



Australian Government

UEEDV0008 Install, modify and verify coaxial and structured communication copper cabling

Release: 1

UEEDV0008 Install, modify and verify coaxial and structured communication copper cabling

Modification History

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

Application

This unit involves the skills and knowledge required to install, modify and verify coaxial and structured communication copper cabling in buildings and premises intended for connection to a telecommunications network as permitted by the Australian Communications and Media Authority (ACMA).

It includes working safely to industry standards; installing generic, structured twisted pair cabling (category 5 and above) and coaxial cabling that terminate at distributors, termination modules and telecommunication outlets; testing for compliance; and completing cabling documentation.

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the UEE Electrotechnology Training Package Companion Volume Implementation Guide or the relevant regulator for specific guidance on requirements.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEDV0005 Install and maintain cabling for multiple access to telecommunication services and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

Competency Field

Data and Voice

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare to install and/or modify copper cabling

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified and applied
- 1.2** Hazards are identified, risks are assessed and control measures are implemented
- 1.3** Installation or modification of wiring is coordinated after consultation with relevant person/s affected by the work
- 1.4** Nature and location of work is obtained from relevant person/s and/or documentation, diagrams, cable layout drawings and cable schedules to determine the scope and details of work to be undertaken
- 1.5** Cable routes are planned in accordance with relevant regulations, constraints of the building structure, fire walls, cultural/heritage requirements and regulations
- 1.6** Advice is sought from relevant person/s to ensure work is coordinated effectively with others
- 1.7** Material required for the installation work is determined and obtained in accordance with workplace procedures and checked against job requirements
- 1.8** Tools, equipment and testing devices required for the installation are obtained in accordance with workplace procedures and checked for correct operation and safety
- 1.9** Preparatory work is checked to ensure compliance with regulations, workplace procedures, safety and job requirements

2 Install or modify copper cables

- 2.1** WHS/OHS risk control measures and workplace procedures for carrying out the work are followed

- 2.2** Cables are installed or modified with sufficient excess to affect terminations in accordance with manufacturer specifications, technical standards and job requirements
 - 2.3** Cable installation/modification is carried out without waste of materials or damage to apparatus, circuits or the surrounding environment and using sustainable energy practices
- 3 Terminate copper cables**
 - 3.1** WHS/OHS risk control measures and procedures for work completion are followed
 - 3.2** Cable termination work area is cleaned and safety measures implemented
 - 3.3** Cables are prepared for termination in accordance with manufacturer specifications, technical standards and workplace procedures
 - 3.4** Surge suppression devices are fitted to cables with metallic components in accordance with manufacturer specifications, technical industry standards and workplace procedures
 - 3.5** Cable shields are earthed in accordance with manufacturer specifications, technical standards and workplace procedures
 - 3.6** Twist ratio of generic, structured metallic cables is maintained in accordance with manufacturer specifications and technical standards
 - 3.7** Twisted pair cables are terminated in accordance with manufacturer specifications, technical standards and workplace procedures
 - 3.8** Cable performance tests are conducted accurately and results documented in accordance with workplace procedures
 - 3.9** Cause of defects indicated by inspection and test results are identified and rectified in accordance with manufacturer specifications, technical industry standards and workplace procedures
 - 3.10** Regular quality checks of the installed wiring are undertaken in accordance with workplace procedures
 - 3.11** Cable terminations are carried out without waste of

materials, damage to apparatus, circuits or the surrounding environment and using sustainable energy practices

4 Verify and document copper cabling installation and performance

- 4.1** WHS/OHS risk control measures and workplace procedures for work completion are followed
- 4.2** Final checks are made to installed cabling to ensure it conforms to performance requirements and regulations
- 4.3** Telecommunications cabling advice (TCA) forms are completed in accordance with workplace procedures and issued to relevant person/s
- 4.4** Worksite is cleaned and made safe in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Installing, modifying and verifying coaxial and structured communication copper cabling must include:

- distributor frames
- patch panels
- a range connectors/outlets
- a range of cable types

Unit Mapping Information

This unit replaces and is equivalent to UEENEEF104A Install, modify and verify coaxial and structured communication copper cabling.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEEDV0008 Install, modify and verify coaxial and structured communication copper cabling

Modification History

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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, including applying risk control measures
- obtaining correct materials, tools and equipment to undertake the work
- checking tools, equipment and testing devices for correct operation and safety
- installing, terminating and testing unshielded twisted pair (UTP), FTP or shielded twisted pair (STP) customer cables that are rated Category 5 or above
- installing, terminating and testing coaxial cable installation systems
- installing and modifying performance data communication copper cabling, including:
 - reading and interpreting drawings and diagrams related to cable layouts, schedules and apparatus locations
 - routing, placing and securing cables to comply with industry standards
 - preparing and terminating each type of cable to comply with industry standards
 - ensuring copper cables are installed or modified with sufficient excess to affect terminations
 - maintaining twist ratio of generic, structured twisted pair copper cables
 - earthing cable shields
 - fitting surge suppression devices
 - conducting cable performance tests
- completing necessary documentation.

Knowledge Evidence

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

- telecommunication cable types, including:
 - construction
 - transmission characteristics
 - applications

- cable identification, including:
 - plans and drawing
 - labelling
 - documentation
- cable installation, including:
 - hazards
 - cable damage prevention
 - cable dispensers
- distributors and distributor enclosures, including:
 - types
 - regulations
 - termination interfaces
- termination methods and requirements
- category 5 and above generic, structured cabling, including:
 - design principles
 - functional elements
 - cabling sub-systems
- uses and construction of category UTP, FTP and STP generic and coaxial structured cabling installation systems
- performance requirements for structured cabling, including:
 - approved practices
 - safety requirements
 - connectors
 - terminating tools
 - continuity tests
 - fault diagnosis
 - recording results
- testing and commissioning structured cabling systems
- constraints of building structure, fire walls and cultural/heritage requirements
- techniques to identify and rectify faults/defects.

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 workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in 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, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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