

WebCorr Corrosion Consulting Services Presents

Methods and Materials for Corrosion Control and Prevention

Date: As published on website

Venue: As published on website

Course Overview

This 5-day corrosion course covers both traditional and advanced methods and materials for corrosion control and corrosion prevention, with a focus on five key technologies:

- (1) Materials Selection and Design;
- (2) Protective Coatings and Linings;
- (3) Cathodic Protection and Anodic Protection;
- (4) Modification of Environment (Chemical Treatment);
- (5) Corrosion Testing and Monitoring.

This advanced corrosion training course provides an excellent avenue for corrosion engineers, designers, technical managers, inspection and maintenance engineers, quality control personnel and those involved in corrosion failure analysis to learn and update their knowledge of the methods and materials for corrosion control and prevention.

Who Should Attend

Corrosion practitioners, designers, architects, technical managers, inspection and maintenance engineers, quality control personnel and those involved in failure analysis.

Course Outline

Day 1 Materials Selection and Design

- 1.1 Overview of Methods and Materials for Corrosion Control and Prevention
- 1.2 The Importance of Design in Corrosion Prevention
- 1.3 Effects of Design and Material Selection on Corrosion
- 1.4 Practical Corrosion Cells Commonly Encountered in Engineering Designs
- 1.5 Basic Metallurgy for Materials Selection
- 1.6 Materials Selection for Corrosion Control: Metals and Alloys
- 1.7 Materials Selection for Corrosion Control: Nonmetals
- 1.8 Compatibility of Materials and Environments



1.9 Design Solutions to Corrosion Problems Commonly Encountered

1.10 Design Against Corrosion: the DOs and DON'Ts Checklist

1.11 Exercise/Quiz

Day 2 Protective Coatings and Linings

2.1 Fundamentals of Coatings

2.2 Characteristics of Coatings

2.3 The Protective Coating System

2.4 BS & ISO Classification of Corrosive Environments

2.5 Corrosion Resistant Organic Coatings

2.6 Corrosion Resistant Zinc Coatings: Zinc-rich Coatings vs Hot-Dip Galvanizing

2.7 BS, ISO, SIS, NACE, SSPC Standards Relevant to Surface Preparation

2.8 Methods of Coating Application

2.9 Coatings Selection Guide

2.10 Coating Failures: Causes and Prevention

2.11 Exercise/Quiz

Day 3 Cathodic Protection and Anodic Protection

3.1 Corrosion and Cathodic Protection

3.2 Practical Parameters in Cathodic Protection

3.3 Sacrificial Anode Cathodic Protection

3.4 Impressed Current Cathodic Protection (ICCP)

3.5 Cathodic Protection Standards, Specification and Design

3.6 Cathodic Protection Commissioning, Inspection and Monitoring

3.7 Cathodic Protection and Coatings

Course Outline

- 3.8 Anodic Protection and Its Application
- 3.9 Cathodic Protection vs. Anodic Protection
- 3.10 Exercise/Quiz
- Day 4 Modification of Environment (Chemical Treatment)**
- 4.1 Introduction to Corrosion Control by Chemical Treatment
- 4.2 Corrosion Inhibition: Theory and Practice
- 4.3 Field of Applications of Corrosion Inhibitors
- 4.4 Inhibitor Application Techniques
- 4.5 Introduction to Oilfield Chemicals
- 4.6 Bacteria Control
- 4.7 Techniques for Monitoring Effectiveness of Corrosion Inhibitors
- 4.8 Environmentally Friendly Corrosion Inhibitors
- 4.9 Exercise/Quiz
- Day 5 Corrosion Testing and Monitoring**
- 5.1 Technique No.1: Weight Loss Coupon

- 5.2 Technique No.2: Electrical Resistance (ER)
- 5.3 Technique No.3: Linear Polarisation Resistance (LPR)
- 5.4 Technique No.4: Tafel Polarisation
- 5.5 Technique No.5: Potentiodynamic Anodic Polarisation
- 5.6 Technique No.6: Potentiostatic Polarisation
- 5.7 Technique No.7: Cyclic Polarisation for Pitting Test
- 5.8 Technique No.8: Electrochemical Potentiokinetic Reactivation (EPR)
- 5.9 Technique No.9: ZRA for Galvanic Corrosion of Welds
- 5.10 Technique No.10: Electrochemical Impedance Spectroscopy (EIS)
- 5.11 Technique No.11: Electrochemical Noise
- 5.12 Technique No.12: Hydrogen Monitoring
- 5.13 End of Course Examination

Course Registration

Please register online at www.corrosionclinic.com
 Or use the form below (photocopies of this form may be used for multiple bookings).

Dr/Mr/Ms _____
 Organization _____

 Contact Person _____
 Contact Dept _____
 Telephone _____ Fax _____
 Email _____

Payment should be made by TT or online banking.
 Our bank details can be found at the link below:
<https://www.corrosionclinic.com/payment.html>



Course Fee and Discount

Standard: \$4,950 **Discount:** \$4,455

The fee includes a hardcopy of course note, certificate, light lunch, coffee breaks each day during the course.
 Discount applies to a group of 3 or more persons from the same organization registering at the same time, or early-birds making payment at least 8 weeks before the course commencing date.

Cancellation and Refunds

Cancellation or replacement should be conveyed to WebCorr in writing (email or fax). An administration charge of 50% of the course fee will be levied if the cancellation notice is received from 14 to 7 days before the course commencing date. No refund will be made for cancellation notice received 6 days and less. No refunds will be given for no-shows. Should WebCorr find it necessary to cancel a course, paid registrants will receive full refund. Refund of fees is the full extent of WebCorr's liability in these circumstances.

