

TIR 100-2

www.TIR100.com

A product by

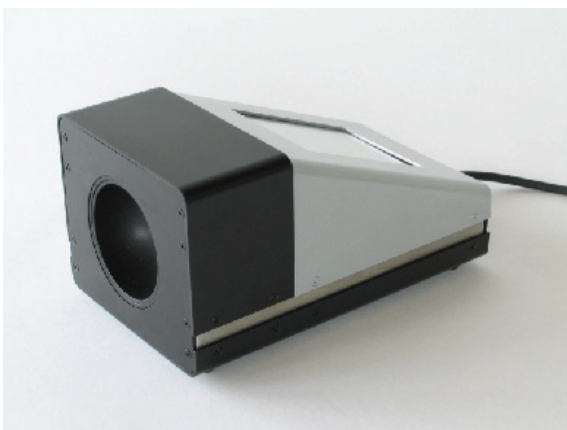
INGLAS

INGLAS GmbH & Co KG

Thermal Emissivities measured within seconds

The **TIR 100-2** is a compact hand-held analytical instrument, which employs a non-destructive technique that is accurate and precise for the measurement of thermal emissivity. This device can be used on a **variety of materials** that range from low to high emissivity and from smooth to textured surfaces.

This quick and easy-to-use device, that allows for **one-click measurements**, which displays results within seconds on a built-in illuminated touch-screen display. All you need is a power supply and the calibration standard (which is included) and you are ready to go!



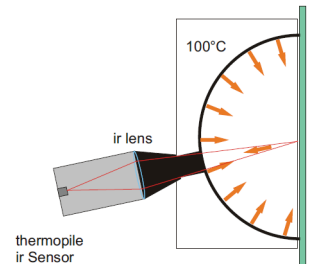
Some applications include

- **Qualification of coated glass**
(applicable to standards EN673, EN12898)
- **Qualification of coated solar collector sheets**
- **Qualification of coated foils and fabrics**
(applicable to standard EN16012)
- **Qualification of thermal coating of satellites**

Principle

The specimen surface is homogeneously diffuse- irradiated with a 100° C half sphere shaped black body radiator. The reflected infrared radiation is observed at a 12° angle and converted into an absolute value of emissivity.

For more indephts on the inner workings of the TIR and the physics behind emissivity measurements, with also a short video on how to use, please refer to our homepage.



Technical data

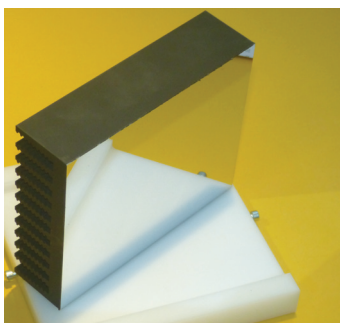
Measuring range	therm. emissivity < 0,012 ... 0,980
Repeat accuracy (precision):	+/- 0,005 (lowE)..+0,01(hiE)
Spectral range	2,5 µm - 40 µm
λ_{\max} of radiant energy	7,8 µm
Black body temperature	100 °C
Measuring duration	5 sec
Measuring spot	approx. 5 mm
Power rating	max. 130 W at 230 V~/115 V~
Interface	USB-B
Dimension	230 mm x 140 mm x 120 mm
Weight	approx. 2.0 kg

Reference (calibration standard)

Ribbed aluminum block for optimal thermal stability

Low emissivity side: high precision milled aluminium (smooth surface)

High emissivity side: black light trap (textured surface)



- Typical value for the low emissive (smooth) side ~ 0,012
- Typical value for the high emissive (textured) side >0,96

Note: All reference materials are traceable back to the national standard at the PTB (Physikalisch-Technische Bundesanstalt) in Berlin, Germany.