

# Course overview FE1002 Coating Inspection

## **Course Title**

**Coating Inspection** 

## **Course Date/Venue**

December 09-13, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

3 (30 PDHs)

Course Reference FE1002

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

# **Course Description**



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.



This course is designed to provide participants with a detailed and up-to-date overview of Coating Inspection. It covers the different types of coatings including their properties and applications; the factors influencing the selection of coating systems; the coating formulation, resin types, pigment types, solvent role and additives; the process of manufacturing coatings and the importance of quality control; the health and safety precautions while handling coatings; and the importance of surface preparation before coating application.



During this interactive course, participants will learn the equipment used in coating inspection; the different inspection procedures and adherence to national and international standards (e.g., ASTM, ISO, NACE); measuring coating thickness accurately to achieve the correct thickness; the common coating failures and defects, their causes and how to prevent them; the emerging coating technologies and their implications on inspection and quality control; maintaining coatings post-application; protecting against corrosion and conducting coating failure analysis; and the ethical implications and responsibilities of being a coating inspector.



















#### **Course Objectives**

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on coating inspection
- Discuss the importance of coating inspection in various industries and identify the different types of coatings including their properties and applications
- Recognize the factors influencing the selection of coating systems like the environment, substrate material, application method and cost
- Determine coating formulation, resin types, pigment types, solvent role and additives
- Illustrate the process of manufacturing coatings and recognize the importance of quality control
- Employ health and safety precautions while handling coatings
- Discuss the importance of surface preparation before coating application and inspect prepared surfaces
- Recognize the different application techniques like brush, roll, spray, etc. as well as their advantages and disadvantages
- Identify the various tools and equipment used in coating inspection like dry film thickness gauges, adhesion testers and holiday detectors
- Apply different inspection procedures and adherence to national and international standards (e.g., ASTM, ISO, NACE)
- Measure coating thickness accurately to achieve the correct thickness and identify the common coating failures, defects, their causes and how to prevent them
- Recognize the emerge coating technologies like nanocoatings and smart coatings as well as their implications on inspection and quality control
- Maintain coatings post-application and predict and analyze their life cycle
- Identify how coatings protect against corrosion and conduct coating failure analysis
- Carryout laboratory testing methods for coating performance like salt spray test, humidity resistance test, etc
- Apply ethical implications and responsibilities of being a coating inspector including professional behavior and communication

# Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive "Haward Smart Training Kit" (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes electronic version of the course materials, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a Tablet PC.

















#### **Who Should Attend**

This course covers systematic techniques on coating inspection for coating inspectors, quality control professionals, engineers and technicians, painters and applicators, project managers, planning, supervisory or technical personnel who regularly work with protective coatings and lining.

# **Course Certificate(s)**

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

# **Certificate Accreditations**

Certificates are accredited by the following international accreditation organizations: -



The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.



#### British Accreditation Council (BAC)

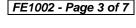
Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.













# **Course Instructor(s)**

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Dan Ruane, MBA, BSc, NACE, is a Senior Inspection Engineer and a NACE Certified Coating Inspector with over 30 years of practical experience within the Oil, Gas and Petrochemical industries. His fields of specialization cover the areas of Coating Inspection, Paintings & Coating Technology, Coating Maintenance & Coating Failure Analysis, Coating Manufacturing & Quality Control, Coating Application Techniques, Coating Failures & Defects

Identification, Plastic & Powder Coating, Protective Coating Technology, Coatings in Construction with Cathodic Protection (CCCP), Coating & Thermal Insulation, Steel Pipes Protective Coatings, Corrosion & Coating Failure Analysis, Corrosion Control & Corrosion Monitoring, Material Selection, Corrosion Monitoring Prevention & Control, Corrosion Prevention & Control, Corrosion Management in Production/Processing Operations, Corrosion Prevention in Oil and Gas Industry, Corrosion Inhibitor, Corrosion Technology & Inspection, Corrosion & Corrosion Protection, Corrosion Prevention, Corrosion Assessment, Condition Monitoring & Assessment, Pipeline Corrosion Inspection, Pipeline Design & Construction, Pipeline Engineering, Pipeline Integrity and Pipeline Operations & Maintenance.

During his career life, Mr. Ruane gained his practical and field experience through his various significant positions and dedication as the **Corrosion Control Director**, **Regional Manager**, **Professional Corrosion Consultant** and **Corrosion Engineer** from Farwest Corrosion Control, Midwestern Contractors, M.J. Schiff & Associates and West Shore Pipe Line, just to name a few.

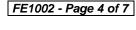
Mr. Ruane has a Master's degree in Business Administration (Marketing) from the Saint Xavier University, USA and a Bachelor's degree in Physics from the DePaul University, USA. Further, he is a NACE Certified Coating Inspector Level 3, a NACE Cathodic Protection Specialist, a Qualified NACE Instructor for Cathodic Protection Tester (CP 1), Cathodic Protection Technician (CP 2), Coatings Inspector Level 1 (CIP 1), Coatings Inspector Level 2 (CIP 2) and Coatings in Conjunction with Cathodic Protection and a Senior Coatings Inspector from The Association for Materials Protection and Performance (AMPP). Moreover, he was the Chairman & Vice Chairman of Chicago Regional Committee on Underground Corrosion, a Member of several NACE T-10 Committee, a Member of NCCER Committee for Drafting Pipeline Corrosion Control for Modules for Operator Qualification and has further delivered numerous trainings, courses, seminars, conferences and workshops internationally.















#### **Training Methodology**

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures

20% Practical Workshops & Work Presentations

30% Hands-on Practical Exercises & Case Studies

20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

#### **Course Fee**

**US\$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

#### **Accommodation**

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

## **Course Program**

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Monday, 09th of December 2024

Day 1.		monday, 05 of December 2024
	0730 - 0800	Registration & Coffee
	0800 - 0815	Welcome &Introduction
	0815 - 0830	PRE-TEST
	0830 - 0930	<b>Introduction to Coating Inspection</b> : Course Objectives, What is Expected from a Coating Inspector & the Importance of Coating Inspection in Various Industries
	0930 - 0945	Break
	0945 – 1100	<b>Types of Coatings</b> : Different Types of Coatings, their Properties & Applications. This Includes Paint, Thermal Sprays, Electroplating, Hot-Dip Galvanizing & More
	1100 – 1215	<b>Types of Coatings</b> : Different Types of Coatings, their Properties & Applications. This Includes Paint, Thermal Sprays, Electroplating, Hot-Dip Galvanizing & More (cont'd)
	1215 – 1230	Break
	1230 – 1420	<b>Coating Selection Criteria</b> : Factors Influencing the Selection of Coating Systems such as Environment, Substrate Material, Application Method & Cost
	1420 – 1430	Recap
	1430	Lunch & End of Day One

















Day 2: Tuesday, 10<sup>th</sup> of December 2024

0730 - 0930	Coating Chemistry: Coating Formulation, Resin Types, Pigment Types, Solvent Role & Additives	
0930 - 0945	Break	
0945 – 1100	Coating Manufacturing & Quality Control: Process of Manufacturing Coatings & the Importance of Quality Control	
1100 – 1215	Coating Manufacturing & Quality Control: Process of Manufacturing Coatings & the Importance of Quality Control (cont'd)	
1215 - 1230	Break	
1230 – 1420	Safety & Environmental Considerations: Health & Safety Precautions while Handling Coatings & their Environmental Impact	
1420 - 1430	Recap	
1430	Lunch & End of Day Two	

Day 3: Wednesday, 11th of December 2024

Day o.	Wednesday, 11 Of Describer 2024
0730 - 0930	<b>Surface Preparation</b> : Importance of Surface Preparation before Coating Application, Different Methods & How to Inspect Prepared Surfaces
0930 - 0945	Break
0945 - 1100	<b>Coating Application Techniques</b> : Different Application Techniques like Brush, Roll, Spray etc. & their Advantages & Disadvantages
1100 – 1215	<b>Coating Inspection Equipment:</b> Various Tools & Equipment Used in Coating Inspection, like Dry Film Thickness Gauges, Adhesion Testers & Holiday Detectors
1215 - 1230	Break
1230 – 1420	Inspection Procedures & Standards: Different Inspection Procedures & Adherence to National & International Standards (E.G., ASTM, ISO, NACE)
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Thursday, 12<sup>th</sup> of December 2024

0730 - 0930	<b>Measuring Coating Thickness</b> : How to Accurately Measure Coating Thickness & Understanding the Importance of Achieving the Correct Thickness
0930 - 0945	Break
0945 – 1100	<b>Identifying Coating Failures &amp; Defects</b> : Common Coating Failures & Defects, their Causes & How to Prevent Them
1100 – 1215	Advanced Coating Technologies: Emerging Coating Technologies, like Nanocoatings & Smart Coatings & their Implications on Inspection & Quality Control
1215 - 1230	Break
1230 – 1420	<b>Coating Maintenance &amp; Life Cycle Analysis</b> : How to Maintain Coatings Post-Application & How to Predict & Analyze their Life Cycle
1420 – 1430	Recap
1430	Lunch & End of Day Four



















Day 5:	Friday	13th of December 2024	
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0730 - 0930	Corrosion & Coating Failure Analysis: How Coatings Protect Against Corrosion, Types of Corrosion & How to Conduct Coating Failure Analysis
0930 - 0945	Break
0945 – 1100	Corrosion & Coating Failure Analysis: How Coatings Protect Against Corrosion, Types of Corrosion & How to Conduct Coating Failure Analysis (cont'd)
1100 – 1215	<b>Laboratory Testing of Coatings</b> : Various Laboratory Testing Methods for Coating Performance, Like Salt Spray Test, Humidity Resistance Test, etc.
1215 - 1230	Break
1230 - 1330	<b>Coating Inspector Responsibilities &amp; Ethics</b> : Ethical Implications & Responsibilities of Being a Coating Inspector, including Professional Behavior & Communication
1330 - 1345	Case Studies Review of Real-World Quality Management Challenges & Solutions in the Water Industry
1345 - 1400	Course Conclusion
1400 - 1415	POST - TEST
1415 - 1430	Presentation of Course Certificates
1430	Lunch & End of Course

# **Practical Sessions**)

This practical and highly-interactive course includes real-life case studies and exercises:-



# **Course Coordinator**

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org









