Metallurgy, Materials and Corrosion

Module 1: Marine, Offshore, Oil and Gas **basic theory**

Introduction

This training program will focus on Marine, Offshore and Oil and Gas. In such industries, corrosion forms a continuous threat to structures, equipment and vessels, on onshore and particularly offshore installations.

Protecting your assets against integrity losses requires thorough understanding of materials used and the degradation mechanism (corrosion phenomena).

This course provides you the intellectual tools on how to prevent corrosion and choosing the most effective measures when it is already affecting your valuable assets.

Modular course

The module fits in a full course of three modules for marine, offshore activities and oil and gas production.

Module 1: Corrosion basics and mechanisms. Metallurgy, Materials and Plastics for marine, off-shore, static equipment and oil and gas.

Module 2: Marine and offshore (seawater, brackish water natural water). materials selection, maintenance, inspection and corrosion.

Module 3: Oil and Gas. Oil and Gas processes. Materials for topside equipment. NACE MR0176 (ISO 15156 for H2S resistant materials), CO2 Corrosion, de Waard Milliams, NORSOK M506.

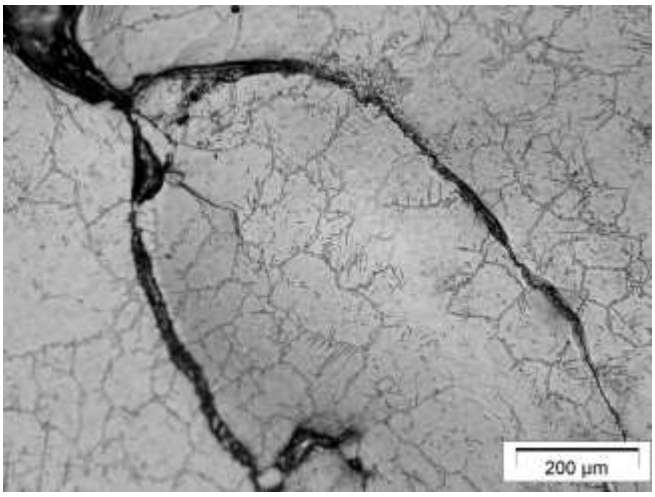
Target audience

Process engineers, Maintenance, Design, Piping Engineers, Superintendents, Asset Integrity Managers, Engineers. The course is dutch or english spoken depending on the audience. The written course material will be in English.

Programm

Metallurgy

Technical Metals and Alloys
Alloy coding UNS numbering
EN Alloy numbering
ASTM Standards for steels and stainless steels
Microstructure and physical metallurgy
Mechanical properties
Cast alloys
Forged Alloys and flanges ASME and DIN
Rolled Alloys and pipe alloys



Fatigue corrosion in duplex SS turbine seawater cooler.

Corrosion

Electrochemistry basics
Corrosion Mechanism
MIC (Microbiologic Influenced Corrosion)
Corrosion under Insulation and external corrosion

Cathodic Protection Design

Sacrificial anodes design
Impressed current design
DNV RP B401 for CP design and calculations

In company trainings are provided in the Dutch or English language on site, world wide and when needed, based on your specific working practice and cases.

Technotrans, Institute for Technology Transfer BV
Jan Ligthartstraat 1, 3135 HM Vlaardingen, NL
Tel.: +31-10-2341082 – Fax.: +31-10-2341172
email: info@technotrans.nl
web: www.technotrans.nl
training centre for technicians - event organising - consultancy

Technotrans Institute for Technology Transfer opleidingen & advies