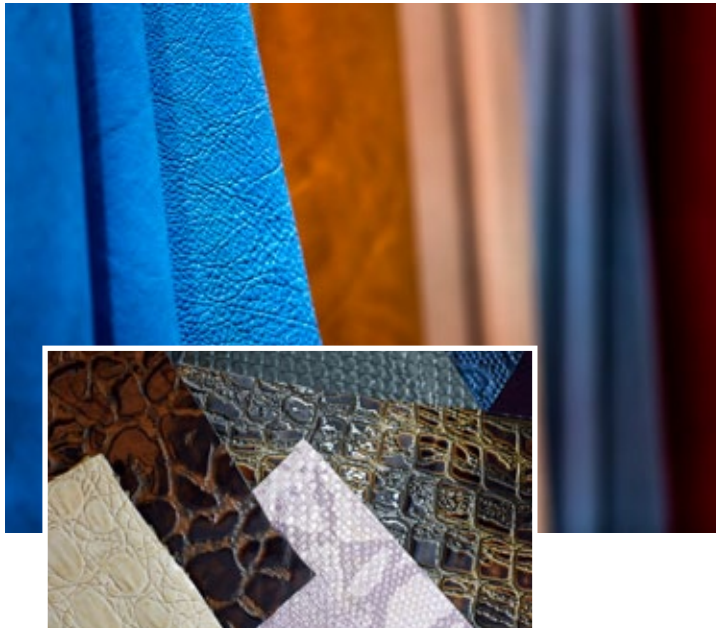


Automatic Quality & Process Control for Synthetic Leather Production

Synthetic Leather



Two difficult challenges for automatic inspection of synthetic leather are

- finding defects in the leather's structured surface and
- distinguishing between reported events and actual defects.

Dr. Schenk EasyInspect can easily perform those two tasks and many more to help ensure optimum product quality for even the most demanding final applications.

"Events" are often simply signal noise generated by the product's irregular surface structure.

Improve your product: Dr. Schenk EasyInspect & EasyMeasure

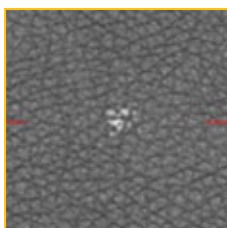
- Discover small, localized defects in the structured surface of your product with EasyInspect
- Discover overall changes in the structure of the product with the EasyMeasure option
- Process large number of defects easily
- Optimize defect classification using Dr. Schenk AI
- Rely on your inspection system to distinguish clearly between possible defects (events) and actual defects

Your benefits from Dr. Schenk solutions

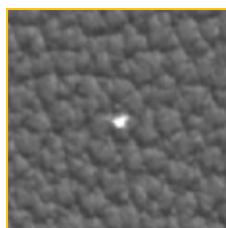
- High-quality data with Dr. Schenk MIDA X technology: complete defect information, e.g. precise defect size
- Premium classification with Dr. Schenk AI
- Data management: open SQL database to interface with other equipment in the line

Examples for small, localized defects:

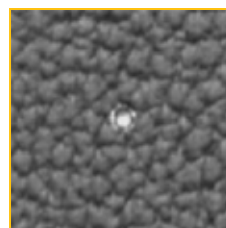
Oil spot



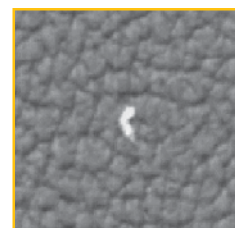
White dot



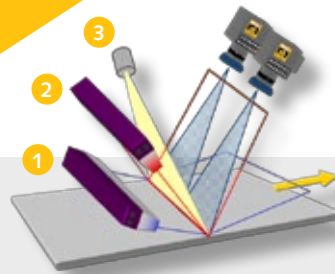
Colloidal particle



Lack of material



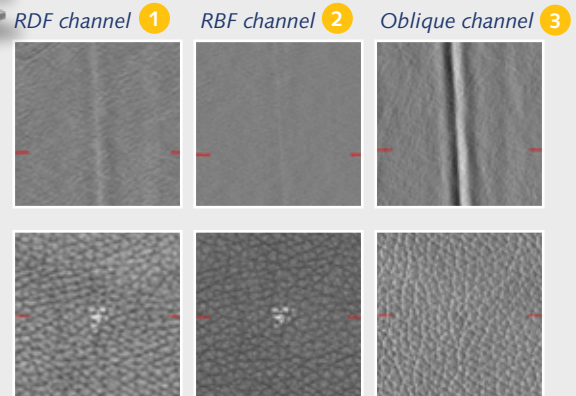
Your path to reliable synthetic leather quality



EasyInspect with MIDA

Optimum detection and classification of defects in synthetic leather are crucial to separate defects from events. EasyInspect uses MIDA (Multiple Image Defect Analysis) technology to inspect the material with multiple optical channels on a single scan line and detect defects from different perspectives.

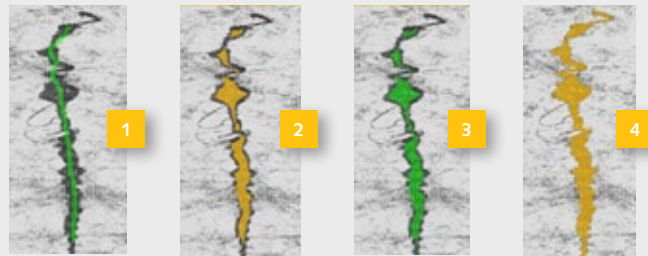
The combination of defect information from different channels is essential for comprehensive defect classification and material qualification.



Same defects in synthetic leather material as seen with different optical channels

Dr. Schenk MIDA X and AI

MIDA X is the intelligent answer to segmentation issues. Together with Dr. Schenk artificial intelligence (AI) it transcends multiple threshold approaches, which led to incompletely detected defects or pseudo-defects, and assists in the creation of automated classification algorithms.



Manually trace approximate defect contours...

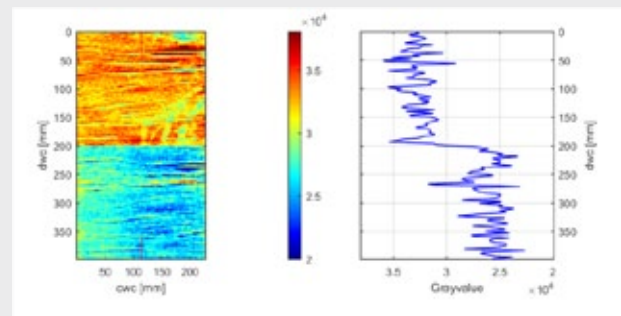
...check initial MIDA X interpretation

Benefit from improved detection based on MIDA X...

...resulting in perfectly AI segmented defects and optimum classification

EasyMeasure: Monitoring large-scale variations

Properties and characteristics such as gloss and metamerisms must be monitored in synthetic leather production as they are essential to the product's look. EasyMeasure offers complete monitoring with over 65.000 gray levels to detect large-scale material variations in high resolution and with great detail.



Homogeneity maps show variations in surface homogeneity in two synthetic leather samples

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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