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THERMAL CONDUCTIVITY λ THERMAL RESISTIVITY

Thermal resistivity/conductivity measures are used to model heat exchanges in the ground within industry and heat production by geothermal energy. It can for instance be used to model the thermal impact of fluid pipes on surrounding structures or to proportion a geothermal sensor.

Measures are taken with a probe that contains the measuring device and can be thrust into soft soil up to about 1.5m depth. If we want to take measures deeper into the ground, we can dig a hole and carry out measures from the bottom of it. It only takes a few minutes to take a measure.

The probe consists of a heating element and a temperature sensor. Temperature rise is as follows: $\Delta T = (Q/4 \pi \lambda)$ (In t + B) with ΔT in K, Q in W/m, λ in W/mK, t time in s and B a constant. λ is calculated by measuring the heating power and tracing temperature versus time.



INNOGEO is a registered trademark.

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