

EMG SOLID® LIF Laser-Induced Fluorescence spectroscopy

Optimise your oiling and forming process!

EMC SOLID® LIF only small space required high measuring accuracy measurement over complete length and width

Oil layer measurement

Measuring principle

Via laser-induced fluorescence spectroscopy EMG SOLID[®] LIF measures the coating weight of the oil layer and visualises it over the entire measured material surface:

- Special solid state laser delivers 10.000 single pulses per second
- Robust and flexible quartz fibre bundle transmits the light energy to the measuring spot
- A second quartz fibre bundle transmits the fluorescence signal to the counting system.
- Very sensitive detection of single photon events by a photomultiplier tube and a time-integrated data evaluation in different time windows, provided by a special photon counting system
- A micro controller controls the analysing system, manages the system calibrations and calculates the results



Laser-Induced Fluorescence spectroscopy

Customer's benefits

- Iow influence of roughness, textures, oil droplets, hotmelt structures, therefore no homogenisation rolls necessary
- proof of very thin layers < 20 mg/m² in principle possible, therefore usable for cleanliness measurements
- only very small space required
- absolute and relative measurements possible
- special EMG solution for keeping the lens clean
- high measuring accuracy
- very high measuring frequency (10 kHz) and high definition of measuring spot (Ø = 8 mm)

EMIC SOLID® LIF



Further details can be found in our EMG SOLID[®] movie.

Please follow the QR code or visit our website: www.emg-automation.com.

Technical data

Measuring method	laser-induced fluorescence spectroscopy
Measured variable	area weight of lubricant layer in g/m ²
Measuring range	0 – 6 g/m ²
Measuring accuracy	+/- 10 % of upper measuring range value
Repitition accuracy	< 0.1 g/m ²
Materials	 all metal and non-metal surfaces, e.g.: steel – cold-rolled strip, hot-dip galvanised, electro galvanised, phosphated, aluminised, ZnMg surfaces, galvannealed aluminum – uncoated, pre-treated
Lubricants	mineral oil, mineral oil thixotropic, waxes, hotmelts , rolling and skin pass agents, cooling lubricants, emulsions
Other coating materials	passivations, anti-corrossive agents, antifingerprint coatings, cleaning agents, solvents, transparent lacquers, polymers, primers, adhesives
Operating distance (measuring position)	40 mm (traversing)
Strip height deviations	+/- 20 mm
Ambient temperature	+5 °C up to +45 °C (extended temperature range with cooling/heating possible)
Measuring frequency	10 kHz
Traversing speed	0 – 1 m/sec

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