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NDT Ultrasonic Testing (UT)

Applus+ has advanced ultrasonic inspection tools and techniques to match every NDT UT challenge, from simple thickness measurement to fully automated inspections. Applus+ has offices located worldwide, with the ability to mobilise ultrasonic inspection teams at short notice, ensuring a prompt and timely response.

THE Applus+ SOLUTION

Ultrasonic testing uses high-frequency sound energy to perform examinations and take measurements. Ultrasonic testing can inspect for dimensional measurements, thickness, material characterisation, flaw detection, and more.

Multiple advances in ultrasonic non-destructive testing have taken place in recent times, evolving from application to conventional thickness to the use of more advanced methods encompassing various modes.

At Applus, we focus in developing new NDT UT applications and technologies surrounding ultrasonic testing as a whole, while staying ahead of current NDT inspection practices and methods.

Applus+ has developed a series of industry-leading technologies for the following key applications:

- RTD Vessel Scan: ultrasonic weld inspections in pressure vessels
- RTD RotoScan: ultrasonic inspections for butt-weld in new pipes
- Beetle: for walls in storage tank inspections
- Mapscan: for semi-automatic corrosion-mapping around difficult geometries
- RTD LNG Scan: for NDT weld inspections in large-grain materials
- Lorus: for corrosion and flaw screening in difficult to access areas, such as for support contact areas and tank floor inspections.
- RTD IWEX: an innovative, new, full volume, precision UT inspection technology

- EMAT: for corrosion screening and thickness measurements through coatings or at high temperature
- PIT: Pipeline Inspection Tool for unpiggable pipelines, adjustable for every challenge

Other ultrasonic testing solutions include time-of-flight diffraction (TOFD), guided-wave ultrasonic and ultrasonic phased array, among others. These are fast becoming the industry standard in today's NDT ultrasonic testing environment.

Target customers

Ensuring quality and integrity within various industries is vital to an operator’s continued success. Providing turnkey solutions through the employment of ultrasonic is a viable solution, providing operators with the insight required to effectively manage assets and the risks on ageing infrastructure.

Ultrasonic testing can be used at any point in the life-cycle of an asset or component, from inspection of plates, forgings, castings or welded components to in-service corrosion monitoring.

Ultrasonic testing is used by many industries including:

- Food processing
- Paper production
- Oil and gas production and refining
- Power generation
- Aerospace
- Maritime

Key customer benefits

Benefits of NDT with ultrasonic testing include:

- Most equipment is now semi-automated or fully automated
- Produces a permanent electronic record of the inspections
- Leads to a marked increase in 'probability of detection' (POD)
- Improves inspection integrity
- Promotes asset integrity confidence, identifying the unknown