



Australian Government

Department of Education, Employment and Workplace Relations

ICTTC066D Joint and terminate coaxial cable

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit applies to all telecommunications applications including telephony, data, video and multi media.

This unit should be applied with units dealing with specific cable types and installation environments.

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

The most likely type of coaxial cable used in the CAN environment today is either hard line or flexible coaxial cables used in the delivery of CATV services.

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 Prepare for jointing	1.1 Use safety equipment to protect self and public in accordance with enterprise guidelines and occupational health and safety practices
	1.2 Read and interpret installation plan and physical conditions at site to determine layout of job
	1.3 Copy of records is obtained, where appropriate
	1.4 Locate and identify adjoining services in accordance with enterprise guidelines and occupational health and safety practices
	1.5 Test for presence of dangerous gases in accordance with enterprise guidelines
	1.6 Approved alterations to the design are undertaken in accordance with enterprise guidelines
2 Verify coaxial cable placement	2.1 Cable segregation is maintained to industry standard requirements
	2.2 Protect integrity of the coaxial shield cable to ensure no loss of continuity
	2.3 Minimum bend radius is not exceeded in accordance with manufacturer's specifications
	2.4 Cable is placed in position with sufficient slack to allow termination

- 2.5 Cable placement follows installation designs and specifications accurately
- 2.6 Cable is installed in a safe manner without damage to cable or customer's premises
- 2.7 Cable lengths do not exceed manufacturer's or design specifications to maintain radio frequency signal strength
- 3 **Secure coaxial cable**
 - 3.1 Locate securing hardware to reduce the cumulative effect on cable wave shape properties
 - 3.2 Cable ties and brackets are flexible and do not damage cable during securing or while in use
- 4 **Joint coaxial cable**
 - 4.1 Strip coaxial cable in accordance with specifications to required length using appropriate tool
 - 4.2 Select appropriate kit to match the type of coaxial cable in use
 - 4.3 Jointing method is in accordance with manufacturer's recommendations
 - 4.4 Jointing fitting retains the segregation of conductor and shield
 - 4.5 All joints are sealed in accordance with manufacturer's specifications
- 5 **Terminate coaxial cable**
 - 5.1 Strip coaxial cable in accordance with specifications to required length using appropriate tool
 - 5.2 Select connectors to match the type of coaxial cable in use
 - 5.3 Terminating method is in accordance with manufacturer's recommendations
 - 5.4 Connector fitting retains the segregation of conductor and shield
 - 5.5 Connectors are terminated to torque as recommended by manufacturer's to ensure no radio frequency leakage can occur

- 5.6 Gauge tests are carried out to connector mating specifications
 - 5.7 The termination maintains a continuous ground
 - 5.8 All terminations are waterproof where appropriate to minimise risk of damage to termination and cable function
- 6 Complete splicing operation**
- 6.1 Place cables in enclosure and lay up in accordance with manufacturer's instructions and enterprise guidelines
 - 6.2 Other cables are tidy and no safety hazards are evident
 - 6.3 Other services are in place in accordance with enterprise guidelines
 - 6.4 Waste and debris are removed from worksite and disposed of in accordance with environmental requirements and to maintain safe worksite conditions
 - 6.5 Site is reinstated and tools and materials are stored in accordance with enterprise guidelines
- 7 Complete installation administration**
- 7.1 Complete reports in accordance with enterprise policy
 - 7.2 Note alterations to plans using appropriate symbols

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.

CA360 Coaxial Cabling

CI310 Communication 3

EL310 AC/DC Theory 3

MA210 Basic Telecommunications Mathematics

OH310 Occupational Health and Safety 3

PS310 Plans and Specifications 3

PS320 Basic Building Trades 3

RE235 Regulations for CAN

RE310 Working on Non-enterprise Land 3

TO310 Use of Tools 3

TO330 Installation Practices 3

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:

Obtain information from plans and documents.

Notify relevant authorities and obtain approvals prior to commencement.

Jointing of cable including:

Placement of cable supports

Bending of cable within specified tolerances

Kit selection

Retention of segregation of conductor and shield

Either aerial or underground work

Termination of cable including:

Stripping to specified length

Connector selection

Retention of segregation of conductor and shield

Termination to torque

Conduct of gauge tests

Maintenance of continuous ground

Waterproofing of termination

Safe use of any specialised hand or power tools and/or equipment and application of all related OHS requirements and work practices.

Conduct of signal strength tests and interpretation of results.

Communication of jointing details with customers and work associates.

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 cable	<p>May be supplied in various grades as designed for different environments and intended uses</p> <p>May be: hard line (internal/external), flexible (internal/ external), underground, aerial, powered / unpowered</p>
Connector types	<p>May include: internal/external, pin type, integral pin, separate pin</p>
Customers specifications	<p>May be found in: contract documents, cable plans and designs, specification schedules</p>
Industry standards	<p>May include: enterprise codes of practice, ACMA and Spectrum Management Authority standards, Manufacturer's specifications</p>
Manufacturers' specifications	<p>May be found in printed instruction leaflets or pre-printed on materials or on product packaging</p>
Safe working practices	<p>Include the safe use and handling of: tools and equipment, materials, chemicals and work platforms</p>

Tools	May be hand or power tools and include: coring, stripping, torque spanner, stripping and preparation tool, crimping, connector gauges
Work platforms	May be: ladders, elevated platform vehicles
Relevant legislation, codes, regulations and standards may include:	AS Communications Cabling Manual (CCM) Volume 1 ACIF Standards and Codes ACMA Technical Standards Australian building codes and regulations Australian Standards Enterprise Standards Environmental Protection Fire regulations Heritage legislation Industrial relations agreements including awards and enterprise International Standards Local Government Manufacturer's enterprise operating policy and procedures National Code Occupational Health and Safety Act Other services and utilities codes of practice and standards (electricity, water, gas) Power company requirements Privacy Act Spectrum Management Authority Statutory requirements Trade Practices Act Traditional land owners

Unit Sector(s)

Not applicable.