

Differential Scanning Calorimeter DSC 7020



The latest differential scanning calorimeter series.

The sensitivity, the baseline stability and the temperature control performance of the DSC 7000 series largely improved.

With wealth of option line-up, it has versatile expandability to realize automatic measurement, photochemical reaction measurement and the sample observation measurement.

It is most suitable for measurement of melting, glass transition, crystallization, curing, specific heat capacity measurements and purity analysis of a very small amount of samples in fields such as polymer materials, inorganic materials, pharmaceutical products and food.

features

1. Superior Temperature Followability

The Auto LN₂ Gas Cooling Unit improves the cooling efficiency and the amount of LN₂ used decreased.

3. Improved Cooling Performance

Newly designed cooling systems including Auto LN₂ Gas Cooling System and Electronic Cooling System are available for the DSC 7020. The cooling performances of both systems are improved.

4. Excellent Expandability and Option Line-Up

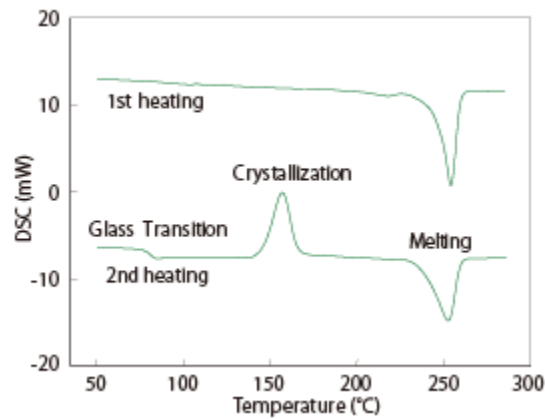
- The auto sampler can be attached easily. The reliable routine measurement can be achieved by the combination of the Auto Sampler and the Mass Flow Controller.
- The photochemical reaction measurement can be achieved by attaching UV irradiation unit.
- The DSC 7020 can observe a sample with a continuous image during the measurement by the Real View Sample Observation Unit.

Specification

Differential Scanning Calorimeter DSC	
Type	DSC 7020
Heat Flow Measurement Method	Heat flux
Temperature Range	-170 to 725°C
DSC Measurement Range	±350 mW
RMS noise / Sensitivity	0.1 μW / 0.2 μW
Scanning Rate	0.01 ~ 100°C/min

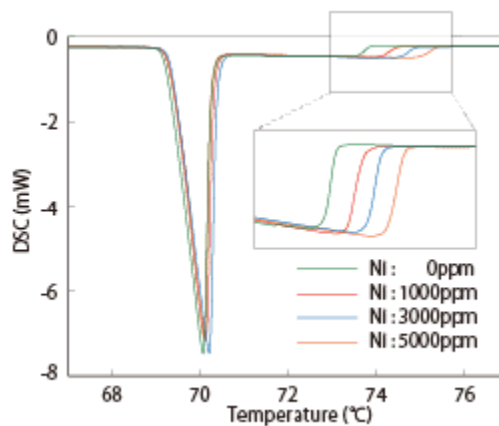
applications

Polyethylene terephthalate (PET)



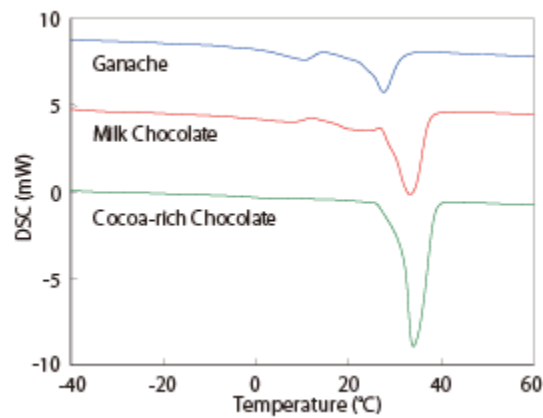
The above is a comparison of 1st and 2nd heating DSC curve of PET. In the 2nd heating (lower), Tg and cold crystallization peak are observed since the sample was converted to amorphous after rapid cooling.

Lead-free Solder



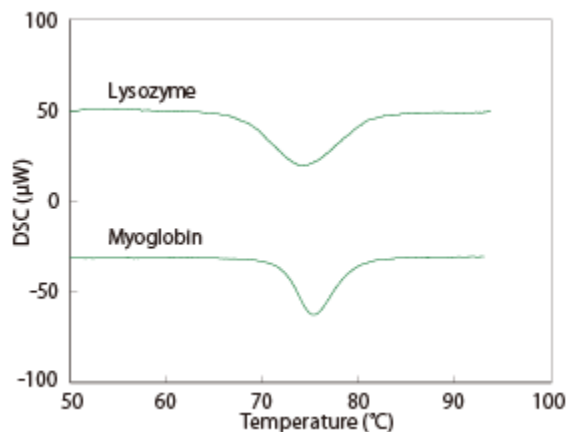
This shows the DSC results for In35Bi2SnNi solder at different composition ratios. Unlike the eutectic melting peaks, there are differences in the solid-phase melting.

Chocolate



This is a comparison of DSC curves of three types of chocolates. The melting temperature varies according to cacao butter content.

Protein



This shows thermal denaturation measurements of 1% Lysozyme and Myoglobin solutions. DSC can be used to evaluate thermal stability of protein.

Accessories

- Real View Sample Observation Unit



This is an optional accessory that integrates with the instrument to observe the sample during thermal measurements. Images reveal changes in sample shape, size, color, and other properties. The images can be recorded and are automatically linked to the thermal data by time-stamp.

- Auto LN₂ Gas Cooling System and Electronic Cooling System



Thermoelectric cooling creates a heat flux between the junction of two different types of materials. Peltier heat pump, solid state refrigerator, or thermoelectric cooler (TEC). It can be used either for heating or for cooling, although in practice the main application is cooling. It can also be used as a temperature controller that either heats or cools.

