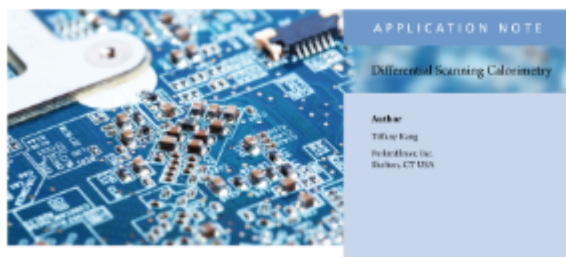


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Curing of an Optical Adhesive by UV Irradiation in the DSC 8000

Introduction
Optical adhesives are used in many industries where solvents are undesirable. Semiconductor and chip manufacturers for example cannot afford solvents depending on components. Photo-DSC allows fast analysis of the curing profile and measurement of the energy of curing reactions. Because photo-initiated reactions are fast and energetic, good temperature control and response time are needed to get good data. Power compensated instruments are the best choice for these applications.

Experimental
A PerkinElmer DSC 8000 with UV irradiation system was used. A specialized DSC pan with a quartz cover can be used although an open pan often is acceptable. The sample is heated or cooled to the set-point temperature and allowed to equilibrate. Pyris™ software allows triggering the shutter of the light source to open and close for irradiation of the sample. Data can be collected at various intervals and times to develop the best cure cycle for the material.

Curing of an Optical Adhesive by UV Irradiation by DSC

Optical adhesives are used in many industries such as semiconductors and chip manufacturing where solvents are undesirable. Power compensated instruments are the best choice for fast analysis of the curing profile and measurement of the energy of curing reactions as the design allows quick detection and response to changes in the optical material. This application note describes how Photo-DSC using power compensation technique is a powerful tool for studying and quantitatively characterizing optically curing materials.

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