

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles



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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 and guiding a piling rig and other plant for the formation and/or installation of piles

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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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

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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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 the types of **fire extinguishers** and how and when they are used
- K6 how **emergencies** should be responded to and who should respond
- K7 the organisational **security procedures** for tools, equipment and personal belongings
- K8 what the accident reporting procedures are and who is responsible for making the report
- K9 why, when and how **health and safety control equipment** should be used

#### Performance Criteria 3

##### Selection of resources

*You need to know and understand:*

- K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K11 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K12 the organisational procedures to select **resources**, why they have been developed and how they are used
- K13 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:*

- K14 how to **protect work** from damage and the purpose of protection
- K15 why **disposal of waste** should be carried out safely and how it is achieved

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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*You need to know and understand:*

### **Performance Criteria 5**

#### **Meet the contract specification**

- K16 how **methods of work**, to meet the specification, are carried out and **problems** reported
- K17 how **maintenance** of tools and equipment is carried out

*You need to know and understand:*

### **Performance Criteria 6**

#### **Allocated time**

- K18 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

### Additional Information

#### Scope/range related to performance criteria

##### Performance Criteria 1

- 1 interpretation of drawings, instructions, 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 and storage of materials, tools and equipment
- 3 safe use of fire extinguishers, as appropriate to the fire

##### Performance Criteria 3

- 4 selection of resources associated with own work
  - 4.1 materials, components and fixings
  - 4.2 tools and equipment

##### Performance Criteria 4

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

##### Performance Criteria 5

- 8 demonstration of work skills to measure, position, secure, align, level and adjust
- 9 use and maintain hand tools and ancillary equipment
- 10 guide and monitor the piling rig for the formation and/or installation of piles to given working instructions, using one of the following methods
  - 10.1 sheet piling
  - 10.2 driven piling
  - 10.3 rotary bored kelly bar piling
  - 10.4 driven cast-in-situ piling
  - 10.5 sectional auger piling (mini piling)
  - 10.6 continuous flight auger piling
  - 10.7 displacement flight auger
  - 10.8 slurry walling
  - 10.9 tripod piling
  - 10.10 vibro piling
  - 10.11 diaphragm walling

##### Performance Criteria 6

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

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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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 piling and other occupational activities

#### **Fire extinguishers**

- 3 water, CO<sub>2</sub>, foam, powder and their uses

#### **Hazards**

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

#### **Health and safety control equipment**

- 5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 5.1 collective protective measures
  - 5.2 personal protective equipment (PPE)
  - 5.3 respiratory protective equipment (RPE)
  - 5.4 local exhaust ventilation (LEV)

#### **Information**

- 6 drawings, instructions, specifications, schedules, method statements, risk assessments, manufacturers' information, tool-box talks, daily briefings, certificates and permits

#### **Legislation and official guidance**

- 7 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**

- 8 operative care of hand tools and ancillary equipment

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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### Methods of work

- 9 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used, to
  - 9.1 identify the sequence of work
  - 9.2 ensure piling rig is positioned in accordance with setting-out points
  - 9.3 guide, align, level and check the bore or drive position for one of the following methods: sheet piling, driven piling, rotary bored Kelly bar piling, driven cast-in-situ piling, sectional auger piling (mini piling), continuous flight auger piling, displacement flight auger piling, slurry walling, tripod piling, vibro piling and diaphragm walling
  - 9.4 monitor and adjust the rake of the hole or pile
  - 9.5 record information
  - 9.6 fit and remove piling rig ancillaries
  - 9.7 prepare, position and place reinforcement steel and/or other components
  - 9.8 use hand tools and ancillary equipment
  - 9.9 work at height
- 10 team work and communication
- 11 needs of other occupations associated with guiding piling rigs for the formation/installation of piles

### Problems

- 12 those arising from information, resources and methods of work
  - 12.1 own authority to rectify
  - 12.2 organisational reporting procedures

### Programme

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

### Protect work

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

### Resources

- 16 materials, components and equipment relating to types, quantity, quality, sizes and sustainability of standard and/or specialist
  - 16.1 plant, hand tools and/or powered tools, machinery and ancillary equipment
- 17 methods of calculating quantity, length and wastage associated with the method/procedure to guide piling rigs for the formation/installation of piles

### Security procedures

- 18 site, workplace, company and operative

# COSVR239 (SQA Unit Code - H1PD 04)

## Guide formation of piles

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<b>Developed by</b>	ConstructionSkills
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<b>Version number</b>	2
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<b>Date approved</b>	January 2011
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<b>Indicative review date</b>	February 2010
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<b>Validity</b>	Current
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<b>Status</b>	Original
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<b>Originating organisation</b>	ConstructionSkills
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<b>Original URN</b>	VR239
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<b>Relevant occupations</b>	Mobile Machine Drivers and Operatives; Construction Operatives
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<b>Suite</b>	Piling Operations (Construction)
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<b>Key words</b>	Sheet piling; Driven piling; Rotary bored Kelly bar piling; Driven cast-in-situ piling; Sectional auger piling (mini piling); Continuous flight auger piling; Displacement flight auger; Slurry walling; Tripod piling; Vibro piling; Diaphragm walling
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