€TRAINING

Inspection NDT with DP and MPI

16 - 20 March 2025
Cairo (Egypt)

Inspection NDT with DP and MPI

REF: E2339 DATE: 16 - 20 March 2025 Venue: Cairo (Egypt) - Fee: 4465 Euro

Introduction:

This training program is designed to provide participants with a solid foundation in Non-Destructive Testing NDT techniques, specifically focusing on Dye Penetrant Testing DP and Magnetic Particle Inspection MPI. It empowers participants with essential knowledge and skills to effectively perform inspections, identify defects, and ensure the structural integrity of various materials and components.

Program Objectives:

At the end of this program, participants will be able to:

- Explore the fundamental principles and safety guidelines of NDT techniques.
- Master the procedures and applications of Dye Penetrant Testing DP and Magnetic Particle Inspection MPI.
- Develop hands-on proficiency in conducting DP and MPI inspections.
- Enhance defect recognition skills to improve inspection and evaluation processes.
- Apply safety precautions and environmental considerations during NDT inspections.

Targeted Audience:

- Quality control and assurance professionals.
- NDT technicians and inspectors.
- Engineers and technicians in manufacturing industries.
- Maintenance and service personnel.

Program Outline:

Unit 1:

Introduction to NDT:

- Importance and applications of NDT techniques.
- Overview of various NDT methods.
- Fundamental principles of Dye Penetrant Testing DP and Magnetic Particle Inspection MPI.

- Advantages and limitations of DP and MPI.
- Industry standards and guidelines for NDT.

Unit 2:

Dye Penetrant Testing DP:

- Types of penetrant materials and their properties.
- Steps involved in DP inspection: pre-cleaning, application, and development.
- Techniques for applying penetrant and developer.
- Identifying and interpreting DP results.
- Common defects detected using DP.

Unit 3:

Magnetic Particle Inspection MPI:

- Principles of magnetism and magnetic fields in MPI.
- Types of magnetic particles and carrier mediums.
- Techniques for applying magnetic fields: direct and indirect magnetization.
- Hor to conduct MPI inspections and interpreting results.
- Equipment and tools used in MPI.

Unit 4:

Defect Characterization:

- Types of defects: surface and subsurface discontinuities.
- Factors influencing defect visibility in DP and MPI.
- Techniques for accurate defect identification.
- Evaluating defect severity and implications.
- Documenting and reporting inspection findings.

Unit 5:

Safety:

- Safety precautions during DP and MPI inspections.
- Personal protective equipment PPE and its proper use.
- Handling and disposal of NDT materials.
- Environmental considerations and regulations.
- How to maintain a safe work environment during NDT operations.