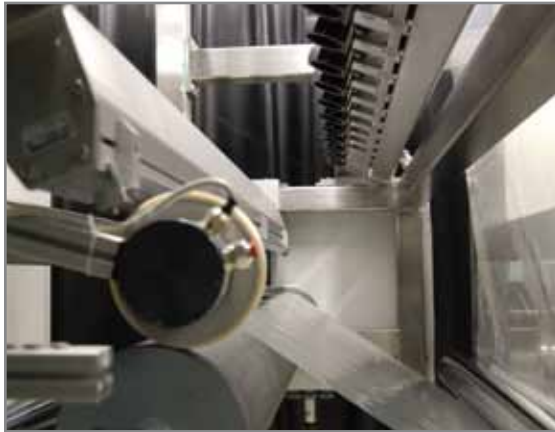


Fluorescence Monitoring for Coated and Uncoated Web Material



Innovative Option for:

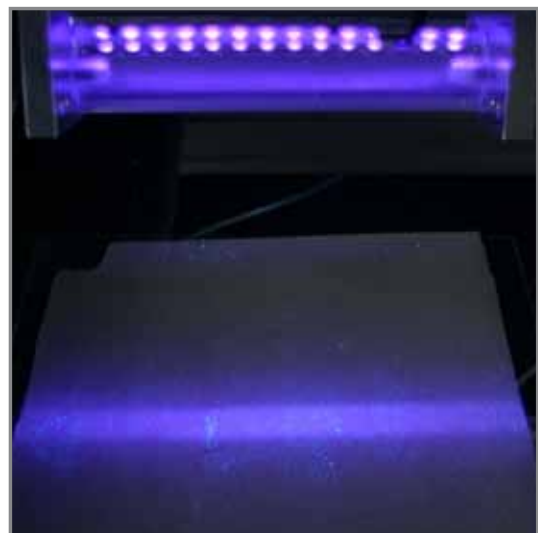
- Quality Control
- Data Collection
- Web Marking
- Process Control

Fluorescence Monitoring

Fluorescence monitoring takes advantage of the fact that some materials naturally fluoresce. When exposed to UV light, atoms or molecules in the material become excited and emit light at a certain frequency. Starch particles, for example, glow bright blue under UV light.

When it comes to inspecting the homogeneity of coatings on web material, fluorescent particles can be added into the coating material as a tracer. The distribution of the fluorescent particles is then used to monitor the homogenous distribution of the coating on the base material.

UV light is used to stimulate the particles to emit light within a range of wavelengths which is detected by the CCD cameras. Each particle generates a pseudo-defect signal which will be detected. The amount of particles within a certain area gives a good estimation of material distribution. Dr. Schenk's EasyMeasure option inspects 100% of the process and thus is a useful tool for the operator to guarantee that a material has been properly treated with the correct amount of coating or saturate additive.



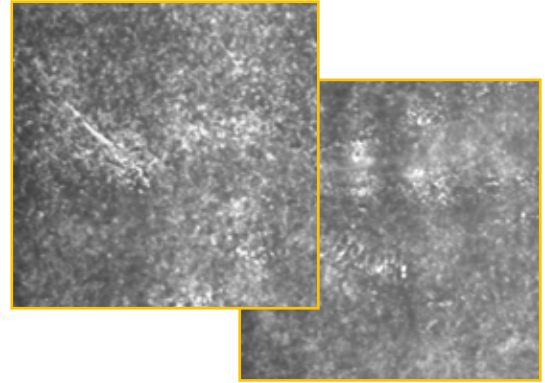
*Use of UV Illumination for
fluorescence monitoring*

Fluorescence

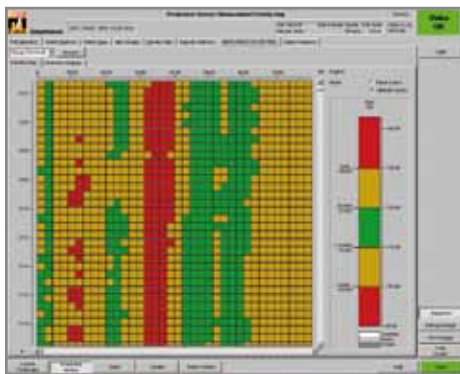
Features of EasyMeasure Software at a Glance

Software from Dr. Schenk systems provides graphical visualization of the web material's quality. By analyzing the entire material width along the running production line EasyMeasure enables short and long term optimization of the manufacturing process, which results in higher yield. Each roll produced has its own identity and quality grade, thus, eliminating shipping mistakes.

- Roll maps (Pass/Fail or false color representation)
- Recipe driven set-up
- Long term trends and short term trends
- Cross-web profiles
- Short term variations
- Real-time variation quality grade
- Quality reports with total variation calculations used for shipping decisions
- Automatic width measurement (optional)
- Roll defect markings matched to roll map (optional)



EasyMeasure visualization: grayscale images - different fluorescence intensities signal coating inhomogeneities



EasyMeasure control and specification limit maps

Benefits of EasyMeasure Options

- Continuous full width monitoring
- No mechanical scanners or devices
- Non-radioactive
- Full width short term variation analysis
- All process control features in one system
- Shared hardware with EasyInspect- reduce costs
- Very low long-term maintenance costs
- Highest ROI in the industry

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