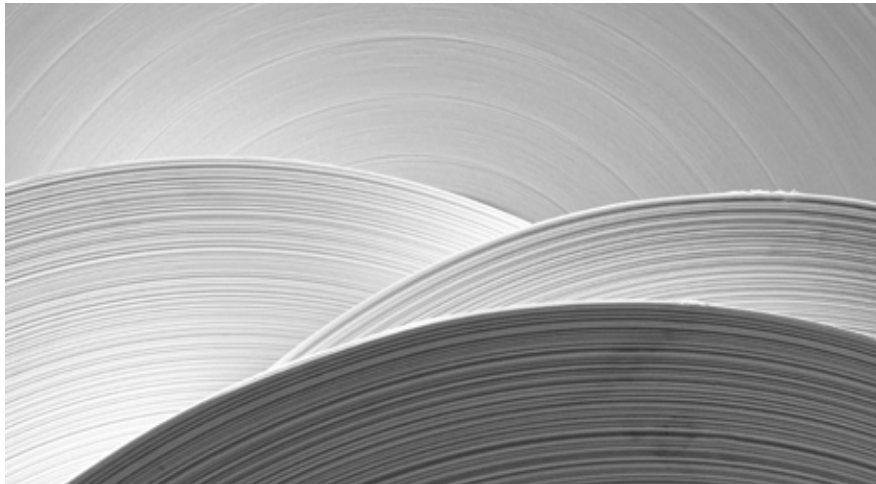
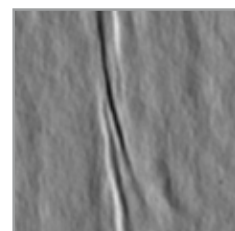
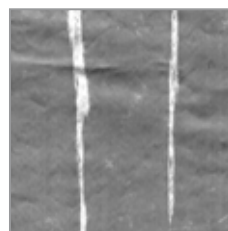
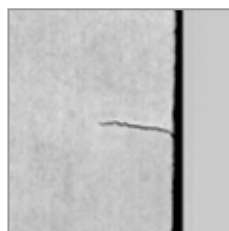
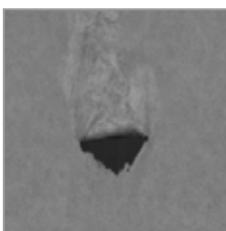


Automatic In-Line Process & Quality Control for Pulp and Paper



Pulp and Paper

The Complete Inspection Solution



EasyInspect & EasyMeasure

YOUR BENEFITS

Return on Investment

- Accurate defect detection and classification for pulp and paper production
- Increased productivity and enhanced maintenance scheduling due to improved process control and monitoring
- Easy retrofitting due to minimal MD space consumption, one camera row for multiple optical channels

Industry 4.0 - Big Data

- Connecting across the value chain in real-time, to ensure a predictable workflow
- Communication and data transfer via various interfaces (WBS, MES,

Key Features

- Ultra-fast camera for high resolution even at highest production speed
- MIDA technology for better classification at minimized space consumption
- MIDA X for state-of-the-art classification
- True color inspection, oblique illumination for MD defect detection



Identified Defects

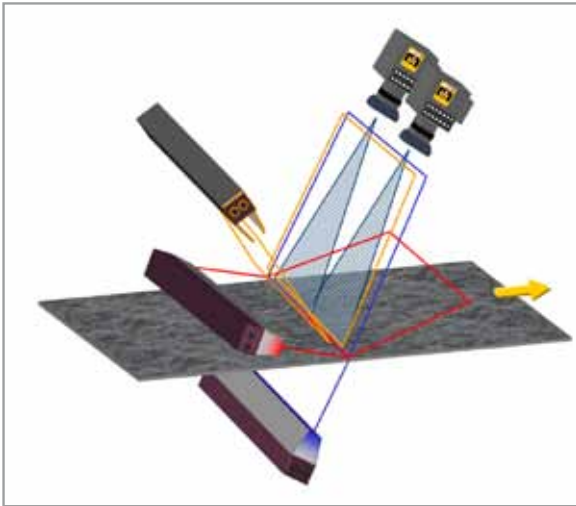
| Conventional WIS | Dr. Schenk MIDA |
|---|---|
| <ul style="list-style-type: none"> • Holes • Dirt • Slime • Shives • Edge cracks | <ul style="list-style-type: none"> • Holes • Dirt • Slime • Shives • Edge cracks • Coating defects • Indents / Hills • Streaks / Scratches • Water marks • Oil stains • Wrinkles MD/CD |



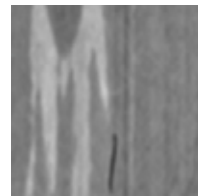
Ensures Quality, Improves Your Process

MIDA: Best defect detection and multiple view-based classification

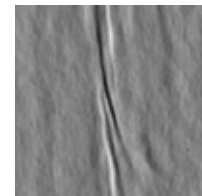
Dr. Schenk's unique Multiple Image Defect Analysis (MIDA) detects and classifies all kinds of defects with multiple optical views, multiplexed at highest speed. Every defect class is primarily visible in at least one specific view. Coating and other surface defects like wrinkles are visible in reflection, holes and cracks in transmission optics. MIDA ensures the maximum detection at minimum space consumption using only one camera beam but multiple illuminations.



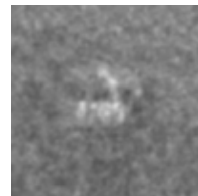
Multi-channel configuration for optimal inspection in transmission and reflection, brightfield and darkfield



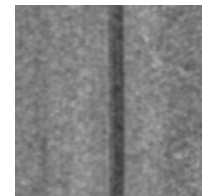
Coating defect



MD Fold



Press mark



Line defect

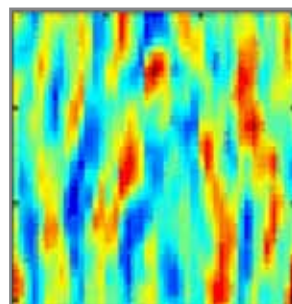
MIDA X: Superb defect classification and sizing through Visual Intelligence

MIDA X is a highly scalable software and hardware crossing borders of current defect analysis towards the real time threshold independent analysis. Combining MIDA and MIDA X, both, full defect information is acquired and false hits overload is avoided.

Monitoring of properties with EasyMeasure

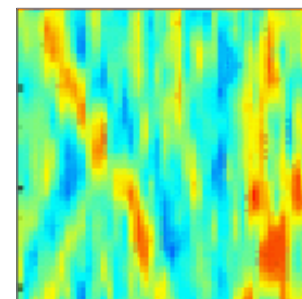
The Dr. Schenk real-time in-line monitoring of formation, roughness, base weight variation, coatings, and other critical pulp and paper properties provides a progressive integration into the modern production process. Fast reaction troubleshooting and the ability to optimize downstream processes are provided.

Before Head Box Optimization



EasyMeasure topographic map

After Head Box Optimization



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 12,000 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 precision in focus!

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