



Surface Inspection System surcon 2D advanced

Certain defects change their appearance when viewed from different angles. The use of an additional dark field configuration takes advantage of this fact and results in even more precise defect detection.

Parallel image acquisition ensures that no defect will be missed.

The modular design of all IMS surcon 2D surface inspection systems allows the uncomplicated retrofitting of an additional dark field module

An additional high-resolution dark field module to highlight each defect is particularly recommended for the demanding surfaces in aluminium rolling mills.



Measurement Task

- 100% online inspection with fast line scan cameras and high-performance LEDs
- advanced automatic defect detection at different illumination angles
- immediate detection of periodic defects indicating roll damage using all image channels

Special Features

- reliable IMS hardware and housing with integrated cooling ensure long-lasting and low-maintenance operation
- customised solutions and individual adaptation to local conditions
- optional, integrated blower to protect the system from dust, dirt and splash water and to reduce maintenance requirements
- optionally available as C-frame for maximum convenience and easy maintenance in service position
- powerful toolsets for performance optimisation and data analysis
- apply surface inspection to each processing step for conclusive root cause analysis
- online visualisation of results and report generation via customised results interface
- integrated quality assessment tool – create your own rules for instant results evaluation

Material Data

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

Measuring System Data

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

Performance Data

Chip size / framerates:	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 22 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 (using both images)
Quality management:	rule based quality grading