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## Overview

This standard is for those who assemble and erect enclosures and install and connect electrical cables, conductors, wiring systems, equipment, accessories and components for electrical systems for Electric Vehicle Charging Points (EVCPs).

The person carrying out this work must be able to comply with the procedures and methods for assembly and erection of enclosures and the installation and connection of electrical cables, conductors, wiring systems, equipment, accessories and components in accordance with the current versions of the appropriate industry standards and regulations, the specification, industry recognised working practices, the working environment and the natural environment.

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

## Performance criteria

### You must be able to:

1. confirm a programme of work with the relevant others in accordance with organisational procedures
2. confirm before work starts that the work location and work area can be accessed safely and has been checked for the risk to other personnel on the site, and take appropriate action if a risk is present
3. determine and obtain the resources and other equipment, accessories and consumables required to undertake installation and connection of enclosures, electrical cables, conductors and wiring for EVCP systems and equipment
4. confirm that the resources and other equipment, accessories and consumables are fit for purpose and have a current calibration certificate
5. comply with industry practices and organisational procedures to ensure the co-ordination of site services and the activities of other trades affected by installation and connection of enclosures, electrical cables, conductors and wiring for EVCP systems and equipment
6. select enclosures and confirm that they are of the right type and size and are fit for purpose in accordance with the EVCP system design
7. select electrical cables, conductors, wiring systems and confirm that they are of the right type and size and are fit for purpose in accordance with the EVCP system design
8. measure and mark out the locations for fitting and fixing the selected enclosures, electrical cables, conductors and wiring systems components and accessories in accordance with the EVCP system design and manufacturers' instructions
9. assemble and erect the selected enclosures its components and accessories in accordance with the EVCP system, design industry recognised methods and manufacturer instructions
10. install, fix and connect electrical cables, conductors and wiring systems and their associated equipment, accessories and components in accordance with the requirements of the EVCP system design, industry recognised methods and manufacturer instructions
11. inspect and test the connections and joints of the electrical cables, conductors and wiring systems and their associated equipment, accessories and components to ensure they are of proper construction in terms of conductance, insulation, mechanical strength and protection, and ensure that they are identified correctly and in accordance with the requirements of the EVCP system
12. complete and safely store all relevant documentation
13. communicate information to relevant others at the appropriate time

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14. resolve issues and problems within your area of responsibility and report those that cannot be resolved
  15. implement organisational procedures for the safe transport and/or disposal of waste material, substances and liquids in accordance with suppliers' and manufacturers' instructions

## Knowledge and understanding

### You need to know and understand:

1. how to confirm a programme of work with the relevant others
2. the operation, applications, advantages and limitations of different EVCP systems
3. the appropriate industry standards and regulations relevant to installing and connecting enclosures, electrical cables, conductors, wiring systems, associated equipment, accessories and components
4. how to produce a risk assessment and method statement for the work to be carried out, including the identification and use of personal protective equipment, in accordance with the EVCP system design and organisational procedures
5. how to verify that job information and documentation is current and relevant, and that the plant, instruments, access equipment and tools are fit for purpose
6. the applications, advantages and limitations of types of personal protective equipment
7. the practices and organisational procedures to ensure the co-ordination of site services and the activities of other trades affected by installation and connection of enclosures, electrical cables, conductors and wiring for EVCP systems and equipment
8. how to determine and obtain the resources and other equipment, accessories and consumables required to undertake installation and connection of enclosures, electrical cables, conductors and wiring for EVCP systems and equipment
9. how to confirm that the resources and other equipment, accessories and consumables are fit for purpose and have a current calibration certificate
10. the applications, advantages and limitations of types of enclosures, electrical cables, conductors, wiring systems, associated equipment, accessories and components
11. the industry recognised methods for determining the type, size and rating of electrical cables, conductors, wiring systems, associated equipment, accessories and components in relation to the EVCP system design
12. how to interpret diagrams and drawings for the EVCP system to locate site services
13. how to interpret diagrams and drawings for the EVCP system to identify the planned location of the enclosures, electrical cables, conductors, wiring systems, associated equipment, accessories and components
14. the methods and techniques for assembling and erecting enclosures
15. the methods and techniques for marking out, installing, fixing and

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- connecting electrical cables, conductors, wiring systems,  
associated equipment, accessories and components in accordance  
with the EVCP system design and manufacturer instructions
16. the different types and methods of joining and connecting electrical  
cables, conductors, wiring systems
17. the organisational procedures for:
- completion of the relevant documentation
  - the recording of relevant data and information
  - communicating with relevant others
  - addressing issues and problems identified
  - safe transport and/or disposal of waste

## Scope/range

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

- general (including):
  - commercial
  - domestic
  - educational
  - industrial
  - pre-1919 traditional/historic buildings
  - residential
- buildings open to the public (including):
  - art galleries
  - community centres
  - leisure and entertainment
  - medical and care facilities
  - museums
  - public houses
  - public services establishments
  - religious buildings
- special (including):
  - agricultural/horticultural
  - caravan parks
  - filling stations
  - highway power supplies
  - marinas

### EVCP systems

- Mode 1
- Mode 2
- Mode 3
- Mode 4

### Current carrying conductors

- Single-phase
- 3-phase

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**\*\*Site**

- an existing building or structure
- new build construction – building or structure

**Site services**

- communications (wireless or cabled)
- drainage
- electricity
- gas
- oil
  
- water

**Plant**

- access equipment
  
- lifting equipment
- mobile generators
  
- battery-powered tools

**Resources**

- instruments
  
- labour
- materials and other consumables
- plant and equipment

**\*\*Equipment, accessories and components**

- arc fault detection devices (AFDDs)
- cable glands
- consumer units
- control panels/devices – electrical; electronic; electro-mechanical
- distribution boards and/or panels
- earthing protection
- isolators
- over-current protection (circuit breakers, fuses, RCBOs etc)
- over-voltage protection (SPDs)
- socket-outlets
- supports and fixings
  
- switches

**Enclosures**

- basket and ladder systems
- cable tray
- ducting systems
- PVC and steel conduit (flexible and rigid)
- PVC and steel trunking

### **Electrical cable, conductors and wiring systems**

- armoured cables and cords (single wire, multicore, braided, flexible)
- data cables (fibre optic, copper)
- earth screened metallic cable
- mineral insulated cables
- pre-fabricated conductor, cable and wiring systems
- single and multicore thermoplastic and thermosetting insulated cables

### **Organisation procedures**

- accident reporting
- communication with relevant others
- customer services
- emergencies
- implementing and monitoring health and safety requirements and issues
- implementing and monitoring issues relating to the natural environment
- information management
- project management
- risk assessment
- risk management

### **\*\*Relevant others**

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

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