Quick λ

HC-10
Thermal Conductivity Tester

EKO

www.eko-asia.com
www.eko-eu.com
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Beyond Accuracy.

Quick Test & Easy Operation.
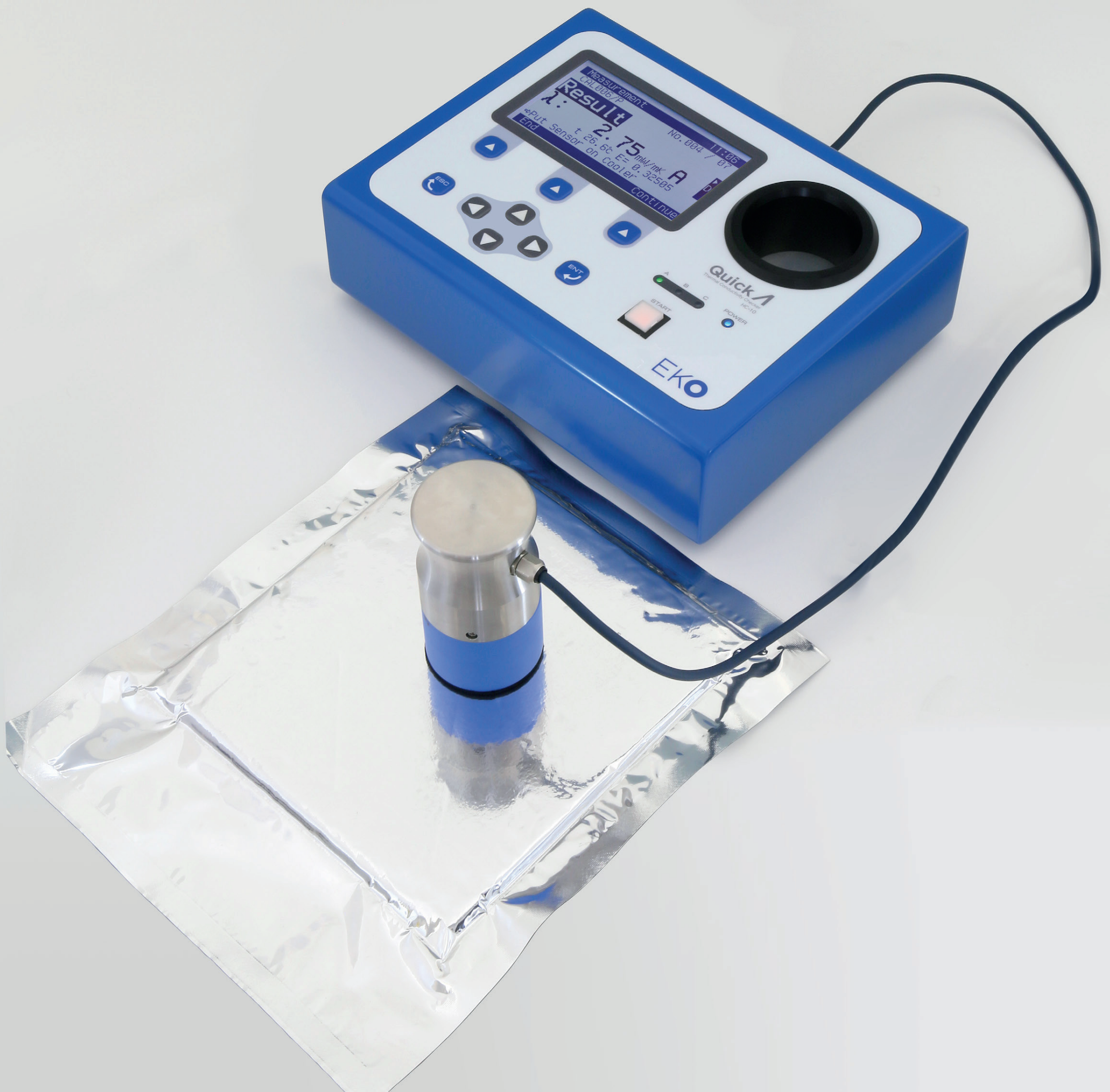
Measures within 60 seconds

Applications:

Quality assurance
Production
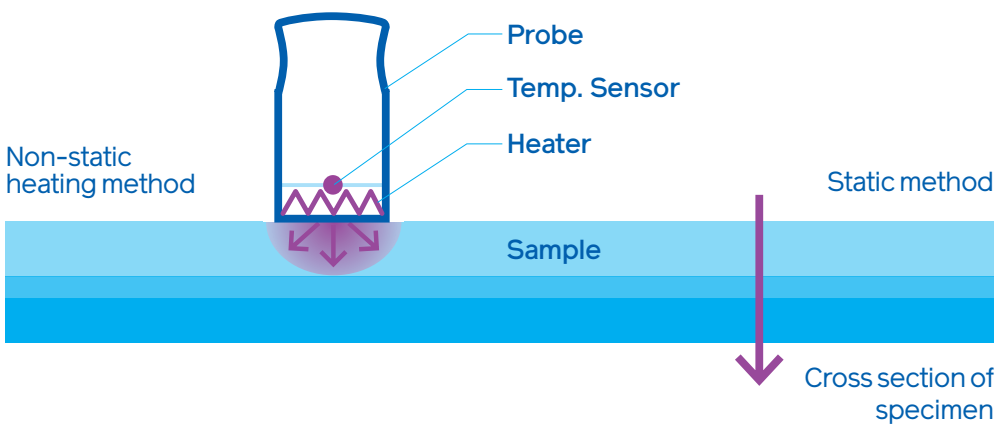Material Qualification
Material research and development

Features

— Standalone portable Thermal Conductivity tester
— Suitable for homogeneous and VIP materials
— Simple and easy measurement by placing the sensor on the sample
— Very fast measurement within 60 seconds
— Capable of measuring a wide range of materials
— Software available enabling operation, calibration and analysis through a PC

## Materials:

VIP
Rubber
Plastics
Ceramic
Glass

Principle

In case of quick λ, the thermal conductivity is calculated by heat flow at the specimen surface layer for a short time non-static heating measurement. Heat loss is measured with the Sensor unit as Delta T which is inverse proportional to the material thermal conductivity.

When the amount of heat loss is small, the sample surface temperature is high

When there is a large heat loss, the sample surface temperature is low

Probe
Temp. Sensor
Heater

Non-static heating method

Static method

Sample

Cross section of specimen

Low TC

Heating
Cooling

High TC

λ A

λ B

Note: For measuring the thermal conductivity of a non-homogenous or layered sample a device which uses the the static method is recommended.
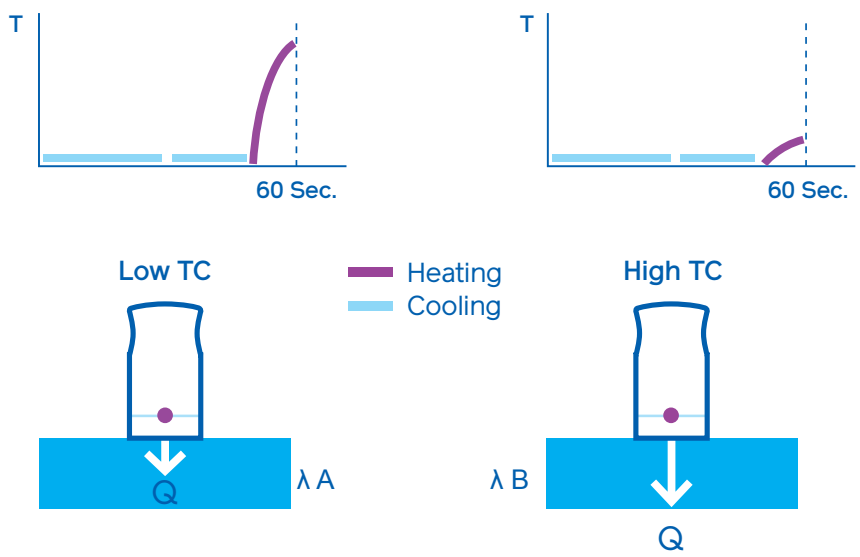
Measurement Procedure

Step1 :
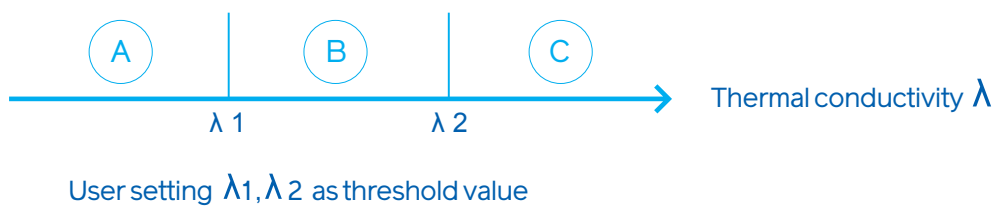Place the sensor unit on the cooling socket for 30 sec.
Step2 :
Place the sensor unit on the sample, then press the Start button to commence the measurment sequence. After 30 seconds the thermal conductivity will be displayed.

Step 1

Step 2

Waiting

30 sec.

20 sec.

10 sec.

1 min
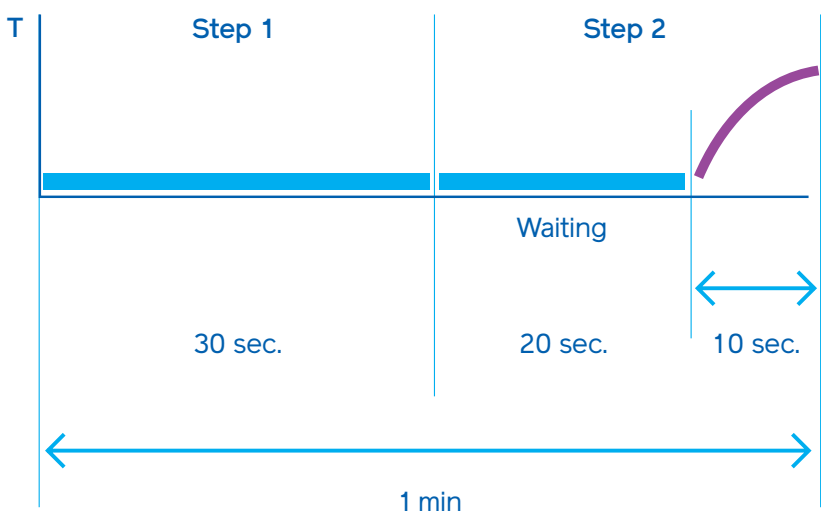
Evaluation of Measurement

For quick evaluation of a sample, the thermal conductivity threshold can be set. The measurement result will be evaluated as A,B or C and displayed on the LCD and LED indicators.

A

B

C

λ 1

λ 2

Thermal conductivity λ

User setting λ1, λ2 as threshold value

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Specifications:

		HC-10
Thermal Conductivity Range	VIP Sample:	0.001 to 0.015 W/m·K
	Homogeneous sample:	0.03 to 5.00 W/m·K
Method		Non-static transient Heat-up method
Calibration	VIP Sample:	3 or 4 samples of the same structure but different thermal conductivity
	Homogeneous sample:	3 or 4 different standard samples
Repeatability		± 5%
Accuracy		Based on standard sample calibration
Evaluation		Measurement of a sample can be classified (A,B or C) depending on the measurement result by setting a TC range (λ1 & λ2)
Display		Black and white LCD with back light
Parameters		Thermal conductivity, Temperature, Sample class A,B,C
Operating Temp. Range		+10 to +40 °C
Data Storage		99 measurement data and 20 calibration data
Software		Data view and data management, Windows OS, English
Interface		USB
Standard sample (Attached to the Main Unit)		TEMPAX Glass, Acrylic and EPS
Power, Power Consumption		AC adapter, AC100V to 240V 50/60Hz, DC24V Approx. 30W
Size, Weight		W 250 x D 200 x H 85 mm, 4kg (Include Main Unit, Sensor Unit, and PowerSupply)

Sensor Unit

Sensor Unit

Carrying Case