

### THICKNESS MEASUREMENT OF MULTI-LAYER COATINGS | CONTACT-FREE AND NON-DESTRUCTIVE | MEASUREMENT ON METALS AND PLASTICS

**The TeraS THz spectrometer allows for a contact-free and non-destructive measurement of the thickness of multi-layer coatings.**

The system's measurement principle is based on the terahertz time-domain spectroscopy (terahertz-TDS). It is able to measure the thicknesses of the layers in multi-layer coatings without contact.

This is done by sending extremely short THz pulses that are reflected by the object. The thickness of the coating is then calculated based on the coating's reflection characteristics of the THz pulses. The THz system can be used on wet and dry coatings with thicknesses ranging from 10  $\mu\text{m}$  to 1,000  $\mu\text{m}$ . Measurements can be done on different substrates, including metals, plastics, and carbon fibers.



- ➔ Measurement range: typ. 10  $\mu\text{m}$  to 1.000  $\mu\text{m}$  per layer

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- ➔ Measurement accuracy: typ.  $\pm 1 \mu\text{m}$

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- ➔ Measurement distance: typ. 100 mm

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- ➔ Measurement spot: approx. 5 mm diameter

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- ➔ Measurement time: typ. 1-2 s

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- ➔ Measurement on all substrates

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- ➔ Measurement time and evaluation: typ. 1-5 s

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- ➔ Optional: robot-suitability, explosion protection