



Australian Government

ICTCBL329 Install underground cable for communications applications

Release: 1

ICTCBL329 Install underground cable for communications applications

Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to install underground cable for all communications applications in access networks or customer premises.

It applies to technical staff who install cable for new installations and upgrades to telecommunications cabling infrastructure for communications applications including broadcasting or reception (digital video broadcasting – terrestrial [DVB-T], satellite [DVB-S], long term evolution [LTE]), closed-circuit television (CCTV), digital and analog, telephony, data, video, computer networks, local area networks (LANs), wide area networks (WANs), fibre optic networks and multimedia.

Licensing, legislative, regulatory and certification requirements apply to telecommunications systems. Work functions in the occupational areas where this unit may be used may be subject to regulatory requirements and/or the carrier's guidelines. 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. Refer to the ICT Information and Communications Technology Training Package Companion Volume Implementation Guide or the relevant regulator for specific guidance on requirements.

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 for underground cable	1.1 Access site according to required enterprise procedures 1.2 Verify cable installation requirements from plans and recognise

ELEMENT	PERFORMANCE CRITERIA
hauling	constraints 1.3 Identify from plans, correct duct to be hauled 1.4 Inform appropriate personnel of existing and potential worksite hazards 1.5 Obtain information about location of other services from relevant authorities 1.6 Select suitable tools, equipment and protective equipment to meet required industry standards 1.7 Check for dangerous gases and place guards around open manholes following work health and safety (WHS) and environmental requirements 1.8 Confirm correct duct/conduit to be utilised for hauling at site and access to intermediate manholes/pits along the hauling route 1.9 Rod and rope the conduit/duct to be hauled 1.10 Set-up cable installation equipment according to manufacturer requirements and enterprise guidelines 1.11 Clean debris and obstructions from conduit using appropriate mandrels 1.12 Seal cable ends to exclude entrance of foreign matter
2. Haul underground cable	2.1 Run hauling feeder through conduit to enable cable hauling 2.2 Use rodding techniques to prove that conduit is clear for hauling 2.3 Attach cable to hauling feeder according to manufacturer specifications 2.4 Employ cable slippers or rollers to ensure no sheath damage when hauling into and out of enclosures 2.5 Lubricate cable and haul evenly at correct tension to reduce risk of cable damage 2.6 Maintain sufficient cable length allowance for jointing and ensure cable is housed within bending radius tolerance for cable materials in an underground enclosure 2.7 Maintain cable and services separations in parallel runs and crossovers according to manufacturer and regulatory requirements
3. Seal and secure cable and complete all documentation	3.1 Tag all cables to enable future identification 3.2 Seal cable ends according to enterprise requirements to prevent entrance of foreign material 3.3 Place cable on supports in enclosures to reduce damage to

ELEMENT	PERFORMANCE CRITERIA
	conductors and enable ease of access for maintenance 3.4 Fit voltage protection devices to all cables with metallic component as required 3.5 Complete installation reports and design amendments accurately, and file promptly according to customer requirements 3.6 Reinststate site to customer satisfaction and dispose of waste in environmentally safe manner as required 3.7 Notify appropriate personnel and obtain sign-off

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.

Skill	Description
Reading	Interprets textual information from plans, specifications, standards and regulations to identify relevant and key information
Writing	- Documents outcomes and changes to plans using industry relevant terminology and recognised plan symbols - Prepares documentation and correspondence using clear language and correct spelling and terminology
Oral Communication	- Uses collaborative and inclusive techniques, including active listening and questioning, to convey and clarify information and to confirm understanding - Clearly explains detailed information using language, tone and pace appropriate to the audience
Numeracy	Makes calculations appropriate for measuring and estimating materials for hauling
Navigate the world of work	- Accepts responsibility and ownership for the task, and makes decisions on completion parameters and the need for coordination with others - Identifies and acts on issues that contravene relevant policies, procedures and legal requirements
Interact with others	Uses a range of strategies and reads verbal and non-verbal signals, establishes a sense of connection and builds rapport with clients and workmates
Get the work done	- Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency and effective outcomes - Accepts responsibility for addressing less predictable problems and

Skill	Description
	initiates procedures in response, applying problem solving processes in determining a solution

Unit Mapping Information

No equivalent unit. Supersedes and is not equivalent to ICTCBL308 Install underground cable.

Links

Companion Volume Implementation Guides are available from VETNet -

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

Assessment Requirements for ICTCBL329 Install underground cable for communications applications

Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to perform the tasks outlined in the elements, performance criteria, and foundation skills, and to:

- use the correct type of rope for cable hauling
- use various rodding, roping and mandrel techniques as prior requirements to hauling cable
- haul underground cable by applying work health and safety (WHS) requirements, work practices and industry standards
- use specialised hand or power tools and equipment for hauling cabling safely
- read and interpret plan drawings
- restore site and complete documentation
- comply with all related safety requirements and work practices.

Note: Evidence must be provided at least once when a specific volume or frequency is not stated.

Knowledge Evidence

The candidate must demonstrate the knowledge required to perform the tasks outlined in the elements, performance criteria, and foundation skills, which includes knowledge about:

- Australian Communications and Media Authority (ACMA) regulatory requirements for Telecommunications Cabling Provider Rules
- legislation, regulations, codes, standards and other formal agreements that impact on hauling
- rodding, roping and mandrel techniques
- features and operating requirements of hauling equipment
- industry and manufacturer requirements for safe operation of hauling equipment
- health, safety and environmental requirements relating to hauling and site conditions, including typical safety issues and challenges that occur on worksites
- precautions associated with over-hauling through occupied conduits.

Assessment Conditions

Skills must be assessed in a workplace or simulated environment where conditions are typical of those in a telecommunications work environment or workplace.

Access is required to:

- site/s where installation of underground cable can be conducted
- installation equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on cable installation activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. Refer also to the *Requirements for assessors* in the ICT Information and Communications Technology Training Package Companion Volume Implementation Guide.

Links

Companion Volume Implementation Guides are available from VETNet -

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