ADVANCED SOLUTIONS FOR POLYMERS AND PLASTICS

BETTER INSIGHTS FOR BETTER POLYMERS UNDER ONE ROOF

The Polymer Market consists of a huge diversity of manufacturers of industrial products running many different processes yet still facing similar challenges. There is more and more pressure to achieve high product quality and reduce costs in order to stay one step ahead of the competition.
With our instruments and expertise we can help you to:

- Save money and ensure effective quality control
- Streamline your processes for outstanding operational efficiency
- Implement cost effective solutions by reverse engineering

Polymer Processes

Resin Development	Resin Manufacture	Compound Development	Compound Manufacture	Product Forming	Recycling
Optimization of materials to ensure robust downstream applications Optimization of reaction times, end points and curing processes to reduce costs Presence of residual monomers	Ensuring resins meet agreed specifications QC of in-process and final products; determination of crystal orientation	ID of chemical composition and interactions of additives Accelerated life testing and biodegradability studies Study effects of chemical or environmental degradation Optimization to improve flow, strenght and stiffness Poly-dispersion analysis	ID of raw materials and QC of finished product to ensure correct mix and distribution of additives Reverse Engineering	QC of raw materials and finished products; troubleshooting product defects Optimization of extrusion/molding to minimize energy consumptions, reduce scrap and ensure safety	Classification of materials for recycling and disposal

Solutions for...

- Packaging film manufacturers
- Tyre and rubber industries
- Plastic goods and components manufacturers
- Paint and resins manufacturers
- Automotive, Aviation, Space and defense
- Academics and research institutions

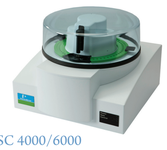



Solutions for Polymers focused on providing more insight into product performance and process optimization

Material Science is becoming more important nowadays, new technologies and applications make it easier to meet your daily challenges and regulations in a more cost efficient way. Our comprehensive portfolio of thermal analysis, molecular spectroscopy, chromatography and hyphenated techniques is the ideal choice for ensuring the quality and reliability of polymers.

Glass transition & melting temperatures; crystallinity, heat of fusion, reaction rates, specific heat and heat capacity, curing, safety and stability studies

Differential Scanning Calorimetry

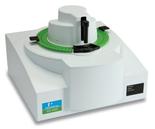

DSC 4000/6000

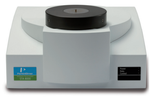

DSC 8000/8500

Wt % Additive & bi-product losses, Wt % Fillers & Ash, Decarboxylation, Pyrolization, Decomposition and Stability studies

Thermogravimetry

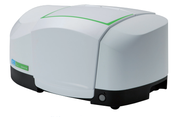

Pyris 1 TGA

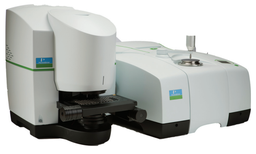

TGA 4000


STA 6000/8000

Identify and Quantitate organic molecules and compounds
Understand chemical & physical composition of laminates & adhesives
Troubleshoot chemical origin of occlusions
Identify orientation of molecules

Molecular Spectroscopy
FTIR & FT-NIR / Chemical Imaging


Spectrum Two™


Frontier™ Spotlight 400 FT-IR

Volatile compounds in packaging material

Gas Chromatography/Mass Spectrometry



TurboMatrix™ Headspace & Thermal Desorber


Clarus® GC, Clarus® SQ 8 GC/MS

Modulus, stiffness, damping, Crystalline, Alpha and Beta transitions, Glass transition & melting temperatures

Dynamic Mechanical Analysis


DMA 8000

Identify & Quantitate Evolved Gases in resins and compounds

Hyphenated Techniques


TL9000 TG-IR-GCMS

Identify & Quantitate additives

Liquid Chromatography/ Mass Spectrometry


Flexar™ LC-System


AxION® 2 TOF MS

Reflectance, transmission and absorption measurements for color, HAZE, turbidity, aging, coatings, glass and solar cells

Molecular Spectroscopy
UV-Vis/UV-Vis NIR


Lambda 650/750/850/950/1050

MULTIPLE TECHNIQUES - MULTIPLE EXPERTISE FROM ONE COMPANY

- For performing QA/QC applications
- For studying processes in polymers
- For research & development

PerkinElmer®
For the Better

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