

COSVR779 – SQA Unit Code HM77 04  
Operate and control operations of road plant, machinery  
or equipment for soil stabilisation



---

**Overview**

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components and tools, preparing, setting up and completing pre-use checks and operating plant, machinery or equipment for preparing, laying and finishing soil stabilisation operations

This standard is for people working independently or as part of a team in the occupational area of pavement construction and maintenance and can be used by operatives, technicians, supervisors and managers

Operate and control operations of road plant, machinery or equipment for soil stabilisation

~~Performance criteria~~

---

- You must be able to:
- P1 interpret the given operating information relating to the use of plant or machinery and confirm its relevance
  - P2 organise with others the sequence in which the work is to be carried out
  - P3 comply with the relevant, current legislation, special legal status documents, official guidance and organisational procedures to maintain safe and healthy work practices
  - P4 request resources to sustain plant or machinery operations to complete the programme of work
  - P5 select plant or machinery resources for the methods of work and operations to be carried out
  - P6 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
  - P7 comply with the given contract information to carry out the work efficiently to the required specification
  - P8 complete the work within the allocated time, in accordance with the programme of work

## COSVR779 – SQA Unit Code HM77 04

### Operate and control operations of road plant, machinery or equipment for soil stabilisation

#### ~~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

##### Organise with others

You need to know and understand:

- K4 **communication** of ideas between team members
- K5 organisation of **resources** in conjunction with the progress of work
- K6 the **skills** required to carry out the work

#### Performance Criteria 3

##### Safe work practices

You need to know and understand:

- K7 the level of understanding operatives must have of **information** for relevant, current **legislation, Approved Codes of Practice and official guidance** and how it is applied
- K8 the types of **fire extinguishers** and how and when they are used
- K9 how **emergencies** should be responded to and who should respond
- K10 the organisational **security procedures** for plant and/or machinery, tools, equipment and personal belongings
- K11 what the accident reporting procedures are and who is responsible for making the report
- K12 why, when and how **health and safety control equipment** should be used
- K13 how to comply with environmentally responsible work practices to meet the requirements of current **legislation and official guidance**

**Performance Criteria 4**

**Request resources**

You need to know and understand:

K14 the organisational procedures for requisitioning consumables and other **resources**

**Performance Criteria 5**

**Selection of resources**

You need to know and understand:

K15 the characteristics, quality, uses, sustainability, limitations and defects associated with plant **resources** and how defects should be rectified

K16 how the **resources** should be used and how any **problems** associated with the **resources** are reported

K17 the organisational procedures to select **resources**, why they have been developed and how they are used

K18 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

**Performance Criteria 6**

**Minimise the risk of damage**

You need to know and understand:

K19 how to **protect work** from damage and the purpose of protection

K20 why **disposal of waste** should be carried out safely and how it is achieved

**Performance Criteria 7**

**Meet the contract specification**

You need to know and understand:

K21 how **methods of work**, to meet the specification, are carried out and **problems** reported

K22 how **maintenance** of plant and/or machinery, tools and equipment is carried out

**Performance Criteria 8**

**Allocated time**

You need to know and understand:

K23 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**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 plant, machinery or equipment operations and the work to be carried out

**Performance Criteria 2**

- 2 organisation of own work
- 3 communication with team members and other associated occupations about the plant, machinery or equipment operation and the work to be carried out

**Performance Criteria 3**

- 4 avoidance of risk by complying with the given safety information relating to the following
  - 4.1 methods of work
  - 4.2 safe use of health and safety control equipment
  - 4.3 safe use, storage and handling of plant, machinery, equipment and tools
  - 4.4 safe use, storage and handling of materials
  - 4.5 specific risks to health

**Performance Criteria 4**

- 5 follow organisational procedures for the requisition of consumables, materials and other resources

**Performance Criteria 5**

- 6 selection of resources associated with own work
  - 6.1 tools and ancillary equipment and/or accessories

**Performance Criteria 6**

- 7 protection of the work and its surrounding area from damage
- 8 maintain a clear and tidy work space
- 9 disposal of waste in accordance with current legislation

## COSVR779 – SQA Unit Code HM77 04

### Operate and control operations of road plant, machinery or equipment for soil stabilisation

---

#### **Performance Criteria 7**

- 10 demonstration of work skills to check, set up, adjust, align, communicate, operate, control, lay, spread, compact, level, smooth, and finish
- 11 use and maintain hand tools, ancillary equipment and/or accessories
- 12 prepare, operate, or control the operations of at least one of the following items of plant, machinery or equipment to given working instructions
  - 12.1 combination soil stabilisation machine operator maintaining depth, speed, line, level and consistent integration of binding materials
  - 12.2 mixer machine operator mixing binding materials and supplying the spreader machine
  - 12.3 bulk binder spreader machine operator ensuring even spread and distribution of binding materials missing from final NOS
  - 12.4 tilling machine operator maintaining depth, speed, line and level
  - 12.5 self-propelled or towed water bowser machine operator maintaining speed and distribution
  - 12.6 roller operator ensuring light compaction for sealing
- 13 shut down and secure plant, machinery or equipment

#### **Performance Criteria 8**

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

## Operate and control operations of road plant, machinery or equipment for soil stabilisation

Scope/range related to knowledge and understanding

### Communication

- 1 discussions, sketches, electronic information and briefings

### Disposal of waste

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

### Emergencies

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

### Fire extinguishers

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

### Hazards

- 5 those identified by methods of work, risk and Control of Substances Hazardous to Health (COSHH) assessments, manufacturers' technical information, statutory regulations and official guidance

### Health and safety control equipment

- 6 identified by the principles of prevention for occupational use, types and purpose of each type, work situations and general work environment
  - 6.1 collective protective measures
  - 6.2 personal protective equipment (PPE)
  - 6.3 respiratory protective equipment (RPE)

### Information

- 7 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, verbal, written and graphical instructions, current regulations and official guidance governing the operation of plant, machinery and equipment for soil stabilisation

### Legislation, Approved Codes of Practice and official guidance

- 8 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 and storage of materials and by manual handling and mechanical lifting



## Operate and control operations of road plant, machinery or equipment for soil stabilisation

---

### Maintenance

- 9 operative care of plant, machinery or equipment, hand tools, ancillary equipment and/or accessories

### Methods of work

- 10 application of knowledge for safe and healthy work practices, procedures and skills relating to the method and area of work and materials used to
  - 10.1 identify installation requirements
  - 10.2 conform to agreed specifications
  - 10.3 confirm the area and location of work, the operations, safety and security requirements including temporary traffic management and immediate area protection
  - 10.4 identify markings for utilities
  - 10.5 prepare, set up and carry out pre-start and running checks of the plant, machinery and equipment
  - 10.6 check and monitor ambient conditions and adjust work in relation to prevailing weather conditions
  - 10.7 carry out and control operations according to your role and the required performance of plant, machinery and equipment
  - 10.8 recognise the duties of other operators, combination soil stabilisation machine operator, mixing machine operator, bulk binder spreader operator, tilling machine operator, self-propelled and towed water bowser and roller operator to ensure cohesive operations
  - 10.9 recognise, monitor and control processes including removal, mixing, spreading, tilling, compacting, maintaining line, level, spread, depth, and finishes
  - 10.10 recognise and determine when specialist skills and knowledge are required and report accordingly
  - 10.11 record and report, machine operation factors, work progress and completions
  - 10.12 shut down and secure plant, machinery and equipment
  - 10.13 use hand tools, ancillary equipment and accessories
- 11 team work and communication
- 12 needs of other occupations associated with operating plant, machinery and equipment for soil stabilisation

### Problems

## COSVR779 – SQA Unit Code HM77 04

### Operate and control operations of road plant, machinery or equipment for soil stabilisation

~~13 those arising from information, resources and methods of work~~

13.1 own authority to rectify

13.2 organisational reporting procedures

#### **Programme**

14 types of productivity targets and time scales

15 how times are estimated

16 organisational procedures for reporting circumstances which will affect the work programme

#### **Protect work**

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

#### **Resources**

18 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist

18.1 consumables, lubricants and fuels

18.2 attachments

18.3 binding materials

18.4 sealing agents

18.5 hand tools, ancillary equipment and accessories

19 identify weight, bearing pressure, pressure, quantity, length and area associated with the method and procedure to operate plant, machinery or equipment for soil stabilisation

20 confirm resources and materials conform with agreed specification

#### **Security procedures**

21 site, workplace, company and operative

#### **Skills**

22 own occupation and occupations related to the work

## COSVR779 – SQA Unit Code HM77 04

### Operate and control operations of road plant, machinery or equipment for soil stabilisation

**Developed by** ConstructionSkills

---

**Version number** 1

---

**Date approved** February 2016

---

**Indicative review date** January 2021

---

**Validity** Current

---

**Status** Original

---

**Originating organisation** ConstructionSkills

---

**Original URN** VR779

---

**Relevant occupations** Road Construction Operatives; Construction Operatives

---

**Suite** Road building and Maintenance

---

**Key words** Mixer machine; Tilling machine; Water bowser; Roller operator; Soil stabilisation