

	Unit ID: 244
Domain Title:	METAL FABRICATION -CORE Manual arc welding and Gouging using manual arc welding equipment as part of Metal fabrication operation
Level: 3	Credits: .6.

Purpose

This unit standard is intended for those who manual arc welding and Gouging using manual arc welding equipment as part of Metal fabrication operation. People credited with this unit standards are able to prepare materials and equipment; weld mild steel in the down hand position; prepare materials and equipment; apply manual arc gouging process.

This unit standard is intended for those who works 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*
 - *Unit 229 – Plan and organize metal fabrication work*
2. To demonstrate competence, at a minimum, evidence is required of gouging two metalwork pieces to job requirements and specifications. Perform these tasks 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. Materials are to include mild steel and stainless steel of any thickness.
 4. 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.
 5. Specifications' refers to any or all of the following: manufacturers' specifications and recommendations, site and workplace specific requirements.
 6. Preparation of materials is to include setting up jigs, fixtures and clamps.
 7. Performance of all elements in this unit standard must comply with manufacturers' specifications and workplace specific requirements.
 8. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act 11 of 2007

- Occupational Health and Safety Regulations No.18, 1997 and all subsequent amendments.

Quality Assurance Requirements [11 pt bold underlined]

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.

Elements and Performance Criteria

Element 1: Prepare materials and equipment

Range

Test procedures may include voltage drop, amperage setting, earthling, and electrode and wire conductivity, electrode flux condition. Preparation of materials includes pre-heating, setting up jigs, fixtures and clamps.

Performance Criteria

- 1.1 Weld requirements are identified from specifications and drawings.
- 1.2 Personal protective clothing and equipment is selected and inspected in accordance with standard operating procedures.
- 1.3 Appropriate material is selected, prepared and aligned in accordance with job requirements.
- 1.4 Welding equipment is assembled and set up safely and in accordance with standard operating procedures.
- 1.5 Welding machine settings and electrodes are identified against predetermined specifications and welding procedures.
- 1.6 Test runs are undertaken and verified in accordance with specifications.

Element 2: Weld mild steel in the down hand position

Performance Criteria

- 2.1 Risks associated with manual arc welding are identified and minimised prior to commencing of task.
- 2.2 Appropriate personal safety clothing and personal protective equipment is used in accordance with standard operating procedures.
- 2.3 Distortion prevention measures are identified and applied as required and appropriate action to prevent distortion is taken.

- 2.4 Equipment start up procedure is implemented in line with manufacturers' and workplace specifications.
- 2.5 Materials are welded to specifications and in line with job requirements and instructions.
- 2.6 Equipment shut down procedure is implemented in line with manufacturers' and workplace specifications.

Element 3: Prepare materials and equipment

Performance criteria

- 3.1 Gouging requirements are identified from specifications and drawings.
- 3.2 Material is correctly prepared using appropriate tools and techniques.
- 3.3 Materials are assembled and aligned to specification as required.
- 3.4 Equipment is assembled and set up safely and in line with workplace procedures.

Element 4: Apply manual arc gouging process

Performance criteria

- 4.1 Equipment start-up procedure and settings are followed in line with manufacturers' and workplace procedure.
- 4.2 Appropriate safety clothing and personal protection equipment is used in accordance with standard operating procedures.
- 4.3 Appropriate gouging electrodes are selected.
- 4.4 Metals are gouged to specifications.
- 4.5 Completed work is checked against specifications.
- 4.6 Equipment shut down procedure is implemented in line with manufacturers' and workplace procedures.

Registration Data

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