



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **ICTCBL2016A Joint metallic conductor cable on customer premises**

**Release: 1**

## **ICTCBL2016A Joint metallic conductor cable on customer premises**

### **Modification History**

Not Applicable

## Unit Descriptor

<p><b>Unit descriptor</b></p>	<p>This unit describes the performance outcomes, skills and knowledge required to joint metallic conductor cable on customer premises in underground situations, pits, jointing enclosures or above ground.</p> <p>Assessment by a TITAB registered assessor is recommended.</p> <p>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 Australian Communications and Media Authority (ACMA)-accredited registrar.</p>
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## Application of the Unit

<p><b>Application of the unit</b></p>	<p>Technical staff apply the knowledge and skills for jointing of metallic cable.</p> <p>Communications applications include digital and analog, telephony, data, video, digital broadcasting, computer networks, local area networks (LAN), wide area networks (WAN) and multimedia.</p> <p>They may make use of formal documentation, such as accurate completion of a telecommunications cabling advice (TCA) form (TCA1 form), test routines and databases.</p>
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## Licensing/Regulatory Information

Not Applicable

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	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

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for jointing	1.1. Arrange access to the site according to required procedures 1.2. Inform appropriate personnel of identified <i>hazards</i> on worksite 1.3. Organise tools, equipment and materials for given work 1.4. Review <i>site plans and documentation</i> 1.5. Select <i>cable type</i> and requirements for <i>cable joint</i>
2. Joint cable and test joint	2.1. Joint metallic cable following occupational health and safety ( <i>OHS</i> ) and <i>environmental requirements</i> and complying with manufacturer's requirements and relevant <i>industry standards</i> 2.2. Perform relevant cable tests to ensure joint complies with site specifications, <i>manufacturer's specifications</i> and <i>relevant legislation, codes, regulations and standards</i> 2.3. Rectify any cable faults 2.4. Make a visual inspection of the joint to confirm soundness and completeness
3. Complete records and clean up site	3.1. Complete required records and notify customer 3.2. Remove installation waste and debris from worksite and dispose of according to environmental requirements to maintain safe worksite conditions 3.3. Reinstate site according to customer and company requirements

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

- communication skills to liaise with internal and external personnel on technical and operational matters
- literacy skills to interpret technical documentation, such as equipment manuals and specifications for jointing metallic conductor cable
- numeracy skills to take and analyse measurements

**REQUIRED SKILLS AND KNOWLEDGE**

- planning and organisational skills to organise and maintain equipment
- problem solving skills to solve equipment and logistics problems
- safety awareness skills to:
  - apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
  - select and use required personal protective equipment conforming to industry and OHS standards
  - work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- task management skills to work systematically with required attention to detail and adherence to all safety requirements
- technical skills to:
  - perform fault clearance
  - use diagnostic equipment
  - use hand and power tools

**Required knowledge**

- ACMA Competency Requirements for Telecommunications Cabling Provider Rules 2000, legislation, codes of practice and other formal agreements that impact on the work activity
- features and operating requirements of test equipment
- information required to operate equipment according to a test specification
- manufacturer's requirements for safe operation of equipment
- specific OHS requirements relating to the activity and site conditions
- test methods and performance requirements
- typical issues and challenges that occur on site

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> <li>• joint at least one 20 pair (or greater) cable</li> <li>• test joint</li> <li>• interpret test results</li> <li>• rectify cable faults</li> <li>• comply with all related OHS requirements and work practices.</li> </ul>
<b>Context of, and specific resources for assessment</b>	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> <li>• sites where jointing metallic conductor cable may be conducted</li> <li>• use of joint testing equipment currently used in industry</li> <li>• relevant regulatory and equipment documentation that impact on cable jointing and testing activities.</li> </ul>
<b>Methods of assessment</b>	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> <li>• review of hands-on project completed by the candidate</li> <li>• review of oral and written report with test results</li> <li>• direct observation of the candidate jointing cable and testing joint.</li> </ul>
<b>Guidance information for assessment</b>	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> <li>• ICTCBL3015A Locate and identify cable system faults.</li> </ul> <p>Aboriginal people and other people from a non-English speaking background may have second language issues.</p> <p>Access must be provided to appropriate learning and</p>

**EVIDENCE GUIDE**

	<p>assessment support when required.</p> <p>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.</p> <p>In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency.</p> <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
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**Range Statement****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.

***Hazards*** may include:

- building debris
- earth potential rise (EPR):
  - event at a site, such as an electrical distribution substation, may expose telecommunications personnel, users or plant to hazardous voltages
- glass fibre
- live power lines
- manual handling
- mud and water
- natural gas and other gas build up
- needle stick injury



<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• optical fibre cable may contain hazardous light</li> <li>• radio frequency (RF) equipment emitting radiation</li> <li>• remote power feeding services which operate at above telecommunications network voltage (TNV)</li> <li>• vermin.</li> </ul>
<i>Site plans and documentation</i> may include:	<ul style="list-style-type: none"> <li>• access location</li> <li>• cable coding system and identifiers</li> <li>• cable plan.</li> </ul>
<i>Cable type</i> may include:	<ul style="list-style-type: none"> <li>• copper: <ul style="list-style-type: none"> <li>• 20 pair</li> <li>• 50 pair</li> <li>• 100 pair</li> <li>• Category 5</li> <li>• Category 6</li> </ul> </li> <li>• metallic.</li> </ul>
<i>Cable joint</i> may involve:	<ul style="list-style-type: none"> <li>• additional service points for connection</li> <li>• jointing enclosures</li> <li>• joints due to: <ul style="list-style-type: none"> <li>• access points requirements</li> <li>• cable damage</li> <li>• fault rectification</li> <li>• long cable runs</li> </ul> </li> <li>• stub joints</li> <li>• underground pits.</li> </ul>
<i>OHS and environmental requirements</i> may relate to:	<ul style="list-style-type: none"> <li>• identifying other services, including power and gas</li> <li>• need for decommissioning and isolating worksite and lines prior to commencement</li> <li>• personal protective clothing: <ul style="list-style-type: none"> <li>• earmuffs</li> <li>• gloves: <ul style="list-style-type: none"> <li>• plastic</li> <li>• rubber</li> <li>• leather</li> </ul> </li> <li>• head protection</li> <li>• kneepads</li> <li>• masks</li> </ul> </li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• protective suits</li> <li>• safety boots</li> <li>• safety glasses</li> <li>• safe working practices, such as the safe use and handling of: <ul style="list-style-type: none"> <li>• asbestos</li> <li>• chemicals</li> <li>• materials</li> <li>• tools and equipment</li> <li>• work platforms</li> </ul> </li> <li>• safety equipment: <ul style="list-style-type: none"> <li>• flashing lights</li> <li>• gas and other hazard detection equipment</li> <li>• safety barriers</li> <li>• trench guards</li> <li>• warning signs and tapes</li> <li>• witches hats</li> </ul> </li> <li>• special access requirements</li> <li>• suitable light and ventilation</li> <li>• environmental considerations: <ul style="list-style-type: none"> <li>• clean-up protection</li> <li>• stormwater protection</li> <li>• waste management.</li> </ul> </li> </ul>
<b><i>Industry standards</i></b> refer to:	<ul style="list-style-type: none"> <li>• regulated or industry codes of practice and include appropriate ACMA technical standards</li> <li>• joints are waterproof and vermin proof</li> <li>• jointed cable supported for effective curing and alignment</li> <li>• requirement to be compliant with appropriate ACMA technical standard requirements: <ul style="list-style-type: none"> <li>• aerial</li> <li>• Category 5, 6, 6A, 7 or 7A</li> <li>• Unshielded twisted pair (UTP)</li> <li>• underground</li> </ul> </li> <li>• requirement for all cabling products to be ACMA-approved.</li> </ul>
<b><i>Manufacturer's specifications</i></b> may include:	<ul style="list-style-type: none"> <li>• diagnostic procedures</li> <li>• installation instructions</li> <li>• maintenance schedule</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>warranty conditions.</li> </ul>
<p><i>Relevant legislation, codes, regulations and standards include:</i></p>	<ul style="list-style-type: none"> <li>Australian Communications Industry Forum (ACIF) standards and codes</li> <li>AS Communications Cabling Manual (CCM) Volume 1</li> <li>AS/NZS 3000:2007</li> <li>AS/NZS 3080:2003</li> <li>AS/NZS 3084:2003</li> <li>AS/NZS 3085.1:2004</li> <li>AS/NZS IEC 61935.1:2006</li> <li>AS/NZS IEC 61935.2:2006</li> <li>AS/NZS ISO/IEC 14763.3:2007</li> <li>AS/NZS ISO/IEC 15018:2005</li> <li>AS/NZS ISO/IEC 24702:2007</li> <li>cabling security codes and regulations</li> <li>Environmental Protection Acts</li> <li>OHS</li> <li>technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.</li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Telecommunications
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### Co-requisite units

<b>Co-requisite units</b>		

## Competency field

Competency field	Cabling
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