SITA

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Contact-free cleanliness inspection of part surfaces by fluorescence measurement



New generation

SITA CleanoSpector

Cleanliness inspection – Layer thickness monitoring

SITA CleanoSpector

Overview

MOBILE USE

- Robust measuring device for flexible application at the process and in the laboratory
- Intuitive operation and fast measuring at the push of a button
- Additional sensor trigger button for optimal handling
- Direct measurement with spacer or contact-free using stand and target pointer
- Individual measurement profiles for repeated measuring tasks
- Limit value monitoring with extended statistical characteristic values

VERSATILE MEASURING MODES

- FluoLevel – Manual point measurement of the fluorescence intensity in RFU
- FluoStep – Step-by-step sequence with automatic and fast point sampling
- FluoScan – Fast scan with 10 measurements per second
- User-defined output of measured values in % cleanliness or layer thickness



Website with product video

BENEFITS

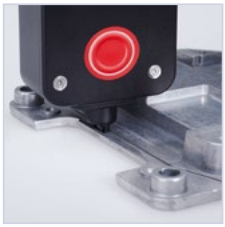
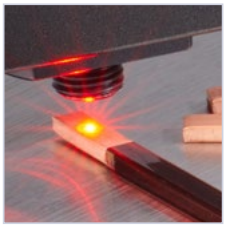
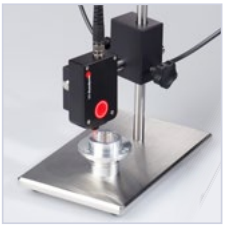
- Fast and regular parts inspection for stable product quality
- Design, benchmarking and optimisation of cleaning processes
- Documented quality assurance with test protocols and measurement reports
- Comparability of measured values from the mobile measuring device to the process-integrated inline solution SITA clean line CI

ACCESSORIES

- Spacers for a wide range of part geometries
- Calibration standards for testing and adjustment
- Comprehensive cleaning set and protective covers
- Part or batch allocation via barcodes or DMCs by connecting code scanners
- For contactless measurement, fine adjustment of distande and holding of parts to enable easy handling

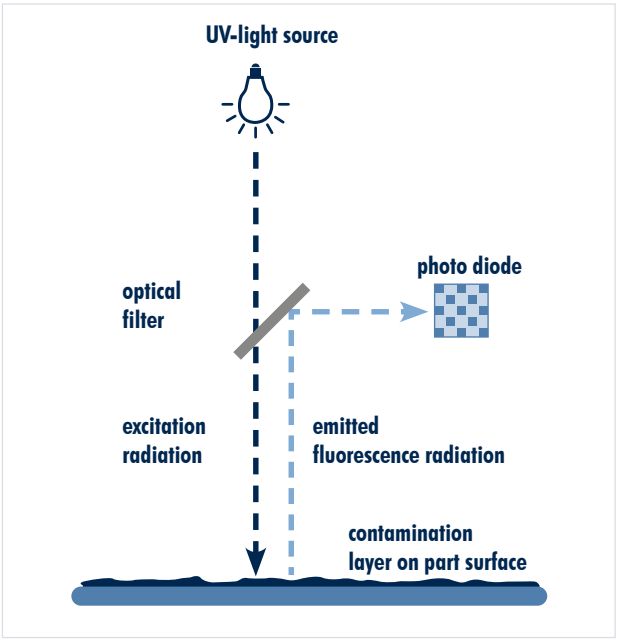
Cleanliness inspection of part surfaces

Applications

- Cleanliness inspection of metal parts after machining
- Inspection of functional surfaces after selective cleaning
  (laser cleaning, ultra-fine plasma cleaning, CO2 snow blasting and others)
- Inspection for residues of release agent on aluminium die-cast parts prior to adhesive bonding
- Detecting residual agents and encapsulation material on bond pads before bonding
- Surface inspection on electrical contacts after stripping of isolation material
- Monitoring the cleanliness of metal parts before laser welding
- Inspection for filmic contamination on parts in medical- or vacuum technlogy
- Inspection for sufficient layer thickness when applying corrosion protection oils
  or when applying a primer prior to adhesive bonding

Measuring principle fluorescence



The measuring method uses the characteristic of organic substances to fluoresce. UV light is focused onto the surface. The contamination fluoresces. The intensity of the fluorescence increases with the layer thickness of the contamination. The intensity is measured in RFU (Relative Fluorescence Unit) in relation to SITA fluorescence standards.

The lower the measured value in RFU, the cleaner the surface.

SITA CleanoSpector

Technical data

Measurand fluorescence intensity

Measuring range	0…2,000 RFU (Relative Fluorescence Unit)
Max. deviation	0.5 % of measuring range
Resolution	0.1 RFU

Sensor optics

Excitation	365 nm, max. 150 mW
Detection*	460 nm
Measuring point*	D = 1 mm
Measuring distance*	4.7 mm

* standard values

Output cleanliness

Measuring range	0…100 %
Resolution	0.1 %

Output layer thickness

Measuring range	user-defined

Power supply

Li-Ion battery	3.6 V / 1,950 mAh min. 8 h operating time
Mains adapter / USB	100…240 / 5V
Power consumption	2.5 W max.

General data

Measuring profiles	> 1,000
Number of sample points	max. 250 per measurement
Memory	> 1.5 mio measuring values
User level	Administrator, Operator
USB	data transfer and device control
Display	LCD, illuminated
Dimensions (HxWxD)	Device: 129x82x48 mm Sensor head: 95x50x30 mm
Weight (device)	530 g

Monitoring the measuring equipment

Regular checking and adjustment with SITA working standards by the user as well as service and factory calibration by the manufacturer

Windows-Software SITA SurfaceLog

- Simple generation, administration and import or export of measuring profiles
- Control of measurements via PC
- Link guided measurements to drawings/images of parts or to test points
- Detailed data visualisation, data filtering, statistical evaluations as well as graphical display with point diagrams and box plots
- Convenient report function for documenting measurement results
- Database-compatible Excel and Q-DAS export
- Supported device testing and adjustment as well as device firmware updates
- Additional user-friendly functions such as extended comment function, various language localisations and management of user levels

Design: augensturm | Photography: Jürgen Jeibmann M05-100001 / Version 4.0

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