

Overview

This standard identifies the competences you need to carry out the termination of fibre-optic cables, using appropriate optical termination techniques and equipment, in accordance with approved procedures. You will be expected to complete the fibre-optic terminations, combining a number of different operations and features. You will be required to use the correct termination equipment in line with safe working practices and approved procedures, and to check the completed terminations, using a range of inspection equipment and making any necessary adjustments to ensure that the work output is to the required quality and accuracy.

Your responsibilities will require you to comply with organisational policy and procedures for the fibre-optic cable termination activities undertaken, and to report any problems with the activities, equipment or materials that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to carrying out the fibre-optic cable termination procedures. You will understand the fibre-optic termination procedures used, and their application, and will be familiar with the equipment, materials and consumables, in adequate depth to provide a sound basis for carrying out the activities, identifying and correcting defects, and ensuring that the completed terminations meet the required specification.

You will understand the safety precautions required when working with the fibre-optic cable termination equipment. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

Performance criteria

You must be able to:

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1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. follow the relevant instructions, assembly drawings and any other specifications
3. ensure that the specified components are available and that they are in a usable condition
4. use the appropriate methods and techniques to terminate the cables
5. secure the connectors using the specified tools and securing devices
6. check the completed cables to ensure that all operations have been completed and that the finished assembly meets the required specification
7. complete the required production documentation
8. deal promptly and effectively with problems within your control and report those that cannot be solved

Knowledge and understanding

You need to know and understand:

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1. how to work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. the safety procedures that must be carried out before work is started on the cable termination
3. the protective equipment (PPE) that you need to use for both personal protection of yourself and others, and protection of the fibre-optic cable components
4. the hazards associated with the fibre-optic cable termination process, and with the tools and test equipment used, and how to minimise them and reduce any risks
5. how to obtain and interpret drawings, standards, quality control procedures and specifications used in the fibre-optic cable termination process (including for example, schematics, symbols and terminology)
6. how to carry out currency/issue checks on the specifications you are working with
7. the type of fibre-optic cable being terminated
8. the basic principle of operation of the fibre-optic cable and the termination
9. the properties of light which allow it to be used for transmission of information via optic cable, and how the termination allows the light to pass through a connector
10. the adjustments/corrections required to bring the fibre-optic cable and its termination to the correct standard through a full range of parameters
11. the quality control procedures to be followed during the fibre-optic cable termination process
12. types of test equipment to be used, and their selection for particular types of tests following the cable termination
13. how to recognise defects
14. how to interpret the test readings obtained, and the significance of the readings
15. the importance of ensuring that equipment is used only for its intended purpose and within its specified range and limits
16. potential problems or errors that could occur with the fibre-optic cable termination operations, and how these can be overcome

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17. the environmental control and company operating procedures relating to the fibre-optic cable termination activities
18. the documentation required and the procedures to be followed on completion of the fibre-optic cable termination activities
19. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

Scope/range related to performance criteria

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1. Carry out all of the following during the fibre-optic cable termination activities:
 - 1.1 obtain and interpret correctly the documentation for the type of cable being terminated
 - 1.2 adhere to procedures or systems in place for risk assessment, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work
 - 1.3 maintain safe access and working arrangements for the work area
 - 1.4 use safe and approved fibre-optic termination techniques and procedures at all times
 - 1.5 check that all tools and test equipment to be used are within their calibration dates
 - 1.6 return all tools and equipment to the correct location on completion of the fibre-optic cable termination activities
 - 1.7 leave the work area in a safe and clean condition on completion of the cable termination activities
2. Perform fibre-optic cable terminations on both of the following types of cable:
 - 2.1 simplex
 - 2.2 duplex
3. Perform two of the following types of fibre-optic cable termination:
 - 3.1 Lucent connector (LC)
 - 3.2 MU
 - 3.3 Pigtail Termination
 - 3.4 LX.5
 - 3.5 ST LC
 - 3.6 MPO/MTP
 - 3.7 FC
 - 3.8 FDDI
 - 3.9 MTRJ
 - 3.10 TAP8
 - 3.11 E2000
 - 3.12 SMA
 - 3.13 ESCON
 - 3.14 other specialised termination
4. Select and use six of the following tools and consumables, according to the procedure being followed:
 - 4.1 buffering tool
 - 4.2 rule
 - 4.3 heat sleeve

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- 4.4 polishing film
 - 4.5 jacket scissors
 - 4.6 cleave plate
 - 4.7 crimping tool
 - 4.8 syringe needle
 - 4.9 stripping tool
 - 4.10 curing oven
 - 4.11 approved adhesive
 - 4.12 other specific tools
5. Produce fibre-optic cable terminations, to include carrying out all of the following:
- 5.1 connection of the ferrule and body
 - 5.2 buffering the outer sheath
 - 5.3 cutting the jacket to the correct length
 - 5.4 mixing the adhesive
 - 5.5 stripping the fibre jacket to correct length
 - 5.6 placing connectors into a curing oven
 - 5.7 crimping the connector
 - 5.8 allowing connectors to cool
 - 5.9 sliding on the boots
6. Finish the fibre-optic cable termination, to include carrying out all of the following:
- 6.1 checking that the termination is correctly made
 - 6.2 cleaving the fibre end, and removing excess fibre and epoxy
 - 6.3 polishing the fibre-optic connectors
 - 6.4 testing to ensure that the completed termination meets the required quality standards
7. Terminate fibre-optic cables in compliance with one of the following standards:
- 7.1 BS, ISO or EN standards and procedures
 - 7.2 customer (contractual) standards and requirements
 - 7.3 company standards and procedures
 - 7.4 specific equipment requirements/manufacture's data
 - 7.5 recognised compliance agency/body's standards
 - 7.6 other accepted international standards

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