



## Higher National Unit specification

### General information for centres

**Unit title:** Bricklaying: Curved Walls on Plan and Elevation

**Unit code:** F8MF 35

**Unit purpose:** This Unit is designed to enable the candidate to develop their knowledge, understanding and skills relevant to the geometry, setting out and building of curved walls on plan and elevation. The candidate will enhance their practical competence and experience in setting out and building curved walls on plan and elevation

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

- 1 Explain techniques used to set out and build curved brickwork
- 2 Set out a serpentine wall
- 3 Set out and build a curved ramp

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

*\*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* 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 was developed as part of the Professional Development Award in Bricklaying at SCQF level 7 and is aimed at candidates following a career in brickwork and with current industrial experience.

## General information for centres (cont)

**Assessment:** The candidate will be given the opportunity to enhance their skills and knowledge in bricklaying by learning about the principles of building curved brickwork on plan and elevation

Construction practices used build curved brickwork should be integrated into the practical tasks undertaken by the candidate. The principles of setting out and building curved walling should be explained throughout the practical activities. The learning and teaching approaches used should ensure that the candidate is acquiring the underpinning knowledge required for the Unit.

This Unit is assessed on the candidate's knowledge of techniques used to construct curved brickwork on plan and elevation and actual performance of setting out a serpentine wall and building a curved ramp to meet the Evidence Requirements in all Outcomes.

In order to achieve this Unit, candidates are required to present sufficient evidence that they have met all the knowledge and/or skills elements for each Outcome. Details of these requirements are given for each Outcome.

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 the production of an assignment for Outcome 1 and observation of work processes and assessment of the 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 instruments 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: Curved Walls on Plan and Elevation

**Unit code:** F8MF 35

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 build curved brickwork

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

- ◆ curved brickwork
- ◆ setting out techniques
- ◆ principles of maintaining bond on curved walling
- ◆ safe working practices
- ◆ sustainability and site waste
- ◆ modern brickwork techniques

#### **Evidence Requirements**

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

- ◆ explain the geometry of setting out curves, sequences of operations and setting out techniques
- ◆ outline the techniques used to maintain bond during the building of curved brickwork
- ◆ identify safe working practices relevant to walls curved on plan and elevation
- ◆ outline methods used to minimise waste during construction of curved brickwork
- ◆ outline modern techniques for curved brickwork

All working practices must be in line with current and relevant Health and Safety Legislation and Building Regulations.

All the Evidence Requirements must be met and all items in the Knowledge and/or Skills covered. Evidence should be gathered through the production of an assignment outlining the processes related to setting out and building herringbone panels on battered brickwork. Assessment should be conducted under open-book supervised conditions.

#### **Assessment Guidelines**

In this 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: Curved Walls on Plan and Elevation

### **Outcome 2**

Set out a serpentine wall

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

- ◆ geometrical setting out techniques
- ◆ setting out equipment
- ◆ maintain curves
- ◆ safe working practices
- ◆ sustainability/site waste management
- ◆ working to specifications and tolerances

#### **Evidence Requirements**

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

- ◆ set out a serpentine wall
- ◆ use setting out equipment
- ◆ maintain consistent curves
- ◆ follow current safe working practices
- ◆ minimise the waste of materials throughout practical tasks
- ◆ work to specified tolerances identified in the specification

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 this observation checklist should be retained as evidence.

#### **Assessment Guidelines**

This Outcome is assessed on the candidates' actual performance of setting out a serpentine wall 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 skills included in this Outcome to the specification and tolerances required.

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

**Unit title:** Bricklaying: Curved Walls on Plan and Elevation

### Outcome 3

Set out and build a curved ramp

#### Knowledge and/or Skills

- ◆ geometrical setting out techniques
- ◆ maintaining curves during building
- ◆ establishing cuts
- ◆ building curved ramp
- ◆ maintain consistent B.O.E
- ◆ safe working practices
- ◆ sustainability/site waste management
- ◆ working to specification/tolerances

#### Evidence Requirements

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

- ◆ set out and build a curved ramp
- ◆ maintain a consistent curve to the ramp
- ◆ build a consistent B.O.E
- ◆ build pier cap
- ◆ follow current safe working practices
- ◆ minimise the waste of resources throughout practical tasks
- ◆ work to specified tolerances identified in the specification

The following specification will assist the assessor in judging the candidate performance against the Evidence Requirements for Outcomes 2 and 3:

#### Specification for Outcomes 2 and 3

Serpentine wall:

Location of Serpentine Wall	As specified
Appropriate setting out tools and equipment selected.	To allow setting out to be completed successfully.
Sequence of Operations	followed throughout
Radius points established	± 8mm
Radius maintained	± 4mm
Curves marked out correctly (face of wall)	± 4mm
Width of wall marked out correctly (215 mm)	± 2mm
Wears appropriate PPE	
Current Health and Safety Legislation	At all times
	Complied with at all times

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

### Unit title: Bricklaying: Curved Walls on Plan and Elevation

Curved Ramp:

Selection of equipment is appropriate to the task.	As specified
Setting out	± 3mm all sizes
Soldier course plumb	± 2mm each soldier
Gauge	± 4mm
Pier cap level	± 3mm
Pier cap mitres joint size	± 2mm
Plumb	± 4mm in overall height
Cutting to ramp (bed joints)	± 3mm
BOE to curved ramp (curve maintained)	± 3mm
Curved walls radius	As specified ± 3mm
BOE bed joints	± 2mm
BOE joint size (consistent)	± 2mm
Face plane (to pier)	± 4mm
Rear face curved work	Joints flush
Appearance (facework)	Clean no smudges
Cutting to ramp	Minimum waste
Joint thickness	± 3mm
Wears appropriate PPE	at all times
Current Health and Safety Legislation	complied with at all times

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 this observation checklist should be retained as evidence.

### Assessment Guidelines

This Outcome is assessed on the candidates' actual performance of setting out a serpentine wall and setting out and building a curved ramp wall 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 skills included in this Outcome to the specification and tolerances required.

## Administrative Information

<b>Unit code:</b>	F8MF 35
<b>Unit title:</b>	Bricklaying: Curved Walls on Plan and Elevation
<b>Superclass category:</b>	TG
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### 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 (cont)**

### **Unit title:** Bricklaying: Curved Walls on Plan and Elevation

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 8 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 curved walls on plan and elevation.

Candidates will be required to demonstrate their knowledge of terminology, geometry, setting out techniques and construction practices by successful completion of an assignment related to curved walls on plan and elevations. This assessment will be conducted under controlled, closed-book supervised conditions.

All equipment should be supplied for the candidate to use in order to complete all three Outcomes. It is fundamental to this Unit that professional discussions on appropriate setting out techniques, construction practices and sequences of building is used for curved walls on plan and elevation and that the candidate is given time to develop their methodology prior to assessment.

This Unit has been developed to allow candidates to gain knowledge, understanding and skills required to set and build curved walls on plan and elevation to a high standard of finish. This will improve the candidate's ability to undertake curved brickwork tasks to a high standard.

This Unit will be undertaken in a situation where candidates will be expected to acquire underpinning knowledge and skills relating to curved walls on plan and elevation and is complemented by other Units dealing with related aspects of decorative brickwork. The competences and underpinning knowledge gained in successfully completing this Unit would be transferable across a range of disciplines within the Professional Development Award in Bricklaying at SCQF level 7.

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.



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

**Unit title:** Bricklaying: Curved Walls on Plan and Elevation

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

Centres may use the instruments of assessment which they consider to be most appropriate but are advised to use the Bricklaying Training and Assessment (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.

Where this Unit is incorporated into other Group Awards it is recommended that it be delivered in the context of the specific occupational area that the award is designed to cover. Details on approaches to assessment are given under Evidence Requirements and Assessment guidelines under each Outcome in the Higher National Unit specification: statement of standards section. It is essential that these sections be read carefully before proceeding with assessment of candidates.

Most of this Unit will be completed in a situation with candidates carrying out the procedures outlined in the Outcomes. Learning should be enhanced by the use of ICT, DVDs and hands-on experience and experience from the workplace.

Demonstrations and professional discussions by tutors/trainers especially in the application of practical aspects of these Outcomes should reinforce and augment the candidate's previous knowledge. Safety factors should be highlighted where applicable during practical activities.

Candidates should be given as much practise as possible in bricklaying techniques and setting out techniques, prior to being set the assessments. Candidates will work individually during all Outcomes.

Evidence will be gathered for Outcome 2 and 3 through observation of work processes and assessment of completed work, to confirm that the candidate has met the given standards and tolerances. An assessor observation checklist can be used to record this evidence. Assessment should be conducted under controlled, supervised conditions.

Candidates will also be required to demonstrate their knowledge of terminology, geometry, setting out techniques and construction practices by successful completion of an assignment relating to architectural and feature brickwork. This assessment will be conducted under controlled, closed-book supervised conditions.

Where available, evidence from the workplace can also be incorporated to enhance the Outcomes, provided that this evidence is appropriate and authenticated as the student's own work.

It is the responsibility of the centre to satisfy themselves that the portfolio of evidence submitted for assessment is entirely original and solely the respective student's work.

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

### Unit title: Bricklaying: Curved Walls on Plan and Elevation

Throughout the Unit emphasis will be placed, where appropriate, on the application of Health and Safety and Sustainability. Safe working practises should be looked at in accordance with current safety codes of practise and regulations. Sustainability should include reference to criteria affecting sustainability, impact of not implementing sustainability on the environment and the legislation promoting sustainability.

#### *Opportunities for developing Core Skills*

*Communication* skills at SCQF level 5 may be developed by the completion of the assignment for Outcome 1. Candidates are required to produce a written assignment outlining the processes, techniques, health and safety and sustainability requirements related to architectural and feature work.

*Information and Communication Technology* at SCQF level 4 may be developed by the candidates' carrying out individual research of modern and traditional features, construction techniques, health and safety legislation and sustainability relating to the task.

*Problem Solving* at SCQF level 5 could be developed as candidates 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* could be developed at SCQF level 5 when taking off dimensions from working drawings, measuring, calculating and setting out.

The following grid provides a general guide to opportunities for the development of Core Skills in this Unit. Opportunities for the development of Core Skills at the output level are more fully identified in the Core Skills Sign Posting Guide.

### 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, or on video) for the assessor
- ◆ the assessor is, at some point, able to question the candidate on that performance (face to face, by telephone, online)
- ◆ the open-book assignment for Outcome 1 is conducted in a supervised environment

### 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: Curved Walls on Plan and Elevation

This Unit is designed to further your career in the Construction Industry by making you more competent and enhance your knowledge of curved walls on plan and elevation. It will also give you a further appreciation through technical information and appropriate manufacturers information. The Unit will also allow you to gain hands on experience in order to appreciate brickwork at an advanced level.

#### Outcome 1

You are required to explain techniques used to produce templates set out and build architectural and feature brickwork such as:

- ◆ curved brickwork
- ◆ setting out techniques
- ◆ principles of maintaining bond on curved walling
- ◆ safe working practices
- ◆ sustainability and site waste
- ◆ modern brickwork techniques

Your work will be assessed via an assignment.

#### Outcome 2

You are required to produce templates using geometry.

Your work will be assessed via an observation checklist to provide evidence that you completed work meets the required specification and tolerances to:

- ◆ read and interpret drawings
- ◆ setting out a serpentine wall
- ◆ maintaining curves

#### Outcome 3

You are required to set out and construct Curved Wall and suitable materials will be provided and your work will be assessed via an assessor observation checklist to provide evidence to demonstrate your knowledge and skills by showing that you can:

- ◆ read and interpret drawings
- ◆ setting out curves
- ◆ maintain curves
- ◆ cutting to curved ramps
- ◆ building curved ramps

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