



Australian Government

ICTCBL204 Install functional and protective telecommunications earthing system

Release: 1

ICTCBL204 Install functional and protective telecommunications earthing system

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 install telecommunications earthing system to metallic frames, which includes digital and analog, telephony, data, video, digital broadcasting, computer networks, local area networks (LAN), wide area networks (WAN) and multimedia.

It applies to telecommunications technicians and field officers who install indoor or outdoor earthing systems for domestic, small office home office (SOHO), commercial or industrial installations in multi-storey and multi-site locations within a client's premises.

Licensing, legislative, regulatory and certification requirements apply to telecommunications earthing systems. 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 Authority accredited registrar.

Unit Sector

Telecommunications – cabling

Elements and Performance Criteria

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. Prepare to install telecommunications earthing system	1.1 Prepare for given work according to relevant legislation, codes, regulations and standards 1.2 Arrange access according to client and individual site requirements 1.3 Select earth wire for purpose intended according to specifications or current Australian Standards

ELEMENT	PERFORMANCE CRITERIA
	1.4 Establish location of earthing applications, minimising risks posed by contact with remote power feeding services 1.5 Select route to minimise interference to system performance and according to safe working practices 1.6 Select earthing materials to comply with relevant industry standards
2. Install and secure earth cable	2.1 Maintain cable separations to meet performance requirements of application environment 2.2 Check earth cable insulation is undamaged to ensure integrity of earth provided 2.3 Isolate protective earth (PE), functional earth and telecommunication reference conductors (TRC) at all times to ensure operation according to industry standards 2.4 Install and secure cable following work health and safety (WHS) and environmental requirements, meeting manufacturer's specifications and industry standards
3. Terminate and test earth cable installation	3.1 Terminate earth with connectors recommended by manufacturer and according to industry standards 3.2 Maintain earth continuity at all times to ensure safe and reliable system operation 3.3 Maintain correct interface requirements with electrical systems according to industry standards 3.4 Test earthing system according to manufacturer's specifications in safe manner 3.5 Rectify earth system faults, where required, prior to re-testing
4. Complete task and documentation	4.1 Label earthing systems according to industry regulations 4.2 Complete documentation, including test records 4.3 Clean up and restore worksite 4.4 Notify client and obtain sign off

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, 3.4, 4.2	- Recognises when unknown words are essential to meaning and uses a range of decoding strategies to identify them - Recognises the structures and distinguishing features of a range of text types
Writing	1.2, 4.1-4.2	Produces a range of text types (familiar and some unfamiliar) with appropriate structures
Oral Communication	1.2, 4.4	Demonstrates awareness of choices for register, especially in situations that are familiar
Navigate the world of work	1.1-1.2, 1.4-1.6, 2.1, 2.3-2.4, 3.1, 3.3	- Takes personal responsibility for adherence to legal and regulatory responsibilities relevant to own work context, and draws attention to any issues that may affect self or others - Recognises and follows explicit and implicit protocols and meets expectations associated with own role
Get the work done	1.1-1.2, 1.4-1.6, 2.2, 3.4-3.5, 4.3	- Automatically implements standard procedures for routine decisions - Initiates standard procedures when responding to familiar problems within immediate context

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTCBL204 Install functional and protective telecommunications earthing system	ICTCBL2012A Install functional and protective telecommunications earthing system	Updated to meet Standards for Training Packages Minor changes to Performance Criteria for clarification	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 ICTCBL204 Install functional and protective telecommunications earthing system

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Performance Evidence

Evidence of the ability to:

- evaluate earthing needs for cable systems on client premises
- determine potential earthing locations
- determine earth route and support system
- install earth to a backmount, rack or enclosure
- test the earth installation
- label and document the installation
- manage remote power feed services
- comply with all related work health and safety (WHS) requirements and work practices.

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:

- identify the current Australian Communications and Media Authority (ACMA) Competency Requirements for Telecommunications Cabling Provider Rules, legislation, codes of practice and other formal agreements that impact on the work activity
- describe the features and operating requirements of test equipment
- describe the information required to operate equipment according to a test specification
- describe the types of location in which installations may be required
- identify manufacturer's requirements for safe operation of equipment
- identify the applicable Commonwealth, state and territory legislation, regulations, standards, codes of practice and industry standards and guidance notes relevant to WHS, own workplace, work role and responsibilities, the activity and site conditions
- outline the differences between the Commonwealth, state and territory WHS legislation and regulations

- describe test methods and performance requirements
- identify typical issues and challenges that occur on site
- describe electrical earthing applications including electrical bonding and equipotential bonding
- define earth systems with functionality including elimination of interference from electromagnetic, radio frequency (RF) and power sources, and reduce interference from electromagnetic RF and power sources.

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
- a relevant telecommunications earthing system
- cable plans and records.

Note: Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Refer to the ICT Implementation Guide Companion Volume for recommended assessor details.

Links

Companion Volume implementation guides are found in VETNet -

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