



TRAINING AND PROJECTS

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Course Title: Braze Metals Using the Oxy-Fuel Brazing Process

SAQA ID: 243069

NQF Level: 2

Credits: 6

Course Description:

This course provides learners with the skills and knowledge necessary to braze metals using the oxy-fuel brazing process. It focuses on the principles and techniques of brazing, including equipment setup, metal preparation, safety procedures, and quality control. Learners will gain hands-on experience in using the oxy-fuel process to braze different types of metals, ensuring strong and durable joints that meet industry standards.

Course Objectives:

By the end of this course, learners will be able to:

- Understand the principles of the oxy-fuel brazing process and its applications.
- Set up and safely operate oxy-fuel brazing equipment.
- Prepare metal workpieces for brazing and apply the correct brazing techniques.
- Identify and address common brazing defects.
- Adhere to safety regulations and best practices during brazing operations.

Benefits of Completing this Course:

- Gain essential brazing skills applicable to a wide range of industries.
- Enhance employability in the welding, metalworking, and fabrication fields.
- Improve the quality of brazed joints and reduce defects through proper technique.
- Build confidence in setting up and operating oxy-fuel brazing equipment safely.
- Obtain a recognized qualification that can support career growth.

Who Should Attend:

- Welders and metalworkers looking to expand their skill set in brazing.
- Individuals interested in learning metal joining techniques using the oxy-fuel process.
- Apprentices and trainees in welding or fabrication programs.
- Supervisors and quality control personnel in metalworking environments.

Assessment:

Assessment will be based on the learner's ability to:

- Demonstrate knowledge of the oxy-fuel brazing process and equipment.
- Safely set up and operate brazing equipment.



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- Perform quality brazing on metal workpieces.
 - Participate in discussions and practical activities related to brazing techniques and safety.
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Specific Outcomes and Assessment Criteria:

By successfully completing this SAQA Unit Standard, learners will demonstrate competency in the following:

1. Understand Oxy-Fuel Brazing Principles:

- Explain the principles of oxy-fuel brazing, including the differences between brazing, welding, and soldering.
- Discuss the applications and advantages of the brazing process in metalworking.
- Assessment Criteria: Written assessment on brazing principles and applications.

2. Set Up Oxy-Fuel Brazing Equipment:

- Identify and assemble the components of oxy-fuel brazing equipment, including the torch and regulators.
- Adjust the flame settings for specific brazing tasks.
- Assessment Criteria: Practical exercise demonstrating correct setup of brazing equipment.

3. Prepare Metals and Perform Brazing:

- Clean and prepare metal surfaces for brazing to ensure proper adhesion.
- Perform brazing using the correct techniques to create strong joints.
- Assessment Criteria: Practical assessment of brazing workpieces with focus on joint quality, consistency, and appearance.

4. Identify and Correct Brazing Defects:

- Recognize common brazing defects such as insufficient penetration, voids, or excessive oxidation.
- Implement corrective measures to address identified defects.
- Assessment Criteria: Written assessment on identifying brazing defects and corrective actions.

5. Adhere to Safety Standards:

- Explain the safety procedures for operating oxy-fuel brazing equipment.
 - Demonstrate the proper use of personal protective equipment (PPE) and safe working practices.
 - Assessment Criteria: Group discussion and practical assessment on safety standards in brazing operations.
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By completing this course, learners will gain the skills required to braze metals effectively using the oxy-fuel brazing process, contributing to higher quality metal joints and enhanced safety in the workplace.