Corrosion for Engineers

Course Lecturer: Dr Maxine Watson

This live two day virtual training course has been designed for engineers to enhance their knowledge of in-service corrosion, how and why corrosion happens and how to prevent it occurring in service.

Engineers need practical knowledge. This course explains, in detail, corrosion mechanisms, covers general corrosion and localised corrosion mechanisms such as those produced by galvanic corrosion, pitting, under deposit corrosion, graphitization, microbial attack etc. illustrated with real life case studies.

It explores the specific corrosion mechanisms affecting corrosion resistant metals such as aluminum bronzes and stainless steels. Explains the synergistic effects of corrosion occurring in conjunction with wear processes such as erosion and velocity assisted corrosion. It also explains corrosion cracking mechanisms, including metal fatigue interactions and stress corrosion cracking. Aspects of corrosion prevention will be explored including the use of protective and sacrificial coatings, design with corrosion in mind and the use of anodic and cathodic protection.

Delegates will gain a working knowledge of the techniques used to discover and identify types of corrosion, how to investigate service failures and use the knowledge gained to prevent future failures.

This live and interactive course provides essential practical knowledge and is suitable for engineers at any stage of their career.

**OBJECTIVES AND BENEFITS**

- Understand corrosion, why and where it occurs and what other failure mechanisms it leads to.
- Discover the pitfalls of stainless steels and learn how these corrosion resistant metals can be undermined.
- Learn how to identify different types of corrosion and understand how that knowledge can be employed to prevent future failure.
- Gain an understanding of methods used to prevent corrosion occurring in service.

**COURSE PROGRAMME**

- The two-day virtual training course consists of four live, virtual sessions per day.
- Questions and interactive, live discussion with the lecturer at every session.
- Printed copies of slides are provided to allow for more efficient note taking during the course.
- All delegates will receive, on request, a certificate of attendance to support their Continuing Professional Development.
- Further details are provided in the course joining instructions.

**WHO SHOULD ATTEND**

- Engineers involved in design, maintenance, reliability who need to understand corrosion.
- Inspection, inspection planning and asset management engineers.
- Engineers responsible for problem solving e.g. root cause failure analysis, safety audits, refurbishment and remediation schemes, uprating of plant and equipment.
- No prior knowledge of corrosion is required.

For more information and to discuss your training requirements contact:
Jim Eaves (call +44 (0)7988 707 753 or email jim.eaves@arcadis.com)

To reserve your places contact:
Karen Bridgeman (call +44 (0)1925 964030 or email karen.bridgeman@arcadis.com)

Pump Centre, Arcadis, 5th floor, 401 Faraday Street, Birchwood Park, Warrington, WA3 6GA