Ultrasonic Testing Limited: A-Scan Thickness

Level II Limited – 24 hours
Training Course Outline

This Limited certification for A-Scan Thickness measurement only as per SNT-TC-1A (2024)

SCOPE
This course introduces the basic principles of ultrasonics and prepares the candidate for Thickness Measurement using the A-Scan.
This course prepares a candidate to

- Perform Specific Calibrations
- Specific NDT
- Record Results

TRAINING
Training Material is presented in Modules followed by Quizzes

PERSONNEL CERTIFICATION
ASNT SNT-TC-1A 2024
Training, experience and examination requirements
Training Requirements

- Recommended Course Outline
- Training Hours
- Practicals
- Quizzes and examinations

MODULE 2: WAVE MODES

- Time Period and Frequency
- Wavelength
- Wave Modes – Longitudinal and Shear
- Velocity of Waves
- Factors Affecting Velocity - Temperature

MODULE 3A: ULTRASONIC TRANSDUCER

- Piezoelectric Crystal
- Single and Dual transducers
- Transducer selection: frequency and diameter

MODULE 3B: SOUND FIELD FROM AN ULTRASONIC TRANSDUCER

- Near field concept
- Beam spread and sound loss
- Reducing beam spread: frequency and diameter

MODULE 4: THICKNESS MEASUREMENT

- Thickness Measurement Concept
- Probe selection: Single vs Dual

MODULE 4A: EPOCH 600/650; USM 36, USMGO

- Setting the UT equipment for thickness measurement
- Step blocks and IIW blocks
- Setting Gain and Range
- Setting gates for thickness measurement
- Laboratory - Thickness measurement practicals

MODULE 5: UT EQUIPMENT

- Pulser Receivers
- Instrument Controls: gain, range, velocity, delay
- Displays. A-, B- and C-scans
- Selection of UT equipment for ultrasonic testing
- UT Equipment demonstration

PRACTICALS

- Thickness Measurement
- Thickness Scanning
- Plates
- Corroded samples
- Bolt Inspection
- Laminated Plates

TRAINING PROGRAM EXAMINATIONS

- General
- Specific
- Practical

Candidates must score a minimum of 70 % in written tests, 80% in practical test and a minimum average of 80% in all three tests.

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