

Domain

Title:

Level: 1

SOLAR INSTALLATION
Demonstrate correct use of basic
measuring instruments

Unit ID: 1644

Credits: 2

Purpose

This unit standard specifies the competencies required to demonstrate correct use of basic measuring instruments. It includes the following elements: Select fixed measuring instruments; Select portable measuring instruments; Use and interpret measuring instrument readings. This unit standard is intended for those who work in a solar energy installation environment.

Special Notes

1. Entry information:

Prerequisite:

- *1641: Apply safety rules and regulations in a solar energy installation environment* or demonstrated equivalent knowledge and skills.

2. Assessment evidence may be collected from a real workplace or an appropriate simulated realistic environment in which solar system operations are carried out.

3. Test equipment may include but are not limited to multi-meters, function generators, bench power supplies, oscilloscopes, hydrometer, load tester, logic probes and wattmeter. Test equipment may be analogue or digital.

4. Glossary of terms:

‘SANS’ refers to South African National Standards

5. Application of test equipment may include but are not limited to tests for resistance, dc and ac voltage and current, battery, basic electronic components and continuity testing, frequency and insulation.

6. Incorrect use may include but are not limited to polarity reversal, use of wrong test equipment, incorrect connection to the circuit, incorrect range, incorrect scale selection, open circuit fuse in fused lead, broken test lead and open circuit test lead.

7. Regulations and legislation relevant to this unit standard include the following:

- Labour Amendment Act, 2012 (Act No. 2 of 2012)
- SANS 10142-1 and SANS 10142-2 electrical wiring codes

and all subsequent amendments to any of the above.

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 on www.namqa.org and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Select fixed measuring instruments

Range:

Identification and selection of fixed measuring instruments include, but is not limited to, knowledge of properties and usage for workshop-based measuring equipment.

Performance Criteria

- 1.1 Range of fixed measuring instruments is identified
- 1.2 Range of fixed measuring instruments is chosen.

Element 2: Select portable measuring instruments

Range:

Selection of fixed measuring instruments includes, but is not limited to, knowledge of properties and usage for portable measuring equipment.

Performance Criteria

- 2.1 Range of portable measuring instruments is identified.
- 2.2 Range of portable measuring instruments is chosen.

Element 3: Use and interpret measuring instrument readings

Range:

Application and interpretation of readings include the knowledge about their meaning and how they relate to limits and specifications

Performance Criteria

- 3.1 Measuring instruments reading and interpretation is carried out.
- 3.2 Care for measuring instruments is demonstrated.

Registration Data

Subfield:	Electrical Engineering
Date first registered:	28 March 2018
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Anticipated review:	2023
Body responsible for review:	Namibia Training Authority