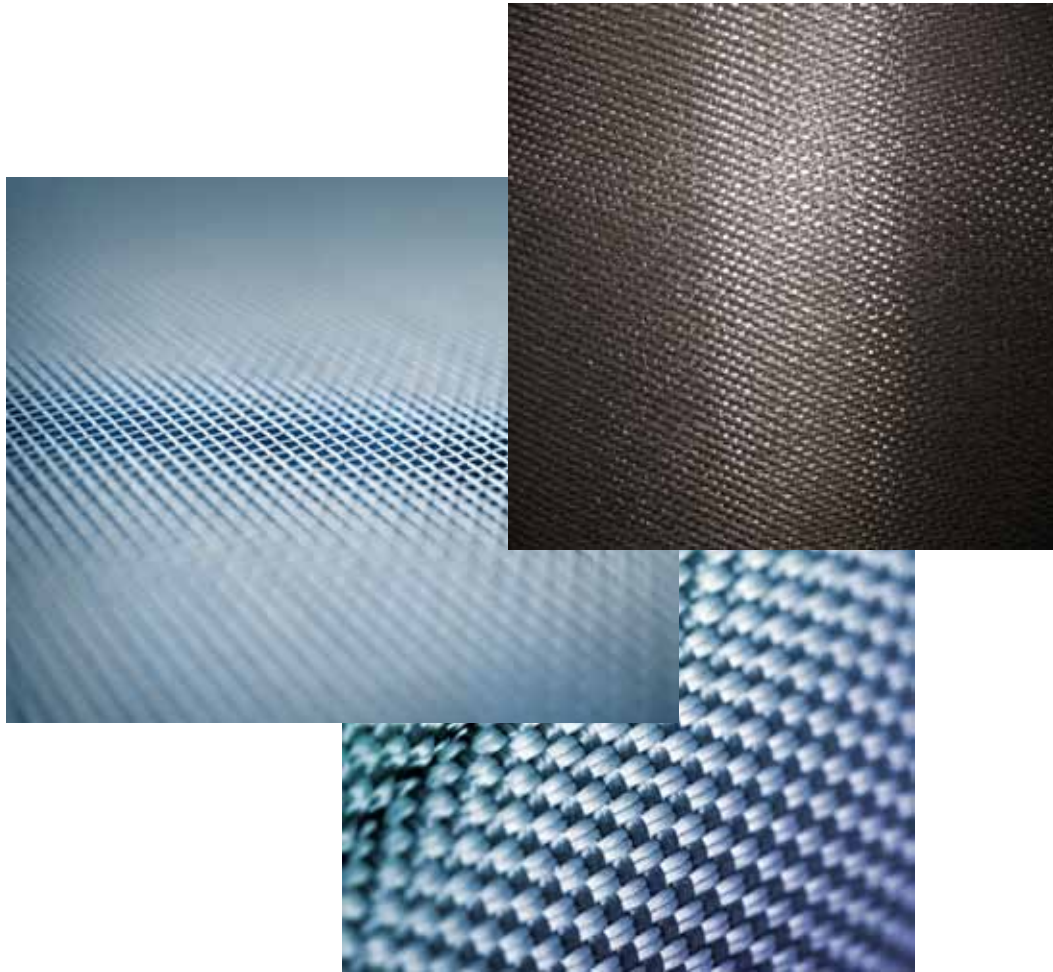
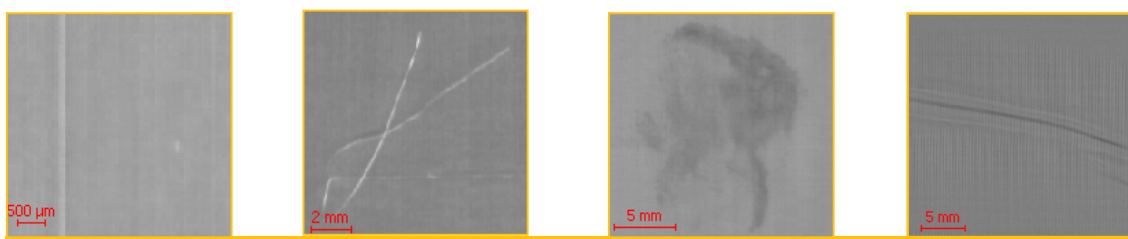


## Automatic Process and Quality Control for Textiles



Textiles

## The Complete Inspection Solution



# EasyInspect & EasyMeasure

## YOUR BENEFITS

### Cost savings with superior technology

- Reliable defect detection and classification of all deviations from the base material through Multiple Image Defect Analysis (MIDA)
- Super-fast cameras = multiple optical channels in one camera line
- Small space requirements and cost savings through Twin-Line illumination – 2 optical channels in one illumination
- Reliable streak detector, unique defect detection through Histogram evaluation

### Flexible application for all textiles

- Best inspection for technical textiles (carbon and steel fabrics etc.), decorative textiles and clothing, as well as carpet
- Usable for textile creation and processing, and separately for cloth inspection
- 100% of the material base weight can be monitored for deviations, in user-defined material resolution

### Simple and easy to operate

- Detailed production statistics both during and after production
- Simple adaptation to new materials onsite without programming or software knowledge



*Efficiency and quality through Dr. Schenk inspection for textiles*

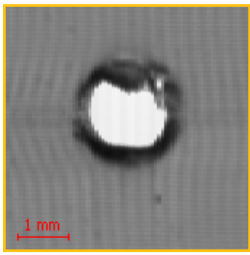
## EasyInspect - Powerful inspection of textiles with MIDA

EasyInspect uses MIDA technology to inspect textiles with multiple optical channels on a single scan line. One defect is seen from different perspectives. The defect information from the different channels is combined, ensuring the most comprehensive defect classification and material qualification. Acceptable material characteristics can be clearly distinguished from yield-relevant defects (color deviations or spatially limited defects like torn meshes and holes).

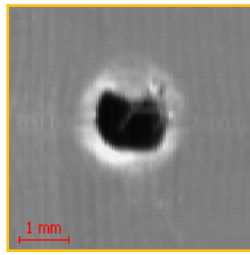
In this way, no faulty material is delivered to the customer, while no acceptable material is scrapped needlessly. Low investment costs and small line space consumption through a single scan line are further benefits of the inspection with EasyInspect and EasyMeasure.



# Ensures Quality, Improves Your Process



Transmission Brightfield

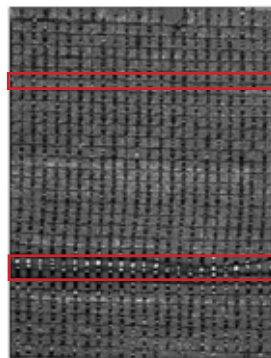


Reflection Darkfield

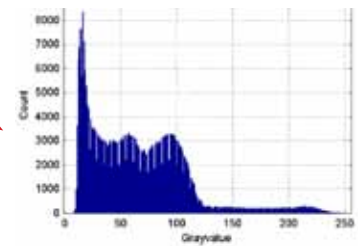
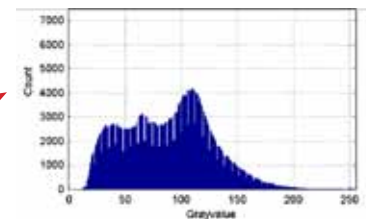
The defect images on the left show how a needle hole is displayed in two different channels on the same scan line. By having multiple perspectives through the MIDA technology, the system offers the best classification for each individual defect. In this example, the needle hole is detected reliably in both channels. However, in the transmission bright-field channel the the material structure can be seen better. By merging the defect information from both channels a comprehensive defect classification is possible.

## Unique defect detection through Histogram evaluation

The structured formation of textiles makes it difficult to distinguish between regular brightness variations (meshes) and variations caused by material defects (mis-aligned meshes, double picks etc.) Special-ly for this task, Dr. Schenk developed the Histogram evaluation: Based on statistic gray value distributions in user-defined areas defects can be reliably differentiated from regular material.



Histogram distribution for good material (top) and misaligned meshes (bottom)



## Textile materials:

- Gauze
- Knitted fabrics
- Braidings
- Sewed Braidings
- Tubular fabrics
- Laminated/Coated fabrics
- Carpet
- Semi-finished textiles
- and many more

## Textile defects:

- Contaminations (oil stains, particles, foreign fibers)
- Wrinkles
- Streaks (double picks, reed or hook marks)
- Holes by fiber breaks (for example torn meshes)
- Deviations from the base structure (warps, mesh geometry, lattice image etc.)
- Faulty coating (irregular, non-adhesive or missing)
- and many more

## EasyMeasure monitoring

Material homogeneity, permeability, and, in case of coating, coating thickness are the most important properties of a textile material with regards to a low variation coefficient of the production. Dr. Schenk's EasyMeasure offers complete monitoring of these aspects for the full material width with more than 65.000 gray levels for identifying large-area defects like coating variations and other irregularities.

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 surface inspection and measurement solutions for automated quality assurance and production process monitoring. The systems are 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.

Throughout the world Dr. Schenk's 220 employees continue to set new standards for the inspection of surfaces. Over 10,000 m<sup>2</sup> 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.

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!

For more information and contact details:  
**[www.dr.schenk.com](http://www.dr.schenk.com)**  
**[mobile.dr.schenk.com](mailto:mobile.dr.schenk.com)**

#### **Germany**

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

#### **USA**

Phone: +1-651-730-4090  
Fax: +1-651-730-1955

#### **Korea**

Phone: +82-2-527-1633  
Fax: +82-2-527-1635

#### **Taiwan**

Phone: +886-2-2920-7899  
Fax: +886-2-2920-8198

#### **Hong Kong**

Phone: +852-2425-1860  
Fax: +852-2425-6775

#### **China-Beijing**

Phone: +86-10-6503-2159  
Fax: +86-10-6503-2161

#### **China-Shanghai**

Phone: +86-21-5836-6700  
Fax: +86-21-5836-6701

*For further regional sales & service representatives please refer to [www.dr.schenk.com](http://www.dr.schenk.com)*

#### **Dr. Schenk GmbH Industriemesstechnik**

Einsteinstrasse 37 (Martinsried)  
82152 Planegg  
Germany