

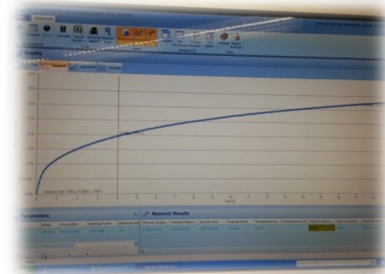
THERMAL CONSTANTS ANALYZER

Manufacturer:	HotDisk
Type/Model:	TPS 2500 S
Thermal Conductivity:	0.005 to 1200 W/mK
Thermal Diffusivity:	0.1 to 700 mm ² /s
Measurement Time:	1 to 1280 seconds
Reproducibility:	Typically better than 1%
Accuracy:	Better than 5%
Temperature Range:	-253°C to 1000°C



Additional Software Module: Anisotropic

The Thermal Constants Analyzer is a non-destructive precision analysis of thermal transport properties including thermal conductivity, thermal diffusivity, and specific heat capacity. The analyzer operates on a wide variety of sensors with radius from 0.5 mm to 30 mm. The test machine operates by pulsing energy into a circular disk sensor and reading a difference in resistivity values over time. These values change as heat is introduced to the material under test. There are two main differentiations between material types. Those that are Isotropic: meaning (the properties are the same in all directions i.e. metals) or Anisotropic: meaning (properties are not the same in all directions i.e. carbon fiber composites). The software for this machine allows RFAL to determine properties for both Isotropic and Anisotropic materials.



Advantages:

- Contact resistance between sensor and sample does not influence measurement results
- Porous and transparent samples are easy to test without modification
- Surface roughness or color does not influence measurement results
- Minimum or no sample preparation time
- Double-sided testing for maximum accuracy
- Three thermal transport properties testing in a single transient
- No calibration or reference sample required

