

# COSVR298 – SQA Unit Code HL4F 04

## Install solar collectors to roofs



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### Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components and equipment
- 4 preparing roof for installation of solar collectors and reinstating the roof area after installation

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### Performance criteria

*You must be able to:*

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

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### Knowledge and understanding

*You need to know and understand:*

#### Performance Criteria 1

##### Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K2 the types of **information**, their source and how they are interpreted
- K3 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

#### Performance Criteria 2

##### Safe work practices

*You need to know and understand:*

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 how **emergencies** should be responded to and who should respond
- K6 the organisational **security procedures** for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how **health and safety control equipment** should be used

#### Performance Criteria 3

##### Selection of resources

*You need to know and understand:*

- K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K10 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K11 the organisational procedures to select **resources**, why they have been developed and how they are used
- K12 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

#### Performance Criteria 4

##### Minimise the risk of damage

*You need to know and understand:*

- K13 how to **protect work** from damage and the purpose of protection
- K14 why **disposal of waste** should be carried out safely and how it is achieved

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### Performance Criteria 5

#### Meet the contract specification

*You need to know and understand:*

K15 how **methods of work**, to meet the specification, are carried out and **problems** reported

K16 how **maintenance** of tools and equipment is carried out

### Performance Criteria 6

#### Allocated time

*You need to know and understand:*

K17 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

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### Additional Information

#### Scope/range related to performance criteria

#### Performance Criteria 1

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the work to be carried out

#### Performance Criteria 2

- 2 avoidance of risk by following the given information relating to the following
  - 2.1 methods of work
  - 2.2 safe use of health and safety control equipment
  - 2.3 safe use of access equipment
  - 2.4 safe use, storage and handling of materials
  - 2.5 safe use and storage of tools and equipment

#### Performance Criteria 3

- 3 selection of resources associated with own work
  - 3.1 materials, components and fixings
  - 3.2 tools and equipment

#### Performance Criteria 4

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with legislation

#### Performance Criteria 5

- 7 demonstration of work skills to remove, measure, mark out, cut, fit, fix, position, secure and replace
- 8 use and maintain hand tools, portable power tools and ancillary equipment
- 9 prepare for and install solar collectors to roof to given working instructions for at least one of the following
  - 9.1 integrated photo voltaic
  - 9.2 mounted photo voltaic
  - 9.3 integrated solar thermal
  - 9.4 mounted solar thermal
- 10 reinstate roof coverings

#### Performance Criteria 6

- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

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### Scope/range related to knowledge and understanding

#### Disposal of waste

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

#### Emergencies

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
  - 2.1 fires, spillages, injuries
  - 2.2 emergencies relating to occupational activities

#### Hazards

- 3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

#### Health and safety control equipment

- 4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 4.1 collective protective measures
  - 4.2 personal protective equipment (PPE)
  - 4.3 respiratory protective equipment (RPE)
  - 4.4 local exhaust ventilation (LEV)

#### Information

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and regulations governing buildings

#### Legislation and official guidance

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

#### Maintenance

- 7 operative care of hand tools and/or portable power tools and ancillary equipment

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### **Methods of work**

- 8 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used, to
  - 8.1 assess the installation area
  - 8.2 check the direction the roof is facing
  - 8.3 remove or leave out waterproofing elements
  - 8.4 mark out for installation using given templates or dimensions
  - 8.5 prepare and weatherproof penetrations
  - 8.6 fix additional supports
  - 8.7 secure fixtures, fittings and collector
  - 8.8 reinstate roof covering including flashings
  - 8.9 install solar panels during construction and as retrofit to existing buildings
  - 8.10 use hand tools, power tools and equipment
  - 8.11 work at height
  - 8.12 use access equipment
- 9 team work and communication
- 10 needs of other occupations associated with solar collector installation

### **Problems**

- 11 those arising from information, resources and methods of work:
  - 11.1 own authority to rectify
  - 11.2 organisational reporting procedures

### **Programme**

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

### **Protect work**

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

### **Resources**

- 15 materials, components and equipment relating to types, quantity, quality, sizes and sustainability of standard and/or specialist
  - 15.1 solar collector installation kits
  - 15.2 hand and/or powered tools and equipment
- 16 methods of calculating quantity, length, area and wastage associated with the method/procedure to install solar collectors

### **Security procedures**

- 17 site, workplace, company and operative

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<b>Suite</b>	Roofing Occupations (Construction); Applied Waterproof Membranes (Construction); Cladding Occupations (Construction); Heritage Skills (Construction)
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