MAWA EVENTS

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

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

STRUCTURAL COATINGS FOR THE OIL & GAS INDUSTRY – MATERIALS DESIGN & SELECTION, APPLICATION & TESTING (INCLUDES CP DESIGN, PFPS)

"Master Protective Coatings for Maximum Asset Durability and Corrosion Control in Harsh Oil & Gas Environments"

Schedule

Date	Venue	Fees (Face-to-Face)
24 – 28 Aug 2026	London, UK	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training, In-House Training

Introduction

Structural coatings play a critical role in ensuring the long-term durability and integrity of oil and gas infrastructure. From offshore platforms to pipelines and process vessels, selecting the right coating system, applying it correctly, and ensuring proper testing are key to combating corrosion, chemical exposure, and mechanical degradation.

This comprehensive 5-day training program equips professionals with the knowledge and tools to design, select, apply, and test protective coatings in accordance with industry best practices and standards. It also includes critical considerations in cathodic protection (CP) design and passive fire protection systems (PFPS) for enhanced safety.

Objectives

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

- Understand the role of structural coatings in corrosion protection and asset longevity
- Select appropriate coating systems based on material compatibility and service conditions
- Apply coatings using proper surface preparation, application methods, and curing techniques
- Evaluate coating performance using inspection, testing, and failure analysis
- Integrate cathodic protection and PFPS in overall corrosion management strategy

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Why Attend

- Gain a deep understanding of coating technologies used in the oil & gas industry
- Learn how to prevent costly corrosion-related failures and downtime
- Enhance project design by integrating coating and CP strategies
- Develop inspection skills to assess coating application quality and performance
- Improve safety and compliance through PFPS integration

Target Audience

This program is designed for:

- Corrosion and materials engineers
- Coating and painting inspectors
- Project and design engineers in oil & gas
- Maintenance and operations personnel
- Quality assurance and asset integrity professionals

Individual Benefits

Key competencies that will be developed include:

- Knowledge of coating types, selection criteria, and application processes
- Familiarity with international coating standards and test methods
- Skills to evaluate coating system failures and recommend solutions
- Ability to integrate CP and PFPS in corrosion control plans
- Hands-on exposure to specification development and inspection tools

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved coating system designs for longer asset life
- Reduced maintenance and repair costs due to enhanced protective strategies
- Enhanced compliance with safety and quality regulations
- Increased effectiveness in coating application and inspection workflows
- Better risk mitigation and reliability across structural components

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Deep dive into coating systems, standards, CP design, and PFPS integration
- Case Studies – Real-world examples of coating failures and successful applications
- Workshops – Hands-on sessions in surface prep, coating selection, and quality control
- Peer Exchange – Interactive group sessions to share experiences and problem-solving
- Tools – Coating specification templates, inspection checklists, and selection matrices

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Course Outline

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 Coatings in Oil & Gas Applications

- Module 1: Coating Fundamentals and Corrosion Mechanisms (07:30 – 09:30)
- Basics of corrosion and protective coating functions
- Environmental factors in oil & gas operations
- Introduction to types of protective coatings
- Module 2: Material Selection and Compatibility (09:45 – 11:15)
- Selection criteria based on substrate and service environment
- Compatibility with CP systems and thermal insulation
- Avoiding common material mismatches
- Module 3: International Coating Standards (11:30 – 01:00)
- ISO, NACE, SSPC, and ASTM standards
- Quality benchmarks and specification development
- Project-specific coating system design
- Module 4: Workshop – Coating System Selection Exercise (02:00 – 03:30)
- Matching coating systems to operating environments
- Reviewing datasheets and technical performance indicators
- Group analysis and discussion

Day 2: Surface Preparation and Coating Application

- Module 1: Surface Preparation Techniques (07:30 – 09:30)
- Mechanical and abrasive cleaning methods
- Surface cleanliness and profile standards
- Pre-application inspection criteria
- Module 2: Application Methods and Tools (09:45 – 11:15)
- Brushing, rolling, airless spraying, and plural component systems
- Wet and dry film thickness control
- Equipment calibration and maintenance
- Module 3: Curing and Environmental Controls (11:30 – 01:00)
- Coating cure mechanisms and curing schedules
- Managing temperature, humidity, and contamination risks
- Holiday testing and touch-up procedures
- Module 4: Case Study – Coating Failure Due to Improper Application (02:00 – 03:30)
- Identifying application errors
- Visual and instrumental inspection results
- Lessons learned and mitigation strategies

Day 3: Coating Inspection, Testing, and Quality Control

- Module 1: Coating Inspection Techniques (07:30 – 09:30)
- Visual inspection protocols and inspector roles
- Film thickness gauges, adhesion tests, and porosity checks
- Documentation and traceability
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Module 2: Testing Methods and Acceptance Criteria (09:45 – 11:15)

- Destructive and non-destructive testing (NDT)
- Adhesion, hardness, impact, and flexibility tests
- Developing acceptance standards
- Module 3: Managing Quality During Coating Projects (11:30 – 01:00)
- Inspection test plans (ITPs) and QA/QC protocols
- Deviation management and NCRs
- Communication between inspectors, contractors, and clients
- Module 4: Workshop – Performing a Coating Inspection Review (02:00 – 03:30)
- Reviewing inspection reports and ITPs
- Identifying deficiencies and corrective actions
- Interactive checklist activity

Day 4: Cathodic Protection (CP) and Passive Fire Protection Systems (PFPS)

- Module 1: Cathodic Protection Basics and Coating Interaction (07:30 – 09:30)
- Galvanic vs. impressed current systems
- Coating breakdown and CP efficiency
- Coating/CP compatibility challenges
- Module 2: Designing CP Systems (09:45 – 11:15)
- CP design principles for coated structures
- Current demand calculations and anode placement
- Monitoring and maintenance practices
- Module 3: Passive Fire Protection Systems (PFPS) Overview (11:30 – 01:00)
- Intumescent and cementitious materials
- PFPS standards and testing protocols
- Application challenges in offshore/onshore environments
- Module 4: Case Study – Integrated Coating and CP Design (02:00 – 03:30)
- CP and coating synergy on subsea infrastructure
- Performance outcomes and analysis
- Discussion and recommendations

Day 5: Specification Development, Troubleshooting, and Wrap-Up

- Module 1: Developing Effective Coating Specifications (07:30 – 09:30)
- Key components of technical specifications
- Aligning specifications with project goals and codes
- Tender and bid evaluation considerations
- Module 2: Troubleshooting Coating Failures (09:45 – 11:15)
- Common causes of coating failures
- Root cause analysis techniques
- Corrective action plans
- Module 3: Coating System Optimization and Innovation (11:30 – 01:00)
- Latest developments in coating technologies
- Nanocoatings, multi-layer systems, and smart coatings
- Sustainability considerations in coating selection
- Module 4: Final Assessment and Certification (02:00 – 03:30)

Summary of key learnings

- Knowledge check and Q&A session
- Certificate distribution

Certification

Participants will receive a Certificate of Completion in Structural Coatings and Corrosion Control for Oil & Gas, validating their practical and technical expertise in selecting, applying, inspecting, and integrating coating systems, CP, and PFPS in demanding industrial environments.

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.

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