

Thermal Conductivity / Thermal Resistivity Meter

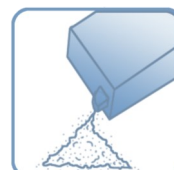
TLS 100



MATERIALS



SOLIDS



POWDERS

TLS 100 PORTABLE THERMAL CONDUCTIVITY METER

The TLS 100 Portable Thermal Conductivity Meter is a portable instrument for the measurement of thermal conductivity and thermal resistivity in accordance with ASTM D5334 - Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure.

The TLS 100, designed with ease of use and convenience in mind, is capable of testing soils and other soft materials with an excellent accuracy of 5% and reproducibility of 2%. With the available on-board memory, several measurements can be saved and stored. At any point the transfer of saved measurements to a PC is simple and involves the use of either the SD memory card for direct transfer to Microsoft Excel via an available card slot on the PC or by using the included TLS 100 uploading software.

The TLS 100 is designed to account for any isothermal drift in a sample prior to measure. This is done by monitoring the sample temperature for 30 seconds prior to measure for ideal stability and also to record temperature drift as part of the measurement, which allows for drift compensation if required.

Key Features

- **Applications.** The TLS 100 Meter is a simple to use field meter for the measurement of thermal conductivity and thermal resistivity of soils and soft materials
- **Measurement.** The TLS 100 is simple to use, with test times under 2 minutes
- **Thermal Conductivity Range.** The TLS 100 covers a range of 0.1 to 5 W/mK
- **Temperature.** With the TLS 100 measurements are possible at temperatures of -40°C to 100°C
- **Standard.** The TLS 100 complies with ASTM D5334

TLS 100 SPECIFICATIONS*

Materials	Soils, Powders, Solids
Thermal Conductivity	0.1 to 5 W/mK ¹
Thermal Resistivity	0.2 to 10 Km/W
Reproducibility	Better than 2%
Accuracy	Better than 5%
Temperature Range	-40°C to 100°C ²
Power Requirements	4 AA Batteries
Needle Sensor	100 mm in Length, 2 mm Diameter
Smallest Sample Size	100 mm in Length, 50 mm Diameter
Largest Sample Size	Unlimited
Standard	ASTM D5334

* Based on early performance specifications.

1 For measurements over 2 W/mK power consumption is increased, fresh batteries are recommended for best results.

2 For measurements above 50°C, the Thermtest Dry Bath is required.

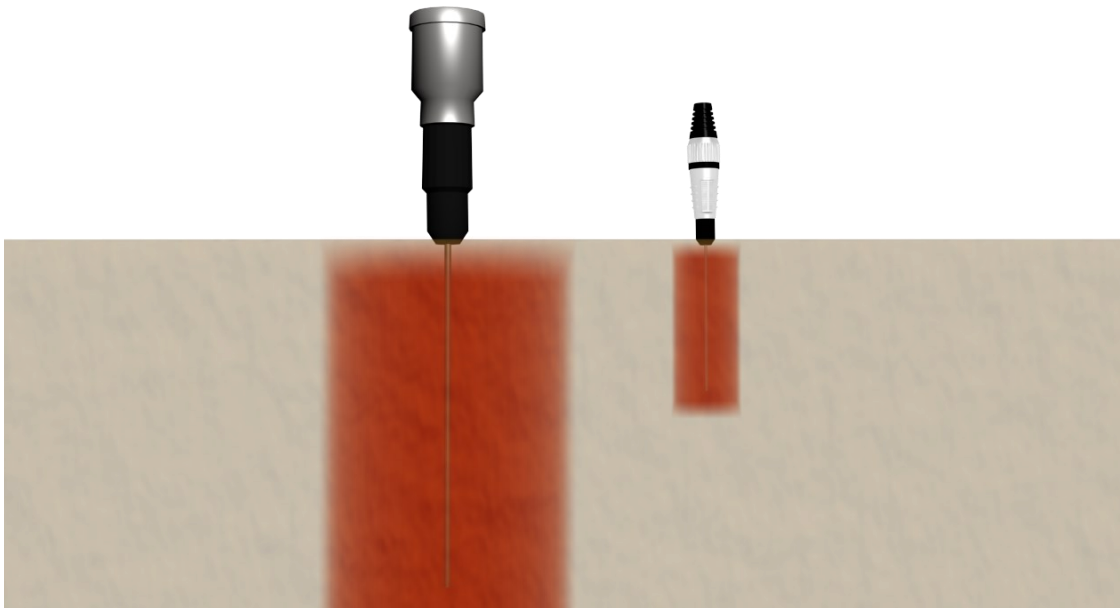


Illustration of penetration depth of the heat from the TLS-300 Pro and TLS-100 Sensors during measurements

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