



CUPS INSPECTION SOLUTIONS



THE PROBLEM: CORROSION UNDER PIPE SUPPORTS

Corrosion Under Pipe Supports is a critical and often elusive threat to piping systems. Pipe supports create crevices where moisture accumulates, coatings degrade and inspection is obstructed — leading to undetected corrosion, leaks, failures and costly shutdowns. Provides results and accuracy that methods such as EMAT, GWUT, and others cannot deliver.

CONSEQUENCES

- **Unplanned Downtime** – Pipe failure can result in unplanned loss of primary containment halting production without warning.
- **High Repair Costs** – Advanced damage can often require section replacements with no temporary repair possible.
- **Safety & Environmental Hazards** – High risk to Health & Safety, Environment, Asset Integrity, and lost production with potential legal consequences.

KEY CAUSES OF CUPS

- **Moisture Retention** – Water collects where pipes meet supports. This can be further accelerated by Corrosion Under Insulation (CUI).
- **Coating Degradation** – Contact points result in localized breakdown of coatings/corrosion barriers resulting in corrosion.
- **Mechanical Load Stress** – Vibration and friction accelerate coating failure and corrosion initiation.
- **Galvanic Corrosion** – Corrosion that occurs at the junction of dissimilar metals when exposed to a suitable electrolyte, such as a moist or aqueous environment.
- **Obstructed Inspection Zones** – Conventional techniques miss corrosion.



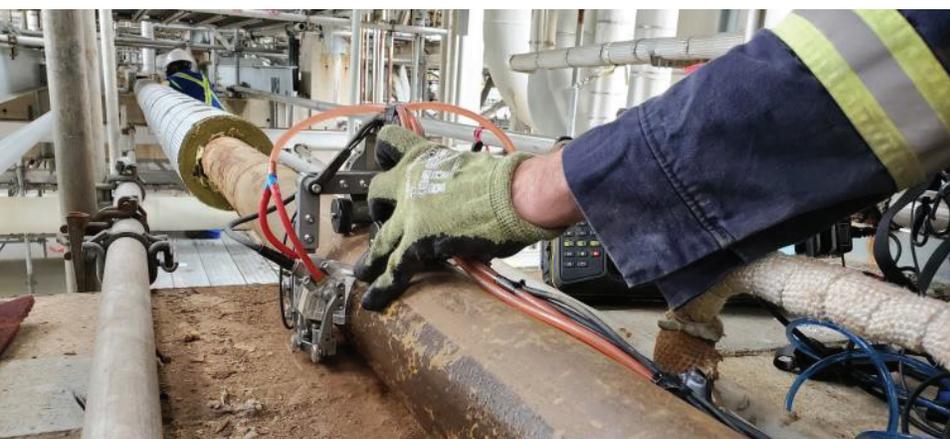
INCREASES
SAFETY



MINIMIZES
COSTS



MORE ACCURATE
INSPECTION DATA



AMERAPEX'S INTEGRATED CUPS INSPECTION PROGRAM

Amerapex provides a turnkey solution combining advanced technologies, expert analysis, and proactive mitigation:

ADVANCED PITCH-CATCH PHASED ARRAY TECHNIQUE

Amerapex uses an advanced ultrasonic phased array method to detect and quantify localized contact-point corrosion, especially in support areas where traditional NDT and other advanced methods struggle to inspect or provide accurate measureable data. It uses customized pitch-catch probe configurations and a patented cloud-based algorithm, for fast, accurate corrosion profiling.

BENEFITS

- Most accurate NDE method on the market with +/- 5% accuracy once calibrated
- Maps corrosion cell profile behind areas affected by corrosion or scaling
- Enables quick evaluation of data and faster decision-making
- Eliminates variability between inspectors

LASER SCANNING & 3D MODELING

We conduct high-resolution laser scans of entire facilities to accurately identify high-risk areas, including pipe-to-support interfaces with active corrosion, helping to optimize detailed follow-up inspections. These models also enable the generation of accurate engineering drawings, for repairs or replacements.

ADVANCED DRONE INSPECTION

Amerapex uses the latest drone technology for remote visual and NDT inspection, to assess hard-to-reach or hazardous areas safely and efficiently. Our drones have the following capabilities:

- Visual Inspections
- Various NDT methods (EMAT, UT, and Corrosion Mapping)
- FLIR
- LiDAR
- Plus Many More!

ENGINEERING ASSESSMENT & FFS

Our engineers analyze data using API 579, conducting Fit-For-Purpose Assessments and determining remaining life and recommend next steps.

CORROSION MITIGATION ADVISORY

We provide strategies, pipe lifting, surface preparation, inspection, coatings, and Cathodic Protection (CP) and support design and installation, to prevent re-occurrence.

WHY AMERAPEX?

We combine mechanical integrity expertise and turnkey integrated services with cutting-edge solutions, to tackle CUPS with precision and speed. From detection to actionable insights, Amerapex minimizes downtime, extends asset life, and keeps your operations safe.