Real View DSC Measurement of Foamed Polystyrene

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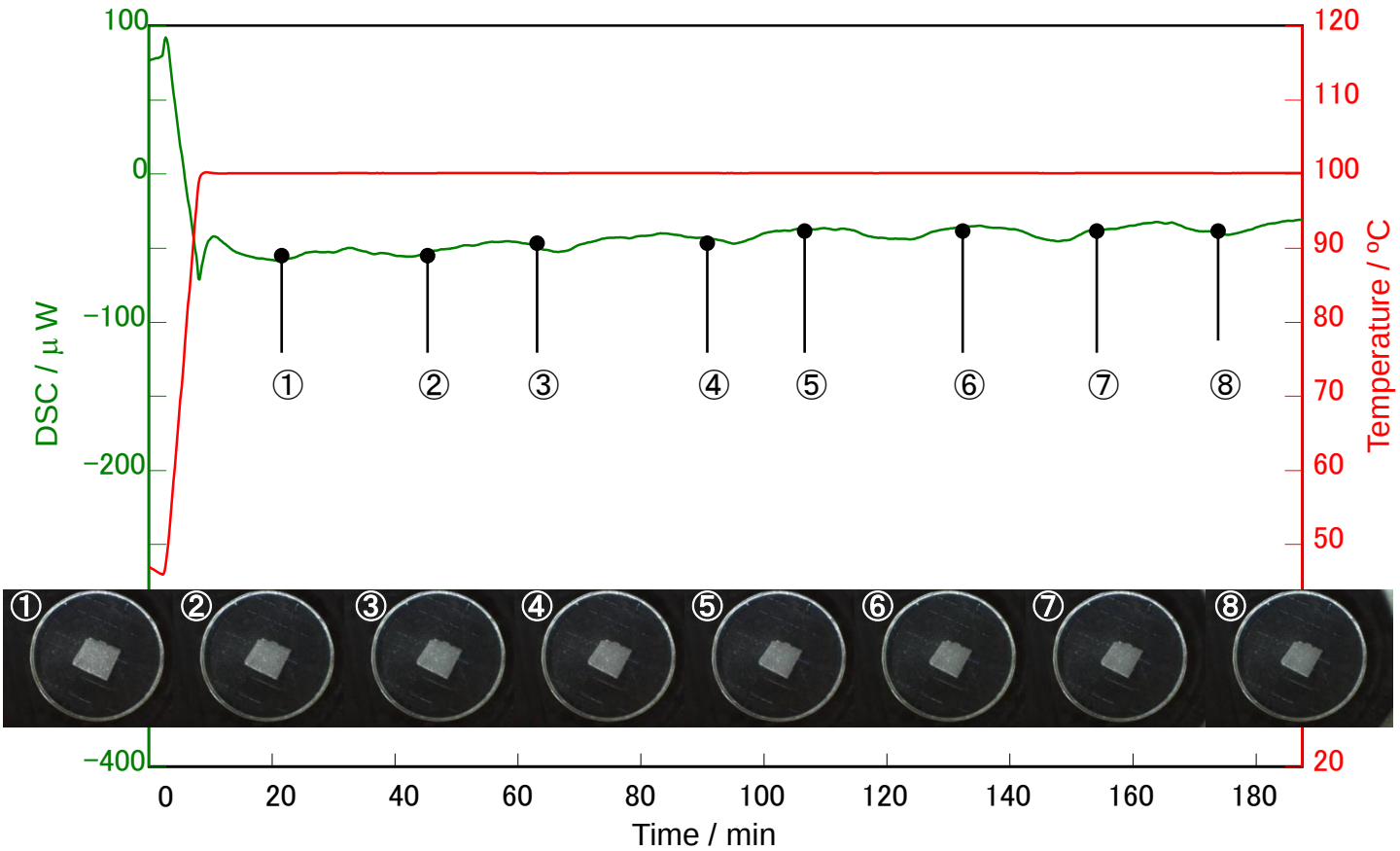
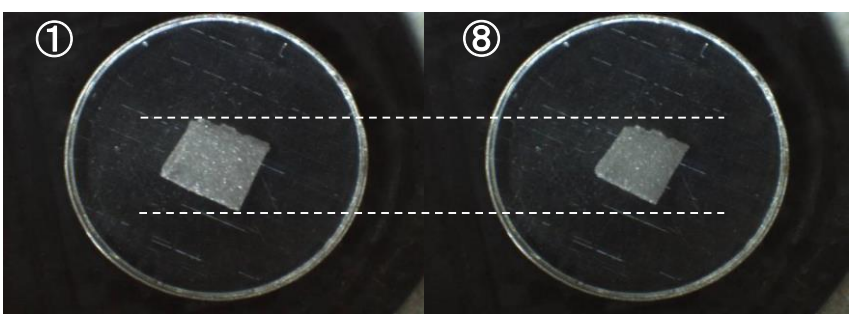
Foamed polystyrene is, as the name implies, a polystyrene material in the form of a hardened foam. It is lightweight, exhibits superior thermal insulating and elastic properties, is inexpensive, possesses good formability, and is used, among other things, as a cushioning and packing material, and as a thermal insulator.
This report introduces an isothermal analysis of the dimensional stability of foamed polystyrene using the Real-View DSC.

Real-View DSC

Results



Polystyrene typically has a glass transition temperature near 100ºC. Above is an isothermal DSC curve for foamed polystyrene recorded at 100ºC for 3 hours, together with images of the sample. Fluctuations are observed in the DSC curve but there are no signs of obvious changes. However, the Real-View images show that the sample is gradually contracting. The fluctuations are thought to reflect changes in the state of contact between the sample and the pan due to changes in sample shape.



100ºC isothermal
Left: after 20 min (① above), Right: after 180 min (⑧ above)