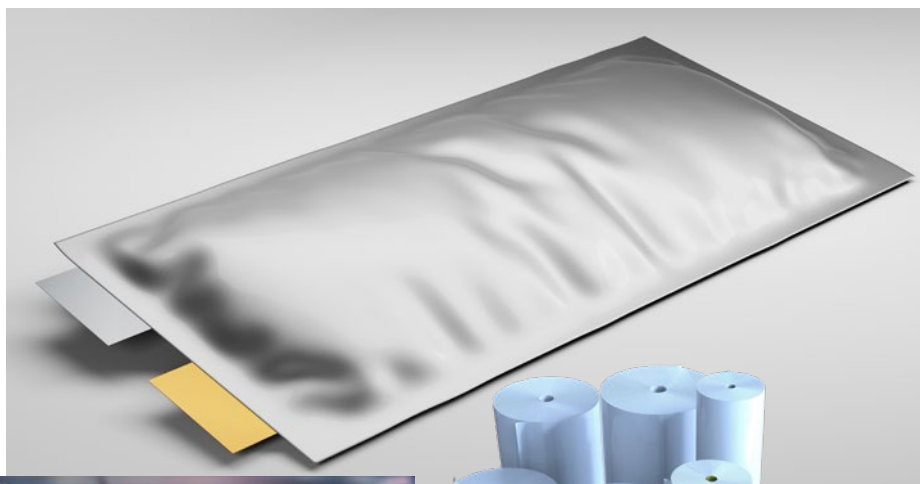
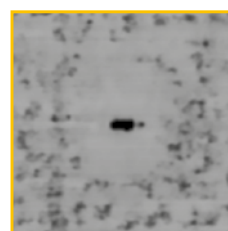
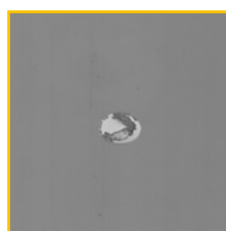
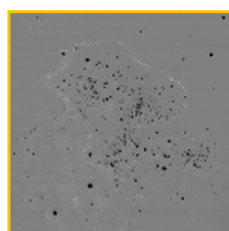
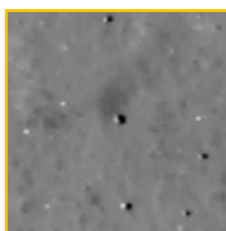


High-Performance Inspection for Battery Foils

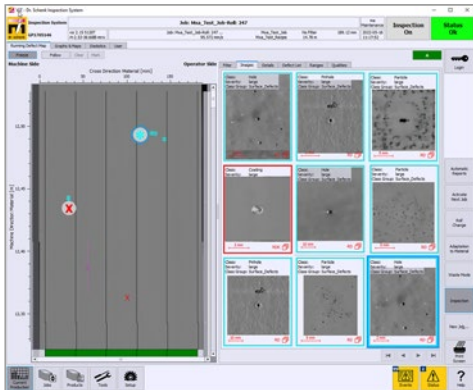


Battery Foil

The complete inspection solution



EasyInspect & EasyMeasure



Powerful visualizations provide all relevant information about defects

Having the edge in battery foil production

The demand for powerful energy storage, increased load capacity and extended lifetime of batteries requires constant improvements in their production. With Dr. Schenk inspection systems optimal inspection along the production chain is possible, providing profound insight in production quality and enabling targeted, fast optimization when necessary.

With over 16,000 surface inspection systems sold, Dr. Schenk has unparalleled expertise and can guarantee fast implementation of every customer need.

YOUR BENEFITS

Cost Savings with Superior Technology

- Next level of defect classification with dedicated illumination, MIDA X and AI technology
- Reduction of waste by utilization of small process windows
- Higher output by early detection of process deviations

Safety First: 100% Reliable Inspection Results

- Versatile optical inspection to guarantee safe products of top quality
- Reliable defect detection at highest speed with sub- μm -resolution
- Modular hardware and software ensure flexible customization and scalability
- 10 years camera warranty

Best Support for Your Workflow

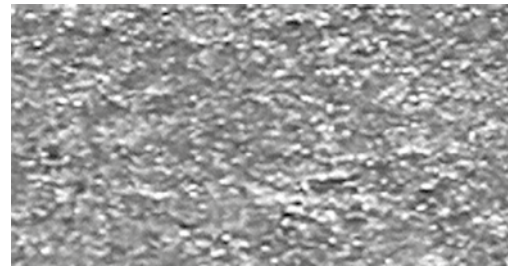
- Fast setups supported by automatic setup functions
- Easy production optimization with effective software tools and comprehensive statistic analysis
- Transparent production e.g. by central data access and long term data storage



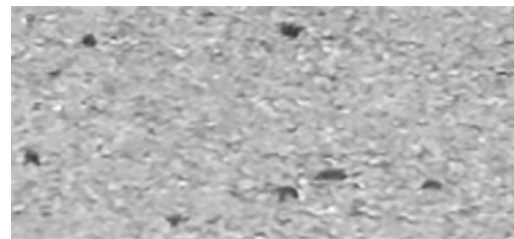
Ensures Quality, Improves Your Process

Technological leadership to match dynamic demands

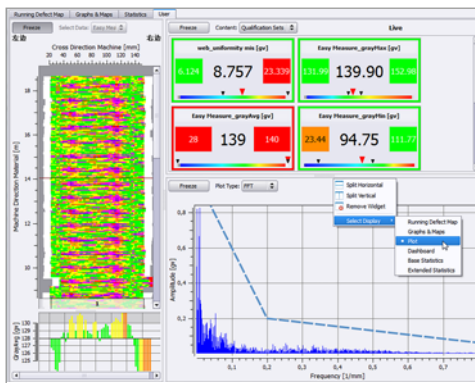
- Dr. Schenk illumination and cameras for all inspection challenges (e.g. very tiny defects of same material or on structured coating)
- MIDA: Dr. Schenk's unique Multiple Image Defect Analysis detects and classifies all kinds of defects with different optical channels and illuminations, multiplexing at highest speed. Each defect yields multiple gray images from different channels, ensuring maximum detection and classification capability.
- MIDA X: Superior segmentation of the most difficult defects (e.g. low contrast, background noise, and many more) with Multi-Step classification model combining AI classification with human intelligence



Conventional illumination: particles nearly invisible on micro crystalline LiBat electrode surface



Dr. Schenk illumination: particles reliably detectable



Extensive material monitoring, including coating homogeneity, production charts and more



Customizable statistics for transparent overview of the current and past process quality

Separator Film	Electrode Coating
<ul style="list-style-type: none"> • All kinds of separator films (e.g. PE, PP, ceramic, wet / dry) 	<ul style="list-style-type: none"> • Before or after calendaring • Slitting / notching • Verification cleaning process
<ul style="list-style-type: none"> • 100% inspection of all typical defects, e.g. holes, particles, coating, thin spots, drops, float defects • Quality monitoring, (pore distribution, homogeneity, thickness etc.) • Exact classification, even for difficult defects e.g. thin spots or pinholes 	<ul style="list-style-type: none"> • 100% surface inspection for all types of defects plus material characteristics (e.g. homogeneity, missing coating) • High precision measurement of alignment coating (top and bottom), dimension notches/sheets • Exact classification for all defect types
<ul style="list-style-type: none"> • Dedicated analysis for repeating defects or porosities • Material thickness can be evaluated with sub-μm accuracy • Roll editor for easy post-processing 	<ul style="list-style-type: none"> • Dedicated analysis for repeating defects • Processing of continuous material or single sheets

Your Reliable Partner



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 inspection and measurement solutions for automated quality assurance and production process monitoring. This includes high-quality, customizable handling solutions. The systems are a key success factor in the making and converting of many materials, e.g. plastics, nonwovens, textile materials, paper, metal, or glass, or a multitude of markets like display glass, automotive, packaging, medical, renewable energy, and many more.

Throughout the world more than 300 Dr. Schenk employees continue to set new standards for inspection. Over 18,000 m² of modern, cleanroom-capable production and testing facilities are available to research, development and production to apply cutting-edge optics and electronics to customer applications.

Dr. Schenk offers extensive from-lab-to-fab knowledge. Customers benefit from the expertise in the translation of lab applications to large scale productions. Sophisticated handling solutions complete the one-stop-shopping experience.

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 your material in focus!

For more information: www.dr.schenk.com

YOUR MATERIAL IN FOCUS

*Advanced Machine Vision
Solutions for Quality Control*



**Dr. Schenk GmbH
Industriemesstechnik
Headquarters**

Bussardstr. 2
82166 Graefelfing
Germany

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

www.dr.schenk.com/contact.html