NANOTEST
Berliner Nanotest und Design GmbH

LaTIMA®

Lateral **Thermal Interface Material Analyzer**

Model 2

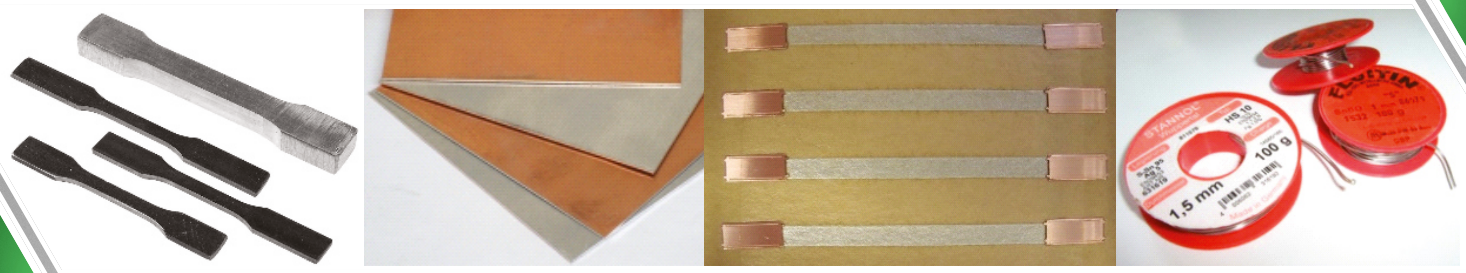
In-plane thermal conductivity and diffusivity of solid samples all in one system

A straightforward solution

Highly conductive materials are a great challenge for common thermal characterization methods. The measurement resolution often does not suffice to characterize thermal conductivity with satisfying accuracy. Moreover, samples with dimensions necessary for common-type characterization are usually difficult to fabricate.

The La**TIMA**® philosophy is to provide a measurement system that does not require costly sample preparation. It conforms to and measures the in-plane thermal conductivity of typical industry samples.

Thermal conductivity characterization with La**TIMA**® is based on steady-state technique implemented in the well-known **TIMA**® measurement system. A constant heat flow is applied between hot and cold plate and measured using metal-based heat flow sensors. The thermal conductivity is calculated from the specimen's geometry, the heat flow and the temperature gradient measured with an integrated infrared camera. The test stand has been designed for minimum parasitic effects with respect to materials and geometry to assure a measurement accuracy for the material under investigation of better than ± 5%.



System characteristics

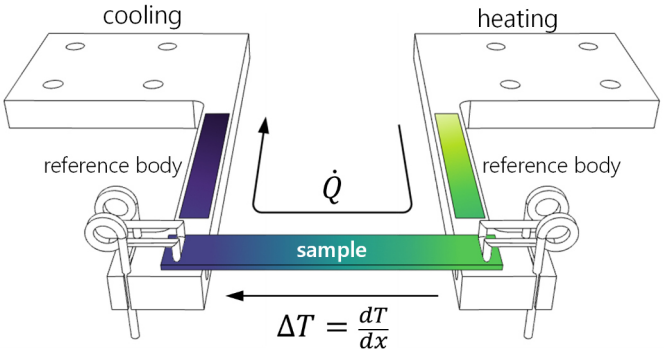
- Compact size: 50 x 45 x 76 cm^3
- All-in-one: hard- and software
- 2 x 60 W sample heating power
- Active cooling

Thermal conductivity & thermal diffusivity

- Steady-state or transient technique
- Thermal conductivity 5 up to 1000 W/mK
- Thermal diffusivity 0.1 up to 200 m/s^2
- Sample temperature 25 ... 250°C
- Measurement uncertainty < ±5%

Like a bridge

LaTIMA excites samples thermally and therefore does not run risk of observing interdependencies with other physical properties. With the aid of thermovision, temperature gradients are measured contactless to reduce thermal losses.The sample builds a bridge between hot and cold side and is the only thermal path for the heat to take.



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