



Australian Government

Assessment Requirements for UEEEL0074 Wind electrical coils

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using of risk control measures
- applying sustainable energy principles and practices
- completing workplace reports and documentation
- preparing to wind electrical coils
- winding electrical coils, including:
 - adhering to coil quality and workplace procedures
 - completing workplace report/forms accurately
 - dealing with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
 - following winding job specifications
 - selecting correct winding wire and insulation
 - setting up and operating winding machine in accordance with safe operating and workplace procedures.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- collecting coil data, including:
 - coil shape
 - gauge
 - number of turns
 - type of wire, coil and insulation
- coil former types, construction/set up and factors which govern coil shape, including:
 - bore size of stator iron core

- coil flexibility
- coil shapes
- depth of iron below the slots in the iron core
- end room
- pressure points between the coils
- types coil winding formers
- coil winding machines, including:
 - computer operated
 - foot pedal
 - layer winding machine
 - remote foot switch on a flexible lead, variable speed fitted with a face plate
 - variable speed
 - winding head fitted with a chuck
- coil insulations, including:
 - paper laminates
 - cloth, tape and adhesive tape (glass); and polyester glass laminate
 - polyester film
 - purpose
 - adhesive tape (polyester film)
 - temperature ratings
- rewind small and medium-sized solenoid coils, including:
 - strip and record data
 - prepare/insulate coil formers
 - wind each type of coil
 - finishing off process
 - test procedures
- types and purpose of testing devices, including:
 - multimeter
 - insulation resistance tester
 - wheatstone bridge
- types of tests, including:
 - continuity
 - short circuited turns
 - insulation resistance
- testing techniques to identify faulty coils, including:
 - physical inspection.
 - using a testing device
- current industry practices and technologies
- relevant job safety assessments, risk mitigation processes or operational safety precautions
- relevant manufacturer specifications

- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- sustainable energy principles and practices.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to winding electrical coils
- applicable documentation, including workplace procedures, equipment specifications, regulations, relevant industry standards, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>