

## 100% optical quality inspection of foil

Surface inspection guarantees perfect material properties

### The task

An international manufacturer of high-quality film materials, multilayer foils of plastic, aluminum, and paper strips (coated and uncoated) is optically inspecting its material according to the following criteria: discoloration of strips, coating faults, scratches, dust inclusions, folds and other faulty areas.



Inspection of web material

Vitronic's machine vision system VINSPEC inspects these film coils, up to 1.3 m in width and with a coil length of up to 6,000 m, inline at a speed of up to 120 m/min.

### Benefit

The foils are used for the packaging of foodstuffs, medical equipment and instruments. Materials that are 100% free of any defects are an essential requirement in such applications. At the production speeds common today, the human eye can no longer guarantee a proper quality inspection. Considerable quality improvements are achieved with the aid of the VINSPEC. The capability of being able to take immediate corrective action in case of process fluctuations also helps to avoid defects, and thereby achieves considerable productivity improvements.

### Implementation

Four high-resolution line cameras are mounted above a guide roller which capture an image of the surface with light field and dark field lighting. The surface of the strips is examined for the above defect criteria. Faulty areas are segmented by software filters, classified according to specific customer tolerances, and documented in an easy to read and temper-proof test report listing all the faults by class and with accurate position information.

#### Technical data

Cameras:	4 CCD line cameras
Illumination:	Line light with cold light source and cross-section converter
Resolution:	0,13 mm x 0,45 mm
Speed:	until 180 m/min
Hardware / Interfaces:	Industrial PCs I/O interface to system control PC

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