

DIFFERENTIAL SCANNING CALORIMETER (DSC)

MANUFACTURER : TA Instruments

MODEL : Q2000

Specifications

- Temperature range: ambient to 725°C (air cooling), -90°C to 550°C (mechanical cooling) and -180°C to 550°C (liquid nitrogen manual cooling)
- Temperature accuracy: $\pm 0.1^\circ\text{C}$
- Temperature precision: $\pm 0.01^\circ\text{C}$
- Calorimetric reproducibility: $\pm 0.05\%$ (indium metal)
- Calorimetric precision: $\pm 0.05\%$ (indium metal)
- Dynamic measurement range: $\pm 500\text{ mW}$
- Baseline curvature (Tzero; -50° to 300°C): $10\mu\text{W}$
- Baseline reproducibility (Tzero): $\pm 10\mu\text{W}$
- Sensitivity: $0.2\ \mu\text{W}$
- Dual digital mass flow controllers
- Patented Tzero technology provides best sensitivity and resolution baseline
- Optional mode: modulated temperature DSC (MDSC)
- Direct heat capacity (C_p) measurement
- Photocalorimeter accessory (PCA) permits characterization of photo curing materials
- 50-position autosampler

Applications

- Measure heat flow associated with structure (amorphous and crystalline) and changes in structure (transitions) of materials as a function of time and temperature in a controlled atmosphere

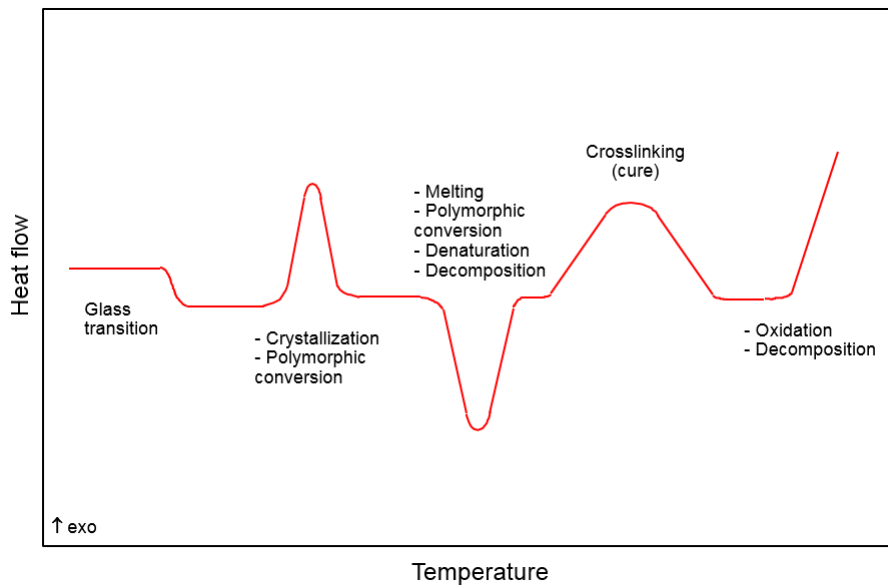
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Examples

Some possible transitions in a DSC curve



(Reference: TA Instruments)

Melting temperature (onset) for a thermoplastic

