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

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***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome &Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Coating Inspection***: *Course Objectives, What is Expected from a Coating Inspector & the Importance of Coating Inspection in Various Industries*
0930 – 0945	*Break*
0945 – 1100	***Types of Coatings***: *Different Types of Coatings, their Properties & Applications. This Includes Paint, Thermal Sprays, Electroplating, Hot-Dip Galvanizing & More*
1100 – 1215	***Types of Coatings***: *Different Types of Coatings, their Properties & Applications. This Includes Paint, Thermal Sprays, Electroplating, Hot-Dip Galvanizing & More (cont'd)*
1215 – 1230	*Break*
1230 – 1420	***Coating Selection Criteria***: *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, 10th 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

0730 – 0930	***Surface Preparation***: *Importance of Surface Preparation before Coating Application, Different Methods & How to Inspect Prepared Surfaces*
0930 – 0945	*Break*
0945 – 1100	***Coating Application Techniques***: *Different Application Techniques like Brush, Roll, Spray etc. & their Advantages & Disadvantages*
1100 – 1215	***Coating Inspection Equipment***: *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, 12th of December 2024

0730 – 0930	***Measuring Coating Thickness***: *How to Accurately Measure Coating Thickness & Understanding the Importance of Achieving the Correct Thickness*
0930 – 0945	*Break*
0945 – 1100	***Identifying Coating Failures & Defects***: *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	***Coating Maintenance & Life Cycle Analysis***: *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***

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	***Laboratory Testing of Coatings***: *Various Laboratory Testing Methods for Coating Performance, Like Salt Spray Test, Humidity Resistance Test, etc.*
1215 – 1230	*Break*
1230 – 1330	***Coating Inspector Responsibilities & Ethics***: *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

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