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Technical note

Thermogravimetric Analysis (TGA)/ Differential Scanning Calorimetry (DSC)

TA Instruments TGA Q50/ DSC Q2000

TGA is technique for measurement of thermal stability of materials including polymers. In this method, changes in the weight of a specimen are measured while its temperature is being increased. Moisture and volatile contents of a sample can be measured by TGA. Thermogravimetric data is critical to setting proper temperature limits for Differential Scanning Calorimetry method development.

Differential Scanning Calorimeters (DSC) is a powerful analytical tool for the identification of various physical properties and thermal transitions of polymeric materials. It measures the energy transferred to or from a sample undergoing a physical or chemical change. Common usage includes investigation, selection, comparison, and end-use performance evaluation of materials in research, quality control and production applications.



Key Features

- **Technical for TGA**
 - Weight precision +/- 0.01%
 - Sensitivity 0.1 µg.
 - Temperature up to 1000 °C
 - Temperature accuracy +/- 1 °C
- **Technical for DSC**
 - Temperature range -90 °C to 400 °C
 - Temperature accuracy +/- 0.1%
 - Heating rate 0.1 to 40 °C/min
 - Baseline curvature 10 µW
 - Controlled atmosphere Nitrogen and Air.

Services

Differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA) are two of the most widely used thermal analysis techniques in the characterization of crystalline and amorphous of materials.

At ALS we analysis for:-

- Transition temperatures – Melting, Glass transition, Thermal stability, Oxidation onset, Cure onset.
- Degree of cure for epoxy and other thermosetting materials.

ABOUT ALS

With more than a decade of sophisticated testing experience, ALS Pathumthani has a diverse range of sampling, testing, and consulting services for the Electronics industry. We have dedicated technical staff to deliver reliable and timely analytical solutions for customer testing needs. We specialize in micro-contaminant and RoHS analysis, offering tailored analytical

packages that are specific to client requirements and needs. We are ready to deploy our world-class services to additional industries to support Thailand's industry growth. ALS provides the wide range of professional services for Electronics, Semi Conductor, Automotive and Telecommunication.

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