

## Aluminium Welding

Delivery Method: eLearning || Duration: 2 hours || Course Fee: 280 €

Category: Material, Welding & NDT

Available languages: English

### Certificate

On completion of the training program, the student will be awarded:

- A Certificate of **Aluminium Welding**, issued by Bureau Veritas Solutions Marine & Offshore.

The Certificate of **Aluminium Welding** is obtained after completing the course and passing the online test.

### Presentation

This training course provides general information about welding of aluminium structures. It contains an introduction to aluminium properties and describe the main issues regarding weldability of aluminium and its alloys.

### Who the course is for

The course **Aluminium Welding** is aimed at anyone interested in understanding the specific issues related to welding of aluminium structures. This may include: Ship Managers, Technical Superintendents, Masters and Officers of ships having aluminium structures; Shipyards Technical Staff dealing with aluminium welding; Welding Inspectors; Surveyors; P&I and/or Insurance Inspectors; Naval Architects; Etc.

### Objectives

On completion of the training, students will be able to:

- Know the properties of aluminium and its alloys comparing to steel
- Understand the issues regarding weldability of aluminium alloys
- Recognize the main problems that can arise during design and production of aluminium ship's structures
- Know the suitable welding processes for joining of aluminium ship hull
- Understand the application of bimetallic joints.

## Program

- Properties of aluminium alloys
  - Specific properties
  - Heat treatable and non-heat treatable aluminium alloys
  - Marine aluminium alloys
  - Designation of aluminium alloys
- Weldability of aluminium
  - Characteristics of aluminium referring to welding
  - Main issues: gas porosity, oxide inclusions and lack of fusion, hot cracking, reduced strength in the weld and heat affected zone, distortion
  - Choice of filler material
- Welding processes for aluminium
  - MIG aluminium welding
  - TIG aluminium welding
  - Typical defects in aluminium welding
- Joining of steel and aluminium in shipbuilding
  - Bimetallic strip for transition joints
- Preparation and design of welds
  - Guidelines for aluminium joint design
  - Examples of joints
  - Application of backing
  - Defects caused by poor preparation
  - Recommendations for aluminium welding