

Unit ID: 879

Domain

ELECTRICAL ENGINEERING - CORE

Title:

Perform installation, inspection and testing of wiring for single phase of domestic, commercial and industrial electrical circuits

Level: 2

Credits: 4

Purpose

This unit standard is intended for those who perform installation, inspection and testing of wiring for single phase of domestic, commercial and industrial electrical circuits. People credited with this unit standard are able to plan and prepare for work; inspect electrical circuits; wire electrical circuits; inspect and test electrical circuits installation; and clean-up work area.

This unit standard is intended for those who work in electrical workplace environment.

Special Notes

1. Entry information:

Prerequisite

- *Unit 1157 - Demonstrate basic knowledge of workplace health and safety*

2. To demonstrate competence, at a minimum, evidence is required of installation, inspection and testing of wiring for single phase circuit. Perform these tasks ensuring correct identification of requirements, selection and use of appropriate processes, tools and equipment and completing all work to specification.

3. Competency under this unit standard does not entitle the candidate to perform prescribed electrical work without the supervision of a supervisor of electrical work, until the candidate has been registered and licensed.

4. Performance of all elements in this unit standard must comply with industry standards.

5. Assessment evidence may be collected from a real workplace or a simulated workplace environment in which electrical operations are carried out.

6. Domestic and industrial (commercial) circuits and associated accessories may include but are not limited to distribution board, light switches, socket outlets, light fittings, geyser and stove point, isolators and circuit protection devices, lighting circuits, socket outlet circuits, stove circuit, geyser circuit and bell circuit.

7. Circuits are limited to single phase circuit.

8. Glossary of terms
 - '*Current regulations and standards*' refer to the requirements of the above legislation and standards, applied to the context in which the term is used.
 - '*Industry practice*' refers to those practices which competent practitioners within the industry recognize as current industry best practice.
 - '*Electrical circuits*' refer to both domestic and commercial/industrial circuits
 - '*SANS*' refers to South Africa National Standards

9. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act, No. 11, 2007.
 - Regulations relating to the health & safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007 and all subsequent amendments.
 - Electricity Act No. 4 of 2007,
 - SANS 10142-1.
 - SANS 10142-2

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.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Performance criteria

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and interpreted.
- 1.2 Signage and barricade requirements are identified and implemented, where necessary.
- 1.3 Personal Protective Equipment are selected in line job and safety requirements.
- 1.3 Tools and equipment selected to carry out tasks are consistent with job requirements, checked for serviceability, and any faults are rectified or reported prior to commencement.
- 1.4 Material quantity requirements are calculated in line with plans, specifications and quality requirements.
- 1.5 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Inspect electrical circuits

Performance Criteria

- 2.1 Wire ways are identified and checked for the installation of wires, conductors and cables.
- 2.2 Work site is inspected for safety and hazards, and corrective action is taken according to legislative requirements.
- 2.3 Wire ways installation are checked for placing and mounting of termination boxes, end products and various obstacles.

Element 3: Wire electrical circuits

Performance Criteria

- 3.1 Tools are selected and used in line with job specification and manufacturers' specifications.
- 3.2 Draw wire is inserted into wire ways in preparation for pulling through of wires and remove obstacles.
- 3.3 Circuits are wired separately into wire ways depending on the circuit requirements to comply with industry standards.
- 3.4 Maximum amounts of wires per size of wire ways and type of circuit are adhered to as per industry standards.
- 3.5 Colour coded wires are used in wire ways as per standards and job requirements.
- 3.6 All connections are tight and verified as per job requirements and industry standards.
- 3.7 Electrical installations are labelled as per industry standards.

Element 4: Inspect and test electrical circuits installation

Performance Criteria

- 4.1 Distribution board is inspected, and tested for operational.
- 4.2 Inspection boxes and terminations are inspected before circuit is energized (commissioned).
- 4.3 Tests are conducted on circuits for requirements and energizing compliance in line with job specifications standards and safety regulations.
- 4.4 Circuits are energized individually to test their functionality.
- 4.5 Tests are conducted on specific circuits to ensure that earth leakage protection is operational within the stipulated rating.
- 4.5 Test readings are recorded using appropriate documentation and forms as specified in work site procedures.

Element 5: Clean-up work area

Performance Criteria

- 5.1 Work area is cleared, cleaned, restored and secured in line with workplace procedures.
- 5.2 Tools and equipment are cleaned, checked and stored in line with manufacturer specifications and workplace procedures.
- 5.3 Materials and wastes are disposed of, reused, or recycled in accordance with legislation, regulations, codes of practice and job specifications
- 5.7 Documentation and drawings are updated and returned to source according to industry requirements.

Registration Data

Subfield:	Electrical Engineering
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