

Ultrasonic Testing Limited: A-Scan Thickness

Level II Limited – 24 hours
Training Course Outline

The Level II Limited for UT Thickness was added in the 2006 edition of SNT-TC-1A. This Limited certification for A-Scan Thickness measurement is included in Section 6.3.1C of SNT-TC-1A

There is no prerequisite to take this class

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 2020

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 including Longitudinal, Shear, Surface and Lamb Waves
- Velocity of Waves
- Calculation of Velocity
- Factors Affecting Velocity - Temperature, Stress

MODULE 3A: ULTRASONIC TRANSDUCER

- Piezoelectric Crystal
- Single and Dual transducers
- Resolution in flaw detection: frequency and damping
- 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: USM36, USMGO, USN60, EPOCH 600

- Setting the UT equipment for thickness measurement
- Laboratory - Thickness measurement practicals

MODULE 5: UT EQUIPMENT

- Pulsar 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 each test and a minimum of 80% average for all the three tests.

July 2023



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