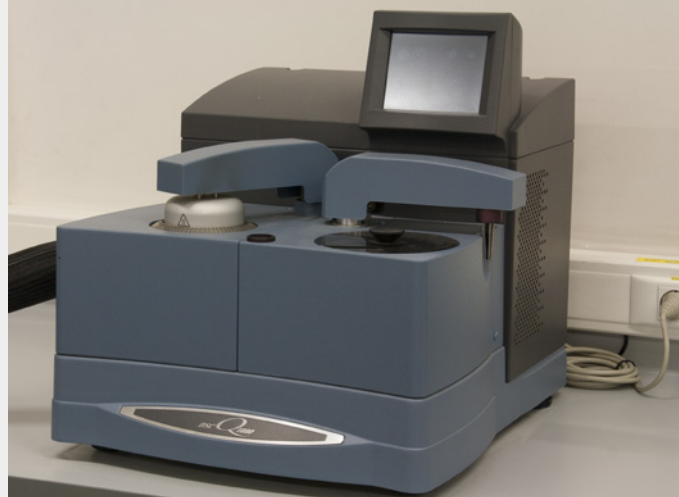


Differential Scanning Calometrie (DSC)



Principle

DSC is a thermal analysis technique which couples temperature and heat shift to material transitions, in function of time and temperature in a controlled environment.

If a material is heated a chemical or physical reaction can occur which is linked to absorption or release of heat. DSC equipment is able to measure this energy changes.

Method

A small sample ($\pm 5\text{mg}$) is put in an aluminium container which is then heated at a constant speed (eg. $10^\circ\text{C}/\text{min}$). The energy needed for this process is constantly measured. In case of chemical or physical reactions, a certain amount of energy will be absorbed or released.

This leads to a distortion of the base line of the thermogram. The distortion is typical for the process.

Applications

Determination of:

- Glass transitions
- Melt and Crystallisation temperatures
- Thermal and oxidative stability
- Cross linking degree and other
- Small crystalline impurities in the material
- Similarities between materials

