

FACT SHEET

FAILURE ANALYSIS LABORATORY

Uncovering the circumstances leading to failure and ensuring continued asset performance

Intertek combines in-depth engineering analysis with root cause failure investigations to solve problems, improve future performance, and increase reliability.



Our Services

Intertek provides consulting services for the power generation, renewable energy, petrochemical, and construction industries. We provide specialists and engineering support in all areas including design, process safety, mechanical integrity, inspection, maintenance, operations, process support, corrosion, material science, and risk analysis.

Our failure analysis lab is fully equipped to generate reliable engineering information and recommendations essential to informed management decisions involving maintenance, component replacement, and projected life. The team is comprised of a multitude of subject matter experts who work synergistically to solve any problem.

Specific services range from conducting single component analysis to system level root-cause investigations. The broad range of expertise and experience means Intertek can perform a variety of engineering services in-house, from the first signs of a problem to monitoring and inspection. Our engineers review process and operations data, perform engineering and failure analyses, provide recommendations on component replacements and upgrades, and design and implement inspection plans. We work with clients to develop lean work scopes that ensure they get the result they want within their budget.

Laboratory Capabilities

Intertek has a fully equipped, materials laboratory with a wide range of capabilities. When a project requires a specific test or piece of equipment that is not in Santa Clara, we are able to quickly and affordably leverage Intertek's 1,000+ laboratories around the world.

Equipment and capabilities commonly utilized for projects include:

Microstructural Analysis and Fractography

- Optical Light Microscopy and Microstructural Evaluation
- Scanning Electron Microscopy (SEM)
- Energy-dispersive X-ray spectroscopy (EDS)
- Transmission Electron Microscopy (TEM)
- Electron Backscatter Diffraction (EBSD)

Non-Destructive Testing (NDT)

- Ultrasonic Thickness Testing
- Phased Array Ultrasonic Inspection
- Pulsed Eddy Current Examination
- Radiographic Testing
- Magnetic Particle Testing
- Dye Penetrant Testing

Engineering Services

- RBI
- Remaining Useful Life
- Due Diligence
- FEA

Mechanical Testing, Material Verification, Chemical and Deposit Analysis

- Hardness Testing
- Mechanical Testing: Tensile, Impact, Creep, etc.
- Optical Emission Spectroscopy (OES)
- X-ray Diffraction (XRD): Room Temperature and High Temperature Environment
- Wavelength Dispersive X-ray Fluorescence Testing (WDXRF)
- Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
- Fourier Transform Infrared Spectroscopy (FTIR)
- Thermo-Gravimetric Analysis (TGA)
- Differential Scanning Calorimetry (DSC)
- Brunauer-Emmett-Teller Surface Area Measurement
- Thermal Desorption Gas Chromatography/ Mass Spectrometry (GC/MS)
- X-ray Radiography

FOR MORE INFORMATION

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