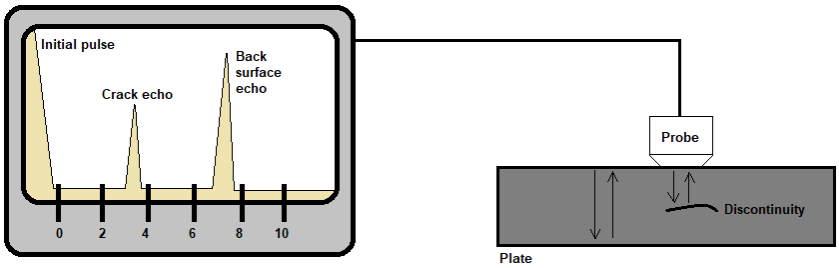
mat JN Industrial Solutions (PVT) Ltd.

Ensuring Excellence

ULTRASONIC TESTING (UT)



Ultrasonic testing (UT) employs high-frequency sound waves to assess materials, detect flaws, and characterize their properties. Using short pulse waves typically between 0.1-15 MHz (up to 50 MHz in some cases), UT is a versatile non-destructive testing method widely utilized across various industries.

Various codes and standards govern ultrasonic testing and its acceptance criteria, such as ASME Boiler and Pressure Vessel Code Section V, Article 4.

This section provides specific guidelines for ultrasonic examination methods, including the inspection of pressure vessels and pressure welds. It also outlines acceptance criteria for flaw evaluation, ensuring adherence to safety and quality standards and guiding operators on passing UT weld tests.

Ultrasonic testing offers numerous advantages, including deep flaw detection, high sensitivity, accessibility from one side, accurate flaw characterization, non-hazardous operation, and quick results. However, it requires skilled technicians, may yield false positives, and faces challenges with rough or irregular objects, requiring couplants for conventional tests and potentially reduced sensitivity for certain flaws.