ADVANCED SOLUTIONS FOR POLYMERS AND PLASTICS

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:

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

Polymer Processes

<table>
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<th>Resin Processes</th>
<th>Resin Manufacture</th>
<th>Compound Development</th>
<th>Compound Manufacture</th>
<th>Product Forming</th>
<th>Recycling</th>
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<tr>
<td>Optimization of materials to ensure robust downstream applications</td>
<td>Ensuring resins meet agreed specifications</td>
<td>QC of in-process and final products; determination of crystal orientation</td>
<td>ID of chemical composition and interactions of additives</td>
<td>ID of raw materials and QC of finished product to ensure correct mix and distribution of additives</td>
<td>Reverse Engineering</td>
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<tr>
<td>Optimization of reaction times, end points and curing processes to reduce costs</td>
<td>Presence of residual monomers</td>
<td>Accelerated life testing and biodegradability studies</td>
<td>Study effects of chemical or environmental degradation</td>
<td>Optimization to improve flow, strength and stiffness</td>
<td>Poly-dispersion analysis</td>
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Solutions for Polymers focused on providing more insight into product performance and process optimization

Material Science is becoming increasingly important, 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

Modulus, stiffness, damping, crystalline, alpha and beta transitions, glass transition & melting temperatures

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

Volatile compounds in packaging material

Molecular Spectroscopy FTIR & FT-NIR / Chemical Imaging

Molecular Spectroscopy UV/Vis & UV/Vis/NIR

Turbodex™ Headspace & Thermal Desorber

TL-9000 TG-IR-GC/MS

For research & development

Solutions for...

- Packaging film manufacturers
- Tire and rubber industries
- Plastic goods and components manufacturers
- Paint and resins manufacturers
- Automotive, aviation, space and defense
- Academics and research institutions

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