Record Nr. UNINA9910876781803321 Principles and applications of thermal analysis / / edited by Paul **Titolo** Gabbott Pubbl/distr/stampa Oxford, : Blackwell Pub., 2008 **ISBN** 1-282-12295-9 9786612122958 0-470-69770-9 0-470-69812-8 Descrizione fisica 1 online resource (484 p.) Altri autori (Persone) GabbottPaul Disciplina 543.26 543/.26 Soggetti Thermal analysis Colorimetric analysis Thermal analysis - Industrial applications Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Principles and Applications of Thermal Analysis: Contents: Nota di contenuto Abbreviations: List of Contributors: 1 A Practical Introduction to Differential Scanning Calorimetry; 1.1 Introduction; 1.2 Principles of DSC and types of measurements made: 1.2.1 A definition of DSC: 1.2.2 Heat low measurements; 1.2.3 Specific heat (Cp); 1.2.4 Enthalpy; 1.2.5 Derivative curves; 1.3 Practical issues; 1.3.1 Encapsulation; 1.3.2 Temperature range; 1.3.3 Scan rate; 1.3.4 Sample size; 1.3.5 Purge gas; 1.3.6 Sub-ambient operation; 1.3.7 General practical points; 1.3.8 Preparing power compensation systems for use 1.4 Calibration 1.4.1 Why calibrate; 1.4.2 When to calibrate; 1.4.3 Checking performance; 1.4.4 Parameters to be calibrated; 1.4.5 Heat low calibration; 1.4.6 Temperature calibration; 1.4.7 Temperature control (furnace) calibration; 1.4.8 Choice of standards; 1.4.9 Factors affecting calibration; 1.4.10 Final comments; 1.5 Interpretation of data; 1.5.1 The instrumental transient; 1.5.2 Melting; 1.5.3 The glass transition; 1.5.4 Factors affecting Tg; 1.5.5 Calculating and assigning

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## Sommario/riassunto

Principles and Applications of Thermal Analysis is written by manufacturers and experienced users of thermal techniques. It provides sound practical instruction on using the techniques and gives an up-to-date account of the principle industrial applications. By covering basic thermogravimetric analysis (TGA), differential scanning calorimetry (DSC) including Fast Scanning DSC, together with dynamic mechanical analysis (DMA /TMA) methods, then discussing industrial applications, the book serves as an ideal introduction to the technology for new users. With a strong focus on practical issues, th