



FE068: Corrosion & Corrosion Protection

Training Description:

The aim of this intensive training course is to provide sufficient information for engineers and managers to identify and apply corrosion control and material selection procedures to overcome corrosion issues. An in-depth understanding of corrosion is not required to effectively prevent untoward corrosion in 80% of problem areas.

Training participants will have a high quality and in depth understanding of the corrosion monitoring methods available. The advantages and limitations of each method are detailed and the methods of analysis to convert raw data to useful information are included.

Further, the training course will also cover the characteristics of external and internal corrosion; the various forms of corrosions; the designs and selection of material related to corrosion control; the key aspects of atmospheric corrosion and its prevention by coatings; the components of corrosion, coating and lining of hydrocarbon storage tanks; the elements of buried and underwater corrosion and its prevention by coating and cathodic protection; and the cathodic protection on buried and above-ground storage tanks.

The course will further discuss the corrosion of reinforced concrete and its prevention using additives, coatings and cathodic protection; the effects of corrosion in process pipelines and its prevention using inhibitors and biocides; the methods to measure and monitor corrosion; the chemical tests in fluids, analyze coating, application and quality control; the cathodic protection application and corrosion management strategies; the risk assessments, inspection strategies, associated failure analysis, microbiological corrosion assessments and the efficiency of cathodic protection.

Training Objectives:

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

- ✓ Apply and gain an in-depth knowledge on corrosion management and material selection in process operations
- ✓ Recognize the characteristics of external and internal corrosion and the various forms of corrosions and determine the designs and selection of material related to corrosion control
- ✓ Distinguish the key aspects of atmospheric corrosion and its prevention by coatings and discuss the components of corrosion, coating and lining of hydrocarbon storage tanks as well as the elements of buried and underwater corrosion and its prevention by coating and cathodic protection
- ✓ Carryout cathodic protection on buried and above-ground storage tanks
- ✓ Discuss the corrosion of reinforced concrete and its prevention using additives, coatings and cathodic protection
- ✓ Analyze the effects of corrosion in process pipelines and its prevention using inhibitors and biocides
- ✓ Carryout methods to measure and monitor corrosion, perform chemical tests in fluids, analyze coating, application and quality control, discuss cathodic protection application and corrosion management strategies
- ✓ Execute risk assessments, inspection strategies, associated failure analysis, microbiological corrosion assessments as well as measure the efficiency of cathodic protection

Training Designed for:

This course is intended for all engineers and other technical staff whose responsibilities include the reduction of corrosion either at the design stage or during operation of the facility. Managers in particular will benefit by increasing their awareness of the options available to them.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Practical sessions will be organized during the course for participants to practice the theory learnt. Participants will be provided with an opportunity to carryout various exercises using the simulators “Corrosion Data Management Software (CDMS)” and “Electronic Corrosion Engineer (ECE®) 5”.

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

FIVE DAYS:

- ❖ What is Corrosion (External & Internal Corrosion)
- ❖ Forms of Corrosion
- ❖ Design & Material Selection Related to Corrosion Control
- ❖ Atmospheric Corrosion & its Prevention by Coatings
- ❖ Corrosion, Coating & Lining of Hydrocarbon Storage Tanks
- ❖ Buried & Underwater Corrosion & its Prevention by Coatings & Cathodic Protection
- ❖ Cathodic Protection of Buried & Above-Ground Storage Tanks
- ❖ Corrosion of Reinforced Concrete & its Prevention using Additives, Coatings & Cathodic Protection
- ❖ Corrosion in Process Pipelines & its Prevention using Inhibitors & Biocides
- ❖ Methods of Measurement of Corrosion
- ❖ Advanced Methods of Corrosion Monitoring
- ❖ Associated Chemical Testing of Fluids
- ❖ Linking Inspection & Corrosion Monitoring
- ❖ Coating, Application & Quality Control
- ❖ Practical Sessions
 - This hands-on, highly-interactive training includes real-life case studies and exercises
- ❖ Cathodic Protection Application
- ❖ Corrosion Management Strategies
- ❖ Corrosion Risk Assessment & Inspection Strategies
- ❖ Associated Failure Analysis
- ❖ Microbiological Corrosion Assessments
- ❖ Measuring the Effectiveness of Cathodic Protection
- ❖ Recap
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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