Eddy Current Testing
Level I Course Outline - 40 hours

SCOPE

This course prepares a candidate to Perform Surface Eddy Current Inspection and

- Perform Specific Calibrations
- Specific NDT
- Specific Evaluations for Accept or Reject Determinations according to written Instructions
- Record Results

TRAINING

GENERAL TRAINING

Electrical Parameters
- Resistance
- Inductance
- Impedance

Electromagnetism
- Faraday's Law
- Lenz's Law

Eddy Current Theory
- Generation of Eddy Currents
- Impedance changes by Eddy Currents
- Effect of change of impedance on instrumentation

Impedance Curves
- Conductivity Curve
- Lift Off Curve
- Permeability

Types of Eddy Current Sensing Elements
- Probes
    - Absolute
    - Differential
- Lift-off
- Theory of operation

Materials
- Inspection of Non-Ferromagnetic Materials

- Inspection of Ferromagnetic Materials

Special Probes

- Lift Off Insensitive
- Fastener Probes- Ring Probe

Calibration Standards

- Conductivity Standards
- EDM notch Surface Standards

Applications

- Surface Inspection
- Inspection of Airframes
- Airframe Fastener Inspection
- Turbine Blade Inspection
- Inspection of Petrochemical Piping
- Surface Weld Inspection

SPECIFIC TRAINING

Surface ECT Procedure
ASME Section V

PRACTICAL TRAINING

Setting up the Instrument
Selection of Frequency
Calibrations
Test on Various Samples
Prepare test Report

EXAMINATIONS

- General
- Specific
- Practical Tests

Candidates must score a minimum of 70% in each test and a minimum of 80% average for all the three tests.

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