

## CORROSION INTEGRITY MANAGEMENT

*“Protect Infrastructure and Ensure Asset Reliability through Proven Corrosion Control Strategies.”*

### Schedule

| Venue (InHouse)               | Fees                  |
|-------------------------------|-----------------------|
| At Your Organization Premises | Ask For The Quotation |

► **Available delivery methods:** In-House Training

### Introduction

Corrosion is a critical threat to asset integrity, safety, and operational efficiency across industries like oil & gas, power, water, marine, and manufacturing. This course equips engineers, inspectors, and maintenance personnel with the practical knowledge and tools to identify, assess, monitor, and control corrosion-related risks.

It covers modern corrosion management principles within an integrity framework, helping organizations develop robust systems for corrosion monitoring, mitigation, and long-term asset sustainability.

### Objectives

- Understand corrosion mechanisms and their impact on asset integrity
- Identify corrosion-prone systems and apply risk-based assessment
- Develop and implement Corrosion Management Systems (CMS)
- Interpret inspection data and select suitable mitigation techniques
- Align corrosion integrity strategies with international standards
- Improve lifecycle performance and reduce unplanned shutdowns

## Why Attend

- Learn how to prevent costly failures and extend asset life
- Build a corrosion management framework aligned with ISO 55000 and API 580
- Enhance decision-making using data-driven integrity assessment tools
- Contribute to safe, compliant, and efficient operations
- Strengthen your professional capabilities in asset and maintenance management

## Target Audience

- Integrity, corrosion, and inspection engineers
- Maintenance and reliability engineers
- Asset integrity and plant managers
- HSE and operations personnel
- Pipeline, tank, and pressure equipment owners
- QA/QC professionals and consultants

## Individual Benefits

- Gain hands-on understanding of corrosion control methods
- Build capability in corrosion monitoring, data analysis, and reporting
- Expand your career in integrity, reliability, and risk management
- Earn a recognized certificate in corrosion management

## Organizational Benefits

- Reduced downtime and failure-related costs
- Improved regulatory compliance (e.g., API, NACE, ISO)
- Enhanced safety, reliability, and lifecycle performance of assets
- Consistent corrosion monitoring and reporting procedures

## Instructional Methodology

- Instructor-led technical sessions with real-world case studies
- Corrosion mechanism demonstrations and lab visuals
- Risk-based integrity assessment modeling
- Group workshops and practical exercises
- Corrosion mitigation planning templates

## Course Outline

### DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

**Training Hours:** 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | ☕ Coffee Breaks: 09:30 & 11:15 | 🍽️ Lunch Buffet: 01:00 – 02:00

#### Day 1: Introduction to Corrosion and Asset Integrity

- Module 1: Fundamentals of Corrosion (07:30 – 09:30)
  - Electrochemical basics, types of corrosion, and influencing factors
- Module 2: Industry Impact of Corrosion Failures (09:45 – 11:15)
  - Case studies from pipelines, refineries, and marine assets
- Module 3: Asset Integrity and Corrosion Risk (11:30 – 01:00)
  - Role of corrosion in integrity failures and risk analysis
- Module 4: Integrity Management System Overview (02:00 – 03:30)

#### Day 2: Corrosion Mechanisms and Risk Assessment

- Module 1: Common Corrosion Forms (07:30 – 09:30)
  - Uniform, pitting, galvanic, crevice, MIC, under-deposit
- Module 2: Corrosion Mapping and Risk Models (09:45 – 11:15)
  - Risk-based inspection (RBI), API 580/581 overview
- Module 3: Criticality Analysis and Degradation Mechanisms (11:30 – 01:00)
- Module 4: Workshop – Risk Ranking of Asset Types (02:00 – 03:30)

#### Day 3: Monitoring, Detection, and Inspection

- Module 1: Corrosion Monitoring Techniques (07:30 – 09:30)
  - Online/offline sensors, corrosion coupons, ER probes
- Module 2: Non-Destructive Testing for Corrosion (09:45 – 11:15)
  - UT, RT, EC, LRUT, PAUT, drones & AI in inspection
- Module 3: Corrosion Data Management & Trend Analysis (11:30 – 01:00)
- Module 4: Case Study – Interpreting Real Inspection Data (02:00 – 03:30)

#### Day 4: Mitigation Strategies and Materials Selection

- Module 1: Corrosion Prevention Techniques (07:30 – 09:30)
  - Coatings, cathodic protection, inhibitors
- Module 2: Materials Selection and Compatibility (09:45 – 11:15)
  - Material classes, sour service, chloride environments
- Module 3: Integrity Operating Windows (11:30 – 01:00)
- Module 4: Group Exercise – Mitigation Plan Design (02:00 – 03:30)

#### Day 5: CMS, Standards, and Certification Wrap-Up

- Module 1: Corrosion Management Systems (CMS) (07:30 – 09:30)
  - Components, KPIs, integration with Asset Integrity Mgmt
- Module 2: International Standards and Compliance (09:45 – 11:15)
  - NACE, API 571, ISO 55000, EN standards
- Module 3: Capstone – Develop a Site Corrosion Strategy (11:30 – 01:00)
- Module 4: Certification Ceremony and Final Discussion (02:00 – 03:30)

## Certification

Upon completion, participants receive a Certificate in Corrosion Integrity Management, endorsed by industry-recognized training authorities.

## Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
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### In-House / Customized Training

Interested in running this course for your team?

Please contact us:

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