



Australian Government

ICTCBL236 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

Release: 2

ICTCBL236 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to safely install, maintain and modify communications cabling required according to the Australian Communications and Media Authority's (ACMA) 'Restricted' Cabling Provider Rule on customers premises for cabling terminated on sockets and network termination devices (NTD) of indoor and external metallic cable in either aerial or underground situations.

It applies to individuals who may provide services to connect telecommunications devices including telephony systems, security alarm panels and fire control panels in either a new cable installation or upgrade of cable capacity for an existing network or subsystem for convergence to Next Generation Networks (NGN) applications. Customers are typically domestic premises, small offices, home offices and small business premises. Generally large commercial and industrial premises are excluded except in special circumstances where the cabling is behind a compliant device and is not via jumperable distributors or patch panels.

All customer cabling work in the telecommunications, fire, security and data industries must be performed by a registered cabler. All cablers are required to register with an ACMA-accredited registrar.

Pre-requisite Unit

ICTWHS204 Follow work health and safety and environmental policies and procedures

ICTTEN201 Use electrical skills in telecommunications work

Unit Sector

Telecommunications – Cabling

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
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ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for restricted cabling work	1.1 Prepare for restricted cabling work within the ACMA regulatory environment, cabling environment, cable type, cable identification, termination systems, earthing and protection, records and according to requirements of relevant legislation, codes, regulations and standards 1.2 Identify building infrastructure which places critical constraints on cabling 1.3 Develop strategies to manage other infrastructure in relation to cabling 1.4 Notify appropriate personnel of safety hazards at the cabling work site
2. Manage remote power feed	2.1 Identify and avoid the risks posed by contact with remote power feeding services when performing cabling activity 2.2 Make site safe by identifying remote power feeding services which operate at above telecommunications network voltage (TNV) inside customer premises
3. Install cables and protective earth wires	3.1 Install cables according to manufacturer's application specifications, including tension and bending stress requirements 3.2 Identify and avoid sources of possible damage to cable, including hot pipes, sharp edges and cable burn 3.3 Allow sufficient excess at cable ends to facilitate termination 3.4 Place and secure cable to maintain safety and interference segregation according to legislative and industry standards 3.5 Install cable fasteners with correct tension to prevent cable sheath damage or transmission impairment and trimmed flush to prevent risk of personal damage 3.6 Install underground cables to minimum depth of cover and segregation from hazardous electrical and other services according to current Australian Standards 3.7 Install underground cables excluding blown fibre tube systems to incorporate a blocking agent within the cable to prevent the ingress of water 3.8 Install aerial cables to minimum clearance, segregation from hazardous electrical and other services and minimum height requirements according to current Australian Standards 3.9 Install over-voltage protection devices according to Australian

ELEMENT	PERFORMANCE CRITERIA
	Standards to all cable pairs, where required, to suppress voltage surges and protect from earth potential rise (EPR) hazards and protectively earth the devices 3.10 Protect earth wire insulation against damage and segregate protective earths according to relevant legislative and industry standards
4. Terminate and test cables and earth wires	4.1 Remove cable sheath to allow for correct termination length and without damage to underlying conductors and their insulation 4.2 Install Network Termination Device (NTD) modules according to manufacturer's specifications and cable pairs neatly and sequentially fanned for termination 4.3 Terminate conductors according to recommended colour code sequence using appropriate termination tools in the manufacturer's specified manner 4.4 Earth cable shield, if applicable, to manufacturer's specifications, relevant industry codes of practice and Australian Standards 4.5 Conduct visual inspection to confirm termination colour code sequence has been followed prior to end-to-end testing of wire and pair termination integrity 4.6 Terminate earth wire according to industry accepted codes of practice and Australian Standards 4.7 Ensure earth wire continuity throughout and observe interface requirements with electrical systems 4.8 Test earthing installation for continuity, insulation resistance and conductive resistance according to accepted industry standards and Australian Standards 4.9 Confirm compatibility of alterations with existing systems and test new work both in isolation and when integrated with existing systems
5. Inspect cable route to ensure correct separations	5.1 Inspect separations along the entirety of the cable route and rectify separations which do not comply with regulations 5.2 Install barriers to achieve separations where sufficient spatial separation cannot be met
6. Create records	6.1 Provide the client with a job sign-off, telecommunications cabling advice form, at the completion of each cabling task 6.2 Complete NTD record cards for the work undertaken
7. Monitor work	7.1 Supervise cablers not holding appropriate registration for the task to ensure cabling activity is according to legislative requirements for

ELEMENT	PERFORMANCE CRITERIA
activity	safety and network integrity including the relevant Australian Standards

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 3.1, 3.8 - 3.9, 4.2 - 4.4, 4.8, 6.1 - 6.2, 7.1	- Recognises and responds to some conventions of complex texts - Recognises when unknown words are essential to meaning and uses a range of decoding strategies to identify them
Writing	1.4, 6.1 - 6.2	Uses a legible handwriting style or a computer font appropriate to the audience and purpose
Oral Communication	1.4	Demonstrates awareness of choices for register, especially in situations that are familiar
Numeracy	3.1, 3.6, 3.8 - 3.9, 4.1, 4.8, 4.9	- Relies substantially on hands-on (concrete) and real life materials, personal experience and prior knowledge to make estimations and check the reasonableness of processes - Identifies appropriate tools and uses them to take measurements - Interprets information based on results of technical tests
Navigate the world of work	1.1, 1.4, 3.4, 3.6, 3.8 - 3.10, 4.2, 4.4, 4.8, 7.1	Takes personal responsibility for adherence to legal/regulatory responsibilities relevant to own work context, and draws attention to any issues that may affect self or others
Get the work done	1.1 - 1.3, 2.1 - 2.2, 3.1 - 3.7, 3.9 - 3.10, 4.1, 4.4 - 4.7, 4.9, 5.1 - 5.2	- Implements actions as per plan, making slight adjustments if necessary, and addressing some unexpected issues - Automatically implements standard procedures for routine decisions in response to familiar problems

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Termination systems must include:	- network termination device - Australian modular socket - Mode 3 alarm socket - RJ45, RJ12 or RJ11 modular socket. (Note: jumperable distributors are not included in this requirement).
Earthing and protection must include:	- earthing for protection - surge suppression.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTCBL236 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule	ICTCBL2136B Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule	Updated to meet Standards for Training Packages. Performance criteria clarified. Prerequisite units added.	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTCBL236 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

Modification History

Release	Comments
Release 2	This version first released with ICT Information and Communications Technology Training Package version 3.1. New release provides updates to Elements and Performance Criteria.
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Performance Evidence

Evidence of the ability to:

- complete a cabling installation and termination for the following:
 - three different types of telephone sockets:
 - Australian modular socket
 - RJ45, RJ12 or RJ11 modular socket
 - Mode 3 alarm socket
 - one network termination device (NTD) completion of TCA1 compliance forms and NTD records
- apply cable conductor identification codes
- conduct and interpret cable test results
- interpret and apply standards and regulations
- comply with all related work health and safety (WHS) requirements and work practices
- meet Australian Communications and Media Authority's (ACMA) requirements.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- discuss the basic electrical principles of - insulation, resistance, capacitance, induction - as causes of, impedance, attenuation and cross-talk

- identify Australian Communications and Media Authority's (ACMA) cabling provider rules, cabler registration rules, regulations and standards
- describe the regulatory environment in which cabling can be carried out including:
 - accredited registrars and registration
 - ACMA
 - Certified Components List
 - labelling requirements
- describe the customer cabling environment for which restricted cabling may be required for internal, external, above ground or below ground installation
- identify and describe the various cable types, their identifiers, termination systems, separations, support systems and fastening techniques used for communications cabling
- describe the features and operating requirements of recognised cabling specific industry test equipment
- describe the information required to operate equipment according to a test specification
- identify legislation, codes of practice and other formal agreements that impact on the work activity
- identify the manufacturer's requirements for safe operation of equipment
- identify specific workplace health and safety (WHS) requirements relating to the activity and site conditions
- describe test methods and performance requirements
- describe the typical issues and challenges that occur on site
- summarise the mandatory and workplace records required when installing communications cabling
- describe the installation requirements for underground and aerial cables including:
 - minimum depth of cover (below ground)
 - segregation from hazardous electrical and other services
 - earthing requirements
 - compliance with current Australian Standards
- describe the design parameters for underground cables in regard to the purpose they will serve and for the prevention of water ingress.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the telecommunications – cabling field of work and include access to special purpose tools, equipment and materials. These include:

- access to a site on which communications cabling activities may be carried out
- cabling and field equipment currently used in industry
- licensing requirements and other site related documentation.

Note: All client cabling work in the telecommunications, fire, security and data industries must be performed by a registered cabler. All cablers are required to register with an Australian Communications and Media (ACMA) accredited registrar. Assessment by a Telecommunications Industry Training Advisory Board (TITAB) registered assessor is recommended for this unit.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>