

Thermal Gravimetric Analysis (TGA) of Plastic

Summary: TGA is commonly employed in research and testing to determine characteristics of polymer and plastic materials to determine degradation temperatures, absorbed moisture content of materials, the level of inorganic, organic components, additives, decomposition points and solvent residues. TGA determines the change in weight relation to change in temperature or time.

Description: TGA measures the weight change as a function of temperature or time. The decomposition reaction at a constant temperature can directly be measured with TGA set at the target temperature.

Covers the assessment of materials thermal stability through the determination of the temperature at which the materials start to decompose, react, or evaporate and the extent of the mass change using thermogravimetry.

Common Areas of Interests include:

- Organic Fillers and Polymer Blends
 - Fibers in Polymers, Plastics, and Composites
 - Oils in Rubbers, PVC, and Elastomers
 - Plasticizers and Additives in Plastics
- Inorganic Fillers in Plastics
 - Glass Fibers
 - Metal Oxides, Titanium Oxide
 - Inorganic Pigments
 - Talc, Kaolin, Calcium Carbonate, etc
- Residual Solvents in Plastics, Cast Films, Medical Devices and Pharmaceuticals
- Oxidative Stability of Plastics
- Moisture Analysis in Polymers and Fillers
- Chemical Foaming Agent Analysis
- Characterization and Failure Analysis of Plastics
- Composites, Prepreg, Epoxies, Crosslinked Polymers

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Graph of TGA analysis of a white Polyethylene part that contains 0.1% slip agent, 96.3% Polyethylene, and 3.4% Talc

