

Domain PYROMETALLURGICAL PROCESSING
Title: Control the operation of an electric arc furnace

Level: 4

Credits: 15

Purpose

This unit standard is intended for those who carry out metallurgical processing operations. People holding credit for this unit standard are able to: Demonstrate knowledge relating to the controlling of an electric arc furnace; control the electric arc furnace; and complete duties pertaining to the controlling of the electric arc furnace.

Special Notes

1. Entry information:

Prerequisite

- 1449 - *Comply with health, safety and environmental rules and regulations pertaining to processing operations*; or demonstrated equivalent knowledge and skills.

2. Assessment evidence may be collected from a real workplace or a simulated workplace in which processing operations are carried out.

3. Safe working practices include day-to-day observation of safety policies and procedures and compliance with emergency procedures.

4. Specifications refer to any, or all of the following: manufacturer's specifications and recommendations, and workplace specific requirements.

5. Performance of all elements in this unit standard must comply with relevant regulatory, legislative, workplace requirements and/or manufacturers' specifications.

6. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:

- Labour Act, No. 11, 2007
- Mineral Act, No. 33, 1992
- Mine Health and Safety Regulations, 1999
- Regulations relating to the Health and Safety of employees at work, 1997 and all industry specific regulations, legislations, code of practice, or code of conduct.

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. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Demonstrate knowledge relating to the controlling of an electric arc furnace

Performance Criteria

- 1.1 The occupational safety and health and risk management requirements are explained.
- 1.2 The importance of controlling an electric arc furnace is described in terms of achieving specified production requirements.
- 1.3 The security requirements and emergency procedures pertaining to electric arc furnaces are explained.
- 1.4 The communication requirements pertaining to the controlling of electric arc furnaces are described.
- 1.5 The process flow and interlock systems of the electric arc furnace system are described in terms of operational requirements.
- 1.6 The operating procedures, parameters and control methods of the electric arc furnace system are explained in terms of workplace and legislative requirements.
- 1.7 Corrective actions, in case of sub-standard conditions and problems be encountered, are described.

Element 2: Control the electric arc furnace

Range

Inspections include but are not limited to the availability of personal protective equipment and safety equipment; the availability and use of tools and equipment; the condition of safety devices and adherence to safety requirements; the availability and utilisation of process equipment and consumables; the present status of the process; potential hazards and risks; and potential security risks or breaches.

Performance Criteria

- 2.1 Workplace hazards and associated risks towards self and others are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 2.2 The electric arc furnace system is inspected according to workplace procedures.
- 2.3 The electric arc furnace is monitored, controlled and optimised according to workplace procedures.

- 2.4 The safe and optimum production is maintained through effective communication.
- 2.5 Problems encountered are dealt with according to workplace procedures.
- 2.6 The operation of the electric arc furnace is consistent with environmental protection requirements.

Element 3: Complete duties pertaining to the controlling of the electric arc furnace

Performance Criteria

- 3.1 Good housekeeping practices are maintained according to workplace procedures.
- 3.2 Reporting and recording requirements are met according to workplace procedures.
- 3.3 Maintenance requirements are planned and execution monitored according to workplace procedures.
- 3.4 Work related documents are completed according to job requirements and workplace procedures.

Registration Data

Subfield:	Metallurgy
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