

## SUMCEEPS01 SQA Unit Code (HA64 04)

### Install, test and handover consumer electrical and electronic products and systems



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#### Overview

This standard is for people who install consumer electrical and electronic products and systems in premises.

The person carrying out this work must be able to comply with the procedures and methods for installing and handing over consumer electrical and electronic products and systems 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 operation, operating principles, application and limitations of different types of consumer electrical and electronic products and systems, and the techniques for their installation and testing.

Please note that industry specific terminology is identified by *italic* text and its explanation and/or definition can be found in the glossary of this standard

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### Performance criteria

To carry out this work in accordance with the current versions of *the appropriate industry standards and regulations, the specification, working practices, the working environment and the natural environment*

### You must be able to:

- P1 confirm as required:
  - P1.1 the location of the **products and/or systems** with the customer
  - P1.2 that the **supplies** available are compatible with the **products and/or systems** to be installed
  - P1.3 there is a hazard free access to the location
  - P1.4 a programme of work with the **relevant people** in accordance with **organisational procedures**
- P2 produce a risk assessment and method statement, as required, for the work to be carried out, including the identification and use of *personal protective equipment*
- P3 verify that job and **product(s) and/or system(s)** information and **documentation** is current and relevant and that the **instruments**, *access equipment* and tools are fit for purpose
- P4 interpret relevant data, diagrams and drawings for the **product(s) and/or system(s)**
- P5 select materials, accessories and components needed to complete the installation activity and confirm that they are:
  - P5.1 of the right type and size
  - P5.2 fit for purpose in accordance with the **product(s) and/or system(s)'s** design
  - P5.3 suitable for the **working environment**
- P6 position, secure and connect the **product(s) and/or system(s)** and their associated components in accordance with:
  - P5.1 the **product(s) and/or system(s)'s** design
  - P5.2 manufacturers instructions
- P7 complete the safe-isolation of supplies as and when required to ensure the safe installation and connection of the **product(s) and/or system(s)** and their associated components
- P8 ensure that all necessary connections to the **product(s) and/or system(s)** and their associated components are secure, electrically and/or mechanically

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sound, safe and fit-for-purpose

- P9 perform **tests**, as required, on the **product and/or system** to ensure it is fault free and operates in accordance with:
  - P10.1 the **product(s) and/or system(s)**'s design
  - P10.2 manufacturer's instructions
- P10 obtain *customer/client* acceptance of the of the **product(s) and/or system(s)** in accordance with **organisational procedures**
- P11 ensure that all relevant **documentation** is correctly completed and recorded in accordance with **organisational procedures**
- P12 implement **organisational procedures** for the safe transport and/or disposal of unwanted **products**, material, substances and/or liquids in accordance with suppliers' and manufacturers' instructions
- P12 implement **organisational procedures** for:
  - P12.1 handing over the to the *customer/client*
  - P12.2 informing **relevant people** about issues outside the limitations of your responsibility

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### Knowledge and understanding

To carry out this work in accordance with the current versions of *the appropriate industry standards and regulations, the specification, working practices, the working environment and the natural environment*

### You need to know and understand:

- K1 the applications, operation, operating principles, advantages and limitations of different **products and/or systems** and their associated components
- K2 how to confirm:
  - K.1 the location of the **product(s) and/or system(s)** with the customer
  - K.2 that that the **supplies** available are compatible with the **products and/or systems** to be installed
  - K.3 that there is a hazard free access to the work location
- K3 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;
  - K3.1 the **product(s) and/or system(s)** design
  - K3.2 **organisational procedures**
- K4 how to verify that job information and **documentation** is current and relevant and that the **instruments**, *access equipment* and tools are fit for purpose
- K5 the **appropriate industry standards and regulations** relevant to installing, testing and handing over consumer electrical and electronic **products and systems**
- K6 how to verify that job information and **documentation** is current and relevant and that the **instruments** and tools to be used are fit for purpose
- K7 how to interpret relevant data, diagrams and drawings
- K8 how to select materials, accessories and components needed to complete the activity and confirm that they are:
  - K8.1 of the right type and size
  - K8.2 fit for purpose in accordance with the **product(s) and/or system(s)**'s design
  - K8.3 suitable for the **working environment**
- K9 the methods and techniques for positioning, securing and connecting the **product(s) and/or system(s)** and their associated components

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- K10 the correct procedures for the safe-isolation of supplies as and when required to ensure the safe installation and connection of the **product(s) and/or system(s)** and their associated components
- K11 methods and techniques to ensure that all necessary connections to the **product(s) and/or system(s)** and their associated components are secure, electrically and/or mechanically sound, safe and fit-for-purpose
- K12 the **tests**, as required, on the **product and/or system** to ensure it is fault free and operates in accordance with:
  - P12.1 the **product(s) and/or system(s)**'s design
  - P12.2 manufacturer's instructions
- K13 how to obtain customer acceptance of the **product(s) and/or system(s)** in accordance with **organisational procedures**
- K14 how to ensure that all relevant **documentation** is correctly completed and recorded in the appropriate systems in accordance with **organisational procedures**
- K15 the methods for the safe transport and/or disposal of unwanted **products**, material, substances and/or liquids in accordance with **organisational procedures**, suppliers' and manufacturers' instructions
- K16 the limitations of your responsibility when installing, testing and handing over consumer electrical and electronic **products and/or systems**
- K17 the **organisational procedures** for:
  - K17.1 handing over the **product(s) and/or system(s)** to the customer
  - K17.2 informing **relevant people** about issues outside the limitations of your responsibility

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### Additional information

Scope related to performance criteria and knowledge and understanding

The contexts and circumstances below identify where and when the NOS could apply.

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

- 1.1 commercial
- 1.2 industrial
- 1.3 domestic
- 1.4 agricultural
- 1.5 horticultural
- 1.6 leisure and entertainment
- 1.7 residential medical and care facilities
- 1.8 *public services establishments*
- 1.9 pre 1919 traditional/historic buildings

#### 2 Supplies

- 2.1 electricity
- 2.2 water
- 2.3 analogue signals
- 2.4 digital signals

#### 3 Product(s) and/or system(s)

- 3.1 washing machine
- 3.2 tumble drier
- 3.3 dish washer
- 3.4 fridge
- 3.5 freezer
- 3.6 electric cooker
- 3.7 aerials/antenna
- 3.8 satellite dishes
- 3.9 television
- 3.10 video/DVD recorder/player

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3.11 domestic audio equipment

3.12 signal reception equipment and system

3.13 hoses

3.14 cords/cables/flexes

#### 4 **Tests**

4.1 functional

4.2 operational

4.3 presence of input and/or output supplies

4.4 signal levels

#### 5 **Instruments**

5.1 multimeter/ammeter/voltmeter

5.2 signal/function/pattern generator

5.3 oscilloscope

5.4 isolation transformer

#### 6 **Organisation procedures**

6.1 information management

6.2 project management

6.3 risk assessment

6.4 risk management

6.5 implementing and monitoring health and safety requirements and issues

6.6 implementing and monitoring issues relating to the *natural environment*

6.7 customer services

6.8 accident reporting

6.9 emergencies

6.10 communication with relevant people

#### 7 **Documentation**

7.1 customer order/delivery notes

7.2 schedules of test results

7.3 handover agreements

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### 8 Relevant people

8.1 *customers/clients*

8.2 client representatives

8.3 supervisors

8.4 contract manager

8.5 other contractors/trades

8.6 members of the public

8.7 work colleagues



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### Glossary

#### Appropriate industry standards and regulations for:

- electricity at work
- requirements for electrical installations
- working at heights
- managing health and safety at work
- workplace health and safety and welfare
- personal protection at work
- provision and use of work equipment
- manual handling operations
- controlling noise at work
- controlling asbestos in the work place
- controlling substances hazardous to health
- recycling and disposal of waste electrical and electronic equipment

#### Clients/customers

- purchaser of the product(s) and/or system(s)
- other trades and services at the work site
- colleagues within the same organisation
- distribution outlet manager
- workshop manager
- manufacturer representative
- work colleagues

#### A public services establishment can be a:

- hospital/medical centre
- school/college/university
- museum/library
- prison
- military base
- church or other place of worship

#### **Natural environment**

The climate, weather and natural resources that effect and are affected by human life and economic activity

#### **Specification**

A verbal and/or documented instruction that is an explicit set of requirements for installing, maintaining and/or servicing identified systems, equipment or products, to be satisfied by materials, components, design, processes, procedures, data management and/or service(s).

#### **Working practices**

Methods, techniques and procedures that are adopted for carrying out specific tasks that ensures workers' exposure to hazardous situations is controlled in a safe manner when:

- working with equipment, tools and plant
- working with materials and substances (hazardous and non-hazardous)
- manual handling lifting
- using lifting equipment
- working at heights
- using personal protective equipment (PPE)
- working in confined spaces

#### **Access equipment**

- scaffold
- ladders
- steps
- staging
- trestles
- mobile elevated work platform (MEWP)

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### Personal protective equipment (PPE)

- safety helmets/hats
- hairnets
- gloves
- safety steel toe capped boots/shoes
- safety spectacles/goggles
- face shields/visors
- ear plugs/muffs
- conventional or disposable overalls, boiler /chemical suits, aprons
- respiratory protective equipment (RPE)
- high visibility clothing

### External Links

Links correct at time of NOS approval:

- Health & Safety Executive Documents <http://www.hse.gov.uk/pubns>
- British Standard 7671 – Requirements for Electrical Installations  
<http://www.theiet.org/resources/wiring-regulations/>
- Carriage of dangerous goods authorisations  
<https://www.gov.uk/government/publications/carriage-of-dangerous-goods-authorisations>
- Consumer affairs and trading standards  
[www.tradingstandards.gov.uk/useful/](http://www.tradingstandards.gov.uk/useful/)

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