



## Higher National Unit specification

### General information for centres

**Unit title:** Bricklaying: Steps in Brick and Concrete

**Unit code:** F8ML 34

**Unit purpose:** This Unit is designed to enable the candidate to develop their knowledge, understanding and skills relevant to the construction of steps in brick and concrete. The candidate will also enhance their practical experience in setting out and building steps in brick and concrete.

On completion of the Unit the candidate should be able to:

- 1 Explain techniques used to set out and construct steps in brick and concrete.
- 2 Set out and build steps in brick and concrete.

**Credit points and level:** 1 HN credit at SCQF level 7: (8 SCQF credit points at SCQF level 7\*)

*\*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.*

**Recommended prior knowledge and skills:** Access to this Unit is at the discretion of centres. However it is recommended that candidates have completed the Professional Development Award in Bricklaying at SCQF level 6 or have the equivalent level of industrial experience and prior learning.

**Core Skills:** There are opportunities to develop the Core Skills of *Communication, Numeracy, Working with Others* and *Problem Solving* all at SCQF level 5 and *Information and Communication Technology* at SCQF level 4 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

**Context for delivery:** If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed in the subject area of the Group Award to which it contributes. This Unit forms part of the Professional Development Award in Bricklaying at SCQF level 7 and is aimed at candidates following a career in brickwork and receiving complementary industrial experience.

## General information for centres (cont)

### Unit title: Bricklaying: Steps in Brick and Concrete

**Assessment:** The candidates will be given the opportunity to further develop their skills in bricklaying by learning about steps in brick and concrete. Techniques and terminology used to set out and construct steps should be integrated into the practical tasks undertaken and the principles of step construction should be explained as the step flights are being built. This learning and teaching approach should ensure the candidate acquires the underpinning knowledge required for the Unit.

This Unit is assessed on the candidates ability to explain and illustrate techniques used to set out and build steps in brick and concrete and actual performance of setting out and building steps in brick and concrete and the ability to meet the evidence requirements in all Outcomes.

The assessment instruments used should follow the general guidance offered by the Scottish Qualifications Authority (SQA) assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Evidence will be gathered through observation of work processes and assessment of completed work. Assessment should be carried out under controlled, supervised conditions. Candidates must achieve all of the Knowledge and/or Skills and evidence requirements specified for each Outcome to gain this Unit. Centres may use the instrument of assessment which they consider to be most appropriate but are advised to use the Bricklaying Training and Assessment Programme (TAP) which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP and have been through prior verification.

Accurate records should be made of the assessment instruments used showing how evidence is generated for each Outcome and giving marking schemes, checklists and recorded candidate feedback. Records of candidates' achievements should be retained. These records must be made available for external verification.

## **Higher National Unit specification: statement of standards**

**Unit title:** Bricklaying: Steps in Brick and Concrete

**Unit code:** F8ML 34

The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

### **Outcome 1**

Explain techniques used to set out and construct steps in brick and concrete

#### **Knowledge and/or Skills**

- ◆ setting out techniques for steps in brick and concrete
- ◆ methods used to maintain regular tread and riser
- ◆ principles of maintaining bond for brick steps
- ◆ safe working practices
- ◆ sustainability/site waste management

#### **Evidence Requirements**

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ explain the setting out of steps in brick and concrete and outline the sequence of operations for constructing steps in brick and concrete
- ◆ outline methods of maintaining brick treads and risers
- ◆ outline the principles used to maintain bond during the building of steps in brick
- ◆ identify safe working practices relevant to steps in brick and concrete
- ◆ outline methods used to minimise waste during construction of steps in brick and concrete

All the evidence requirements must be met and all items in the Knowledge and Skills covered. Evidence should be gathered through an assignment outlining the processes, techniques, health and safety and sustainability requirements related to steps in brick and concrete. Assessment should be conducted under open book supervised conditions.

#### **Assessment Guidelines**

In the assessment candidates will be required to complete an assignment based on drawings and specifications for an actual work project. This could be conducted as an in class assignment lasting up to three hours.

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Bricklaying: Steps in Brick and Concrete

### Outcome 2

Set out and build steps in brick and concrete

#### Knowledge and/or Skills

- ◆ setting out techniques for steps in brick and concrete
- ◆ understanding of treads and risers
- ◆ ability to maintain treads and risers
- ◆ safe working practices
- ◆ sustainability/site waste management
- ◆ working to specifications/tolerances

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ set out steps in brick and concrete
- ◆ maintain consistent treads and risers throughout the construction of steps in brick and concrete
- ◆ follow current safe working practices
- ◆ minimise the waste of materials throughout practical work
- ◆ work to specified tolerances identified in the specification

The following will assist the assessor in judging the candidate performance against the evidence requirements:

Templates(tread and riser gauges)	To suit steps constructed
Setting out each step (tread and risers)	± 2mm
Setting out (going)	± 8mm on overall going
Total rise	± 8mm on overall height
Brickwork gauge	± 5mm on overall height
Run on step	± 2mm
Level (length)	± 3mm
Nosing line	± 2mm
Pointing	Acceptable finish clean
Perpend	± 3mm
Tying in	Acceptable system
Bonding	Acceptable arrangement
Joint thickness	± 3mm
Facework	Acceptable finish clean
Handle components with care	No damage
Minimises waste & dispose of it appropriately	Suitable level and method
Wears appropriate Personal Protective Equipment (PPE)	at all times
Current Health and Safety legislation	complies at all times

## **Higher National Unit specification: statement of standards (cont)**

### **Unit title:** Bricklaying: Steps in Brick and Concrete

Evidence will be gathered through observation of work processes and assessment of the completed work. Assessment should be carried out under controlled supervised conditions. In order to achieve this Outcome, candidates are required to present sufficient evidence that they have met all the Knowledge and/or Skills elements. An assessor observation checklist should be completed to ensure that the candidate has met the required specification and tolerances and the observation checklist should be retained as evidence.

Candidates should work in pairs wherever possible to complete this Outcome.

### **Assessment Guidelines**

This Outcome is assessed on the candidates' actual performance of setting out and constructing two flights of steps to a given specification and required tolerances.

Candidates should be provided with drawings and specifications for the practical task. Assessment should be carried out in a suitable workshop environment. Timing for this assessment should be determined prior to commencement. An observation checklist should be completed to ensure the candidate has evidenced all the Knowledge and/or Skills included in this Outcome to the specifications and tolerances required.

## Administrative Information

<b>Unit code:</b>	F8ML 34
<b>Unit title:</b>	Bricklaying: Steps in Brick and Concrete
<b>Superclass category:</b>	TG
<b>Original date of publication:</b>	August 2010
<b>Version:</b>	02

### History of changes:

Version	Description of change	Date
02	Update to method of construction method and assessment guidance	June 2010

**Source:** SQA

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## **Higher National Unit specification: support notes**

### **Unit title: Bricklaying: Steps in Brick and Concrete**

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 Professional Development Award in Bricklaying at SCQF level 7 and may be delivered in a sequence suitable to individual candidates and centres.

This Unit is designed to enable the candidate to develop their knowledge, understanding and skills relevant to setting out and building steps in brick and concrete.

Candidates following a career in brickwork and with current industrial experience will benefit from undertaking this Unit.

The knowledge and skills for this Unit should be incorporated with modern methods of setting out and building steps in brick and concrete. Terminology commonly associated with bricklaying should also be used throughout this Unit.

It is vitally important that candidates gain an understanding and knowledge of the sequencing of operations with regard to setting out and constructing flights of steps in brick and concrete

Current Health and Safety, sustainability and waste management issues should be fully emphasised throughout the delivery of this Unit.

Working to specified tolerances and methods of checking completed work should be demonstrated and undertaken by the candidate.

### **Guidance on the delivery and assessment of this Unit**

The principles and methods of setting out and building steps in brick and concrete should be demonstrated to the candidate before summative assessment takes place.

The differing constraints candidates could encounter on site with various construction methods with regard to setting out and building steps in brick and concrete should be fully explained.

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. Safe working practices should be looked at in accordance with current safety codes of practice and regulations.

## Higher National Unit specification: support notes (cont)

Unit title: Bricklaying: Steps in Brick and Concrete

Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

Working tolerances should be explained as being the minimum standard which will be accepted and candidates should be encouraged to evaluate their own work.

### *Opportunities for developing Core Skills*

*Communication* skills at SCQF level 5 may be developed by the completion of the assignment for Outcome 1 and formative assessments undertaken prior to summative assessment.

*Working with Others* at SCQF level 5 could be developed working in pairs to construct the steps. Candidates can agree responsibilities and provide support and information to each other during assessments. After assessment, they should be encouraged to consider how effectively they supported each other.

*Information and Communication Technology* at SCQF level 5 may be developed by the candidates' carrying out individual research of modern and traditional step construction techniques, Health and Safety legislation and sustainability relating to the task.

*Problem Solving* at SCQF level 5 could be developed as candidates determine bonding details for the brick and paving steps. Candidates will need to take account of a range of factors in order to work efficiently and safely, such as the choice of tools, appropriate materials, safety issues, safety equipment and sustainability. Individual discussions with assessors will enhance the evaluation of efficient working practices.

*Numeracy* will be developed at SCQF level 5 when taking off dimensions from working drawings, measuring, calculating and setting out.

### **Open learning**

Although this Unit could be delivered by distance learning, it would require a considerable degree of planning by the centre to ensure the sufficiency and authenticity of candidate evidence. Arrangements would have to be made to ensure that:

- ◆ the practical activities would have been supervised by a responsible person and clearly recorded (using an assessment checklist for the assessor)
- ◆ the assessor is, at some point, able to question the candidate on that performance
- ◆ production of drawings is carried out under the stated conditions

### **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 alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: [www.sqa.org.uk](http://www.sqa.org.uk).



## General information for candidates

### Unit title: Bricklaying: Steps in Brick and Concrete

This Unit is designed to develop your practical skills and knowledge of step construction. You will develop your understanding of modern and traditional practices and techniques and comply with sustainability issues and current Health and Safety legislation throughout the Unit.

You will have to demonstrate the required techniques in setting out flights of steps and demonstrate your understanding of the techniques and regulations used to set out and govern step construction.

You will learn about sustainability issues and how new materials, techniques and systems can have an impact on improving the sustainability in general and you will comply with current Health and Safety regulations and legislation throughout.

### Outcome 1

Explain techniques used to set out and construct steps in brick and concrete

You are required to explain and illustrate techniques used to set out and construct steps in brick and concrete through the production of an assignment outlining the related processes. Assessment will be conducted under open book supervised conditions.

Topics relating to this Outcome will include:

- ◆ setting out of pre-cast concrete steps
- ◆ setting out of brick steps
- ◆ cantilevered spandrels steps
- ◆ steel reinforcement used in pre-cast steps
- ◆ methods of bonding
- ◆ construction methods for laying pre-cast steps
- ◆ use of tread and riser gauges
- ◆ temporary supports for cantilevered steps
- ◆ formworks for cast-in-situ steps
- ◆ building regulations for steps

You will have to demonstrate the required techniques in setting out steps in brick and concrete and demonstrate your understanding of the traditional and modern techniques of setting out and building steps in brick and concrete.

You will learn about sustainability issues and how new materials, techniques and systems can have an impact on improving the sustainability in general and you will comply with current Health and Safety regulations and legislation throughout.

You will be assessed by the completion of an assignment in which you will be required to describe in detail and illustrate the methods used to set out and build steps in brick and concrete. You will give detailed sequence of operations required to set out and build steps in brick and concrete.

## **General information for candidates (cont)**

### **Unit title:** Bricklaying: Steps in Brick and Concrete

The assessment for this Outcome will be open book and will be carried out in a supervised environment. You will have access to your own notes that you have prepared personally for your own use. You will not be permitted to bring textbooks, handouts or other materials that you have not prepared yourself.

### **Outcome 2**

Set out and build steps in brick and concrete

You will be assessed in your ability to

- ◆ produce templates
- ◆ set out and construct flights of steps in brick and concrete
- ◆ work in a safe manner at all times
- ◆ meet specifications and tolerances
- ◆ minimise waste and dispose of it in line with procedures

You will be assessed in supervised workshop conditions to specified tolerances contained in an observation checklist. These tolerances should be fully explained and available prior to you commencing the assessment. You will be required to whenever possible work in pairs to complete these assessments. You will receive both oral and written feedback on your performance from the assessor.