

PERFORM SINGLE PHASE ELECTRICAL INSTALLATION AND MAINTENANCE

UNIT CODE: ENG/OS/EI/CC/02/3/A

UNIT DESCRIPTION

This unit covers the competencies for selecting correct types and sizes of cables, perform cable jointing and termination, installing lighting, power points, consumer's control unit and power intake point and then repair and maintenance.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace functions.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
1. Select correct types and sizes of cables	1.1 Drawings are read and interpreted to determine job requirements. 1.2 Correct type, size and quantity of cables and related consumables are determined in line with job requirements. 1.3 Tools and equipment are selected in line with job requirements. 1.4 Correct PPE are identified and selected in line with safety requirements
2. Perform cable jointing and termination	2.1 Correct PPE are identified and selected in line with safety requirements. 2.2 Tools and equipment are selected in line with job requirements. 2.3 IEE regulations are adhered to. 2.4 Perform various types of cable joints Conduct various types of cable termination.
3. Install cables for lighting and power points	3.1 Safety procedures are followed based on safety regulations 3.2 Wiring of lighting and power points are performed according to job requirements and IEE regulations 3.3 Lighting and power points are grounded in accordance with IEE regulations 3.4 Schedule of work is followed based on agreed time, quality standard and minimum wastage 3.5 Further instructions are sought and recorded if unplanned events or conditions occur 3.6 On-going checking of quality of work is done in accordance with instructions and requirements
4. Install power intake point	4.1 Safety procedures are followed based on safety regulations 4.2 Tools, equipment and materials are selected in line with

ELEMENT These describe the key outcomes which make up workplace functions.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
	job requirements 4.3 Correct PPE are identified and selected in line with safety requirements 4.4 Wiring of meter box components is performed according to job requirements 4.5 Lead-in pipe is installed as per job requirements and IEE requirements 4.6 Consumer main earthing terminal bonding is performed according to IEE regulations 4.7 Work area is cleaned up and made safe according to OSH regulations
5. Install consumer's control unit	5.1 Safety procedures are followed based on safety regulations 5.2 Tools, equipment and materials are selected in line with job requirements 5.3 Correct PPE are identified and selected in line with safety requirements 5.4 Consumer's control unit is identified according to job requirements 5.5 Wiring of consumer's control unit is performed according to job requirements and IEE regulations 5.6 Work area is cleaned up and made safe according to OSH regulations
6. Complete the installation	6.1 Final checks and tests are made to ensure that installation conforms with instructions, requirements and IEE regulations 6.2 Supervisor is notified upon completion of installation 6.3 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures 6.4 Work area is cleaned up and made safe according to OSH regulations
7. Repair and maintain the installation	7.1 Safety procedures are followed based on safety regulations 7.2 Tools, equipment and materials are selected in line with job requirements 7.3 Correct PPE are identified and selected in line with safety requirements 7.4 Faulty components are identified and replaced 7.5 Routine checks are carried out and acted upon according to IEE regulations

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace functions.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
	7.6 Waste is disposed in accordance with environmental regulations

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
Consumables include but not limited to:	<ul style="list-style-type: none"> • Insulating tapes • Strip connectors • Sleeves
Tools and equipment include but not limited to:	<ul style="list-style-type: none"> • Pliers • Screwdrivers • Electrician knives • Steel tapes • Measuring tapes • Hack saw and blades
Personal Protective Equipment (PPE) include but not limited to:	<ul style="list-style-type: none"> • Working gloves • Overalls • Safety shoes • Helmet • Safety harness
Safety procedures include but not limited to:	<ul style="list-style-type: none"> • IEE regulations • Building Code • Safety standards
Lighting and power points include but not limited to:	<ul style="list-style-type: none"> • Connections to switches, sockets, light fittings

REQUIRED KNOWLEDGE AND UNDERSTANDING

This section describes the skills and knowledge required for this unit of competency.

<ul style="list-style-type: none"> • Interpretation of drawings • Materials specifications • Types and uses of tools and equipment • Proper PPEs 	<ul style="list-style-type: none"> • Storage of tools • Maintenance of tools • Report writing and record keeping • Good housekeeping • Installation procedures
--	---

REQUIRED SKILLS

The individual needs to demonstrate the following foundation skills:

<ul style="list-style-type: none"> • Observation of safety requirements 	<ul style="list-style-type: none"> • Drawing in cables for lighting and
--	--

<ul style="list-style-type: none"> • Interpreting architectural plans and electrical drawings • Identification of lighting and power points • Identification and handling of materials, tools and equipment 	<ul style="list-style-type: none"> • power points • Communication • Report writing and record keeping
--	--

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency.	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Correctly interpreted work instructions and drawings 1.2 Followed safety procedures 1.3 Selected appropriate tools, equipment and materials 1.4 Selected and used correct PPE 1.5 Carried out installation of lighting and power points 1.6 Cleaned worksite, tools and equipment 1.7 Stored surplus materials 1.8 Prepared reports and kept records
2. Resource Implications.	<p>Resources relevant to this unit of competence. This include;</p> <ul style="list-style-type: none"> • Workplace location • PPEs • Tools and equipment appropriate for installation of lighting and power points • Materials relevant to the proposed activity • Drawings relevant to the task
3. Methods of Assessment.	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Written test 3.4 Portfolio of Evidence 3.5 Interview 3.6 Third party report
4. Context of Assessment.	<p>Competency may be assessed in an off and on the job setting. Assessment shall be observed while the tasks are being undertaken either individually or as part of a team under limited supervision</p>
5. Guidance information for assessment.	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>