

Failure Analysis

IMR Test Labs has completed thousands of failure investigations at our network of labs around the world. We are experts at finding the root cause of your failure on metals, polymers, composites, thermal spray coatings and more!

- Are parts/components not performing as expected?
- Are parts/components wearing out more quickly than normal?
- Are similar parts performing differently and you need a comparison analysis?
- Are your customers reporting field failures?
- Are you getting unexpected staining or corrosion?
- Do you have unexplained debris causing failures of equipment?
- Do you have a litigation case pending and need examinations or expert witness testimony?

Our experts are versed in all types of failure, including corrosion induced, fatigue, overloading and more. Contact us today to learn more!



Not just data, *knowledge*

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

www.cwst.com

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WRIGHT**

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IMR TEST LABS

A Curtiss-Wright Business

Analytical Services

for the

Energy Industry



Not just data, *knowledge*



Metallurgical Analysis

Case Depth
 Certified Weld Inspections
 Coatings Evaluations
 Decarburization
 Failure Analysis (Metals, Polymers, Coatings, Composites, Contaminants)
 Fractography
 Fracture Mechanics
 Grain Size
 Heat Treat Analysis
 Inclusion Rating
 Intergranular Attack
 Intergranular Oxidation
 Microhardness (Knoop, Vickers, MacroVickers)
 Microstructure
 Particle Analysis (Distribution, ID, Size)
 Plating & Coating Analysis
 Plating Thickness
 Porosity of Metals, Ceramics & Composites
 Prior Austenitic Grain Boundary Determination
 Quantitative Image Analysis
 SEM Analysis
 Surface Topography
 Thermal Spray Coating Analysis
 Titanium Beta Transus Determination
 Weld, Braze & Joining Evaluations

Chemical Analysis

Alloy Chemistry
 Contaminant Identification
 Corrosion Product Analysis
 DSC
 FTIR
 GC/MS
 Hazardous Substances
 Heavy Metal Impurities
 ICP-AES Analysis
 ICP-MS Trace
 Element Analysis
 Ionic Contamination
 Internal Cleanliness
 Metallic Material Verification
 OES Analysis
 On-Site Positive Material Identification (PMI)
 Polymeric Material Identification
 Polymer Failure Analysis



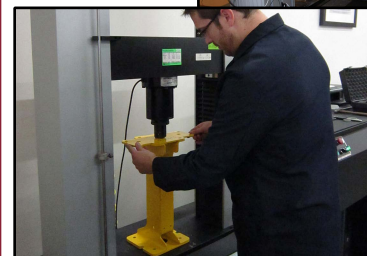
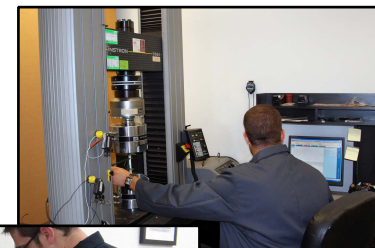
Rare Earth Elements
 SEM/EDS
 Surface Cleanliness
 TGA
 XRD Analysis
 XRF Analysis

Materials Tested

Aluminum Alloys	Polymers
Carbon Steel	Process Solutions
Ceramics	Stainless Steel
Copper Alloys	Specialty/Custom Alloys
Fiber-Reinforced Composites	Thermal Spray Coatings
Glass	Titanium Alloys
Low Alloy Steel	Welds
Magnesium Alloys	Zinc Alloys
Nickel Alloys	Zirconium Alloys
Plastics	

Mechanical Testing

3 & 4 Point Bend Testing
 Adhesion Testing
 Bond Strength
 Charpy Impact Testing
 Coating Adhesion
 Coating Shear Fatigue
 Creep Testing
 Fatigue Testing (Axial, Rotating Beam)
 Fracture Mechanics
 Hardness (Rockwell, Brinell)



Heat Treatment
 High Temperature Tensile
 Hydrogen Embrittlement (Static Load)
 Machining & Specimen Preparation
 Slow Strain Rate
 Stress Rupture Testing
 Tensile Testing
 Torsional and Axial Fatigue
 Tube Testing (Tensile, Flare, Hydrostatic)
 Weld Qualification
 Wire/Spring Testing (Wrap, Coil, Bend)

