Electrochemical Processes in Metal Plating

Registration Form

Photocopies of this form may be used for registrations.
You can also register online at www.corrosionclinic.com

Please register the following person(s) for the above course (please TYPE or PRINT clearly):

1. Mr/Ms/Dr _____
   Designation _____

2. Mr/Ms/Dr _____
   Designation _____

3. Mr/Ms/Dr _____
   Designation _____

*delete where inappropriate

Enclosed is a cheque / bank draft No. _____ for S$ _____(payable to **WebCorr Corrosion Consulting Services**) being Registration Fee for the above person(s).

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

Crossed cheques should be made payable to **WebCorr Corrosion Consulting Services** and mailed together with the registration form to:

WebCorr Corrosion Consulting Services
Toa Payoh Central,, PO Box 225,
Singapore 913108
Tel: (65) 64916456 Mobile: (65) 97110759
Fax: (65) 64916456
Email: webcorr@corrosionclinic.com
http://www.corrosionclinic.com

Course Details

Date: TBA
Time: 9:00 am to 5:00 pm
Venue: 1 Science Park Drive
Course Fee: S$795 (GST not applicable)
Closing Date: 2 weeks before course date
Discount:
Group: (3 or more people): 10%
Early-bird: N% **if paid** "N" months before the course commencing date

Withdrawal/Refund Policy:

Withdrawal or replacement should be conveyed to the organizer in writing (email or fax). An administration charge of 50% of the course fee will be levied if the withdrawal notice is received less than 7 working days before the course commencing date. No refund will be made for withdrawal notice received 3 working days and less.

Certificates:

Certificate of attendance will be given to participants with at least 75% attendance of the course.

Cancellation:

WebCorr reserves the right to cancel the course and fully refund the participants should unforeseen circumstances necessitate it.

Electrochemical Processes in Metal Plating

Conducted by
Dr. Qiu Jianhai *BEng PhD CEng MIM FICorr*
NACE Certified Corrosion Specialist

Date
TBA

Venue
1 Science Park Drive

Organized by:

WebCorr CORROSION CONSULTING SERVICES

Course Overview:

This course thoroughly and systematically covers the fundamentals of electrochemical processes in metal plating and the effect of variables on the quality of plating. Participants will learn the fundamentals of electrochemical processes and the effect of variables on the plating quality in electroplating, electroless plating, immersion plating, electroforming, anodizing and conversion coatings such as chromating and phosphating.

This 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.

Course Contents

1. Fundamental Concepts in Electrochemistry

2. Fundamentals of Electroplating
   - 2.1 The Hull Cell and Haring-Blum Cell
   - 2.2 The Mechanism of Electrodeposition of Metals
   - 2.3 The Anodes
   - 2.4 The Plating Bath
   - 2.5 Typical Application Areas For Electroplating
   - 2.6 Electroplating in the Electronics Industry
   - 2.7 The Importance of Component Design

3. Electroless Plating
   - 3.1 Fundamentals of Electroless Deposition
   - 3.2 Composition of Electroless Plating Baths
   - 3.3 Operating Conditions
   - 3.4 Properties of Electroless Deposits
   - 3.5 Applications of Electroless Deposition
   - 3.6 Electroless Deposition of Composites

4. Conversion Coatings
   - 4.1 Anodizing
   - 4.2 Phosphating
   - 4.3 Chromating

5. Electroforming
   - 5.1 The Electroforming Process
   - 5.2 Electroforming of Foil
   - 5.3 Electrolyte for Electroforming

Who Should Attend

This course has been structured in such a way that it is particularly suited for the designers, technologists, engineers and QA/QC personnel in industries such as microelectronics, semiconductors, metal finishing and general engineering.

Course Lecturer

Dr Qiu Jianhai *BEng PhD CEng MIM FICorr*

Dr Qiu obtained his BEng and PhD degrees both in the field of corrosion. He has 27 years of industry, university teaching, research and consulting experience in areas of corrosion and its prevention. He has been working closely with both local and overseas companies and has been an active consultant to governmental agencies, multinational companies and private organizations on corrosion and materials related issues such as corrosion design review, materials selection and life prediction, corrosion inspection and condition assessment, plant process optimization, corrosion training, corrosion testing and monitoring, trouble-shooting and corrosion failure analysis. Dr Qiu has recently completed the design of a cathodic protection system for the upcoming Marina Coastal Expressway (MCE) Tunnels. Dr. Qiu is also experienced in providing expert witness and assistance in litigation and arbitration matters related to corrosion and materials. He has authored over 120 technical papers and reports. Dr. Qiu was an invited contributing author to the latest edition of the world renowned ASM Handbook Vol.13C Corrosion: Environments and Industries. His biographical profile was included in the 7th edition of Marquis Who's Who in Science and Engineering.

Dr. Qiu is a NACE certified Corrosion Specialist (USA), the only person in Singapore certified to the highest professional level by NACE (National Association of Corrosion Engineers, USA). He is a Chartered Engineer registered with the Engineering Council (UK), a Fellow of the Institute of Corrosion (UK) and a professional member of the Institute of Materials, Minerals and Mining (UK). Dr. Qiu is the Singapore representative in the International Corrosion Council (ICC).