# FOR BETTER POLYMERS

### 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





DSC 4000/6000

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

Mechanical Analysis





TMA 4000

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

Thermogravimetry







**Hyphenated Techniques** Identify and quantitate evolved gases in resins and



TL-9000 TG-IR- GC/MS Liquid Chromatography/Mass Spectrometry

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

Volatile compounds in packaging material

Molecular Spectroscopy FTIR & FT-NIR/Chemical Imaging





Identify and quantitate additives

compounds





QSight 400 LC/MS/MS

#### Gas Chromatography/Mass Spectrometry



GCMS 2400



GC 2400 (with HS 2400 Headens

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

#### Molecular Spectroscopy UV/Vis & UV/Vis/NIR







## MULTIPLE TECHNIQUES - MULTIPLE EXPERTISE FROM ONE COMPANY

- For performing QA/QC applications
- For studying processes in polymers

