

First Calibrated and Certified Transmission Measuring Device for Laser Plastic Welding

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Material qualification for laser plastic welding with the LPKF TMG 3 transmission measuring device

In laser plastic welding, the light transmission of the plastic is decisive for the quality of the joint between two components. A check of the material properties before welding really pays off in the context of the overall quality assurance process. With the TMG 3 calibrated measuring device from LPKF, the user is on the safe side.

The LPKF TMG 3 can measure the transmission properties of any type of plastic material prior to laser transmission welding. It takes just a few seconds to find out whether the actual transmission values of the two joining partners match the target values from the process definition. Any material nonconformities from upstream processes – compounding or injection molding – can thus be detected before an unsuitable component reaches the production process. This is important because fluctuating transmittance values can result in suboptimal weld seams.

The measuring device can easily be integrated into a production line for in-line transmission testing. In this configuration, the device paves the way for a reliable process and ensures that the weld seams and the end products meet the highest standards.

The LPKF TMG 3 transmission measuring device is a certified, traceably calibrated measuring instrument. The measuring equipment capability was verified in a statistical measurement system analysis (MSA). The measurement filters for the calibration were tested and certified by the independent institute Fraunhofer ISC. The device also meets the requirements of the automotive standard IATF 16949 and is thus directly qualified for standard-compliant quality assurance. There are already 600 of these devices in use worldwide.

The latest generation of the device comes with the calibration plates included. LPKF also optionally offers special calibration services.



Fig. 1: The calibrated transmission measuring device LPKF TMG 3 checks the material properties and thereby contributes to quality assurance.

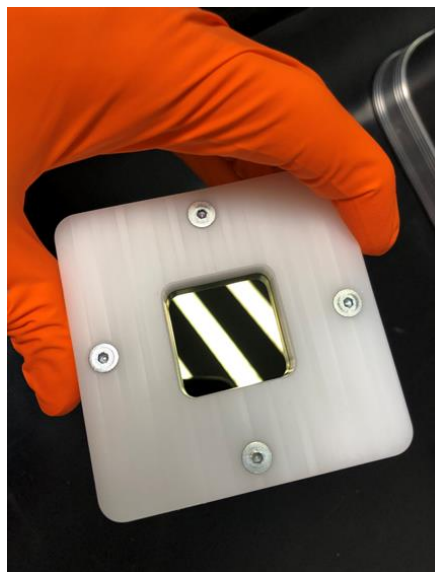


Fig. 2: A calibration plate included with the TMG 3 ensures that the correct certified measured value is displayed. The transmission value of the plate was certified by the Fraunhofer Institute.

About LPKF

LPKF Laser & Electronics AG manufactures machines and laser systems used in electronics fabrication, medical technology, the automotive sector, and the production of solar cells. Around 20 percent of the workforce is engaged in research and development.