

SITA

SITA *FluoScan* 3D

Automated cleanliness inspection
of part surfaces



- ✓ Detection of filmic contamination: contact less, non-destructive, layer thickness sensitive
- ✓ Measurement on three-dimensional surfaces
- ✓ Flexible adaption towards new measuring tasks
- ✓ Measuring profiles for automated measurement, visualisation and evaluation with ok/not ok test of measuring data, reporting, export
- ✓ Component traceability via integrated 1D/2D code reader

SITA FluoScan 3D is an automatic measuring system for cleanliness inspection of parts which uses proven SITA fluorescence sensor technology combining advantages of hand-held measuring devices and inline measurement technology for flexible use at the process and in the laboratory:

- Measurement of three-dimensional surfaces with 3-axis system with easy teach-in directly at the part
- High reproducibility due to precise positioning without interference of user and ambient light as well as automated adjustment
- Measurement at process speed with high measuring resolution through high traversing speed and scanning rate
- Flexible measuring programs with predefined functions, configurable measuring sequences, report templates with extensive data analysis
- Display of measurement values as color-coded top view, whisker-boxplot, data tagging and filtering, limit value check according to various criteria
- Multi-part-Scan: Efficient measuring of several parts in one run with individual evaluation and comparison

Application examples

Cleanliness inspection of parts regarding filmic contamination such as oil, grease, cooling lubricant or release agent prior to cleanliness-critical processes such as bonding, coating, welding and hardening

Layer thickness inspection when applying corrosion protection oils or when applying a primer prior to adhesive bonding

- Automated inspection of die cast aluminium before bonding
- Inspection of electrical contacts prior to welding and after decoding
- Monitoring of anti-corrosive layers
- Inspection of large metal parts before coating and printing
- Process analysis and optimization through determining the dispersion of contamination on part surfaces or analysis of test substrates



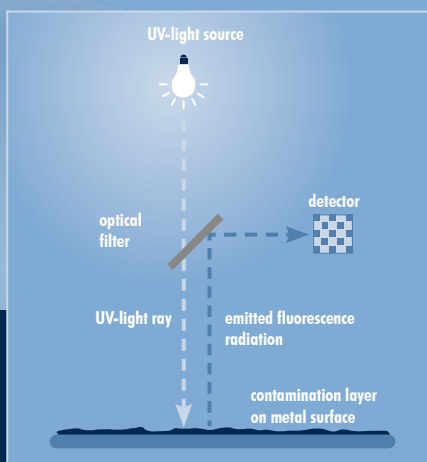
Technical data

Measuring range	(0...2,000) RFU *	Dimensions (WxDxH)	1.22 m x 1.15m x 2.00 m
Measuring deviation	max. 0.5% of measuring range	Weight	approx. 390 kg
Excitation	365 nm, max. 150 mW	Table surface	850 mm x 750 mm
Detection	460 nm**	Traversing range	500 mm x 500 mm
Measuring distance	4.7 mm**	Traversing speed	150 mm/s
Diameter measuring point	1 mm**	Reproducibility	<0.1 mm
Scanning rate	100 Hz	Stroke	150 mm

* Relative Fluorescence Unit ** Standard optics

further configurations upon request

Measuring principle



Typical contamination on surfaces in industrial manufacturing processes such as oil, grease, cooling lubricants or parting agents fluoresce when being excited by ultraviolet light. The intensity of the fluorescence increases with the thickness of the contamination.

The intensity is measured in RFU: Relative Fluorescence Unit. The lower the RFU value, the cleaner the surface.

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