

Monitoring the Web Material's Opacity, Optical Density and Reflectivity



Innovative Option for:

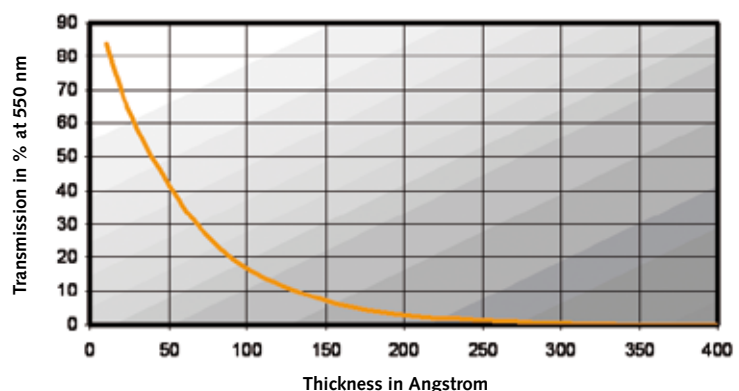
- Quality Control
- Data Collection
- Web Marking
- Process Control

Opacity/Optical Density/Reflectivity

Opacity is the amount of light transmission through a material whereas reflectivity is the amount of light reflected from a material. The less translucent a material becomes the more opaque it is. If a material is totally clear, it has a gray scale value of 255. If a material is completely opaque it has a gray scale of 0. Defining different levels of opacity in between these two extremes can be exceedingly challenging.

Alternatively to opacity, the amount of transmitted light through the material can be expressed as optical density which provides a very linear correlation to the actual thickness particularly for homogenous materials such as plastic or metalized films.

Example transmission curve of aluminium material

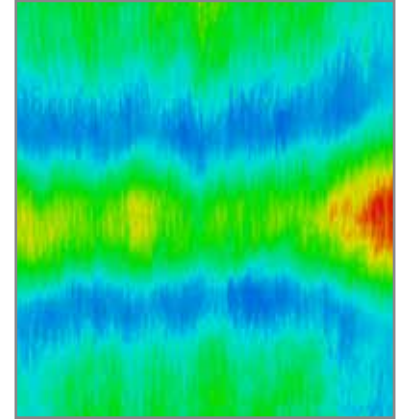


An example of this effect can be seen by looking at a common plastic bag. The bag will appear to be opaque from a distance to keep the contents of the bag hidden. However, if the film is laid directly on a printed document, the print is easily seen through the bag. This phenomenon makes the calibration of any opacity gauge nearly impossible. Dr. Schenk's EasyMeasure option, however, allows to maintain the same optical set-up, lighting and camera and use existing written standards to calibrate a given level of opacity in any material. The purpose of such an effort is to control the amount of raw materials or color concentrate in the final product.

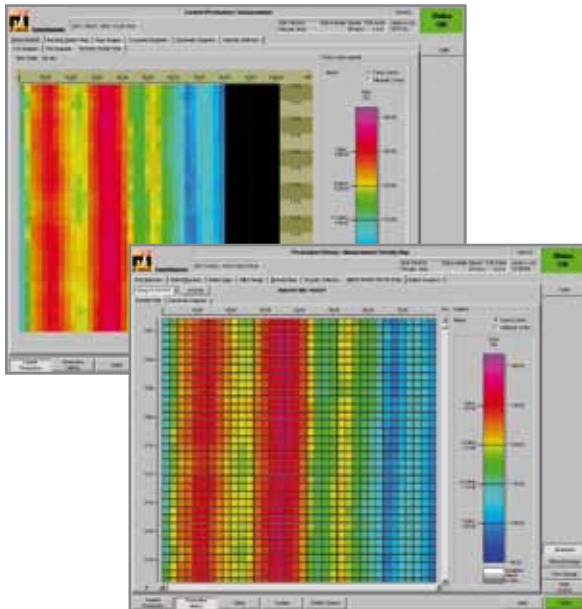
Features of EasyMeasure Software at a Glance

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 false color images - opacity monitoring at the complete material width



EasyMeasure visualization of the opacity monitoring

EasyMeasure false color images - opacity monitoring at the complete material width

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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