WebCorr
CORROSION CONSULTING SERVICES

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WebCorr Corrosion Consulting Services Presents

Marine Corrosion, Causes and Prevention

Date: As published on website Venue: As published on website

Course Overview

This 2-day corrosion course covers both fundamental and practical aspects of corrosion control by chemical treatment. This corrosion short course also helps participants prepare for their NACE certification examinations at the Corrosion Technician, Corrosion Technologist and Senior Corrosion Technologist levels. It provides an excellent avenue for corrosion practitioners, technical managers, inspection and maintenance engineers, quality control personnel and those involved in chemical treatment to update their appreciation of Corrosion and the awareness of the emerging technologies for corrosion control and prevention.

This corrosion course is available for in-house training, online and distance learning worldwide. It can also be customized to meet the specific needs of your organization.

Who Should Attend

Corrosion practitioners, designers, architects, technical managers, inspection and maintenance engineers, quality control personnel, owners and operators of marine structures, vessels and facilities, and those involved in failure analysis.

Course Outline

1. Corrosion and the Marine Environments
   - 1.1 Classification of corrosion and the marine environments
   - 1.2 Corrosion: its economic, social, environmental, and political impact

2. Marine Corrosion: Terminology & Convention
   - 2.1 Primer in chemistry and electrochemistry
   - 2.2 Understanding electrochemical cells
   - 2.3 Terminology and convention

3. Why Do Metals Corrode
   - 3.1 Thermodynamic aspects of corrosion
   - 3.2 The effect of environment
   - 3.3 The driving force of corrosion

4. How corrosion occurs in the marine environments
   - 4.1 The reaction of a metal with electrolyte
   - 4.2 The electrochemical nature of corrosion
     - 4.2.1 the reaction of a metal with its environment
     - 4.2.2 the mixed potential theory
     - 4.2.3 polarization and corrosion rate
     - 4.2.4 passivation and its breakdown
   - 4.3 The characteristics of marine environments
     - 4.3.1 corrosivity of seawater
     - 4.3.2 corrosivity of marine atmospheres
   - 4.4 Factors affecting marine corrosion
     - 4.4.1 salinity and chlorinity
     - 4.4.2 temperature, dissolved gases, velocity, pH, pollutants, biological organisms
     - 4.4.3 relative humidity, airborne contaminants
   - 4.5 Common forms of marine corrosion
     - 4.5.1 uniform corrosion
     - 4.5.2 galvanic corrosion
     - 4.5.3 dealloying
     - 4.5.4 crevice corrosion
     - 4.5.5 pitting corrosion
     - 4.5.6 intergranular corrosion and weld decay
     - 4.5.7 exfoliation
     - 4.5.8 stress corrosion cracking
     - 4.5.9 hydrogen related damages
     - 4.5.10 erosion corrosion and cavitation damage
     - 4.5.11 microbiologically influenced corrosion
     - 4.5.12 stray current corrosion
     - 4.5.13 biofouling

4.6 Corrosion resistance of steels and alloys in the marine environments

5. How to control and prevent corrosion
   5.1 Materials selection for corrosion prevention
   5.2 Design against corrosion
   5.3 Theory and practice of cathodic protection
   5.4 Theory and practice of corrosion inhibitors
   5.5 Theory and practice of metallic coatings
   5.6 Theory and practice of organic coatings
      5.6.1 composition and characteristics of paints
      5.6.2 types of paints
      5.6.3 protective coatings for marine applications
      5.6.4 paint failures
      5.6.5 environment-friendly anti-fouling paints
      5.6.6 coatings and cathodic protection for marine structures
   5.7 Theory and practice of plastic coatings
   5.8 Theory and practice of concrete coatings
6. Corrosion Testing and Monitoring
7. 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. Currencies in Australian Dollar, Canadian Dollar, US Dollar, Euro and Sterling Pound can be transferred directly without conversion. Please refer to the link below for payment instructions:

https://www.corrosionclinic.com/payment.html

Course Fee and Discount

Standard: $2,500 **Discount**: $2,250

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.

WebCorr has NACE certified Corrosion Specialist (#5047) providing customized in-house training, online and distance learning corrosion courses, corrosion seminars and workshops on corrosion, materials, metallurgy, paints and metallic coatings. Our corrosion courses are developed and taught by NACE certified Corrosion Specialist with over 30 years of practical experience in the field. Our training success is measured by your learning outcome.