



Australian Government

**ICTCBL237 Install, maintain and modify
customer premises communications
cabling: ACMA Open Rule**

Release: 2

ICTCBL237 Install, maintain and modify customer premises communications cabling: ACMA Open 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 customer premises communications cabling required according to Australian Communications and Media Authority's (ACMA) 'Open' Cabling Provider Rule for small installations connected to sockets, and larger commercial and industry installations involving many lines, multi-pair cables, backbone cabling, multi-story buildings and advanced termination modules and distributors.

It applies to individuals who provide services in telephony, carrier modems or multiplexers, private modems or data systems operating over a category one or two twisted pair metallic customer cable in a specific customer location and install, maintain or modify new cable or upgrade cable capacity either, indoor, external, underground or aerial cabling on private and public property for an existing network or subsystem, or cabling infrastructure for convergence to Next Generation Networks (NGN).

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

Pre-requisite Unit

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

Unit Sector

Telecommunications – Cabling

Elements and Performance Criteria

| ELEMENT | PERFORMANCE CRITERIA |
|------------------------------|--|
| <i>Elements describe the</i> | <i>Performance criteria describe the performance needed to</i> |

| ELEMENT | PERFORMANCE CRITERIA |
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| <i>essential outcomes.</i> | <i>demonstrate achievement of the element.</i> |
| 1. Plan open cabling work | <p>1.1 Prepare for open cabling work according to the ACMA regulatory environment, cabling environment, cable type, cable identification, termination systems, earthing and protection, records and relevant legislation, codes, regulations and standards</p> <p>1.2 Identify building infrastructure which places critical constraints on cabling</p> <p>1.3 Develop strategies to manage other infrastructure in relation to cabling</p> <p>1.4 Notify appropriate personnel of identified safety hazards at cabling worksite</p> |
| 2. Manage remote power feed | <p>2.1 Identify and avoid the risks posed by contact with remote power feeding services when performing cabling activity</p> <p>2.2 Make site safe identifying remote power feeding services which operate at above telecommunications network voltage (TNV) inside customer premises</p> |
| 3. Install and modify cable support, earthing and termination infrastructure | <p>3.1 Install fixings and cable support structures of adequate strength, safely and aligned with the environment according to manufacturer's and customer's specifications</p> <p>3.2 Secure catenary supports to building structure and tension, where necessary, to ensure cable weight can be carried in operating conditions with interference and safety segregation maintained including adherence to current Australian Standards</p> <p>3.3 Install protective earthing of metal work to industry standards where required</p> <p>3.4 Inspect installed support structure to ensure cable will not be exposed to damage during installation and general operation</p> <p>3.5 Position terminating equipment and fixing to accepted industry codes of practice, standards and customer requirements</p> <p>3.6 Inspect back-mount and outlet layout for compliance to manufacturer's specifications and allow adequate work space for ease of access and avoid overlaying</p> <p>3.7 Segregate incoming and outgoing cables for ease of access and avoid overlaying</p> |
| 4. Install cables and earth wires | <p>4.1 Install cables according to manufacturer's application specifications, including tension and bending stress requirements</p> <p>4.2 Identify and avoid sources of possible damage to cable, including hot pipes, sharp edges, cable burn, kinks, crushing or</p> |

| ELEMENT | PERFORMANCE CRITERIA |
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| | <p>stretching</p> <p>4.3 Allow sufficient excess at cable ends to facilitate termination</p> <p>4.4 Label telecommunication outlet ends of cable uniquely to match identifier at originating location</p> <p>4.5 Place and secure cable to maintain safety and interference segregation according to legislative and industry standards</p> <p>4.6 Install cable fasteners with correct tension to prevent cable sheath damage or transmission impairment and trimmed or fitted flush to prevent risk of personal damage</p> <p>4.7 Install aerial cables supported by catenaries in external environment to meet minimum above ground clearances and clearances from hazardous electrical services according to current Australian Standards</p> <p>4.8 Install underground cables to minimum depth of cover and segregation from hazardous electrical and other services according to current Australian Standards</p> <p>4.9 Install cables underground (excluding blown fibre tube systems) to incorporate a blocking agent within the cable to prevent the ingress of water</p> <p>4.10 Install over-voltage protection devices to all cable pairs, where required, according to current Australian Standards, to suppress voltage surges with the devices protectively earthed</p> <p>4.11 Conduct a visual inspection to verify telecommunications reference conductor (TRC)/ communications earthing system (CES)/ earth wire insulation is protected against damage and TRC/CES/ protective earths segregated according to relevant industry and legislative standards and current Australian Standards</p> |
| <p>5. Terminate and test cables and earth wires</p> | <p>5.1 Remove cable sheath to allow for correct termination length and without damage to underlying conductors and their insulation</p> <p>5.2 Install terminating modules to different telecommunications cables according to manufacturer's specifications and cable pairs neatly and sequentially fanned for termination</p> <p>5.3 Terminate conductors according to recommended colour code sequence using appropriate termination tools in the manufacturer's specified manner</p> <p>5.4 Earth cable shield, if applicable, to manufacturer's specifications, relevant industry codes of practice and current Australian Standards</p> <p>5.5 Conduct visual inspection to confirm termination colour code sequence has been followed prior to end-to-end testing of wire and</p> |

| ELEMENT | PERFORMANCE CRITERIA |
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| | <p>pair termination integrity</p> <p>5.6 Terminate earth wires with connectors recommended by manufacturers according to accepted industry codes of practice and current Australian Standards</p> <p>5.7 Ensure earth wire continuity throughout and observe interface requirements with electrical systems</p> <p>5.8 Test earthing installation for continuity, insulation resistance and conductive resistance according to accepted industry standards including current Australian Standards</p> <p>5.9 Confirm compatibility of alterations with existing systems and test new work both in isolation and when integrated with existing systems</p> <p>5.10 Test installed cable continuity after termination</p> |
| <p>6. Inspect cable route to ensure correct separations</p> | <p>6.1 Inspect separations along the entirety of the cable route and rectify separations which do not comply with regulations</p> <p>6.2 Install barriers to achieve separations where sufficient spatial separation cannot be met</p> |
| <p>7. Evaluate earthing needs for cable systems on customer premises</p> | <p>7.1 Locate existing earthing systems in customer premises and analyse the earthing needs of cable products</p> <p>7.2 Calculate the upper and lower limits of resistance for a variety of cable system earths using relevant cable characteristics</p> |
| <p>8. Label earthing systems</p> | <p>8.1 Identify label requirements for telecommunications earthing systems</p> <p>8.2 Attach label to earthing systems according to industry regulations</p> |
| <p>9. Create or update cable plans and records</p> | <p>9.1 Document installation details on record sheets and plans and store according to customer requirements</p> <p>9.2 Label cable pairs clearly to provide an accurate identification according to manufacturer's, industry and client standards</p> <p>9.3 Record cabling details in cable pair record books to provide an accurate record according to industry codes of practice and current Australian Standards</p> <p>9.4 Complete telecommunications cabling advice (TCA) forms</p> |
| <p>10. Monitor work activity</p> | <p>10.1 Supervise cablers not holding appropriate registration for the task to ensure installation and maintenance activity comply with legislative requirements and industry standards for safety and</p> |

| ELEMENT | PERFORMANCE CRITERIA |
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| | network integrity including current 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 | 4.1, 5.3, | <ul style="list-style-type: none"> Recognises the structures and distinguishing features of a range of familiar text types |
| Writing | 8.2, 9.1, 9.2, 9.3, | <ul style="list-style-type: none"> Sequences writing to produce cohesive text and uses layout consistent with text type |
| Oral Communication | 1.4, 10.1 | <ul style="list-style-type: none"> Demonstrates awareness of choices for register, especially in situations that are familiar |
| Numeracy | 3.2, 4.1, 4.3 | <ul style="list-style-type: none"> Interprets and comprehends whole and familiar or routine fractions, decimals and percentages when measuring and preparing cables for installation |
| Navigate the world of work | 1.1, 3.1, 3.2, 4.6, 4.7, 6.1, 9.2, 10.1 | <ul style="list-style-type: none"> 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, 1.2, 1.3, 2.1, 2.2, 3.1-3.7, 4.1-4.7, 5.1-5.7, 6.1, 6.2, 7.1, 8.1, 8.2, | <ul style="list-style-type: none"> 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 |

Unit Mapping Information

| Code and title current version | Code and title previous version | Comments | Equivalence status |
|---|--|---|---------------------------|
| ICTCBL237 Install, maintain and modify customer premises communications | ICTCBL2137B Install, maintain and modify customer premises | Updated to meet Standards for Training Packages | Equivalent unit |

| Code and title current version | Code and title previous version | Comments | Equivalence status |
|---|--|--------------------------------|---------------------------|
| cabling: ACMA Open Rule | communications cabling: ACMA Open Rule | Performance criteria clarified | |

Links

Companion Volume implementation guides are found in VETNet -

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