



NDT- Magnetic Particle Inspection (Level 2)

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 2:** 5 training Days (General, Practical & Specific Examination)

Who Should Attend?

This course is designed for NDT technicians, welding inspectors, auditors, supervisors, managers, engineers, quality assurance/quality control personnel, and others who desire to improve their skills in this area.

Objective:

- Professional operation of the Inspection Instrument
- Capability of results-analysis in comparison to International Standards
- Comprehensive understanding of the MPI Theory
- Full management of the magnetizing methods
- Understanding of the effect caused by the magnetic field direction to detect the different flaws

Course Outlines:

- Introduction - Basic Concepts
- Magnetism - Magnetic Materials
- Magnetic Domains - Magnetic Fields
- Electromagnetic Fields - Field from a Coil
- Magnetic Properties - Hysteresis Loop
- Permeability - Field Orientation
- Magnetization of Materials - Magnetizing Current
- Longitudinal Magnetic Fields - Demagnetization
- Measuring Magnetic Fields - Portable Equipment
- Stationary Equipment - Lights
- Field Strength Indicators - Magnetic Particles
- Suspension Liquids - Dry Particles
- Wet Suspension - Continuous & Residual Magnetization
- Field Direction & Intensity - L/D Ratio
- Particle Concentration - Suspension Contamination
- Electrical System - Lighting
- Eye Considerations
- References/Standards/Codes Application and Measurements
- ASME V (Level 2)
- AWS D1.1 (Level 2)