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**Overview**

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment and erecting and dismantling temporary support in order to prepare and erect or conserve and/or restore earthen structures

This standard is for people working in the occupational area of heritage skills and can be used by operatives, supervisors and managers

**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 and healthy 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

**Knowledge and understanding**

**Performance Criteria 1**

**Interpretation of information**

You need to know and understand:

- 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
- K9 how to comply with environmentally responsible work practices to meet current **legislation and official guidance**

**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

**Performance Criteria 5**

**Meet the contract specification**

You need to know and understand:

- 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

**Performance Criteria 6**

**Allocated time**

You need to know and understand:

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

**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 complying with the given information relating to at least three of 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, tools and equipment
  - 2.5 specific risks to health

**Performance Criteria 3**

- 3 selection of resources associated with own work and appropriate to the type/period
  - 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 maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to select, measure, mark, mix, fit, finish, cut, lay, position and bed
- 8 use and maintain hand tools, portable power tools and ancillary equipment
- 9 select and prepare earth materials (binders, fibres) and/or supports/formwork
- 10 prepare and erect or conserve and/or restore at least one of the following earthen structures to given working instructions
  - 10.1 monolithic earth walls (cob, rammed earth, mud) including forming openings, detail and finishes
  - 10.2 earth mortared masonry structures (clay lump, stone, brick) including forming openings, details and finishes

**Performance Criteria 6**

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

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

**Information**

- 5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, archaeological watching brief, historical conservation plans and charters, legislation, official guidance and current regulations governing buildings

**Legislation and official guidance**

- 6 this relates to the operative's responsibilities regarding potential accidents, health hazards and the environment 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, portable power tools and ancillary equipment

**Methods of work**

- 8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to
  - 8.1 select and test raw materials, including field and laboratory tests
  - 8.2 prepare earth materials (soil, binders, fibre, additives)
  - 8.3 erect and dismantle formwork
  - 8.4 produce specialist tools
  - 8.5 work with plant or machinery
  - 8.6 produce templates and earth blocks
  - 8.7 identify line, level and verticality
  - 8.8 identify and produce lift lines and overhangs
  - 8.9 protect structures from shrinkage, cracking and moisture intrusion
  - 8.10 validate appropriate ways in which the work should be carried out
  - 8.11 recognise sensitive areas (plaster, details, timber-work)
  - 8.12 maintain heritage and archaeological integrity
  - 8.13 maintain the principles of minimum intervention and reversible alterations
  - 8.14 prepare and erect, or, conserve and restore monolithic earth walls (cob, rammed earth, mud) including forming openings, details and finish
  - 8.15 prepare and erect, or, conserve and restore earth mortared masonry structures (clay lump, stone, brick) including forming openings, details and finishes
  - 8.16 record work carried out (written, photographic or digital)
  - 8.17 recognise and/or report protected flora and fauna (mortar bees)
  - 8.18 remove deteriorated and/or inappropriate materials
  - 8.19 erect and replace fabric, materials or structural components
  - 8.20 repair fabric, materials or structural components in-situ
  - 8.21 maintain existing structures
  - 8.22 integrate existing and new constructional components or finishes
  - 8.23 store salvageable fabric, materials and structural components
  - 8.24 recognise and determine when specialist skills and knowledge are required and report accordingly



## Prepare and erect or conserve and restore earthen structures

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- 8.25 determine specific requirements for structures of special interest, traditional build (pre 1919) and historical significance
- 8.26 use hand tools, portable power tools and ancillary equipment
- 8.27 work at height
- 8.28 use access equipment
- 9 team work and communication
- 10 needs of other occupations associated with preparing and erecting, or conserving and restoring earthen structures

### **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 the sustainability of standard and/or specialist
  - 15.1 timber, manufactured sheet material, limes, aggregates, base materials, earth, binding materials, finishing materials, turf, fixings and associated ancillary items
  - 15.2 hand tools, portable power tools and ancillary equipment
- 16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to prepare and erect or conserve and restore earthen structures

### **Security procedures**

- 17 site, workplace, company and operative

## COSVR549 – SQA Unit Code GH5P 04

### Prepare and erect or conserve and restore earthen structures

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