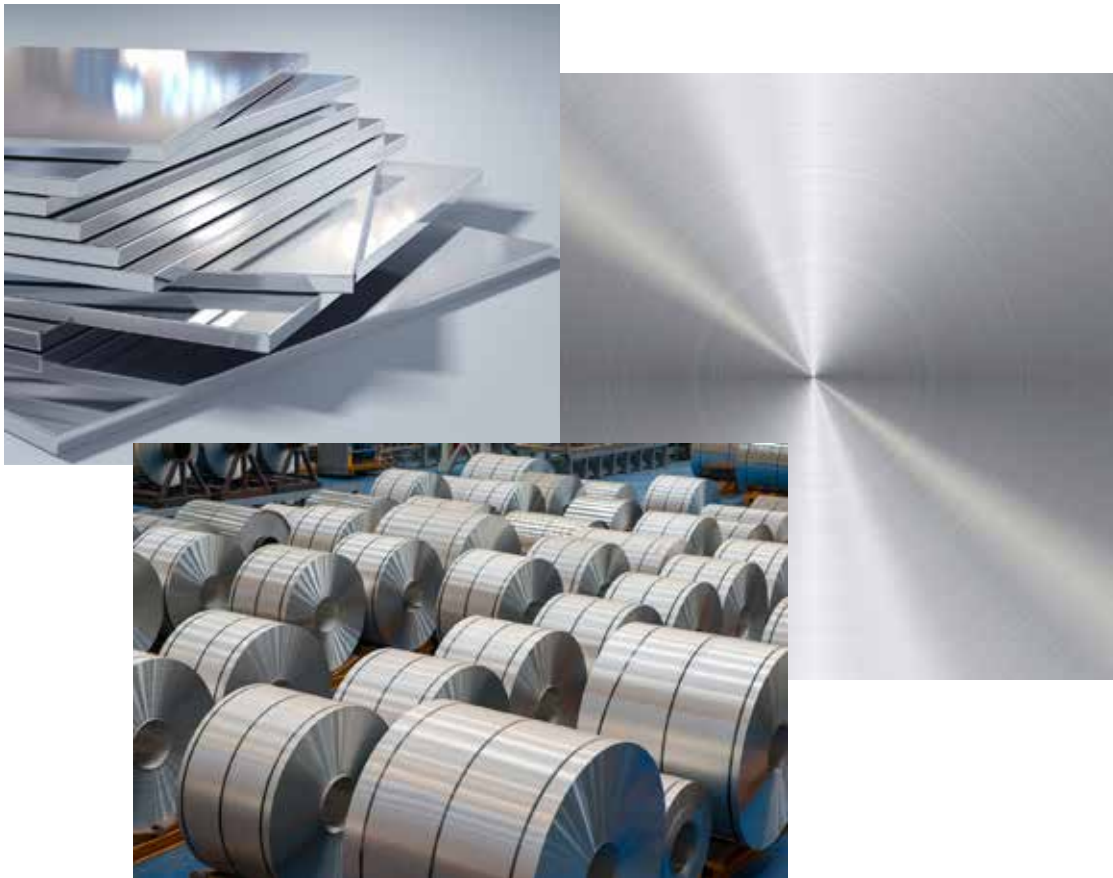
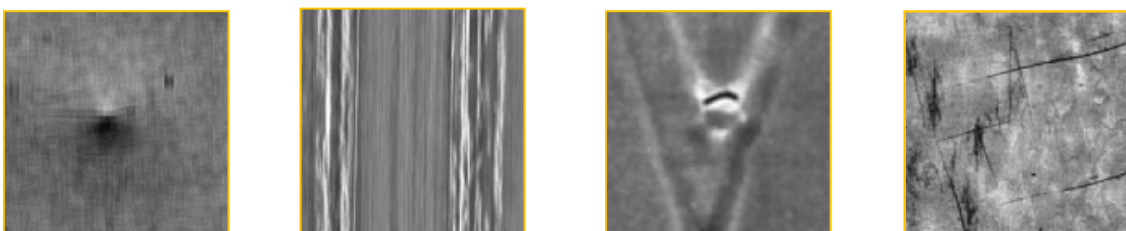


Automatic Optical Surface Inspection for Metals



Metals

The Complete Inspection Solution



EasyInspect & EasyMeasure

YOUR BENEFITS

Powerful Automatic Optical Inspection

- Best detection rates using multiple views with advanced lighting technology for every defect (MIDA technology)
- Intelligent classification combining all defect information from all views to differentiate critical defects from uncritical material irregularities

Best Technology in Optics, Electronics, Software

- Special optics for directed light to detect smaller topographic defects reliably
- Unique Ultra High Speed Dual Line Camera (up to 1280 MHz) for highest inspection speed and improved sensitivity for low contrast defects
- Advanced software, including streak and period detection

Quality Information System (QIS)

- System *Industry 4.0 Ready* using open SQL database for storage and further processing of information
- Flexible reporting for internal and external documentation of material quality

Typical Applications

- Hot Strip Mill
- Pickling
- Tandem Mill
- Temper Mill
- Continuous Annealing Line
- Galvanizing
- Stainless Steel
- Finishing Lines
- Specialized Applications

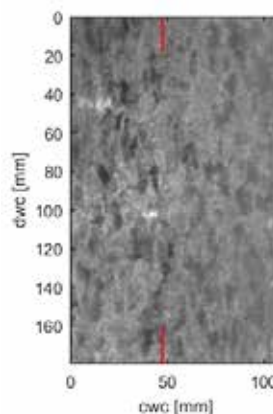


EasyMeasure for monitoring the metal surface properties

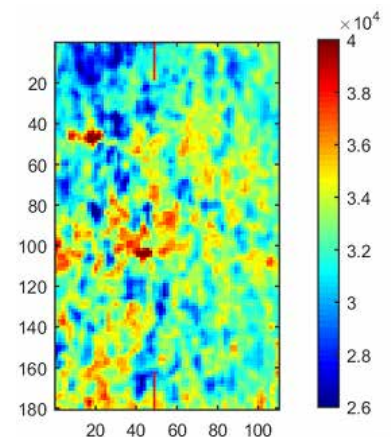
EasyMeasure provides comprehensive information about the metal surface like coarseness, gloss or coating homogeneity to optimize the production process and product quality.

Combine Dr. Schenk's EasyInspect for local defect detection with EasyMeasure for complete material monitoring to gain an added dimension of quality control.

With this system, you have a fast and powerful control tool for quick corrections of costly production malfunctions, without additional hardware and implementation costs.



Example of EasyMeasure display of coarse core effects on metal surface, displayed in gray values and false color at a 16 bit resolution²

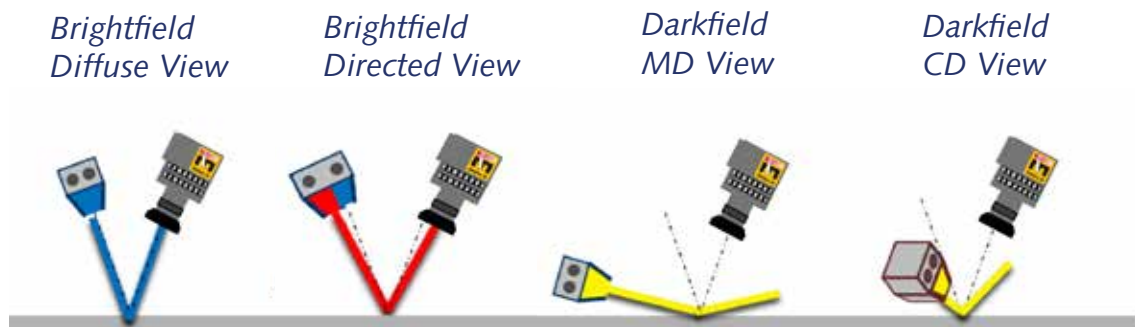


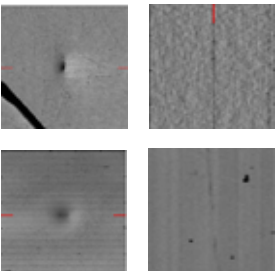
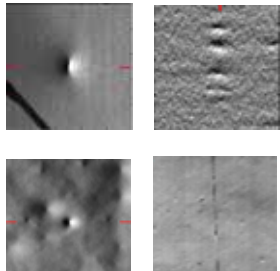
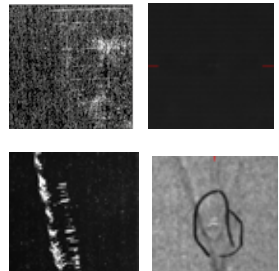
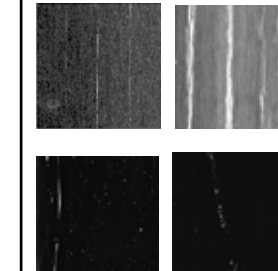
Ensures Quality, Improves Your Process

EasyInspect - powerful inspection of metal with MIDA

EasyInspect uses Dr. Schenk's unique MIDA (Multiple Image Defect Analysis) technology to inspect metal with multiple views. The powerful software combines all information from 2x4 optical channels, ensuring the most comprehensive defect classification to differentiate critical defects from uncritical material irregularities.

With four views for the top side and the same four views for the bottom side, unparalleled precision in detection is achieved.



Defect Types			
Contrast Defects Absorbing Defects	Topographic Defects Deformation Defects	Scattering Defects (Cross Direction)	Scattering Defects (Machine Direction)
Defect Classes			
Rolled-In Marks Holes Fluid / Oil Stains Pits Rust Scales Dross Edge Defects	Indentations Roll / Pressure / Skid Marks Hills Craters Dents Pinches	Scratches Cross Breaks Pits Rubs Pinches Laminates Slivers, Shells Pinheads Caster Cracks	Scratches Pits (Corrosion) Rubs Pinheads Worn Roll Scales Rolled over Scratches
Defect Image Examples			
			

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*



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