

TRAINING TITLE

CORROSION SPECIALIST: CORROSION MONITORING & INHIBITION TECHNIQUES

Training Duration

5 day

Training Venue and Dates

Ref. No. WC095	Corrosion Specialist: Corrosion Monitoring & Inhibition Techniques	5	08 – 12 Sep. 2025	5,500	Dubai, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- 5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The **Corrosion Specialist: Corrosion Monitoring & Inhibition Techniques** course focuses on understanding and managing corrosion in industrial environments. Key topics include:

- **Corrosion Fundamentals:** Types, mechanisms, and impact of corrosion.
- **Corrosion Monitoring:** Techniques like visual inspection, ultrasonic testing, and corrosion rate measurement.
- **Corrosion Inhibition:** Use of chemical inhibitors, coatings, and corrosion-resistant materials.
- **Corrosion Control:** Strategies such as cathodic protection and material design for corrosion resistance.
- **Practical Applications:** Case studies and field implementation of techniques.
- **Regulations:** Relevant industry standards and guidelines for corrosion management.
- **Emerging Technologies:** Use of AI, nanotechnology, and advanced materials for corrosion control.

TRAINING OBJECTIVES

By end of course participants will be able to understand

- Understand the fundamental mechanisms and types of corrosion.

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- Apply various corrosion monitoring techniques to detect and measure corrosion rates.
- Implement corrosion inhibition methods using chemical inhibitors, coatings, and corrosion-resistant materials.
- Utilize advanced corrosion control strategies such as cathodic protection and environmental modifications.
- Gain practical experience through case studies and field application of corrosion management techniques.
- Understand relevant industry standards and regulations related to corrosion prevention and control.
- Explore emerging technologies and innovations in corrosion monitoring and inhibition.

WHO SHOULD ATTEND?

- Corrosion Engineers
- Maintenance Engineers
- Material Scientists
- Quality Control and Assurance Specialists
- Safety and Risk Management Professionals
- Project Managers in Relevant Industries
- Technical Support Staff in Manufacturing, Oil & Gas, and Marine Sector

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

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- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE PROGRAM

Day 1: Introduction to Corrosion and Monitoring Techniques

- Overview of corrosion and its significance

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- Types of corrosion: Uniform, Pitting, Galvanic, Stress Corrosion Cracking
- Corrosion mechanisms: Electrochemical and chemical processes
- Basic corrosion monitoring techniques: Visual inspection, ultrasonic testing, and corrosion coupons

Day 2: Advanced Corrosion Monitoring and Detection

- Corrosion rate measurement: Using corrosion probes and interpreting data
- Advanced monitoring systems: Sensors, digital platforms, and remote monitoring
- Case studies: Real-world examples of corrosion monitoring
- Introduction to predictive modeling for corrosion behavior

Day 3: Corrosion Inhibition Methods

- Chemical inhibitors: Types and applications (Anodic, Cathodic, Mixed)
- Green inhibitors and environmentally friendly solutions
- Corrosion-resistant materials: Alloys, coatings, and polymers
- Coating technologies: Paint, galvanization, electroplating

Day 4: Corrosion Control Strategies

- Cathodic protection systems: Sacrificial anode and impressed current systems
- Environmental modifications: Adjusting conditions to reduce corrosion
- Designing for corrosion resistance in structures and equipment
- Practical field exercises: Hands-on corrosion control techniques

Day 5: Regulations, Emerging Technologies, and Final Applications

- Industry standards and regulations (e.g., NACE, ISO, ASTM)
- Risk assessment and management in corrosion control
- Emerging technologies: Nanotechnology, AI, and machine learning in corrosion management
- Final case study and interactive session: Applying the learned techniques

NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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