



Australian Government

Department of Education, Employment and Workplace Relations

ICTTC008D Terminate metallic conductor cable

Release: 1

ICTTC008D Terminate metallic conductor cable

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.

This unit applies to all metallic conductor cable types including coaxial and structured (Category 5 or Category 6, 6A, 7 or 7A,) cabling. It also applies to the joining of cable in a terminating block (in/out block). Specific units of competency apply to the placing, securing and termination of particular cable types and should be used in association with this unit where applicable.

Assessment by a TITAB registered assessor is recommended.

The six unit competency set ICTTC005D, ICTTC006D, ICTTC008D, ICTTC012D, ICTTC017D and ICTTC022D that meets the Australian Communications and Media Authority's (ACMA) requirements for Cabling Provider Registration (CPR), is generally used as part of a more specialised customer cabling qualification. This set is usually regarded as more suitable for new entrants where limited industry experience has been obtained and forms the major part of specialised qualifications such as ICT20308 Certificate II in Telecommunications Cabling. When these six units are delivered as a set within state/territory funding approved programs, the two benchmark CPR units (ICTTC136C and ICTTC137C) are not required.

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.

This unit applies to all metallic conductor cable types including coaxial and structured (Category 5 or Category 6, 6A, 7 or 7A,) cabling. It also applies to the joining of cable in a terminating block (in/out block). Specific units of competency apply to the placing, securing and termination of particular cable types and should be used in association with this unit where applicable.

Assessment by a TITAB registered assessor is recommended.

The six unit competency set ICTTC005D, ICTTC006D, ICTTC008D, ICTTC012D, ICTTC017D and ICTTC022D that meets the Australian Communications and Media Authority's (ACMA) requirements for Cabling Provider Registration (CPR), is generally used as part of a more specialised customer cabling qualification. This set is usually regarded as more suitable for new entrants where limited industry experience has been obtained and forms the major part of specialised qualifications such as ICT20308 Certificate II in Telecommunications Cabling. When these six units are delivered as a set within state/territory funding approved programs, the two benchmark CPR units (ICTTC136C and ICTTC137C) are not required.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil

Nil

Employability Skills Information

This unit contains employability skills.

This unit contains employability skills.

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.

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.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Identify termination system	1.1 Identify correct termination requirements for installation
	1.2 Select termination system to meet customer performance needs
	1.3 Termination system conforms to work specifications and relevant industry standards

- 2 Set up suitable work area**
 - 2.1 Remove all contaminants from work site that may adversely effect termination
 - 2.2 Work site has adequate visibility to minimise errors and reduce eye strain
 - 2.3 Work site is safe and secure
 - 2.4 All required tools and equipment are available and in a safe working order and adjusted to manufacturers specifications
- 3 Plan frame/outlet layout**
 - 3.1 Design cable and block location within frame with capacity for expansion where possible
 - 3.2 Segregate incoming and outgoing cables for ease of access and to minimise overlaying and backtracking of cable
 - 3.3 Check environmental conditions are suitable for termination
 - 3.4 Terminating equipment layout is systematic and follows relevant industry codes of practice and standards, and customer requirements where appropriate
 - 3.5 Back-mount or outlet layout conforms to manufacturers specifications
 - 3.6 Layout allows for adequate workspace to ensure ease of access for installation and service purposes
- 4 Prepare cable for termination**
 - 4.1 Remove cable sheath to allow for conductor length and installation requirements
 - 4.2 Handle cable strictly in accordance with manufacturers specifications
 - 4.3 Conductors, sheath and insulation are not damaged during preparation
 - 4.4 Work in a safe manner to manufacturers specifications
 - 4.5 Layer out cable out by reference to manufacturers coding system to ensure correct terminating sequence and unique identification where appropriate

- 4.6 Fit over voltage protection devices to all cables with metallic component where required
- 5 **Terminate conductors**
 - 5.1 Install terminating modules to frame in accordance with manufacturers specifications
 - 5.2 Fan cable pairs neatly to termination equipment to facilitate accurate termination
 - 5.3 Terminate cable to manufacturers specifications using correct tool
 - 5.4 Earth cable shield to manufacturers specifications and industry standards
 - 5.5 Confirm that the termination colour code sequence has been followed by visual inspection
- 6 **Label and document pair location**
 - 6.1 Label cable pairs promptly and clearly to provide for accurate identification in accordance with manufacturers requirements and industry standards
 - 6.2 Update record books and plans to show pair locations in accordance with industry codes of practice
- 7 **Clean up work site**
 - 7.1 Clean and adjust all tools and equipment and store in an accessible location
 - 7.2 Remove installation waste and debris from work site and dispose of in accordance with environmental requirements to maintain safe worksite conditions
- 8 **Manage Remote Power Feed**
 - 8.1 Identify the risks posed by contact with Remote Power Feeding services
 - 8.2 Identify Remote Power Feeding services in a range of commonly encountered circumstances inside customer premises

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.

CA201 Cable Termination Products: General

CA202 Cable Conductor Identification Codes

CA220 Cable Types

CI210 Communication 2

EL210 AC/DC Basic Theory

OH210 Occupational Health and Safety 2

PS212 Read Plans and Specifications - General

PS213 Cable Record Systems: General

RE210 ACMA Licensing Standards, Rules and Regulations

RE216 Australian Standards and Regulations

TE210 Basic Telephony 2

TO210 Hand and Power Tools

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:

demonstration of a minimum of at least one manufacturer's termination system at both frame and outlet locations and at least 1-50 pair cable

ability to read and interpret cable drawings and plans for locations and terminations

accurate application of cable conductor identification codes

application of all related OHS requirements and work practices (including protective clothing and personal safety items)

safe use of general hand and power tools and general equipment normally related to these tasks

correct interpretation and application of related regulations and/or industry codes

interpersonal skills related to clients, employer, supervisors, work associates, team members, other contractors

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.

Strategies to manage infrastructure

Appropriate separations, fastening techniques, correct use of cable trays and support systems

Cable termination

May occur at a frame or outlet location

Cable termination:

Is usually done individually

Termination systems:

May be manufacturers proprietary systems

Work site contaminants	Include: dust, water, paint, building debris, asbestos
Cable conductor identification codes	May be: colour coded, banded, numbered, lettered
Record	May be: record cards, record books, cable drawings, cable plans
Site access approval	May be verbal or written
Site security systems	May include: registered entry requirements, electronic surveillance, security clearance
Site requirements	May include: noise control, relationships with other customer activities, presentation, access and egress points
Customers specifications for support systems	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 and include manufacturers proprietary terminating tools

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 like Category 6, 6A, 7 or 7A, UTP etc)
All cabling products other than cable must be:	ACMA approved
Remote Power Feed	Applies to telecommunications services which operate at above TNV (Telecommunications Network Voltage)
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

ISO Draft 11801 (International)

Cabling security codes and regulations

Unit Sector(s)

Not applicable.