

Pulp & Paper Services

NDT, INSPECTION, & MATERIALS ENGINEERING



**A HIGHER LEVEL
OF RELIABILITY®**



Reduce Downtime & Improve Profitability

For over thirty years, the pulp and paper industry has trusted Acuren to provide state-of-the-art services to keep their operations running smoothly and safely. We understand the pressure planned outages place on profitability as well as the challenges involved with keeping a diverse range of equipment fully operational.

We can help. Our technically skilled and experienced staff of over 3,000 inspectors, technicians, project managers, and onsite coordinators, delivers solutions and recommendations that are practical and cost-effective.

When you engage us, you can expect the commitment to quality, reliability, and safety that has earned Acuren a leadership position in the NDT, Inspection, and Materials Engineering industry.



BE SAFE

Safety is our number one priority - the safety of your organization, your employees, our employees, and your equipment. We back up this pledge with properly-trained individuals who are committed to and believe in our Safety Management System. We take a proactive approach to safety, and conduct a thorough review of your project so we can discuss and help eliminate safety and technical challenges before arriving onsite. By thoroughly preparing before the job starts, we save you time and money by deploying the right personnel and the right equipment. We provide you with guidance and practical recommendations that extend beyond the immediate safety concern, and result in fewer incidents company-wide.

BE COMPLIANT

Acuren offers comprehensive inspection services to help you meet regulatory, insurance and industry requirements. Our professional staff is fully up to date on the latest standards and regulations ensuring a proactive approach to compliance. Acuren has proven experience in addressing risk management, best industry practices and governmental regulations, and can reduce expenses and lessen the administrative burden associated with compliance mandates.

BE FULLY OPERATIONAL

Unplanned outages wreak havoc on profitability, increase insurance costs, and can tarnish a firm's reputation. Maintain the integrity of your operations with Acuren services. Our sizeable workforce gives us unmatched scheduling flexibility. We'll work with you to arrange testing and examinations at times that are best for your operations - days, nights, or weekends. We'll show up on time, every time, to efficiently and carefully conduct our business, so you can quickly get back to yours.

BE CONFIDENT IN OUR RELIABILITY

We understand that inspection requirements may arise on an unscheduled basis. You need support immediately. We honor our commitments to our customers with an unsurpassed on-time record. Acuren maintains the largest fleet of vehicles and equipment in North America, which we dispatch along with responsive and reliable professionals who are eager to help. Our immediate and full support is always available to address your specific needs.

ACUREN LEADS THE INDUSTRY IN A RANGE OF SERVICES

CONVENTIONAL NDT SERVICES

- Radiographic testing (RT)
- Magnetic particle testing (MT)
- Dye penetrant testing (PT)
- Ultrasonic testing (UT)

ADVANCED NDT SERVICES

- UT crawler - tanks/dryer cans
- Tube inspection- Near Drum/IRIS/ET/RFT/MFL
- EMAT boiler tube inspection
- UT shear wave boiler tube butt-weld inspection
- Phased array (PA)
- Computed/digital radiography (CR/DR)
- ACFM examination
- Wire rope testing - guy wires/crane cables/conveyors
- C-Scan flaw evaluation
- Time of flight diffraction (TOFD)
- Guided wave UT
- Ground penetrating radar (GPR)

FACILITY INSPECTION SERVICES

- Outage planning and inspection
- Mechanical integrity - API 510/570/653
- Visual - API/AWS/CSA inspectors
- Positive material identification (PMI)
- Infrared inspection (IR)
- Leak detection (LT)
- Hardness testing (HT)

SPECIALIZED SERVICES

- Rope access inspection
- Data management applications (DMAPS and BEAM software) Boiler tube corrosion mapping
- Field engineering and repair services
- Vendor surveillance

What we mean by “A Higher Level of Reliability”

A Higher Level of Reliability is more than just a statement; it is a core belief that pervades every aspect of our corporate culture. For over thirty years, our mission has been to provide reliable, repeatable service - for every client, everywhere, every day. We strive to exceed our client's expectations while providing a safe working environment, maintaining the highest industry standards, and respecting the dignity of every employee.

- Our mission is to provide reliable, repeatable service
- Our commitment is to employ the best resources, technology, and methods available today
- Our investment in quality, service, and efficiency comes from our focus on discipline, exceeding client expectations, and continuous improvement that drives productivity
- Our corporate culture is defined by three principles: safety and the knowledge that all incidents are preventable; the integrity that comes from always doing the right thing; and a passion for our work and its contribution to society at large

Industry Leading Materials Testing & Analysis

Acuren's engineers have a solid reputation for providing accurate and definitive materials integrity solutions. Our internationally recognized team has extensive field experience assisting pulp and paper mills throughout all stages of equipment lifecycles including design, inspection, maintenance, repair, and failure analysis.

CONSULTING SERVICES

At Acuren, we believe results come from specialized teams who understand your process in general, and your mill or plant in particular. We'll provide the right engineering expert who can offer cost-effective solutions to benefit your business. Acuren consulting services for pulp and paper mills include:

- Materials selection
- Field analysis of failure causes
- Fitness for purpose
- Weld repair procedures
- Fracture mechanics
- Materials testing
- Corrosion studies
- Quality assurance
- Water treatment and energy analysis

FAILURE ANALYSIS

When a failure occurs, thorough analysis can offer insight and preventive solutions for the future. At Acuren, our engineers undertake the meticulous examination of failure analysis to give you clear guidance on how to move forward. Some of the procedures includes:

- Metallographic examination
- Micro and macrophotography
- Fractography
- Scanning electron microscopy
- Hardness, tensile and impact testing
- Fracture toughness testing
- Chemical analysis
- Elevated temperature stress rupture analysis
- Energy dispersive X-ray analysis
- Corrosion scale analysis

CORROSION LABORATORY

- Corrosion testing
- Accelerated corrosion assessment
- Testing of materials in a simulated corrosion environment

LIFE ASSESSMENT STUDIES

Acuren's life assessment services answer critical questions regarding equipment longevity that allow proactive repair and replacement planning. Real-time condition monitoring can give you an immediate snapshot of how your equipment is functioning. Our engineers are experienced in pulp and paper processes, equipment, materials, and service demands. Specialized techniques include:

- In-situ metallography
- On-site alloy analysis
- Crack detection and analysis
- Macro and microhardness testing
- Strain gauging
- Stress analysis
- Fire damage assessment
- Finite element analysis
- Fitness for purpose

SCANNING ELECTRON MICROSCOPY

Reduce sample preparation time, improve analytical accuracy, and make key decisions to keep your operations running at full capacity with Acuren's scanning electron microscopy services. Our equipment is capable of magnifications up to 200,000x and captures images of fine particulate, complex crack morphologies, and multi-layered corrosion deposits, all displayed at high resolutions. Our scanning electron microscopy services include:

- Forensic investigation
- Metallurgical failure analysis
- Corrosion studies
- EDX analysis
- Air, water, and oil contaminant analysis

MECHANICAL TESTING

Mechanical testing is vital to confirming any material grade, evaluating any component, or putting any critical design into practice. Mistakes here can lead to dangerous, costly time-consuming problems in the future. When safety, quality, and production efficiency matter, rely on Acuren. Our mechanical testing services include:

- Tensile testing - including elevated temperature
- Charpy impact testing
- Weld procedure testing - ASTM, CSA, AWS, AWWA, ASME
- Valve certification
- Hardness testing

CHEMICAL ANALYSIS

Our chemists, technicians, and inspectors are extensively experienced in pulp and paper industry processes. We operate five service-oriented laboratories enabling us to deliver rapid results regardless of project size. Our field spectrographic equipment can travel to your site for fast, nondestructive chemistry testing. Results are delivered electronically, for faster decision making and improved collaboration. Acuren can help you with:

- Ensuring compliance with material specifications
- Identification of unknown materials
- Alloy sorting
- Evaluating weld procedure acceptability

POSITIVE MATERIAL IDENTIFICATION

Improve the integrity of your materials control system with Acuren's positive material identification services. Our technicians will quickly validate raw materials before production has begun, enabling complete traceability. Because materials are accurately matched to a specific supplier, any quality issues can be documented and quickly resolved. Services include portable spark and alloy sorting.



We'll show up on time, every time, to efficiently and safely conduct our business, so you can quickly get back to yours

SAFETY IN NUMBERS

Working safely is our highest priority. We employ over 3,000 properly-trained and certified engineers, inspectors, technologists, and technicians who understand and are committed to our proprietary Safety Management System. The foundation of this program is that every incident is preventable, and our safety record proves it.

The Principles of Acuren's Program Apply To All Projects & Include:

- Safety programs that meet or exceed all federal and local regulatory standards
- Site specific safety plans developed in consultation with your staff by Acuren supervisors experienced with your site, mill, or plant
- Job hazard analysis performed prior to every task
- Emergency preparedness
- Timely reporting and compliance auditing for all hazards, injuries, and incidents
- Compliance audits and safety metrics effectively engaged
- Technicians that are trained, safety-certified, responsible, and empowered
- Approved and properly deployed personal protective equipment
- Consistent use of correct and current safety procedures 100% of the time

BEYOND INSPECTION



Comprehensive Services For All Your NDT, Inspection, & Materials Engineering Needs



VIEW OUR BROCHURES

Acuren provides state-of-the-art nondestructive testing, inspection, engineering, and rope access enabled industrial services, delivered throughout 90 locations and utilizing 5,500 employees across North America and the United Kingdom



CONTACT OUR PULP & PAPER EXPERTS TODAY

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