

# Material selection and maintenance, corrosion management

## Module 2: Corrosion phenomena and inspection in Marine & Offshore

### 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, offshore, static equipment and oil and gas.

**Module 2:** Marine and Offshore (Seawater, Brackish Water and 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

#### Materials Selection for Marine and Offshore.

- Steel
- Stainless Steel
- Copper Alloys
- Titanium
- GRE
- Coatings

#### Cathodic Protection

- Sacrificial Anodes
- Impressed Currents
- Ship Hulls
- Platforms and Windmill Piles
- CP of process equipment

#### Corrosion mechanism in Marine and Offshore.

- General Corrosion
- Galvanic corrosion
- Localized Corrosion
- MIC (Microbiologic Induced Corrosion)
- Stress Corrosion Cracking

#### Risc Based Inspection Workshop



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.