MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

INSPECTION AND FAILURE ANALYSIS OF COATINGS AND LININGS

"Ensure Long-Term Coating Integrity Through Effective Inspection and Failure Diagnosis."

Schedule

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

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

Introduction

This specialized course provides participants with the technical competencies to inspect, evaluate, and analyze failures in protective coatings and linings used in industrial applications. From steel structures and pipelines to tanks and offshore platforms, coatings play a critical role in corrosion protection and asset preservation. The program delves into inspection techniques, standards (SSPC/NACE/ISO), failure mechanisms, material compatibility, surface preparation, and root cause analysis.

Objectives

By the end of the course, participants will be able to:

- Understand coating and lining systems, their functions, and limitations
- Apply proper inspection techniques at various stages of coating lifecycle
- Identify common coating defects, degradation modes, and failure causes
- Conduct systematic failure analysis and root cause identification
- Recommend corrective actions and preventative strategies

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Why Attend

Coating failures can lead to **c**ostly downtime, corrosion, and asset damage. This course empowers professionals to improve coating performance, extend service life, and reduce maintenance costs by ensuring proper inspection, documentation, and analysis practices.

Target Audience

- Coating Inspectors and Technicians
- Corrosion and Maintenance Engineers
- Asset Integrity and QA/QC Professionals
- Project Engineers and Surface Preparation Specialists
- Painting Contractors and Facility Managers

Individual Benefits

- Develop skills in coating inspection and defect diagnosis
- Qualify for roles in QA/QC, failure analysis, or integrity management
- Gain expertise in interpreting international standards (SSPC, NACE, ISO)
- Enhance career profile in high-risk industrial environments

Organizational Benefits

- Reduce failure rates and premature coating degradation
- Ensure compliance with international inspection standards
- Optimize coating system selection and application procedures
- Improve documentation, auditing, and warranty claim support

Instructional Methodology

- Real-life failure case studies and photographic evidence
- Demonstration of inspection tools and test methods
- Group exercises in visual inspection and defect interpretation
- Failure analysis workshops and problem-solving simulations
- Assessment and certification exam

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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: Coating Systems & Fundamentals

- Module 1: Functions, Types, and Application Areas of Coatings & Linings (07:30 – 09:30)
- Module 2: Surface Preparation Standards & Techniques (SSPC/NACE/ISO) (09:45 – 11:15)
- Module 3: Coating Application Methods and Environmental Controls (11:30 – 01:00)
- Module 4: Adhesion, Curing, and Coating System Selection (02:00 – 03:30)

Day 2: Coating Inspection Tools & Techniques

- Module 1: Visual Inspection – Surface Cleanliness, Profile, and Dry Film Thickness (07:30 – 09:30)
- Module 2: Wet Film Gauges, Pull-off Adhesion Tests, and Holiday Detection (09:45 – 11:15)
- Module 3: Humidity, Dew Point, and Surface Temperature Monitoring (11:30 – 01:00)
- Module 4: Inspection Documentation and Reporting Techniques (02:00 – 03:30)

Day 3: Failure Mechanisms & Defect Types

- Module 1: Common Defects – Blistering, Cracking, Delamination, Pinholing (07:30 – 09:30)
- Module 2: Corrosion Under Coating (CUC) and Osmotic Blistering (09:45 – 11:15)
- Module 3: Improper Surface Prep and Application Errors (11:30 – 01:00)
- Module 4: Case Study Review: Industrial Coating Failures (02:00 – 03:30)

Day 4: Root Cause & Failure Analysis

- Module 1: Failure Analysis Framework and Investigation Process (07:30 – 09:30)
- Module 2: Root Cause Tools – 5 Whys, Fishbone Diagrams, Fault Trees (09:45 – 11:15)
- Module 3: Lab Testing – FTIR, SEM, Cross-Section, and Microscopy (11:30 – 01:00)
- Module 4: Field vs Lab Correlation and Case Documentation (02:00 – 03:30)

Day 5: Corrective Action & Certification

- Module 1: Repair Techniques and Coating System Modifications (07:30 – 09:30)
- Module 2: Preventive Strategies and Specification Improvements (09:45 – 11:15)
- Module 3: Final Group Exercise – Failure Analysis Simulation (11:30 – 01:00)
- Module 4: Final Exam, Certification Wrap-Up, and Action Plan (02:00 – 03:30)

Certification

Upon successful completion of the course and final assessment, participants will receive a Certificate of Completion – Inspection and Failure Analysis of Coatings and Linings. The course aligns with key inspection protocols and failure analysis methodologies as endorsed by SSPC, NACE, ISO 12944, and ISO 4628.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**