



NDT - Ultrasonic Testing (Level 1)

Introduction:

Non-Destructive Testing (NDT) is a branch of science and engineering which makes use of non-invasive techniques to determine the integrity of materials, components, structures. This course is designed to make an engineer fully-aware of what NDT is and how it should be managed in the design and the operations of a plan.

All certificates are approved in accordance with ASNT (American Society for Non-Destructive Testing)

Duration:

Level 1: 5 training Days (General & Practical Examination)

Who Should Attend?

Engineers, inspectors and technicians aspiring to acquire the knowledge in Ultrasonic Testing.

Objective:

On completion of the course, candidate will be able to:

- Professional operation of the Inspection Instrument
- Capability of results-analysis in comparison to International Standards
- Comprehensive understanding of the UT Theory
- calibrate a flaw detector with both straight beam and angle beam probes, record accurate thickness measurements and locate and size laminations in steel plate
- cover techniques and procedures for conducting ultrasonic testing of various products as per various codes and standards / procedures.

Course Outlines:

- Basic Principles - Wave Propagation
- Modes of Sound waves - Properties of Plane Waves
- Wavelength/Flaw Detection - Elastic Properties of Solids
- Attenuation - Acoustic Impedance
- Reflection/Transmission - Refraction & Snell's Law
- Mode Conversion - Signal-to-noise ratio
- Wave Interference - Piezoelectric Transducers
- Characteristics of PT - Transducer Beam Spread
- Transducer Types - Transducer Testing
- Transducer Modeling - Couplant
- Normal Beam Inspection - Angle Beams
- Crack Tip Diffraction - Automated Scanning
- Velocity Measurements - Measuring Attenuation
- Spread Spectrum - Signal Processing
- Flaw Reconstruction - Calibration Methods
- DAC Curves - Curvature Correction
- Grain Noise Modeling
- References/Standards/Codes Application and measurement
- ASME V (Level 2) - AWS D1.1 (Level 2)