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# Essentials of Material and Welding

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Familiarize yourself with the concepts, vocabulary, terminology and technique associated with Material and Welding Technologies. Appreciate the use of Welding and related techniques and evaluate your subcontractors.

Course Date	Course Duration	Course Location	Course Fee
From 18 Jul. 2011 To 20 Jul. 2011	3 days	Beirut Lebanon	AED 7,700.00 USD 2,100.00

## Material and Welding

The use of Material and welding is fundamental in Power & Water Industries and reflects a continuation of fundamental knowledge and areas of know-how.

## Why Material and Welding

Understanding the reasons of using a material and the right ways to weld it is essential in construction, maintenance and Asset Integrity management. Therefore, it is a highly-valuable knowledge that can save both money and time in construction, maintenance and Asset Integrity Management.

## Course Description

With the collaboration of INEXSE France, this course will present many Materials along with their use in Power & Water Industries. Also, it will exhibit Welding techniques acquired through real life experience.



## Course Objectives

Attending our Essentials of Material and Welding for Power & Water seminar will help you:

- Know the main categories of Materials.
- Know the main Welding Processes.
- Understand the basic principles of use of material and Welding Processes.
- Differentiate and appreciate the implementation of each method on a case by case scenario.
- Identify the advantages and restrictions of every method on the ground.
- Understand and weigh information from subcontractors, Inspection, corrosion and maintenance departments.

## How you will benefit

You will gain basic understanding and knowledge of Material and Welding in order to understand problems and benefits during construction and lifetime of Power & Water Assets. The seminar is appropriate for experienced persons and more specifically for graduate staff that need systematic training in the subject.

## What will be covered

The following elements and methods will be covered:

- Type of Materials.
- Carbon Steels.
- Stainless Steels.
- Nickel Based alloys.
- Composites.
- Welding basics.
- Main Welding Processes.
- Related techniques such as Post Weld Heat Treatment.
- Reading a report, evaluate your subcontractors.

## Who should attend

Managers, team leaders engineers, surveyors and inspectors who look for general knowledge on Material and Welding and require some hands-on experience.



## Course Content

### Review of types of Material

- Metallic Materials
- Composite Materials
- Standardization and codes

### Carbon Steel

- Basics
- Properties and area of application
- Standardization and codes

### Stainless Steel

- Basics
- Properties and area of application
- Standardization and codes

### Nickel Based Alloy

- Basics
- Properties and area of application
- Standardization and codes

### Welding Processes

- Manual Metal Arc Welding.
- TIG, MIG/MAG, Flux Cored Arc Welding.
- Submerged Arc Welding.
- Oxy-gas welding and related processes.
- Post Weld Heat Treatment.
- Cladding.
- Main Welding Defects.

### Critical review of selection Material and Welding Process

- Material comparison.
- Welding Processes comparison.
- Case study.



## **Course Leader**

### **François Gachet**

#### **Welding, NDT, Inspection and Mechanical Engineering Specialist**

François Gachet has over 13 extensive years in Inspection, Material, NDT and Expertise where he started and developed his knowledge and experience in France and moved to the GCC for the past three years.

He has started in maintenance and rebuilding of industrial assets, and resumed as a Material and NDT Engineer and Trainer to finally complete this first stage of his professional life as an NDT Training Product Manager. He realized a leap in his professional experience when he was promoted to International Operations Manager and French Overseas Territories Director for NDT, Inspection and Expertise. After a successful year and a half in Qatar, he came to Abu Dhabi to develop expertise and knowledge transfer in Asset Integrity and NDT.

François Gachet holds a Masters Degree in Business Administration and in Engineering Science (Mechanical Structures and Systems) as well as a Certificate in Non-Destructive Testing and Welding (International Welding Technologist – IWT, former COFREND UT level III PT, MT level II).