



National Unit Specification: general information

UNIT An Appreciation of Paving Plant or Machinery (SCQF level 5)

CODE F8TC 11

SUMMARY

This Unit provides an introduction to paving plant or machinery in a construction environment. It will develop the candidate's appreciation of paving plant or machinery. On completion of this Unit, candidates will have an appreciation of how to prepare a work area for the paving plant or machinery selected for use, and knowledge of how to carry out pre-operational safety checks on both the machinery and work area. Candidates will learn the terminology and related construction practices involved in using paving plant or machinery, and how to report and record defects and hazards under strict controlled supervision. This Unit is suitable for candidates working towards a Modern Apprenticeship in the Civil Engineering and Specialist suite.

OUTCOMES

- 1 Prepare the site for carrying out paving.
- 2 Demonstrate knowledge and understanding of paving plant or machinery.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

1 credit at SCQF level 5 (6 SCQF credit points at SCQF level 5*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Administrative Information

Superclass: TK

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National Unit Specification: general information (cont)

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CORE SKILLS

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit Specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit Specification: statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME 1

Prepare the site for carrying out paving.

Performance Criteria

- (a) Interpret accurately the drawings and/or work specification for the task.
- (b) Mark off the area for receiving paving materials.
- (c) Identify any potential hazards, obstructions and instabilities on the ground surface.
- (d) Identify any obstacles to avoid within the work area, or remove as necessary.
- (e) Select appropriate personal protective equipment (PPE) for the specified task, in accordance with organisational requirements.
- (f) Identify the correct plant or machinery to use for the task.

OUTCOME 2

Demonstrate knowledge and understanding of paving plant or machinery.

Performance Criteria

- (a) Demonstrate an understanding of automatic control systems.
- (b) Identify terminology related to paving plant or machinery.
- (c) Outline construction practices related to paving plant or machinery.
- (d) Identify and record defects and hazards on paving plant or machinery.
- (e) Report hazards and defects on paving plant or machinery correctly.
- (f) Identify the appropriate course of action to ensure safe use of paving plant or machinery.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

Candidates are required to produce evidence to confirm that they have achieved all Outcomes and Performance Criteria outlined in this Unit.

Performance evidence is required to demonstrate the candidate has achieved the standard specified in the Outcomes and Performance Criteria for Outcomes. Performance evidence must be supplemented with an assessor observation/operational checklist and produced at an appropriate interval in training, under strict, supervised conditions, once the candidate has developed the necessary skills and knowledge required to carry out the work.

Performance evidence should be demonstrated by the candidate showing an understanding of any one of the following roles and activities:

- ◆ chipping machine driver
- ◆ screwman
- ◆ paver driver
- ◆ concrete paver

As part of the assessment for this Unit, the candidate will also submit written product evidence such as a works checklist or completed risk assessment form. Oral evidence of knowledge and understanding may be demonstrated by the candidate during practical assignments set for all Outcomes and noted at the time by the observer.

National Unit Specification: support notes

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This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time length allocated to this Unit is at the discretion of the centre, the notional design length is 40 guided learning hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The Outcomes and Performance Criteria for this Unit can be demonstrated by the candidate showing an understanding of any one of the following roles and activities:

- ◆ chipping machine driver
- ◆ crewman
- ◆ paver driver
- ◆ concrete paver

The content and context of *An Appreciation of Paving Plant or Machinery* has been set at an introductory level so that the candidate can develop a basic appreciation of paving plant or machinery within a construction environment.

Health and Safety are vital to working practices within the construction industry and therefore, emphasis will be placed, wherever appropriate during the delivery of this Unit, on the correct application of Health and Safety principles and processes, in accordance with current codes of practice and legislation.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

These notes are for guidance purposes only, and are not to be considered as a complete training package for centres to follow.

Opportunities for integrated delivery of this Unit may be possible with all mandatory Units.

The introductory training for this Unit should take place in a separate training area independent of the productive work environment, using dedicated equipment and resources, and should cover underpinning principles before any practical application of knowledge is carried out by candidates.

Delivery of this Unit will be focused on enabling candidates to develop the knowledge required to appreciate the tasks involved in paving plant or machinery operation before they are given the opportunity to practise them within the workplace environment. Candidates should learn and be encouraged to communicate the theories and principles behind the use of paving plant or machinery before carrying out any work on-site. Delivery of this Unit will also include ensuring that candidates learn about the preparations for using the machinery, are able to use the correct terminology and have an understanding of the necessary procedures for checking machinery, before operations commence (eg setting the correct driving position). Emphasis will also be placed on the importance of candidates accurately understanding and interpreting the information provided within work specifications and drawings.

National Unit Specification: support notes (cont)

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During delivery of the practical components of this Unit, candidates should understand the importance of ensuring good visibility at all times when working with plant or machinery.

Candidates should know how to adhere to relevant Health and Safety regulations and legislation relating both to working practices within the construction environment, and to those specific to any practical task they are requested to carry out (such as emphasising the importance of selecting and using the correct PPE at all times).

E-learning approaches may be appropriate to help tailor delivery to suit the individual needs or learning styles of candidates. This might include, for example, encouraging learners to use electronic resources to conduct research into a specific knowledge area.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

Candidates will need to apply the Core Skill of *Numeracy* (SCQF level 3) when interpreting the measurements and other information provided in the work drawings and specification (Outcomes 1 and 2). The interpretation of work specifications and drawings will also require candidates to think critically, plan and organise the task accordingly — key aspects of the Core Skill of *Problem Solving* (SCQF level 3).

The opportunity to acquire the Core Skill *Working with Others* (SCQF level 3) will be provided as candidates ensure the safety of others as they comply with codes of practice and working regulations (all Outcomes). Throughout this Unit, candidates will be expected to develop the Core Skill of *Communication* (SCQF level 3) within the work environment, for example to inform others of any safety considerations, using the correct terminology and a tone appropriate to the workplace environment. In addition, assessment processes may provide candidates with the opportunity to develop their Written Communication skills.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Centres may use the Instruments of Assessment they consider to be most appropriate, and the following notes are given as guidance only.

Opportunities for integrated assessment of this Unit may be possible with all other mandatory Units.

Underpinning knowledge of paving plant or machinery should be assessed before any practical assignments are carried out by candidates. This will include assessment of a candidate's ability to select the correct equipment and techniques for a specified task. Assessment of practical performance should take place under supervised conditions and confirm a candidate's ability to assist in the operation of paving plant or machinery using the correct techniques and accessories, whilst adhering to Health and Safety regulations and legislation.

For Outcomes 1 and 2, candidates may be assessed by centres setting a series of technical or theoretical questions designed to ensure candidates have developed the required standard of knowledge for this Unit. Any oral responses given by candidates will be recorded by an observer at the time of assessment — this may be an appropriate method when the candidate carries out any practical assignments.

National Unit Specification: support notes (cont)

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Outcome 2 may be assessed by centres setting candidates a series of appropriate practical assignments carried out under supervised conditions and recorded in an assessor's observation/operational checklist. Practical assignments undertaken by a candidate will be assessed according to their ability to carry out the task safely, involving appropriate machinery according to manufacturer's guidelines.

Adherence to appropriate working regulations and Health and Safety procedures will be observed during the practical exercise carried out by the candidates towards all Outcomes.

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements