TRAINING AND PROJECTS

"making your skills a priority"

Course Title: Cut Materials Using the Oxy-Fuel Gas Cutting Process (Manual Cutting)

SAQA ID: 243067

NQF Level: 2

Credits: 6

Course Description:

This course introduces learners to the oxy-fuel gas cutting process for manual cutting of various metals. It covers the setup and operation of oxyfuel cutting equipment, as well as safety practices and techniques for performing clean, accurate cuts. The course combines theoretical knowledge with hands-on practice, enabling learners to effectively cut materials with precision using the oxy-fuel process.

Course Objectives:

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

- Understand the principles and applications of oxy-fuel gas cutting.
- Set up and safely operate oxyfuel cutting equipment.
- Perform manual cuts on different types of metals with accuracy.
- Troubleshoot common cutting issues and maintain equipment.
- Follow safety regulations and industry standards during cutting operations.

Benefits of Completing this Course:

- Gain practical skills in a widely used cutting technique for metalworking.
- Enhance employability in metal fabrication, welding, and construction sectors.
- Improve quality and accuracy in metal cutting.
- Develop confidence in using oxy-fuel equipment safely and effectively.
- Obtain a recognized qualification supporting career advancement in welding and fabrication.

Who Should Attend:

- Individuals starting a career in welding or metal fabrication.
- Current metalworkers seeking to improve oxyfuel cutting skills.
- Apprentices and trainees in metalworking programs.
- Supervisors and quality control personnel in cutting operations.

Assessment:

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

- Demonstrate knowledge of oxyfuel cutting principles and equipment.
- Set up and safely operate oxyfuel cutting equipment.
- Perform quality cuts on metal workpieces.
- Participate in discussions and activities related to cutting safety and quality.

Specific Outcomes and Assessment Criteria:

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

1. **Understand Oxy-Fuel Cutting Principles:**
    - Explain the fundamentals of oxy-fuel gas cutting and its applications in metalwork.
    - Identify suitable gases and flame settings for different types of materials.
    - Assessment Criteria: Written assessment on oxyfuel cutting principles and gas properties.
2. **Set Up Oxy-Fuel Cutting Equipment:**
    - Identify and assemble oxyfuel cutting equipment, including regulators, hoses, and torches.
    - Adjust cutting parameters according to material type and thickness.
    - Assessment Criteria: Practical exercise demonstrating correct setup and equipment preparation.
3. **Perform Manual Cutting:**
    - Execute accurate cuts on various metal workpieces using manual oxy-fuel techniques.
    - Ensure proper cutting techniques, flame settings, and travel speed to achieve clean cuts.
    - Assessment Criteria: Practical assessment of cutting workpieces for cut quality and accuracy.
4. **Identify and Address Cutting Defects:**
    - Recognize common cutting defects such as slag buildup or uneven cuts.
    - Implement corrective actions to address cutting issues and improve accuracy.
    - Assessment Criteria: Written assessment on identifying cutting defects and solutions.

5. **Comply with Safety Regulations:**
    - Explain safety procedures and precautions related to oxy-fuel gas cutting.
    - Demonstrate safe handling and use of personal protective equipment (PPE).
    - Assessment Criteria: Group discussion and practical assessment on cutting safety standards.

By completing this course, learners will gain essential skills for oxy-fuel gas cutting, enabling them to perform quality manual cuts safely and accurately in various industrial settings.