



Australian Government

Department of Education, Employment and Workplace Relations

ICTTC011D Place, secure and terminate coaxial cable

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit applies to all contexts for indoor and outdoor installation within a customer premises and applies to both customer premises cabling and customer premises equipment.

This unit applies to all communications applications whether digital or analogue `including telephony, data, video including digital broadcasting, computer networks including LANs and WANs, and multi media.

This unit may be applied to domestic, commercial or industrial installations.

Assessment by a TITAB registered assessor is recommended.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Nil

Nil

Employability Skills Information

This unit contains employability skills.

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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

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Elements and Performance Criteria

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Element	Performance Criteria
1 Place coaxial cable	1.1 Maintain cable segregation to industry standards 1.2 Protect integrity of the coaxial shield cable to ensure no loss of signal during operation 1.3 Bend radius does not exceeded manufacturer specifications 1.4 Place cable with sufficient slack to allow termination 1.5 Place cable accurately in accordance with installation designs and manufacturer specifications 1.6 Install cable safely without damage to cable or clients premises 1.7 Cable lengths do not exceed manufacturer or design specifications and maintain RF signal integrity
2 Secure coaxial cable	2.1 Locate securing hardware at uneven distances to minimise the cumulative effect on cable wave shape properties 2.2 Cable ties and brackets are flexible and do not damage cable 2.3 Fit over voltage protection devices to all cables with metallic component where required

- 2.4 Bend ratios do not exceeded manufacturer specifications and industry standard
- 3 **Terminate coaxial cable**
- 3.1 Strip coaxial cable cleanly to required length using manufacturers tool
 - 3.2 Select connectors specified to match the type of coaxial cable in use
 - 3.3 Select terminating method in accordance with manufacturer specification
 - 3.4 Connector fitting retains the segregation of conductor and shield
 - 3.5 Terminate connectors to torque as recommended by manufacturers to ensure no RF leakage can occur
 - 3.6 The termination maintains a continuous reference
 - 3.7 All terminations are waterproof where appropriate to prevent risk of damage to termination and cable function

Required Skills and Knowledge

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

Required skills

Select from the following list to suit the learning and assessment context

Codes refer to the Skills and Knowledge Register in Volume 3 of this Training Package that has detailed content guidelines for each code outlined.

CA272 Cabling Products: Coaxial Cable

CA273 Cable Installation Testing: Coaxial Cable

CA270 Cable Types: Coaxial Cable

CA271 Installation Methods and Terminations: Coaxial Cable

OH213 Safe Work Practices: Coaxial Cable

PS216 Plan Reading, Specifications and Records: Coaxial Cable

RE222 ACMA Standards and Regulations: Coaxial Cable

TO213 Hand and Power Tools and Equipment: Coaxial Cable

Required knowledge

The relevant required knowledge is articulated in the above guidelines contained in the Skills and Knowledge Register included in this Training Package.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

placing, securing and terminating cable types include: hard line (internal or external) and flexible (internal or external)

work practices which avoid cable damage: crushing, burning, kinks, cuts, sheath twist, bending radius

installation of at least two different connector types

safe use of any specialised hand or power tools normally used for coaxial cable installation

application of all related OHS requirements and work practices associated with coaxial cable installation (including protective clothing and personal safety items)

ability to read and interpret drawings related to cable layouts, outlet location, cable coding system and identifiers, frame locations

conduct and interpret test results, complete relevant documentation, determine compliance from manufacturer's certification, warranty and other related documentation requirements

correct interpretation and application of regulations and standards related to the installation of coaxial cable

interpersonal skills related to work associates, supervisors, team members

Context of and specific resources for assessment

Assessment must ensure:

A workplace conducting the operations covered by this competency unit, equipment and resources relevant to the context of the work (See Range Statement) and support from a competent supervisor or mentor.

OR

A simulated environment with similar provisions which conforms to the Assessment Guidelines.

Guidance information for assessment

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed.

In all cases where practical assessment is used it will be combined with targeted questioning to assess underpinning knowledge.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Coaxial

May be installed: individually or in small teams

Coaxial cable	May be: hard line (internal/external), flexible (internal/external), underground, aerial, powered/unpowered
Coaxial cable	May be supplied in various grades as designed for different environments and intended uses
Connectors types	Include: internal/external, pin type, integral pin, separate pin
Customers specifications	May be found in: contract documents, cable plans and designs, specification schedules
Safe working practices	Includes the safe use and handling of: tools and equipment, materials, chemicals and work platforms
Work platforms	May be: ladders, scaffold, scissor lifts ('cherry pickers')
Tools	May be hand or power tools and include: coring, stripping, torque spanner, stripping and preparation tool, crimping
Manufacturers specifications	May be found in printed instruction leaflets or pre printed on materials or on product packaging
'Industry standards'	May include regulated or industry codes of practice and include appropriate ACMA technical standards

All cable used	Must be compliant with appropriate ACMA technical standard requirements (eg. for underground, aerial, Category 5 or Category 6, 6A, 7 or 7A, UTP etc)
All cabling products other than cable	Must be ACMA approved
Over voltage protection	Includes ACMA standards and may include manufacturers, enterprise or local environmental hazard requirements
Relevant legislation, codes, regulations and standards	Include: Technical Standards AS/ACIF S008:2006, AS/ACIF S009:2006 AS Communications Cabling Manual (CCM) Volume 1 ACIF Standards and Codes AS/NZS 3000:2007 AS/NZS 3080:2003 AS/NZS 3084:2003 AS/NZS 3085.1:2004 AS/NZS ISO/IEC 15018:2005 AS/NZS ISO/IEC 24702:2007 AS/NZS IEC 61935.1:2006 AS/NZS IEC 61935.2:2006 AS/NZS ISO/IEC 14763.3:2007 Relevant IEEE standards Australia Building Codes and Regulations Occupational Health and Safety Other services and utilities codes of practice and standards (electricity, water, gas) Cabling security codes and regulations

Unit Sector(s)

Not applicable.