

Solutions for Corrosion Under Insulation (CUI)

A FULLY INTEGRATED APPROACH



A HIGHER LEVEL
OF RELIABILITY®



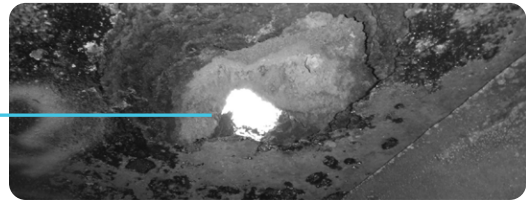
What is CUI?



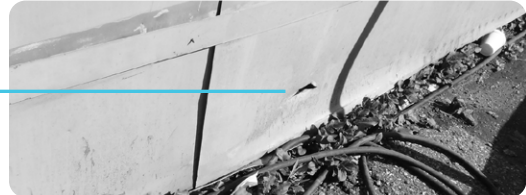
Insulated tank with insulation perforations acting as paths for moisture ingress



Tank with insulation removed and exposed CUI damage



Through-Hole From CUI



Break In Insulation Cladding

CUI (Corrosion Under Insulation) is external degradation on a component as a result of water trapped under insulation or fireproofing. CUI can affect carbon steels, low alloy steels, 300 series stainless steels, and even duplex stainless steels. CUI typically affects equipment that operates continuously or intermittently between:

- Carbon & low alloy steels: -12°C (10°F) to 175°C (350°F)
- Austenitic and duplex stainless steels: 60°C (140°F) to 205°C (400°F)

Corrosion Under Insulation (CUI) is a damage mechanism that affects all industrial facilities. Failure of in-service equipment can be catastrophic and extremely costly. Current industry practices for detection and mitigation are inefficient and expensive. Acuren is thinking outside the box, pioneering alternative strategies for tackling this common but costly problem.



Acuren leads the industry as the one true supplier that can be the single turnkey vendor to execute comprehensive CUI programs.

ENGINEERING SOLUTIONS & PROGRAMS

- CUI program development
- Corrosion engineering, materials selection, mitigation solutions
- Manual development on inspection & mitigation of CUI
- Perform engineering threat assessments
- Experienced in-house corrosion engineering capabilities
- Equipment condition assessment
 - RSTRENG / APCAT Calculations
- Fitness for service assessments (e.g. API 579)
- Repair plan development
- Create and implement Risk Based Inspection (RBI) programs
- Finite Elemental Analysis (FEA)

VISUAL INSPECTION

- Experienced visual inspectors perform external inspections of equipment:
 - RBI (API 580/API 581)
 - Piping (API 570)
 - Pressure Vessels (API 510)
 - Boilers (NBIC, ABSA)
 - Structural
 - Other
- Asset integrity management
- Assess for CUI potential
- Selection of suitable NDE method(s)
- Circuitize piping, select condition monitoring locations (CML's)

All Inspection, NDE & Industrial Services Can Be Provided From Ropes



Real Time Radiography (RTR)



Moisture Detection Imaging (MDI)™



Guided Wave Ultrasonic (GUL)

WHY ACUREN?

- A fully integrated approach, combining engineering, inspection, NDE, industrial trades and rope access services. Acuren leads the industry as the one true supplier that can be the single turnkey vendor to execute comprehensive CUI programs.
- Acuren innovation, advanced applications, and cutting-edge inspection solutions result in significant cost savings, reducing unnecessary mechanical scopes (insulation stripping only where required), saving precious time and reducing material waste while limiting exposure to potential hazards.
- Leading provider of robust CUI programs, founded in sound engineering practice through unparalleled industry knowledge, leveraging decades of experience.
- Rigorous training and competency programs for personnel.
- Diagnose the root cause, not the symptoms.
- Design the right program and tools for the application.

ACUREN NDE METHODS FOR CUI INSPECTION

- Moisture Detection Imaging (MDI)™ - Neutron Backscatter
- Pulsed Eddy Current (PEC)
- Radiography
 - ◊ Real Time Radiography (RTR)
 - ◊ Computed Radiography (CR)
 - ◊ Digital Radiography (DR)
- Guided Wave Ultrasonic (GUL)
- Infrared Thermography (IR)
- Laser Scanning
- Advanced Ultrasonic Inspection
 - ◊ PAUT
 - ◊ TOFD
 - ◊ AUT
- Ultrasonic Thickness (UT) Measurements



ROPE ACCESS & INTEGRATED SOLUTIONS

Rope Access Methods:

- Where scaffold or other means of access are not practical, Acuren can utilize rope access means to assess CUI (e.g. modular piping, towers, stacks).
- All inspection, NDE and industrial services can be provided from ropes

Industrial Services:

- Journeyman Insulators
 - ◊ Insulation removal/repairs
 - ◊ Insulation installation
 - ◊ Asbestos abatement
 - ◊ CML ports installed
 - ◊ Fireproofing
- Repairs/Replacement
 - ◊ Welding and fabrication
 - ◊ Pipefitting
- Pressure cleaning and blasting
- Coatings: NACE Inspectors, coating removal and recoating
- Electrical and instrumentation

BEYOND INSPECTION



Acuren is thinking outside
the box, pioneering
alternative strategies for
tackling this common but
costly problem



VIEW OUR BROCHURES



CONTACT OUR CUI EXPERTS TODAY

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