



## Higher National Unit specification

### General information for centres

**Unit title:** Stonemasonry: Cutting Wrought Stone

**Unit code:** F8PW 34

**Unit purpose:** This Unit is designed to enable the candidates to develop their knowledge, understanding and skills in wrought stone cutting. Candidates will develop their ability in template manufacture to produce finished stone and setting out drawings. It is also designed to provide candidates with competence in the use of tools and equipment to set out and cut and the ability to apply these skills in the workplace. It is also designed to enable candidates to develop their skills and understand and use stonemasonry terminology, techniques and schedules used to set out and cut a stone model.

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

- 1 Produce a full-size drawing of a wrought stone.
- 2 Prepare face, joint raking, and reverse templates.
- 3 Prepare and use a stone schedule.
- 4 Cut a springer stone for a pediment.

**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 the centre. However, it is recommended that candidates have completed the Professional Development Award in Stonemasonry 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, Information and Communication Technology* and *Problem Solving* all at SCQF level 5 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 within the subject area of the Group Award to which it contributes. The Unit forms part of the Professional Development Award in Stonemasonry at SCQF level 7 and is aimed at candidates following a career in stonemasonry and receiving complementary industrial experience.

## General information for centres (cont)

**Assessment:** The candidate will be given the opportunity to enhance their skills and knowledge in stonemasonry by learning about advanced stone cutting. Techniques and practices used to set out, template production and stone cutting should be integrated in the practical tasks undertaken. The principles and techniques should be explained throughout the practical activities.

This Unit is assessed on the candidates' performance of setting out, template production and stone cutting and the ability 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 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 stonemasonry 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 will be made available for external verification.

Outcome 1 candidates are to produce a full size drawing for the wrought stone model. Outcome 2 candidates are to produce all the relevant templates for the production of the stone pieces. Outcome 3 candidates are to produce a stone schedule. Outcome 4 Candidates are to cut a Springer for a stone pediment.

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

**Unit title:** Stonemasonry: Cutting Wrought Stone

**Unit code:** F8PW 34

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

### **Outcome 1**

Produce a full-size drawing of a wrought stone

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

- ◆ Sequence of work
- ◆ Full size drawings
- ◆ Elevations of mouldings
- ◆ Drawing tools and equipment

#### **Evidence Requirements**

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

- ◆ plan the sequence of work and select drawing tools and equipment tools for a given task to a specified tolerance of +/- 1mm
- ◆ produce the drawings from a given specification and size
- ◆ comply with health and safety procedures
- ◆ elevations: front; end; auxiliary elevation of joint

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through an assignment on production of one full size drawing. 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 assignment in a classroom environment lasting up to three hours.

### **Outcome 2**

Prepare face, joint, raking, and reverse templates

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

- ◆ Setting out
- ◆ Details and dimension
- ◆ Template production
- ◆ Tools and equipment

## Higher National Unit specification: statement of standards

**Unit title:** Stonemasonry: Cutting Wrought Stone

### Evidence Requirements

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

- ◆ describe setting out method is correct
- ◆ details and dimensions are in accordance with the drawing
- ◆ templates are cut in accordance with the specification
- ◆ describe the selection of tools and equipment is appropriate to the work
- ◆ follow current safe working practice
- ◆ minimise the waste of materials throughout practical work
- ◆ work to specified tolerances identified in the specification

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through the production of one full size drawing. Assessment should be conducted under closed-book, supervised conditions.

Evidence should be gathered through the production of face; joint, raking and reverse templates which should be cut to a tolerance of +/- 1 mm.

The following will assist the assessor in the judging the candidates performance against the Evidence Requirements

Apply templates and scribe outlines on stone	± 1mm
Face templates cut to shape	± 1mm
Joint template profile cut to	± 1mm
Raking templates cut to	± 1mm
Reverse templates cut to	± 1mm

### Assessment Guidelines

This Outcome is assessed on the candidates ability to produce one face, one reverse, one joint, one reverse template to given specification.

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 specifications and tolerances required.

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

**Unit title:** Stonemasonry: Cutting Wrought Stone

### **Outcome 3**

Prepare and use a stone schedule

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

- ◆ Stone schedule
- ◆ Index of stone
- ◆ Dimensions of stone
- ◆ Quantity of stone
- ◆ Description of stone

#### **Evidence Requirements**

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

- ◆ explain the purposes of schedules, reason for scheduling specific information and calculate volume and mass

Assessment should be conducted under closed-book supervised conditions. All working practices must be in line with current and relevant health and safety.

All the Evidence Requirements must be met and all items in the knowledge and skills covered.

#### **Assessment Guidelines**

This Outcome is assessed on the candidates ability to produce a stone schedule for wrought stone to a given specifications.

All the Evidence Requirements must be met and all items in the knowledge and skills covered. Evidence should be gathered through an assignment on production of a stone schedule. Assessment should be conducted under closed-book supervised conditions

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

**Unit title:** Stonemasonry: Cutting Wrought Stone

### Outcome 4

Cut a Springer stone for a pediment

#### Knowledge and/or Skills

- ◆ Cutting wrought stone
- ◆ The selection of tools is appropriate to the work
- ◆ Work methods and activities
- ◆ Health and safety regulations

#### Evidence Requirements

The following will assist the assessor in the judging the candidates performance against the Evidence Requirements.

Apply templates and scribe outlines on stone	± 1mm
Mouldings	± 1mm
Sunk faces	± 1mm
Mitres	± 1mm
Weathering	± 1mm
Stone prepare to receive fixings to	± 2mm

Evidence will be gathered through observation of work process 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.

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can: cut a Springer stone of minimum dimensions of 250mm × 150mm × 250mm to include mouldings, mitres, sunk faces and weathering.

#### Assessment Guidelines

This Outcome is assessed on the candidates, actual performance of preparing for cutting and finishing wrought stone 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 specifications and tolerances required.

## Administrative Information

**Unit code:** F8PW 34

**Unit title:** Stonemasonry: Cutting Wrought Stone

**Superclass category:** TG

**Original date of publication:** August 2010

**Version:** 01

### History of changes:

Version	Description of change	Date

**Source:** SQA

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

### **Unit title: Stonemasonry: Cutting Wrought Stone**

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 stonemasonry 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 cutting wrought stone.

Candidates following a career in stonemasonry 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 cutting wrought stone applied where possible. Terminology commonly associated with stonemasonry 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 cutting wrought stone.

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.

The candidate successfully completing this Unit should achieve a level of competence of someone who, from time to time, may be expected to carry out wrought stone cutting and building.

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

The principles and methods of setting out and cutting wrought stone 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 cutting wrought stone 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. 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.

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



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

**Unit title:** Stonemasonry: Cutting Wrought Stone

### *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 setting out and cutting wrought stone.

*Working with Others* at SCQF level 5 could be developed when working in pairs when producing Outcome 1. Candidates can agree responsibilities and provide support and information to each other during the assessments. After assessment, they should be encouraged to consider how effectively they supported each other.

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

*Problem Solving* at SCQF level 5 could be developed as candidates compare and contrast wrought stone and construction techniques. 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* could 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 activity in Outcome 1, 2, and 4 is 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 closed-book test for Outcomes 1, 3, 4 is delivered 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 whether any reasonable adjustments may be required. Further advice can be found on our website

[www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)

## **General information for candidates**

### **Unit title: Stonemasonry: Cutting Wrought Stone**

This Unit is designed to develop your practical skills and knowledge of complex setting out and building wrought stone. 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 and cutting wrought stone and demonstrate your understanding of the traditional techniques and modern techniques of setting out and building wrought stone.

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: Produce a full-size drawing of a wrought stone**

You will be assessed on the completion of an assignment in which you will be required to describe and explain in detail the methods used to set out and cut wrought stone. You will give detail sequence of operations required to set out and cut wrought stone.

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: Prepare face, joint, raking, and reverse templates**

You will be assessed on the completion of an assignment in which you will be required to produce a face joint, raking and reverse template used to set out and cut wrought stone.

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 3: Prepare and use a stone schedule**

You will be assessed on the completion of an assignment in which you will be required to prepare and use a stone schedule.

The assessment for this Outcome will be closed-book and will be carried out in a supervised environment.

## General information for candidates

### Unit title: Stonemasonry: Cutting Wrought Stone

Outcome 4: Cut a Springer stone for a pediment.

You will be assessed in your ability to:

- ◆ cut a springer stone
- ◆ work in a safe manner at all times
- ◆ meet given specifications and tolerances

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 work individually for the assessment and where required in pairs. You will receive both oral and written feedback on your performance from the assessor.

There are opportunities for you to develop your 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.