

WebCorr Corrosion Consulting Services Presents

Welding and Weldment Metallurgy: Processes, Procedures, Inspection and Failure Prevention

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

Course Overview

This 5-day corrosion short course aims to provide the participants with an understanding of welding, weldment metallurgy, the effects of various variables on weld quality and the requirements for pre-heating and postweld heat treatment. Also covered in this course are welding defects and weld inspection, weldment corrosion and failure analysis.

This corrosion short 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

This 5-day course provides an excellent avenue for designers, technical managers, inspection and maintenance engineers, coatings and weld inspectors, quality control personnel and anyone who is interested in welding, welding metallurgy, weldment corrosion, and failure analysis and its prevention.

Course Outline

1. Introduction to Welding and Metallurgy
2. Welding Processes
 - 2.1 SMAW
 - 2.2 FCAW
 - 2.3 SAW
 - 2.4 GMAW
 - 2.5 ESW/EGW
3. Process Selection
 - 3.1 Joint Requirements
 - 3.2 Process Capabilities
 - 3.3 Special Situations
4. Welding Procedures
 - 4.1 Effects of Welding Variables
 - 4.2 Purpose of Welding Procedure Specifications
 - 4.3 Prequalified Welding Procedure Specifications



- 4.4 Guidelines For Preparing Prequalified WPSs
- 4.5 Qualifying Welding Procedures By Test
- 4.6 Approval of WPSs
- 4.7 Examples
5. Welding Techniques and Variables
 - 5.1 SMAW
 - 5.2 FCAW-ss
 - 5.3 FCAW-g
 - 5.4 SAW
 - 5.5 GMAW
 - 5.6 ESW/EGW
 - 5.7 Welding the Unweldable - Overview of the Latest Development in Nanometallurgy
6. Welder Qualification
7. Welding Defects and Weld Inspection
 - 7.1 Welding Defects: Causes and Prevention
 - 7.2 Weld Inspection
8. Preheating & PWHT Requirements
 - 8.1 Equivalent Carbon Content (ECC)
 - 8.2 Preheating & PWHT Requirements for Carbon Steels
 - 8.3 Preheating & PWHT Requirements for Stainless Steels and Other Alloys
9. Weldment Metallurgy and Weldment Corrosion
 - 9.1 Factors Affecting Weldment Corrosion
 - 9.2 Methods of Welding
 - 9.3 Weld Defects

Course Outline

- 9.4 Iron Contamination
- 9.5 Heat Tint and Its Effect
- 9.6 Weldment Corrosion of Various Alloys
- 9.7 Weld Decay and Knifeline Attack

- 9.8 Hydrogen Underbead Cracking
- 9.9 Exfoliation
- 10. Failure Analysis & Prevention
- 11. 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. Our bank details can be found at the link below:

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



Course Fee and Discount

Standard: \$3,500 **Discount:** \$3,150

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.

