

**Pinhole Leaks in Copper Pipes in Potable
Water Distribution System
- Causes & Prevention**

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. Dr/Mr/Ms _____
Designation _____

2. Dr/Mr/Ms _____
Designation _____

3. Dr/Mr/Ms _____
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: 31 October 2008
Time: 9:00 am to 5:00 pm
Venue: TBA
Course Fee: S\$595 (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.

**Pinhole Leaks in Copper Pipes in
Potable Water Distribution
System: Causes & Prevention**

Conducted by

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

Date

31 October 2008

Venue

TBA

Organized by:



Course Overview:

Pinhole leaks in copper pipes and tubing in potable water distribution systems in hotels, hospitals, homes and other residential and office buildings have been on the rise in recent years. The insidious leaks not only cause losses of water but may also cause serious damages to the walls, ceilings, fittings, furniture and other valuables. The leaks often raise health concerns of the quality of drinking water. This 1-day course provides an excellent avenue for facility and building managers, maintenance engineers, homeowners, plumbers, water suppliers, copper pipe fabricators and suppliers to gain a insight into the causes of pinhole leaks and methods of prevention.

This 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 Pinhole Leaks & Pitting Corrosion

- 1.1 What is a pinhole leak
- 1.2 Types of pitting corrosion in copper tubes
- 1.3 The scale and impact of pinhole leaks in water pipes
- 1.4 Why is water colored
 - issues related to blue water, milky water, brownish water, reddish water
- 1.5 Why is water smelly?

- 1.6 Is the water safe to drink?
- 1.7 Tell-tale signs of pinhole leaks

2 Pinhole Leaks: the Water Factors

- 2.1 The chemistry of drinking water
- 2.2 Soft and hard waters
- 2.3 Water treatment
- 2.4 Factors contributing to pinhole leaks

3 Pinhole Leaks: the Tube Fabrication Factors

4 Pinhole Leaks: the Design and Installation Factors

5 Pinhole Leaks: the Stray Current and Other Factors

6 Pinhole Leaks: Repair Options and Prevention

Who Should Attend

This course has been structured in such a way that it is particularly suited for the technologists, engineers, facility managers, water and utility operators, technical service and maintenance personnel who are concerned with pin-hole leaks in copper tubes/pipes in the potable water distribution system.

Course Lecturer

Dr. Qiu Jianhai *BEng PhD CEng MIM FICorr*

Dr Qiu has 25 years industrial, teaching, research and consulting experience in the field of corrosion. 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 condition assessment, process optimization, quality control, corrosion testing and monitoring, life predictions, troubleshooting and corrosion failure analysis. Dr. Qiu is also experienced in providing expert witness and assistance in litigation and arbitration matters related to corrosion and materials. He has authored about 120 technical papers and reports. Dr. Qiu was an invited contributing author to the latest edition of 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) and a Fellow Member of the Institute of Corrosion (UK). He is a Chartered Engineer registered with the Engineering Council (UK), a professional member of the Institute of Materials, Minerals and Mining (UK), and a member of ASM International (USA). He is the Vice Chairman of the Corrosion Association of Singapore, and the Singapore representative in the International Corrosion Council (ICC).