PII-66. Characterization of UV Curing Polymers by Photochemical Reaction DSC System

Okubo N.[1], *Rumyantsev A.*[2]

1 - Analytical Application Engineering Department, SII NanoTechnology Inc. Shintomi 2-15-5, Chuo-ku, Tokyo 104-0041, JAPAN
2 - LABTEST

nobuaki.ookubo@siint.co.jp

Ultraviolet curing polymers are used in wide number of fields such as general electronics, optical electronics, medical fields, glass arts, and architecture. Curing reaction heat when the UV is irradiated can be measured real-time by using Photochemical Reaction DSC System.

Photochemical Reaction DSC System enables the real-time measurement of chemical reaction (curing reaction) behavior during UV irradiation process of UV curing resin etc by connecting the unit for the irradiation of ultraviolet light directly to sensor (sample and reference) inside DSC furnace. By this system, it enables the analysis of the relationship between UV irradiation conditions such as wavelength, irradiation intensity or temperature and the curing reaction behavior during UV irradiation with regard to the UV curing polymers.

In this study, the analysis result of Photoresist and UV curing adhesive is reported as an analytical example using Photochemical Reaction DSC System. The UV irradiation condition dependence of wavelength, irradiation intensity, or temperature against exothermic reaction heat, rate of reaction, or reaction time during UV irradiation is observed.