



Modulated-Temperature Differential Scanning Calorimetry: Theoretical and Practical Applications in Polymer Characterisation (Hardback)

By -

Springer-Verlag New York Inc., United States, 2006. Hardback. Book Condition: New. 2006 ed.. 241 x 157 mm. Language: English . Brand New Book. MTDSC provides a step-change increase in the power of calorimetry to characterize virtually all polymer systems including curing systems, blends and semicrystalline polymers. It enables hidden transitions to be revealed, miscibility to be accurately assessed, and phases and interfaces in complex blends to be quantified. It also enables crystallinity in complex systems to be measured and provides new insights into melting behaviour. All of this is achieved by a simple modification of conventional DSC. In 1992 a new calorimetric technique was introduced that superimposed a small modulation on top of the conventional linear temperature program typically used in differential scanning calorimetry. This was combined with a method of data analysis that enabled the sample's response to the linear component of the temperature program to be separated from its response to the periodic component. In this way, for the first time, a signal equivalent to that of conventional DSC was obtained simultaneously with a measure of the sample's heat capacity from the modulation. The new information this provided sparked a revolution in scanning calorimetry by enabling...



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