IMR offers material identification and verification services as well as analysis of trace constituents, such as:

- Polymer Additives
- Plasticizers
- Leachable Compounds
- Extractable Compounds
- Semi-Volatile Compounds
- Contaminants
- Corrodents

IMR’s experienced nonmetallics staff has the know-how and equipment to assist you.

- Introduction Techniques
  - Pyrolysis
  - Thermal Desorption
- FTIR
- Micro-FTIR
- DMA
- DSC
- TGA
- TMA
- Ion Chromatography
- SEM
- SEM-EDX
- XRD

Analytical Services for Nonmetallic Materials
Polymers, Coatings & Contaminants

IMR Test Labs
131 Woodsedge Drive
Lansing, NY 14882 USA
1.607.533.7000
sales@imrtest.com

IMR Test Labs - Louisville
4510 Robards Lane
Louisville, KY 40218 USA
1.502.810.9007
sales@imrlouisville.com

IMR Test Labs - Portland
5687-A SE International Way
Portland, OR 97222 USA
1.503.653.2904
sales@imrportland.com

IMR Test Labs - Singapore
30 Loyang Way #03-16
Singapore 508769
+65 6592.5325
sales@imrsingapore.com

IMR Test Labs - Suzhou
Jiangpu Road 75, Shengpu Town
Suzhou Industrial Park
Jiangsu, China 215126
+86 0512.6295.2682
sales@imrsuzhou.com

www.imrtest.com
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!

XRD Analysis

- Identification of Unknown Powders
- Analysis of Corrosion Products
- Phase Identification
- Crystal Structure
- Reverse Engineering
- Competitive Analysis
- Material Confirmation

Paints & Coatings

- Coating Shear Fatigue
- Coating Thickness
- Dime Scrape
- Flexibility
- Impact Resistance
- Material Identification (Base Polymer)
- Material Properties of Liquid Paints and Coatings
- MIL-STD-801 Section 504 Testing (Contamination by Fluids)
- Pencil Hardness
- Solvent Resistance
- Specular Gloss (20° and 60°)
- Stain Resistance

Material Characterization

- Additive Analysis to Trace Level
- Bond Strength
- Chemical Exposure Testing
- Coefficient of Friction
- Compression Set
- Compressive Properties (-320°F to 660°F)
- Density & Specific Gravity
- DSC Analysis:
  - Melting Point
  - Glass Transition
  - % Crystallinity
- Dynamic Mechanical Analyzer (DMA) Testing
- Extractables
- Fatigue Testing (ambient temperature)
- Flammability
- Flexural Properties (-320°F to 660°F)
- FTIR Analysis
- Hardness (Rockwell, Durometer, Barcol)
- Heat Aging
- Impact Strength
- Lap Shear Testing
- Material Identification
- Melt Flow Rate/Index
- Oil Content
- SEFA Testing
- SEM/EDS Analysis: Fillers
- Tensile Properties (-40°F to 660°F)
- TGA Analysis: Polymer Glass and Ash Content
- TMA: Glass Transition, Coefficient of Thermal Expansion, Heat Deflection
- Viscosity

Additional Services

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