

FACT SHEET

# WIND ASSET INTEGRITY

Integrating engineering, failure analysis, and technology to safeguard your assets

**We maintain a fully equipped materials laboratory with a wide range of capabilities and deployable field teams. When a project requires resources not available locally, we are able to quickly and affordably leverage Intertek's 1,000+ laboratories around the world. Be assured no problem is too big or small. We solve them all.**



## Wind Asset Integrity

Our engineering team and failure analysis lab are fully equipped to generate reliable engineering information and recommendations essential to informed management decisions involving maintenance, component replacement, and projected life.

### Our services include:

- Failure analysis and forensics, including on-site investigations and root cause analysis
- Condition/life assessment for high risk components in the power train
- Technical and financial due diligence for asset acquisition, repowering, and end of warranty
- Data analytics and asset management via customizable software platform, Wind Aware
- Engineering services including design review, fitness for service, and finite element analysis
- Failure remediation and prevention incorporating all of the above services

## Engineering and Laboratory Capabilities

### Engineering Services

- O&M Forecasting and Benchmarking
- Risk-Based Inspection (RBI)
- Remaining Useful Life (RUL)
- Due Diligence
- Finite Element Analysis (FEA)
- Finite Element Modeling (FEM)
- Inspection Planning and Scheduling
- Flaw Tolerance, Fracture Mechanics

### On-Site Capabilities

- Internal & External Visual/UAV Inspection
- Stress, T, P, moisture, and vibration monitoring
- Fire damage investigation per NFPA 921
- Forensic Replication
- X-Ray Fluorescence (XRF)
- Hardness
- Phased Array Ultrasonic Inspection
- Magnetic Particle Testing
- Dye Penetrant Testing
- Ultrasonic Thickness Testing
- Thermography

### Laboratory Techniques

- Positive Material Identification (PMI)
- Coating Analysis
- 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)
- Radiographic Testing
- Mechanical Testing: Tensile, Impact, Hardness, Microhardness, etc.
- Optical Emission Spectroscopy (OES)
- X-ray Diffraction (XRD)

- 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)
- Thermal Desorption Gas Chromatography/Mass Spectrometry (GC/MS)

**Our wind energy expertise improves product quality and reliability, secures operational efficiencies, and protects infrastructure.**

### FOR MORE INFORMATION

 +1 408 745 7000

 [aim@intertek.com](mailto:aim@intertek.com)

 [intertek.com/wind-wave-tidal/asset-management-wind-energy-services](https://www.intertek.com/wind-wave-tidal/asset-management-wind-energy-services)