Protective Coating Technologies Training Course

Professional Development Training Course Outline

Category	General Training	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Protective Coating Technologies has become a critical discipline in modern asset integrity management, corrosion prevention, infrastructure sustainability, and industrial maintenance. Across sectors such as oil & gas, petrochemicals, marine, renewable energy, power generation, manufacturing, and construction, advanced coating systems play a vital role in extending asset lifespan, reducing maintenance costs, enhancing operational reliability, and ensuring regulatory compliance. With increasing investments in smart infrastructure, sustainable materials, digital inspection technologies, and corrosion control strategies, professionals require comprehensive knowledge of coating selection, application techniques, quality assurance, and performance optimization.

Protective Coating Technologies Training Course provides participants with practical and theoretical expertise in industrial protective coatings, surface preparation technologies, coating failure analysis, inspection methodologies, asset integrity management, and emerging coating innovations. The course incorporates real-world case studies, international standards, digital inspection tools, sustainability practices, and advanced coating technologies to equip professionals with industry-relevant skills for maximizing asset performance, reducing lifecycle costs, and achieving long-term corrosion protection in challenging environments.

Programme Curriculum

Protective Coating Technologies Training Course

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Course Duration

5 days

Course Objectives

Upon completion of this course, participants will be able to:

1. Understand advanced corrosion management principles and mitigation strategies.
2. Evaluate modern protective coating systems for industrial applications.
3. Apply asset integrity management methodologies for critical infrastructure.
4. Conduct effective surface preparation optimization procedures.
5. Implement coating inspection and quality assurance techniques.
6. Analyze coating failures using root cause analysis methodologies.
7. Utilize digital coating inspection technologies and smart monitoring tools.
8. Interpret international NACE, SSPC, ISO, and ASTM standards.
9. Select coatings for marine, offshore, and petrochemical environments.
10. Integrate sustainable coating technologies and environmental compliance practices.
11. Assess risks through predictive maintenance and reliability engineering approaches.
12. Develop coating specifications using performance-based engineering principles.
13. Implement advanced corrosion prevention and lifecycle cost optimization strategies.

Target Audience

1. Corrosion Engineers
2. Coating Inspectors
3. Maintenance Engineers
4. Asset Integrity Managers
5. Mechanical Engineers
6. Quality Assurance and Quality Control Professionals
7. Project Engineers and Construction Supervisors
8. Oil & Gas, Marine, Petrochemical, and Infrastructure Professionals

Course Modules

Module 1: Fundamentals of Corrosion and Protective Coatings

- Corrosion mechanisms and degradation processes
- Types of industrial corrosion
- Protective coating fundamentals

- Asset lifecycle management concepts
- International coating standards overview
- **Case Study:** Corrosion mitigation program for an offshore oil platform.

Module 2: Surface Preparation Technologies

- Surface contamination assessment
- Abrasive blasting techniques
- Water jetting technologies
- Surface profile measurement
- Surface cleanliness standards
- **Case Study:** Surface preparation optimization for a refinery turnaround project.

Module 3: Coating Materials and Selection

- Epoxy coating technologies
- Polyurethane coating systems
- Zinc-rich and inorganic coatings
- High-temperature resistant coatings
- Coating selection methodologies
- **Case Study:** Selecting coating systems for a coastal industrial facility.

Module 4: Coating Application Technologies

- Spray application methods
- Brush and roller applications
- Environmental control requirements
- Wet film and dry film thickness measurement
- Application defect prevention
- **Case Study:** Large-scale pipeline coating project implementation.

Module 5: Inspection, Testing and Quality Control

- Inspection planning and procedures
- Non-destructive testing methods
- Adhesion testing techniques
- Holiday detection and pinhole testing
- Quality documentation and reporting
- **Case Study:** Quality assurance program for a power generation plant.

Module 6: Coating Failure Analysis and Troubleshooting

- Common coating defects
- Failure investigation procedures
- Root cause analysis techniques
- Corrective action planning
- Reliability improvement strategies
- **Case Study:** Premature coating failure in petrochemical storage tanks.

Module 7: Advanced and Emerging Coating Technologies

- Nano-coatings and smart coatings

- Self-healing coating technologies
- Anti-corrosion innovations
- Sustainable and low-VOC coatings
- Digital monitoring and IoT integration
- **Case Study:** Smart coating deployment for critical infrastructure monitoring.

Module 8: Asset Integrity and Corrosion Management Programs

- Risk-based inspection methodologies
- Corrosion management frameworks
- Lifecycle cost optimization
- Regulatory compliance requirements
- Strategic maintenance planning
- **Case Study:** Enterprise-wide corrosion management system for a multinational energy company.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com