



## Laser-Calorimetric Measurement System

### Measured values

- Absorption

### Principle

With the laser-calorimetric measurement system the absorption values of optical components are determined according to the DIN EN ISO 11551:2003 standard. The sample is irradiated for approximately 100 seconds with a laser (time varies with sample properties). This causes heating of the sample due to partial absorption of the laser power. To reduce thermal disturbances the sample is located inside an insulating chamber. In addition to the laser power and irradiation time, the temperature profile, the mass and the specific heat capacity of the sample are used to determine the absorptance. Measurements can be performed at the available wavelengths of 800 nm, 930 nm and 975 nm.

### Application

The laser calorimetry is used in optics qualification, especially for measuring small absorption values or for the selection of optical materials for laser components.

### Literature / References

- DIN EN ISO 11551:2003

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*This handout, and cross-references to related measurement techniques and facilities are available at: <http://messtec.dlr.de/link-563-en>.*