

## Install and terminate communications cables

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### Overview

This standard is for those who install and terminate communications cables for network systems.

Installers undertaking this work must be able to comply with the procedures and methods for installing and terminating communications cables, accessories and components in accordance with the current versions of the relevant/current industry standards and regulations, the specification, industry recognised working practices, the working environment and the natural environment.

Installers must know and understand the different types of Network cables, systems, equipment, accessories and components, their limitations, applications and the techniques for their positioning, fitting, fixing and connection.

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### Performance criteria

#### You must be able to:

1. access current information about the work requirement, as it applies to the installation and termination of communications cables, from relevant documentation and other sources of information
2. confirm before the work commences that the work location and area can be accessed safely and has been checked for risks to all personnel on the site, and take the required action if a risk is identified
3. produce a risk assessment and method statement for the work to be undertaken including the identification and use of personal protective equipment (PPE)
4. verify that the job information and documentation are current and that the plant, instruments, access equipment and tools are fit for purpose
5. confirm with the relevant others
  - the work to be undertaken
  - the relevant procedures for amending diagrams and drawings
  - the variations to the planned programme of work that may have the potential to introduce a hazard and/or impact
  - the correct actions to be undertaken to confirm that any variations to the planned programme of work will not introduce a hazard and have minimum impact on the installation work
6. select the required equipment, accessories and components and confirm that they are:
  - of the correct type and size
  - fit for purpose in accordance with the system design
7. confirm at the start of the job, that the plans for installing and terminating the communication cables are in accordance with:
  - Network system design
  - manufacturer instructions
8. comply with industry practices and organisational procedures to confirm the co-ordination of site services and the activities of other trades
9. identify the correct means of electrical isolation prior to commencing the installation and termination of communications cables

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10. complete safe-isolation as and when required to confirm the safe installation and termination of communications cables
11. install and terminate communications cables, components and accessories in accordance with:
  - Network system design
  - recognised industry methodology
  - manufacturer instructions
12. inspect the communications cable installation, accessories and components to ensure/confirm alignment with specification, the manufacturer instructions and confirm that cable systems are identified in accordance with industry practice
13. test the performance of the installed communications cables for alignment with the installation specification
14. complete the specified the installation and termination of communications cables in accordance with industry recognised methods and practices
15. provide relevant information to relevant others about the system and equipment in terms of:
  - use, safety and control
  - hand over to the customer/client
  - any variations to the original system and/or its equipment
  - customer/client acceptance of the completed work in accordance with organisational procedures
  - relevant documentation being completed and recorded in the appropriate information systems in accordance with organisational procedures
16. complete and safely store all relevant documentation in accordance with organisational requirements
17. deal promptly and effectively with any problems within the scope and limitations of your own competence, responsibilities and accountability and report those which cannot be solved
18. implement organisational procedures for the safe transport and/or disposal of waste materials, substances and liquids in accordance with suppliers' and manufacturers' instructions and relevant legislation

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### Knowledge and understanding

#### You need to know and understand:

1. the current legislation, standards, guidelines, policies, procedures and protocols which are relevant to your work practice and to which you must adhere
2. the scope and limitations of your own competence, responsibilities and accountability as it applies to your job role
3. the principles and practice of installation and termination of communications cables including their operation, applications, advantages and limitations
4. the site access requirements
5. how to produce a risk assessment and method statement for the work to be undertaken including the identification and use of personal protective equipment (PPE), in accordance with:
  - the Network system design
  - organisational procedures
6. how to confirm that the job information and documentation is current and that the plant, instruments, access equipment and tools are fit for purpose
7. the applications, advantages and limitations of the different types of personal protective equipment used when installing and terminating communications cables
8. the industry recognised methods for determining the type and size of termination equipment, components and accessories
9. how to interpret diagrams and drawings for the Network system to locate site services
10. how to interpret diagrams and drawings for the Network system to identify the planned installation and termination of the communications cables
11. the methods and techniques for installing and terminating communications cables, their components and accessories in accordance with:
  - the Network system design
  - recognised industry methodology
  - manufacturer instructions

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### 12. the termination techniques for communication cables

- how to prepare cables for jointing and termination
- how to prepare termination equipment
- the labelling requirements for installed components
- how to terminate cables
- how to identify and cross-connect cables (to cables/equipment)

### 13. the testing techniques for communications cables

- how to prepare and configure test equipment
- how and when to undertake the required tests on communications cables
- how to record and document all test information
- the relevant performance criteria for the cables under test

### 14. when and how to apply the correct procedures for safe isolation

### 15. the relevant procedures for amending diagrams and drawings

16. the organisational procedures for confirming with the relevant others the required actions to be taken to confirm that any variations to the planned programme of work will not introduce a hazard and have minimum negative impact on the installation work to be undertaken

### 17. the organisational procedures for:

- communicating the use, safety and control of the system to relevant others
- confirming with relevant others those necessary variations to the planned programme of work that may have the potential to introduce a hazard and/or impact on the installation work to be undertaken
- confirming with relevant others the correct actions to be taken to confirm that any variations to the planned programme of work will not introduce a hazard and have minimum impact on the installation work to be undertaken
- obtaining customer/client acceptance of the installed system and its associated equipment, accessories and components post work activity and how to deal with cases where acceptance is not received
- the safe transport and/or disposal of any waste material, substances and liquids in accordance with suppliers' and manufacturers' instructions and legislation

18. how to complete and safely store all relevant documentation in accordance with organisational requirements

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### Scope/range

#### **Working environments (internal and/or external)**

- domestic
- non-domestic
  - commercial
  - industrial
  - agricultural
  - horticultural
  - leisure and entertainment
  - residential medical and care facilities
  - public highways and parks
  - public services establishments
  - pre-1919 traditional/historic buildings

#### **System**

- Local Area Networks (LAN)
- Wide Area Networks (WAN)
- Other

#### **Site**

- new build construction – building or structure
- an existing building or structure (including retro-fit)

#### **Site services**

- electricity
- water
- gas
- oil
- drainage
- telecommunications
- data transmission either underground or overhead

#### **Organisation procedures**

- information management
- project management
- risk assessment
- risk management
- implementing and monitoring health and safety requirements and issues
- implementing and monitoring issues relating to the natural environment

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- customer services
- accident reporting
- emergencies
- communication with relevant people

### **Plant**

- generators
- transformers for low voltage hand-tools
- lifting equipment
- access equipment\* \*

### **Communication Cables**

- Copper cable
- Fibre optic
- Armoured
- Non-armoured
- Internal
- External
  - Underground
  - Overhead

### **Performance Tests**

- Conductance
- Insulation
- Mechanical strength
- Protection

### **Tools and equipment**

- hand tools
- power tools
- testing equipment
- access equipment
- accessories
- components
- consumables

### **Relevant others**

- customers/clients
- client representatives
- supervisors
- site/contract manager
- other contractors/trades
- members of the public
- work colleagues

## Install and terminate communications cables

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