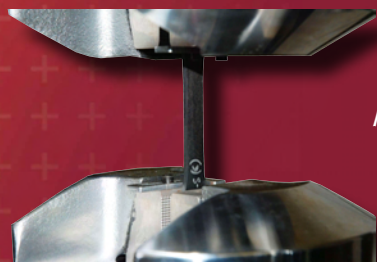


New Thermal Desorption Unit Added in 2011!

We are pleased to announce the addition of a Frontier PY-2020iD Multi-Shot Pyrolyzer to our Gas Chromatograph/Mass Spectrometry capabilities. This addition adds such inlet techniques as Thermal Desorption, Pyrolysis, and Evolved Gas Analysis and will greatly expand our ability to analyze for additives, hazardous substances, and contaminants in many materials.



*PEEK Fatigue Testing
Sample*

Almost no modern products are made without the use of at least some plastic parts, and the number of plastic parts in products is increasing all the time.

Modern engineered plastics are strong, light weight, and resistant to chemical attack and corrosion, and come in a staggering range of colors and textures. However, with the increase in use of such materials has come the need for different analytical techniques and expertise for their characterization.

IMR has invested heavily in the techniques and personnel necessary for analyzing plastic components. From routine measurement of physical and chemical properties to complex failure investigations, we have the expertise necessary to fully support plastic manufacturers and users.

Not just data, *knowledge*

IMR Test Labs

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Singapore 508769
+65 6592 5325
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Coming - Summer 2012

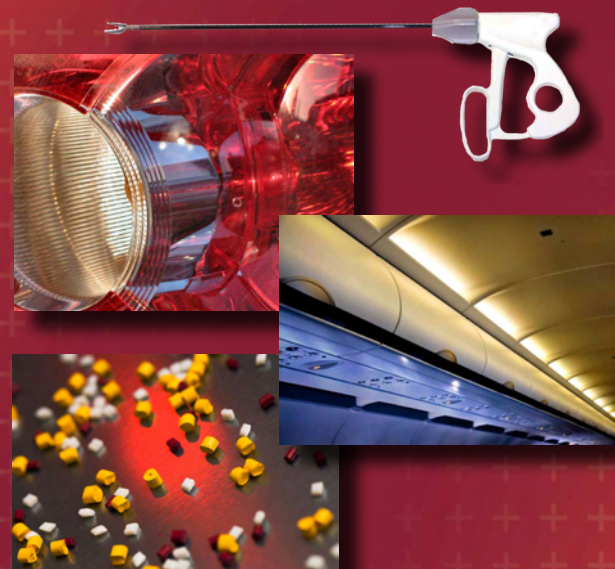
IMR Test Labs - Suzhou

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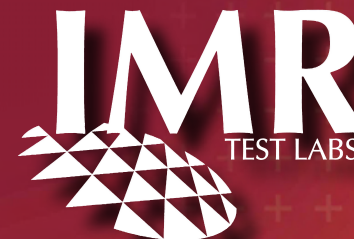
www.imrtest.com

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Analytical Services for Polymers & Plastics



Not just data, *knowledge*



Failure Analysis

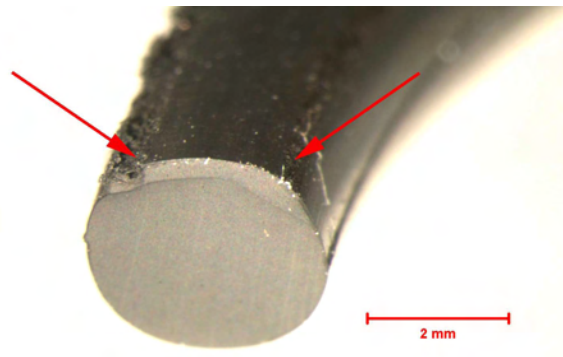
We are a full-service lab, capable of performing a complete failure analysis on your plastic materials. From macroscopic evaluations, fractography and material identification, we have the tools and experience to handle your toughest failures and production problems.

In addition, IMR is one of the few labs possessing the capability to analyze both metals and plastics at one time.

We can provide insight into:

- Failure Mechanism
- Root Cause
- Applied Stresses
- Fracture Origin
- Trace Contaminants
- and much more

Let our experts handle your toughest plastics failures!



Stereomicroscopic image showing the external damage on a failed O-Ring. The location is consistent with the sealing surface.

Material Characterization

- Material Identification
- Fatigue Testing
- Additive Analysis to Trace Level
- FTIR Analysis
- DSC Analysis: Melting Point, Glass Transition, % Crystallinity
- TGA Analysis: Polymer, Glass and Ash Content
- TMA: Glass Transition, Coefficient of Thermal Expansion
- SEM/EDS Analysis: Fillers
- GC/MS: Additives
- Extractables
- Oil Content
- Viscosity
- Melt Flow Rate/Index
- Fluid Exposure
- Flammability
- SEFA Testing
- Chemical Resistance
- Chemical Exposure Testing
- Density & Specific Gravity
- Hardness (Rockwell, Durometer, Barcol)
- Tensile Properties (-240°F to 660°F)
- Flexural Properties (-240°F to 660°F)
- Compressive Properties (-240°F to 660°F)
- Compression Set
- Impact Strength
- Coefficient of Friction
- Bond Strength
- Lap Shear Testing
- Heat Aging



Senior Organic Chemist Terri Cheatham analyzing a litigation sample via FTIR at the Ithaca Location

Additional Services

- Failure Analysis
- Contaminant Analysis to Trace Level
- Phthalate Testing
- Oil Analysis
- Particle Characterization

Paints & Coatings

- Material Identification (Base Polymer)
- Specular Gloss (20° and 60°)
- Coating Thickness
- Impact Resistance
- Pencil Hardness
- Dime Scrape
- Flexibility
- Solvent Resistance
- Stain Resistance
- Material Properties of Liquid Paints and Coatings
- Coating Shear Fatigue