

# Ultrasonic Testing (UT)



## What is Ultrasonic Testing (UT)?

Ultrasonic Inspections (UI) utilise high-frequency sound waves to detect imperfections within [materials](#). This method involves an ultrasound transducer moving over the subject, emitting pulsed sound waves that penetrate the material and return echoes, which are then analysed to identify flaws.

Ultrasonic testing is versatile, used for flaw detection, dimensional measurements, and material characterisation, making it essential for quality assurance in various industries, including aerospace, where precision is paramount.

## The Ultrasonic Testing (UT) Procedure

[Applus+ Laboratories](#) employs a comprehensive approach to Ultrasonic Inspection, leveraging a broad spectrum of tools and techniques to address a wide range of inspection challenges. Our services range from simple thickness measurements to complex, fully automated immersion inspections.

Our process is designed to be highly portable and efficient, requiring access to only one side of the material for inspection. We meet a wide range of specifications, including GE, FAA, military, nuclear, ASME and prime contractor code requirements, ensuring versatility in both non-ferrous and [ferrous materials](#).

## Benefits of Ultrasonic Inspections

Ultrasonic inspections have several benefits when it comes to testing materials. Here's an overview of the main advantages to Ultrasonic testing:

- **Accuracy and reliability:** Ultrasonic Inspections significantly increase the 'probability of detection' (POD), ensuring that even the most insignificant defects are identified with unprecedented accuracy.
- **Versatility:** This method is adept at inspecting a wide range of materials and structures, from complex welds and castings to intricate forgings, adapting easily to both ferrous and non-ferrous materials.
- **Cost-effective:** Designed to be a fast and cost-effective approach, Ultrasonic Inspections drastically reduce downtime, integrating seamlessly into production environments without disrupting ongoing operations.
- **Compliance and documentation:** Each inspection generates a detailed electronic record, streamlining code compliance and facilitating comprehensive audits, improving operational transparency and accountability.
- **Single-sided inspection capability:** Our advanced technology only requires access to one side of the component to perform a complete inspection, simplifying the process while maintaining comprehensive coverage.
- **Portability:** The highly portable nature of our Ultrasonic Inspection equipment allows for flexible on-site inspections in a variety of locations, ensuring convenience without compromising quality.
- **Detailed audits:** Beyond defect identification, our Ultrasonic Inspections contribute to a robust audit process, providing detailed information on material integrity and operational standards.
- **Fast results:** Our cutting-edge technology and expert methodologies provide fast, accurate results, enabling you to make timely decisions and keep pace with your production cycle.

## Applus+ Laboratories accreditations for Ultrasonic Testing (UT)

Applus+ Laboratories is proud to be a Nadcap-approved Ultrasonic Inspection provider, a proof of our commitment to the highest standards of non-destructive testing.

This accreditation ensures that our services meet the rigorous demands of the aerospace industry, among others, giving our clients the assurance that they are meeting all the necessary requirements and benchmarks of their industry.

## Why choose Applus+ Laboratories for Ultrasonic Testing (UT)?

Choosing Applus+ Laboratories for your Ultrasonic Inspection needs means partnering with a leader in advanced [NDT solutions](#). Our commitment to innovation, combined with our extensive experience and Nadcap accreditation, positions us as a trusted partner in



the aerospace sector and beyond. Our services are designed to deliver operational efficiency, ensuring the quality and integrity of your components with minimal disruption to your operations.

With Applus+ Laboratories, you have access to a global network of NDT experts, leading-edge technology and customer-focused value, all with the goal of safeguarding your operations and improving the reliability of your products.