Measurement of: Storage modulus, Loss modulus, Tan Delta of solid polymer

Equipment: DMA 8000 Perkin Elmer

Property Measured: Storage modulus, Loss modulus, Tan Delta for solid polymer

Photograph (small size)

Dynamic Mechanical Analyser

Basic Principle: In DMA sinusoidal stress is applied on the sample and the strain in the sample is measured, allowing one to determine the Storage modulus, Loss modulus and Tan Delta. The temperature of the sample or the frequency of the stress are often varied, leading to variations in the properties of material; this approach can be used to locate the glass transition temperature of the material as well as to identify different transitions.

Capabilities: Standard Geometry: Single cantilever, Dual cantilever, 3-point Bending and Tension.

Temperature Range: Room temperature to 600°C, Modulus Range: 10^{3} to 10^{12} Pa.

Tan δ Range : 10^{-4} to 10.

Sample Requirement: Length 35 - 45 mm, Thickness 0.5 to 3 mm, Width 5 to 10 mm