

<b>Domain</b>	<b>METAL FABRICATION-CORE</b>	<b>Unit ID: 245</b>
<b>Title:</b>	<b>Cut work pieces using the plasma cutting process as part of metal fabrication operations</b>	
<b>Level: 3</b>		<b>Credits: 4</b>

### Purpose

This unit standard specifies the competencies required to cut work pieces using the plasma cutting process as part of metal fabrication operations. It includes the preparation of materials and equipment, cutting metals using plasma cutting equipment as well as completion of work and cleaning up. This unit standard is intended for those who work as welders and boilermakers.

### Special Notes

1. Entry information

Prerequisite:

- *Unit 228* - Apply safety rules and regulations in a metal fabrication work environment or demonstrated equivalent knowledge and skills.
2. To demonstrate competence, at a minimum, evidence is required of cutting three work pieces using the plasma cutting process. These tasks should be performed ensuring correct identification of requirements and finishing of the tasks, correct selection and use of appropriate processes, tools and equipment and completing all work to specification.
  3. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which metal fabrication operations are carried out.
  4. Performance of all elements in this unit standard must comply with manufacturers' specifications and workplace specific requirements.
  5. '*Specifications*' refers to any or all of the following: manufacturers' specifications and recommendations, site and workplace specific requirements.
  6. Regulations and legislation relevant to this unit standard include the following:
    - Occupational Health and Safety Regulations No.18, 1997
    - Labour Act 6 of 1992
 and all subsequent amendments.

## **Quality Assurance Requirements**

This unit standard and others within this Subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on [www.nta.com.na](http://www.nta.com.na).

## **Elements and Performance Criteria**

### **Element 1: Prepare materials and equipment**

#### **Performance criteria**

- 1.1 Appropriate personal protection clothing and equipment is selected and inspected in line with workplace procedures.
- 1.2 Equipment is assembled, inspected and set up safely in line with workplace procedures.
- 1.3 Test runs are undertaken and verified in line with specifications.
- 1.4 Material is correctly prepared and positioned using appropriate tools and techniques.

### **Element 2: Cut work pieces using plasma cutting equipment**

#### **Performance criteria**

- 2.1 Cutting instructions are determined from specifications and drawings.
- 2.2 Hazards associated with plasma cutting are identified and minimised prior to commencement of task.
- 2.3 Safety precautions pertaining to the use of plasma cutting equipment and processes are adhered to.
- 2.4 Appropriate safety clothing and personal protective equipment is used in accordance with workplace procedures.
- 2.5 Pre-operational checks are carried out for setting of work pieces to required standards.
- 2.6 Proper nozzle is selected in accordance with material thickness.
- 2.7 Pressures of cutting equipment are set in accordance with manufacturers' specifications.
- 2.8 Work pieces are cut to specification and within tolerances in accordance with job requirements.
- 2.9 Cut work pieces are inspected for conformity with work instructions and job requirements.

### **Element 3: Complete work and clean up**

#### **Performance criteria**

- 3.1 Work is completed and appropriate personnel notified in accordance with worksite or workshop procedures.
- 3.2 Work area is cleared of waste, cleaned, restored and secured in accordance with worksite or workshop procedures.
- 3.3 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with worksite and workshop procedures.
- 3.4 Work completion details are finalised in accordance with worksite and workshop procedures.

#### **Registration Data**

<b>Subfield:</b>	Mechanical Engineering
<b>Date first registered:</b>	29 March 2007
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