surcon 2D Surface Inspection System

Surcon 2D surface inspection systems detect and visualise even the smallest defects and anomalies as online inspection systems. They impress with a synergy of decades of expertise in the development of precision measuring systems, combined with high-end technical surface inspection.

Surface inspection of even the smallest defects is thus possible under even the most difficult conditions such as confined spaces, acidic vapours or oils.

In addition, a powerful, intuitive HMI ensures that the most relevant measurement results are always available.



- 100% online inspection using fast line scan camera and high-power LED
- automated defect detection and classification
- instant detection of periodic defects that indicate roll damages

- reliable IMS hardware and housing with integrated cooling ensures a long-lasting and low-maintenance operation
- tailored solutions and custom adaptation to local conditions help to achieve optimal results for your application
- optional integrated blower to protect the system from dust dirt and spray and reduce maintenance
- powerful toolsets for performance optimization and data evaluation
- apply surface inspection to every processing step for conclusive root cause analysis
- raw data recording e.g. for strip start / end or customizable intervals
- online visualization of results and reporting via customized result interface
- integrated quality grading tool – create your own rules for instant result evaluation

Material data

Max. speed (m/s):	up to 1,900 m/min for 0.4 mm length resolution
Width (mm):	not limited
Length (m):	no restriction / continuous inspection possible

Measurement system data

Configuration:	2D bright field
Installation type:	fixed installation
Camera type:	CMOS line scan camera / Gigabit Ethernet / Camera Link
Illumination source:	High Power LED 450 nm / 630 nm / white more than 500 W/m² at 500 mm working distance
Typical working distance:	400-1,500 mm

Performance data

Chip size / framerate:	up to 8,192 pixels / up to 140 kHz
Typical resolution:	0.2 mm x 0.2 mm / 0.2 mm x 0.4 mm
Image storage:	defective areas in full resolution full background in reduced resolution short intervals can be stored in full resolution
Image storage capacity:	typical 25 TB (up to 55 TB)
Image type:	open, lossless compressed tiff format
Database:	Microsoft SQL Server

Evaluation

Classification:	feature based, pre-trained AI parallel classification using multiple classifiers
Features for classification:	> 400 feature values per defect
Quality management:	rule based quality grading