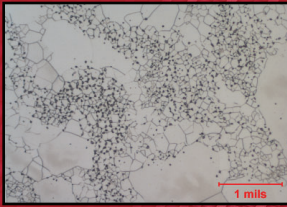
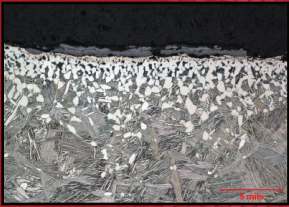


Coatings Evaluations at IMR Singapore - GE Aeronautics CENTRAL COATING LAB

IMR Test Labs - Singapore is a GE S-400, CCL approved coatings laboratory. We have GE CCL certified coatings technicians who can provide approved coatings evaluations and reports that satisfy GE requirements.

IMR Singapore carries GE S-400 Code AJ approval on our cert T9325, which includes the following coatings: F50TF13 CL-A/B50TF72 CL-A, F50TF15 CLA, F50TF18 CLB, F50TF22 CLA, F50TF25 CLA, F50TF45 CLB, F50TF50 CLB, F50TF69 CLB, F50TF71 CLA & CLC, F50TF75 CLB, F50TF102 CLA



Specialty Services

- Aggressive Machining Evaluations
- Analysis to support Additive Manufacturing
- Coatings Evaluations
- Metallography/Materialography
- Preparation of speciality materials including: Inconel 625, Haynes 25, Haynes 188, L605, stellites, ceramics, fiber-reinforced composites and more.
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 - AC Electrolytic Etching
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- Thermal Spray Evaluation Training



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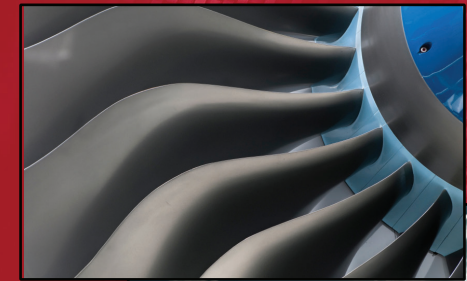
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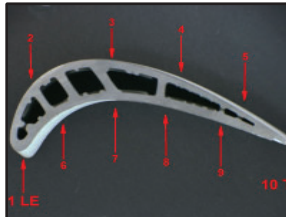
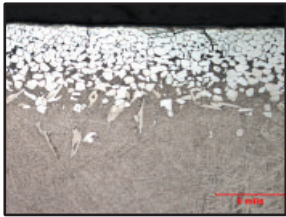
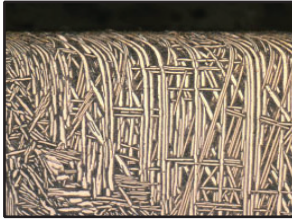
Analytical Services for the Aerospace Industry



www.imrtest.com

Metallurgical & Failure Analysis

Aggressive Machining Evaluations
Alpha Case
Case Depth
Decarburization
Effective Case Depth
Grain Size
Image Analysis
Inclusion Content
Intergranular Attack
Macro-etching/Micro-etching Metallography
Microhardness (Knoop, Vickers)
Microstructure
Particle Analysis
Plating & Coating Analysis
Porosity
Root Cause Analysis
Specialty Material Preparation
Thermal Spray Coating Analysis
Weld, Braze & Joining Evaluations



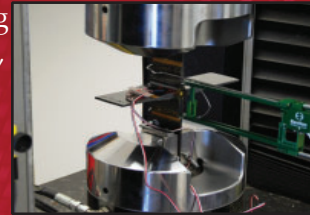
Accelerated Weathering & Corrosion

Cyclic Corrosion
Electrical Resistivity
Monthly Panel Testing
QUV Exposure
Salt Spray Testing
SO₂ and SO₂/CO₂ Exposure
Taber Abrasion/Wear Resistance
Temperature & Humidity Testing



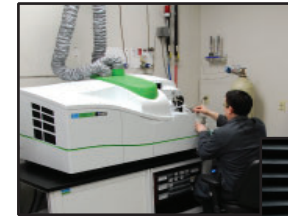
Polymers, Composites & Contaminants

Additive Analysis to Trace Level
Bond Strength
Chemical Exposure Testing
Chemical Resistance
Coefficient of Friction
Compression Set
Compressive Properties
Contaminant Identification
Density & Specific Gravity
DSC Analysis: Melting Point, Glass Transition, % Crystallinity
Dynamic Mechanical Analyzer (DMA) Testing
Extractables
Failure Analysis
Fatigue Testing
-High Temp to 1800°F
Flammability
Flexural Properties
Fluid Exposure
FTIR Analysis
GC/MS: Additives
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 Testing: Flatwise, Cruciform, Hoop, Standard, -240F to 660F
TGA: Polymer, Glass and Ash Content
TMA: Glass Transition, Coefficient of Thermal Expansion, Heat Deflection
Viscosity
XRD: Phase Identification



Chemical Analysis

Alloy Identification/Verification
Cleanliness
Contaminant Analysis
ICP-AES Analysis
ICP-MS Analysis for Trace Elements
OES Analysis
Particle Size Analysis
PMI (Positive Material Identification)
SEM/EDS
XRF Analysis
XRD Analysis



Mechanical Testing

Coating Adhesion/Bond Strength
Creep/Stress Rupture
Erosion Testing of Coatings
Fatigue Testing
High Temperature Fatigue (up to 1800°F)
Cryogenic Fatigue Testing (down to -320°F)
High Cycle Fatigue
Low Cycle Fatigue
Flexural
Fracture Mechanics
Hardness (Brinell, Rockwell)
Hydrogen Embrittlement
Impact Testing
Rotating Beam Fatigue
Tensile, Yield, Elongation
Weld Qualification

