



Automated Quality Control for Security Paper

Due to its incorporated features, security paper requires a highly stable production process in order to meet the strict quality requirements for paper currency and other security products.

In cooperation with leading manufacturers of security paper, Dr. Schenk has developed a purpose-built solution that fulfills the quality and process control requirements for this sophisticated paper application. It recognizes all state-of-the-art security features and by its flexible design new parameters can easily be included as new security features evolve.

Key Benefits and Advantages

EasyInspect, the automated in-line inspection system, reliably detects defects in paper material, monitors presence, position and properties of the incorporated security features and additionally measures the geometry of the paper sheets. It works on a real-time basis enabling immediate root-cause analysis and corrective action. As an alternative to existing inspection solutions, the Dr. Schenk systems convince customers by offering the following advantages:

High Resolution CCD Line Scan Cameras

- High resolution cameras for absolutely realistic, microscope-like defect images
- Easy calibration, robust and maintenance-free compared to laser systems

Transparency of Product and Project

- Customer-involvement at early planning stage
- Full transparency of features and operating principles
- No "Black Box"

Tailor Made & Flexible for Future Enhancements

- Designed according to client specifications
- Enhanced defect classifications aligned with customer terminology
- Open to future additions as products evolve

Reliable Detection and Classification of Defects during Production

Defects and irregularities are reliably detected and automatically classified (see below for defect samples typical for security paper). The classification rules can be modified using a very flexible classification editor. In a further step, the defects are judged according to their severity.

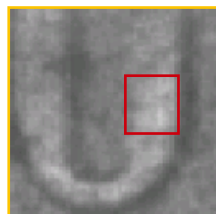
Hole in Paper



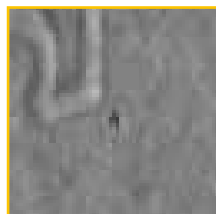
Inclusion



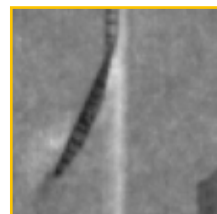
Thin Area



Inclusion

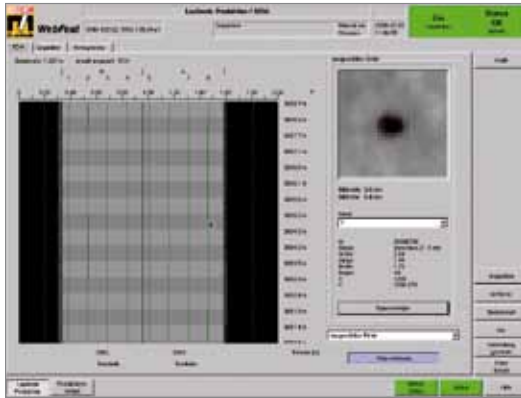


Security Thread Defect



Display and Analysis of the Inspection Results

EasyInspect offers an extensive tool set for the analysis and quality rating of the security paper, providing an immediate identification of sheets that do not meet the quality criteria.



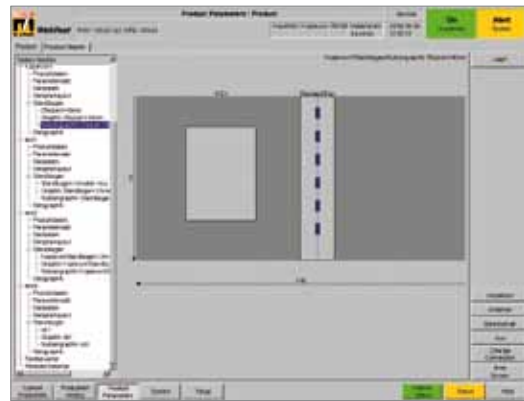
The Running Defect Map provides an instant overview of defects in running production. Each defect can be viewed as high-resolution image.



Production Statistics show e.g. number of produced sheets, count of all kinds of defects, as well as counts and reason for rejected sheets.



Gray Image Snapshot: Microscope-like image to monitor position of security features.



Easy graphical assisted parameter setting for new product specifications.

It is possible to directly interface to a marking device in the paper mill or a sheet-gate in sheeters. The integrated real-time sheet quality judgement ensures that only relevant defects are marked, or respectively, only sheets with relevant defects are discarded. The software also enables the operator to recall stored data of pre-inspected sheets including details and images of individual defects. Defect maps, statistics and graphs, as well as defect tables are additional tools available for this purpose.

Challenge EasyInspect!

EasyInspect, the highly innovative and powerful inspection solution for security paper, has already proven itself in multiple installations, where it distinguishes itself through reliable, repeatable and precise quality assessment for a product where very high quality standards are imperative.

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