



Australian Government

ICTCBL208 Splice and terminate optical fibre cable for carriers and service providers

Release: 1

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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 splice and terminate optical fibre cable within an optical telecommunications transmission environment for new installations or upgrades of an optical backbone or access network, to achieve greater bandwidth and capacity required by emerging technology convergence for next generation networks (NGN).

It applies to technical staff who splice and terminate optical fibre cable for telecommunications projects for commercial or industrial fibre to the premises (FTTP) non-mechanical splicing installations.

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 (ACMA) 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 for splicing	1.1 Select safety equipment to protect self and public according to enterprise guidelines and work health and safety (WHS) practices 1.2 Confirm layout of installation according to physical conditions at site and relevant legislation, codes, regulations and standards 1.3 Inform appropriate personnel of identified hazards on worksite 1.4 Locate other services from relevant authorities according to enterprise guidelines and safe practices

ELEMENT	PERFORMANCE CRITERIA
	1.5 Test for dangerous gases and place guards around open manholes following WHS and environmental requirements 1.6 Obtain approval for alterations to design according to enterprise guidelines
2. Check existing optical fibre cable	2.1 Verify that cable was installed according to installation plan and visually inspect cable for signs of sheath damage 2.2 Maintain minimum bend ratios according to manufacturer's specifications to prevent cable damage and signal degradation 2.3 Secure cable according to safe industry practice to avoid cable and sheath damage
3. Splice optical fibre cable	3.1 Verify fibre is not live using appropriate equipment to maintain safe working practice and ensure correct fibre has been identified 3.2 Prepare cable end to expose optical fibres according to splicing method and manufacturer's specifications 3.3 Prepare and splice fibres using safe industry practice according to enterprise specifications 3.4 Test splice joint to manufacturer's and design requirements
4. Terminate optical fibre cable	4.1 Select connector unit to suit terminating frame according to design specifications 4.2 Terminate cable using type of termination specified in plan and according to manufacturer's specifications 4.3 Test termination for transmission loss and strength, and re-terminate if transmission loss exceeds manufacturer's specifications 4.4 Install protection devices on connectors to protect from exposure and contaminants 4.5 Label and lay up cables in enclosure according to manufacturer's instructions and enterprise guidelines
5. Finish job and report	5.1 Remove waste and reinstate site according to enterprise guidelines 5.2 Prepare reports, including test results and alterations to plans, according to enterprise policy 5.3 Notify appropriate personnel of work completion 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, 1.4, 2.1, 2.2, 3.2, 3.4, 4.1, 4.2, 4.5, 5.2, 5.3	- Understands familiar texts of limited complexity that may incorporate graphs, tables and charts - Recognises the structures and distinguishing features of a range of familiar text types
Writing	1.3, 1.4, 1.6, 5.2, 5.3	Interrelates ideas and information and some support material when writing about familiar topics
Oral Communication	1.3, 1.4, 1.6, 5.3	Demonstrates an awareness of the need to vary structure, style, tone and vocabulary to meet the requirements of the audience, context and purpose
Numeracy	2.2	Interprets and comprehends whole numbers and familiar or routine fractions, decimals and percentages
Navigate the world of work	1.1, 1.5, 2.1, 2.3, 3.1-3.4, 4.1-4.3, 4.5, 5.1-5.3	- Takes responsibility for decisions about when and how to complete tasks and coordinate with others - 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
Get the work done	1.5, 1.6, 2.2, 3.1, 3.3, 3.4, 4.1-4.5, 5.1	- Implements actions as per plan, making slight adjustments if necessary, and addressing some unexpected issues - 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
ICTCBL208 Splice and terminate optical fibre cable for carriers and service providers	ICTCBL2065B Splice and terminate optical fibre cable for carriers and service providers	Updated to meet Standards for Training Packages Performance Criteria	Equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		clarified	

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 ICTCBL208 Splice and terminate optical fibre cable for carriers and service providers

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Performance Evidence

Evidence of the ability to:

- splice, terminate and test optical fibre cable, applying safety precautions when working with laser based systems
- splice at least 12 fibres and house in industry recognised enclosures according to manufacturer's instructions
- install a mechanical splice connector (fast or quick connector)
- install a pigtail that is fusion spliced to the cable fibre
- complete relevant documentation to manufacturer's and design requirements
- provide report documenting the installation and test results to client
- 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 causes of signal strength loss in optical fibre
- identify colour coding of fibres
- summarise relevant safety standards applicable to the operation of laser products
- describe the features and operating requirements of test equipment for optical fibre cable
- identify industry and organisational policies and procedures when splicing optical fibre cable
- describe the information required to operate equipment according to a test specification
- identify optical fibre equipment and summarise the manufacturer's requirement for safe operation
- describe the safety precautions when working with laser based systems

- identify specific WHS requirements relating to the activity and site conditions, including hazardous gases
- discuss techniques for types of termination including:
 - direct termination
 - fusion splicing
- describe test methods and performance requirements
- identify types of optical cable
- state the relevant authorities that may be involved in optical fibre installations.

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
- sites where splicing and termination of optical fibre cable may be conducted
- optical fibre testing equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on optical fibre cable installation activities.

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

Links

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