



Australian Government

UEENEEA107A Make up wiring looms for internal wiring of appliances and machinery

Release 2

UEENEEA107A Make up wiring looms for internal wiring of appliances and machinery

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers assembling wiring loom and fitting termination devices to conductor ends. It encompasses working safely and to a specified standards, identifying cables, measuring, cutting and shaping cables, arranging and securing cables into shaped looms, applying cable end termination devices and undertaken quality checks.

Application of the Unit

Application of the Unit 2)

This unit is intended for competency development entry-level employment-based programs incorporated in approved contracts of training. In particular it is applicable to an industry or enterprise for assembly or repair functions at AQF 2.

Licensing/Regulatory Information

License to practice 3)

During Training: Competency development activities are subject to regulations directly related to licencing, occupational health and safety and where applicable contracts of training such as apprenticeships.

In the workplace: The application of the skills and knowledge described in this unit require a license to

License to practice

3)

practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Other conditions may apply under State and Territory legislative and regulatory requirements.

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE1 01A Apply Occupational Health Safety regulations, codes and practices in the workplace

Literacy and numeracy skills

4.2)

Participants are best equipped to achieve competency in this unit if they have reading, writing and Numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 4 Writing 4 Numeracy 4

Employability Skills Information

Employability Skills

5)

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit
Performance Criteria describe the required performance needed to demonstrate achievement of the element.
Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to make up wiring looms	1.1 OHS procedures for a given work area are identified, obtained and understood 1.2 Established OHS risk control measures for work preparation are followed 1.3 Work instructions including layout, wiring schedule and quality compliance criteria are obtained and understood 1.4 Materials required for the work are obtained in accordance with established routines and procedures. 1.5 Tools, equipment and testing devices needed to carry out the work are obtained and checked for correct operation and safety.
2 Make up wiring looms	2.1 Established OHS risk control work measures are followed 2.2 Cable specified for each core of the wiring loom is identified, selected and cut the specified length, 2.3 Wiring loom is assembled and formed in accordance with work instructions, standards and established routines. 2.4 Cable end and prepared and termination devices and identification tags fitted in accordance with work instructions, standards and established

ELEMENT	PERFORMANCE CRITERIA
	routines
	2.5 Procedures for referring non-routine events to immediate supervisor for directions are followed
	2.6 Work is carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services and using sustainable energy practices
3 Check quality of completed wiring looms.	3.1 Established OHS risk control measures for work completion are followed
	3.2 Completed wiring loom assembly is inspected and tested against quality compliance criteria in accordance with established routines.
	3.3 Defects in the quality of the wiring loom are identified and corrected using prescribed procedures.
	3.4 Work report forms are completed accurately and appropriate person(s) notified in accordance with established routine.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and making up and assembling wiring looms.

The knowledge and skills shall be contextualised to current industry standards, technologies and practices.

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Wiring looms and assembly techniques

Evidence shall show an understanding of wiring loom assembly techniques to an extent indicated by the following aspects:

T1 Structural components of cables and their purpose

Note:

Components include conductors and conductor material; insulation; sheathings and servings.

T2 Cable types and application in wiring looms

T3 Wiring looms encompassing:

- purpose
- components — cables, ties/supports, cable end terminal devices and identification markers/tags
- assembly techniques using cable schedules and template

T4 Conductor handling and cable terminations encompassing:

- insulation removal and replacement
- application of connecting devices for conductors and terminals
- stress release on cables/conductors.

T5 Wiring loom quality encompassing:

- typical compliance criteria
- testing cable cores (testing includes insulation resistance and continuity of each cable core).
- inspection (inspection points includes correct number and placement of cable cores, cable end terminals, cable ties/supports/enclosures and cable core markers/tags).

T6 Hand and power tools used in making up wiring looms encompassing:

- types of tools and their purpose
- techniques for the correct and safe use of these tools
- hazards associated with their use
- care and maintenance of hand tools

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit. It must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment

Guidelines of this Training Package.

Critical aspects of evidence required to demonstrate competency in this unit 9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit must be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Making up wiring looms for internal wiring of appliances and machinery as described in 8) and including:

- A Understanding work instructions.
- B Obtaining correct materials and tools for the work.
- C Checking tools for correct operation and safety.

- D Identifying, selecting and cutting cable cores to length as specified.
- E Preparing cable ends and fitting termination devices and identification tags as specified.
- F Inspecting and testing the completed wiring loom and identifying non-compliance defects
- G Using prescribed procedures to correct defects in quality of completed wiring loom.
- H Reporting completion of the work appropriately.
- I Dealing appropriately with unplanned events.

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment it must ensure that the conditions for assessment are authentic and as far as possible reproduce and replicate the workplace and is consistent with the approved industry simulation policy.

In addition to the resources listed above in context of and specific resources for assessment, evidence should show demonstrated competency in the make up and assembly of wiring looms.

**Method of
assessment**

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

**Concurrent
assessment and
relationship with
other units**

9.5)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit must be demonstrated in relation to making up at least two different wiring looms assemblies.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field 11)

Assembly