

National Unit Specification: general information

UNIT Discharge Systems: An Introduction (Intermediate 2)

CODE F1LB 11

SUMMARY

This Unit is suitable for candidates who have had some experience in plumbing services, eg completion of the Plumbing Services: An Introduction. This Unit will provide the candidate with valuable experience of working within a workshop environment and using tools applicable to the installation of gutters, rainwater and waste pipes and fittings in the plumbing industry. Candidates who complete this Unit can feel confident progressing further in the Construction Craft Industry.

OUTCOMES

- 1 Identify basic plumbing tools, materials.
- 2 Requisition all materials and tools required for the work to be carried out.
- 3 Measure, cut and fabricate a gutter and rainwater pipe installation.
- 4 Measure, cut and fabricate a plastic waste pipe installation.
- 5 Carry out performance and soundness tests on installations.

RECOMMENDED ENTRY

Whilst entry is at the discretion of the centre, it would be beneficial for the candidate to have attained the following of equivalent:

- ◆ Plumbing Services: An Introduction (Intermediate 1)

Administrative Information

Superclass: TH

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CREDIT VALUE

1 credit at Intermediate 2 (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*

CORE SKILLS

There are opportunities to develop the Core Skills of Problem Solving, Working with Others, Information Technology, Numeracy and Communication at SCQF level 4 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

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 the Scottish Qualifications Authority.

OUTCOME 1

Identify basic plumbing tools, materials.

Performance Criteria

- (a) Identify the correct tools required for plastics discharge pipe work.
- (b) State the correct use of tools required for plastics discharge pipe work
- (c) Identify the correct materials required for plastics discharge pipe work.

OUTCOME 2

Requisition all materials and tools required for the work to be carried out.

Performance Criteria

- (a) List all the materials required to complete the task in accordance with given drawings.
- (b) Select the appropriate tools required to complete the task in accordance with given drawings.

OUTCOME 3

Measure, cut and fabricate a plastics gutter and rainwater pipe installation.

Performance Criteria

- (a) Measure and cut plastic gutter and rainwater pipe correctly.
- (b) Install plastic gutter and rainwater pipe and fittings in accordance with the information provided.
- (c) Carry out installation in accordance with current standards and manufacturers' installation instructions.
- (d) Dimensions are accurate to within given specifications.
- (e) Health and Safety Legislation is adhered to at all times.

National Unit Specification: statement of standards (cont)

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OUTCOME 4

Measure, cut and fabricate a plastics waste pipe installation.

Performance Criteria

- (a) Measure and cut plastic waste pipe correctly.
- (b) Install plastic waste pipe and fittings in accordance with the information provided.
- (c) Carry out installation in accordance with current standards and manufacturers' installation instructions.
- (d) Dimensions are accurate to within given specifications.
- (e) Health and Safety Legislation is adhered to at all times.

OUTCOME 5

Carry out performance and soundness tests on installations.

Performance Criteria

- (a) Discharge water through the waste system and check for suitable flow rates and absence of leaks.
- (b) Discharge water through the rainwater system and check for suitable flow rates and absence of leaks.
- (c) Carry out any remedial action where the systems are found to have defects.

EVIDENCE REQUIREMENTS

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

Evidence of the correct materials, selection of tools and good working practices while working with Plastics gutter and rainwater pipe and waste pipe installations is required to test underpinning knowledge and understanding and will be gained in an integrated assessment.

Written and/or oral evidence is required which demonstrates that the candidate has achieved Outcome 1 to the standard specified in the Outcome and Performance Criteria. The candidate will be required to recognise assorted tools used in the installation of the Plastics gutter, rainwater pipe and waste systems. The evidence for this Outcome should be obtained under controlled, supervised conditions. The assessment will be closed-book and should normally last no more than 45 minutes.

National Unit Specification: statement of standards (cont)

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Performance evidence supplemented with an assessor observation checklist/record should be used to show that the candidate has achieved the standard specified in the Outcomes and Performance Criteria. Each candidate will be observed to show that they can mark out and cut materials to given dimensions for:

- ◆ gutter and rain water installation consisting of Plastics gutter, fittings and brackets
- ◆ waste pipe installation consisting of Plastics pipe and fittings

Assessment of this Unit should be completed over a period of time and evidence should be gathered at appropriate intervals.

The Assessment Support Pack for this Unit provides sample assessment material. Centres wishing to develop their own assessments should refer to the Assessment Support Pack to ensure a comparable standard.

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 allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit has been developed as an optional Unit in the National Progression Award in Construction and can also be delivered as a freestanding Unit.

The content and context of this Unit is aimed at candidates who are interested in pursuing a career in the plumbing industry. Candidates will be required to gain an understanding of the correct terminology and materials for discharge systems and will gain practical experience of discharge systems installation to given specifications. It is imperative that there is firm guidance on the continued development of safe working practices at this stage of the award.

There should be an initial demonstration of all activities before the candidates commence with the practical work and it is recommended that candidates are given as much practise in the techniques prior to assessment.

The learning environment for this Unit will be a combination of classroom and workshop based learning. The knowledge element of this Unit would be taught in a classroom environment and put into practice in the workshop in conjunction with practical Outcomes.

Health and Safety and Sustainability are integral and key to the Construction Industry therefore throughout the Unit emphasis will be placed where appropriate on the application of Health and Safety and Sustainability. Safety working practices should be looked at in accordance with current safety codes of practice and regulations. Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The teaching approaches for this Unit will be entirely workshop based. The candidate should be given sufficient practical demonstrations and practice attempts before carrying out the assessments. The candidate should be encouraged to become familiar with the need for good personal hygiene and all relevant health and safety recommendations when working with discharge systems. Familiarity with all the tools applicable to the 'Above ground Discharge Systems and rainwater installations' element of the plumbing industry must also be encouraged.

The approach will provide the candidate with the confidence required to continue with his/her pre-vocational training and development.

National Unit Specification: support notes (cont)

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OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

The elements of the Core Skill of Problem Solving, such as planning and organising and critical thinking will be developed and enhanced as candidates undertake this Unit. Candidates will need to take account of a range of factors in order to work efficiently and safely, such as the choice of safe methods of carrying out installation work and the use of appropriate tools. Complying at all times with health and safety requirements will enable candidates to develop co-operative working skills, as they must be aware of the safety of others as well as themselves. Individual discussions with assessors will enhance the evaluation of efficient working practices.

There are opportunities to research information about Health and Safety legislation enabling candidates to develop the Core Skill of Information Technology.

Numeracy skills will be naturally enhanced as skills such as measuring and interpretation of information are required in the teaching and learning assessments for Outcomes 2, 3 and 4.

Although Communication skills are not formally assessed, candidates will have the opportunity to develop written and/or oral communication skills for the knowledge part of the teaching and learning assessment for Outcome 1. Also the opportunity for developing reading skills occurs in the need to understand manufacturers' instructions regarding installation of their products. As candidates complete practical tasks, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Centres may use the Instruments of Assessment which they consider to be most appropriate but are encouraged to use the Assessment Support Pack (ASP) developed centrally by SQA.

It is expected that candidates will be given as much practise as possible in block walling techniques, prior to being set the assessment tasks.

Outcome 1

The candidate's knowledge and understanding of plumbing terminology and tools will be assessed through a set of multiple choice questions covering all Performance Criteria in Outcome 1. This assessment should be conducted under controlled, supervised condition. Assessment should show that the candidate has achieved all Performance Criteria and reassessment of any area of this Outcome can be conducted through an oral question/answer session.

Outcome 2, 3, 4 and 5

An assessor observation checklist/record can be used to record evidence of the candidate's ability to correctly requisition tools and materials, cut, measure and install specified discharge systems and check the completed work to identify and repair any faults found in the system.

The candidate will be provided with all of the tools, materials and equipment to complete the practical tasks as well as drawings and specifications for the discharge systems installation.

National Unit Specification: support notes (cont)

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Candidates will also be assessed on their compliance of health and safety legislations in the Construction Industry including the correct use of PPE, safe working practices, manual handling methods and the correct and safe use of tools.

The ASP includes a bank of questions which may be used to form the assessment of Outcome 1 and assessor observation checklist/records for Outcomes 2, 3, 4 and 5.

CANDIDATES WITH DISABILITIES AND/OR ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).