



*WebCorr Corrosion Consulting Services Presents*

# Microbiologically Influenced Corrosion (MIC): -Recognition, Mitigation and Prevention

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

## Course Overview

Microbiologically influenced corrosion (MIC), also known as microbial corrosion or biological corrosion, is the deterioration of metals as a result of the metabolic activity of microorganisms. Many industries are known to be affected by MIC. This 5-day corrosion course aims to provide the participant with a thorough understanding of the causes of microbiologically influenced corrosion, its recognition, treatment, mitigation, testing and monitoring, and prevention. Upon completion of this corrosion short course the participants will be able to identify the different forms of corrosion damage caused by different types of bacteria, apply appropriate strategies and methods to treat and mitigate systems affected by MIC. Guidelines for the prevention of microbiologically influenced corrosion are also included in the course material.

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

## Who Should Attend

Many industries and systems are known to be affected by MIC. This corrosion short course will benefit corrosion practitioners, designers, architects, technical managers, inspection and maintenance engineers, quality control personnel, facility owners and operators, and those involved in failure analysis.

## Course Outline

1. Introduction to Corrosion
2. Introduction to Microbiologically Influenced Corrosion (MIC)
  - 2.1 Definition: what is microbiologically influenced corrosion?
  - 2.2 The importance of microorganisms in corrosion of metals
  - 2.3 Flesh-eating bacteria affecting human beings vs metal-eating bacteria affecting materials
  - 2.4 MIC in action: accelerated low water corrosion (ALWC)
3. Different Types of Bacteria Known to Cause Microbiologically Influenced Corrosion
  - 3.1 General classification of bacteria in MIC
  - 3.2 Common Microorganisms Associated with MIC
  - 3.3 Sulfate Reducing Bacteria (SRB)
  - 3.4 Sulphur-Oxidizing Bacteria (SOB) and acid-producing bacteria (APB)
  - 3.5 Iron-Oxidizing Bacteria (IOB)
4. The Role of Different Types of Bacteria in Corrosion
5. Environments Where MIC-Causing Bacteria Exist
6. Industries and Systems Affected by Microbiologically Influenced Corrosion (MIC)
7. Environmental Chemistry Conducive to MIC
8. Common Metals and Alloys Affected by MIC: Case Studies
  - 8.1 Cast Irons, Carbon Steels and Low Alloy Steels
  - 8.2 Stainless Steels and Alloys
  - 8.3 Nickel and Nickel Alloys
  - 8.4 Copper and Copper Alloys
  - 8.5 Aluminium and Aluminum Alloys
  - 8.6 Zinc and Zinc Alloys
9. The Damaging Effects of MIC on Metals and Alloys
  - 9.1 Accelerated General Corrosion
  - 9.2 Rapid Through Wall Pitting or Perforation
  - 9.3 Tubercle Formation
10. How to Recognize Microbiologically Influenced Corrosion (MIC)
  - 10.1 Areas and Surfaces Known to be Susceptible to MIC
  - 10.2 Visual Characteristics of MIC
  - 10.3 Location and Distribution Patterns of MIC





- 10.4 Characteristic Features of MIC Under the Microscope
- 11. Testing and Monitoring of Microbiologically Influenced Corrosion (MIC)
  - 11.1 Field Testing of MIC
  - 11.2 Laboratory Testing of MIC
  - 11.3 Online Monitoring of MIC
- 12. Treatment, Mitigation, and Prevention of Microbiologically Influenced Corrosion (MIC)

### Course Registration

Please register online at [www.corrosionclinic.com](http://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

**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.

