XCELERATE TRAINING INSTITUTE
your learning & development partner

MECHANICAL ENGINEERING

Marine Shipyard Welding and Fabrication Training Course

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
1 – 5 ???? 2027	Live online	Online (live)	€1?200
13 – 17 ?????? 2027	Live online	Online (live)	€1?200
11 – 15 ?????? 2027	Kuala Lumpur	Classroom	€4?800

Register or ask a question

Online: x8ti.com/course/marine-shipyard-welding-and-fabrication-training-cou…
+491631686678 · info@x8ti.com

Marine Shipyard Welding and Fabrication Training Course

Introduction

Introduction

In today's times of reduced manual labor onboard vessels coupled with the increasing challenges to perform maintenance tasks of equipment under tight schedules, the staff that occupies a ship must be trained in the required skills to carry out safe, efficient, and quick repair of cracked, damaged or leaking plates and pipes.

Why are there so many requirements for the marine industry and how does this "Marine Shipyard Welding and Fabrication Certification" course contribute to those? Marine welding roles require a vast array of skills and training due to the safety considerations involved in the marine industry. Failure to keep your work up to standards can not only result in monetary penalties but also jeopardize the workers and anyone else whose work depends on the structural integrity of the vessels and equipment that they operate with. This program acquaints its participants with the relevant safety precautions to be observed, the requisite knowledge of the various welding equipment, and processes. It also identifies proper electrode and welding parameters for selection, and the practical skills required to execute various repair jobs on plates and pipes.

This Xcelerate Training Institute course will empower you with the importance of attention to detail, stamina, and a high degree of technical skill when it comes to marine shipyard welding and fabrication.

Learning Objectives

- Understand the performance and functioning of different types of welding equipment and their working principles
- Attain advanced skills in gas cutting techniques
- Recognize the dangers and observe the relevant safety precautions while performing hot work
- Acquire the necessary skill to make acceptable weld joints on steel and nonferrous plates and pipes with both, gas, and arc welding in different positions
- Gain the knowledge of correct welding electrodes and filler rod selection and parameter settings based on the material to be welded
- Acquire the skills in brazing using filler rods such as silver and bronze
- Develop the skill to be able to weld various metals such as steel, stainless steel, cast iron, and aluminum
- Familiarize themselves with the TIG and MIG welding processes and plasma cutting

Training Methodology

- Lectures
- Videos
- Seminars & Presentations
- Group Discussions

- Assignments
- Case Studies & Functional Exercises

Benefits for Your Organization

- Benefit from training your employees on the definition and importance of mechanical information, along with the different roles played within the Marine Shipyard Welding and Fabrication guidelines
- Document your Marine Shipyard Welding and Fabrication information systematically and efficiently
- Improve productivity by teaching your staff about the Marine Shipyard Welding and Fabrication work process and how it fits into the overall organizational work processes
- Achieve improved Marine Shipyard Welding and Fabrication, higher employee morale, increased productivity, and reduced costs of damage control
- Assess your Marine Shipyard Welding and Fabrication rating by evaluating its effectiveness to reduce injuries and illnesses and identifying and eliminating workplace hazards
- Reduce the damages caused by inadequate Marine Shipyard Welding and Fabrication processes

Benefits for You

- Master the knowledge and techniques to see the future of an effective Marine Shipyard Welding and Fabrication process
- Learn how to do a good job with your machines and why it is important to do so
- Learn tips, tricks, and concepts to help you succeed as a mechanical analyst
- Make a valuable contribution to your organization by being in a position to determine if you should implement a program at your site, or better understand an existing program
- Get an opportunity to work through hands-on exercises in detail to gain the skills needed to facilitate a Marine Shipyard Welding and Fabrication study
- Gain the skills to plan, manage, facilitate, and scribe for a Marine Shipyard Welding and Fabrication project

Target Audience

- Ships Fitters
- Pump men
- Shipyard Welder
- Repair team members
- Marine Technicians
- Marine Engineers
- Marine Crew

Course Outline

MATERIAL TYPES AND CASTING DISCONTINUITIES

- Characteristics of steel, castings, and forgings
- Types of discontinuities
- ABS requirements for steel, castings, and forgings

MATERIAL PROPERTIES, CHARACTERISTICS, AND TESTS

- Material property testing:

- Tensile
- Hardness
- Weld soundness testing:
- Bend
- Fillet break
- Nick break
- Toughness
- Fatigue

BASIC WELDING METALLURGY

- The grain structure of steel
- Grain size and properties
- Cooling rates and structural properties
- Pre-heating and cooling
- Thermal stress relief
- Heat treatment methods

WELD JOINT GEOMETRY AND WELDING TERMINOLOGY

- Overview of basic weld joints
- Weld joint parts and preparation
- Explanation of types of welds:
- Groove
- Fillet
- Spot/Seam
- Plug/Slot
- Surfacing
- Back
- Backing
- Weld application terminology

WELD SYMBOL TYPES AND TEST SYMBOL TYPES

- Weld symbols
- Test symbols
- Supplementary symbols

WELDING PROCESSES

- Shielded metal arc welding
- Gas metal arc welding
- Safety precautions in gas and arc welding
- Gas and arc welding gear and attachments
- Gas and arc welding processes
- Flux core arc welding
- Submerged arc welding

- Gas tungsten arc welding
- Joint preparation
- Brazing and cutting processes

WELDING DISCONTINUITIES AND REPAIRS

- Surface discontinuities
- Surface discontinuity weld repairs
- Weld root discontinuities
- Root discontinuity weld repairs
- Internal discontinuities
- Internal discontinuity weld repairs
- Cracking and cracking repairs

WELDING PROCEDURE QUALIFICATION

- Welder qualification documents
- Required and optional tests to be carried out

WELDER PERFORMANCE QUALIFICATION

- Welder qualification assessment criteria
- Monitoring production welding

WELDING STRESS CONTROL

- Heating and cooling consequences on welding stresses
- Methods of controlling welding stress
- Weld stress correction techniques
- Welding sequence best practices

PIPING DRAWINGS

- Fabrication
- Welding and testing
- Installation and repair

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Registration Form

Marine Shipyard Welding and Fabrication Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

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