



National Unit specification: general information

Unit title: Stonemasonry: Cutting a Plane Surface on Stone (SCQF level 6)

Unit code: H0RV 12

Superclass: TG

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Summary

This Unit is suitable for candidates working towards a Modern Apprenticeship in Stonemasonry and will develop the candidates craft skills in working a rough surface in Stone, down to a working surface out of twist, to a chiselled finish. Manual lifting, mechanically lifting, stacking and protection of stones will be taught and how to identify faults and defects in stone. The Unit is designed to provide candidates with competence in the use of tools and enable them to apply these skills in the workplace. It is also designed to enable candidates to develop their skills and understand and use of Stonemasonry terminology, techniques and practices.

Outcomes

- 1 Demonstrate an understanding of the use of masonry tools.
- 2 Prepare for manual and mechanically lifting of stones.
- 3 Lift, position, stack and protect stones.
- 4 Identify natural bedding planes, faults and defects.
- 5 Form a working surface out of twist, to a chiselled finish.

Recommended entry

While entry is at the discretion of the centre, candidates undertaking the Professional Development Award in Stonemasonry at SCQF level 6 must meet the requirements of the Modern Apprentices which include being employed in the relevant craft industry.

General information (cont)

Unit title: Stonemasonry: Cutting a Plane Surface on Stone (SCQF level 6)

Credit points and level

1 National Unit credit at SCQF level 6 (6 SCQF points at SCQF level 6*)

**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

Achievement of this Unit gives automatic certification of the following:

Complete Core Skill None

Core Skill component Critical Thinking @ SCQF level 4

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit Specification.

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

Demonstrate an understanding of the use of masonry tools.

Performance Criteria

- (a) Select appropriate masonry tools for the given task.
- (b) Use tools in accordance with recognised practice.
- (c) Maintain tools safely and correctly.

Outcome 2

Prepare for manual and mechanically lifting of stones.

Performance Criteria

- (a) Prepare stone for manual lifting correctly.
- (b) Prepare stone for mechanically lifting stones correctly.
- (c) Comply with current Health and Safety legislation during all work methods and activities.

Outcome 3

Lift, position, and stack and protect stones.

Performance Criteria

- (a) Maintain correct posture and balance during manual lifting.
- (b) Ensure selected route clear of any obstructions, stack and protect stones.
- (c) Position stone correctly on banker.
- (d) Comply with current Health and Safety legislation during all work methods and activities.

Outcome 4

Identify natural bedding planes, faults and defects.

Performance Criteria

- (a) Identify natural bedding planes correctly.
- (b) Identify faults and defects correctly.
- (c) Comply with current Health and Safety legislation during all work methods and activities.

National Unit specification: statement of standards (cont)

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Outcome 5

Form a working surface out of twist to a chiselled finish.

Performance Criteria

- (a) Cut stone to receive boning blocks and checks for twists.
- (b) Pitch the stone to line.
- (c) Cut marginal draughts and work stone down to flat surface.
- (d) Select, use, clean and store appropriately all tools used in the task.
- (e) Comply with current Health and Safety legislation during all work methods and activities.

Evidence Requirements for this Unit

These Evidence Requirements will be met by the completion of the Stonemasonry Training and Assessment Programme (TAP).

Evidence is required to demonstrate that the candidate has achieved this Unit to the standard specified in all the Outcomes and Performance Criteria.

Written and/or oral recorded evidence is required to demonstrate that the candidate has achieved the knowledge elements of Outcomes 1, 2, 3 and 4. Assessment will take the form of a question paper. These assessments will be carried out under controlled, supervised closed-book conditions.

Performance evidence supported with an assessor observation checklist must be used to show that the candidate has achieved the practical elements of the Unit to the standard specified in Outcomes 1, 2, 3 and 5. Each candidate will be observed in their ability to carry out given tasks correctly and safely. Assessment of these Outcomes will be carried out in a workshop under supervised conditions.

Candidates must:

- ◆ Select appropriate tools for the task in hand
- ◆ Maintain these tools to a good standard
- ◆ Adopt the correct sequencing for hewing stone
- ◆ Lift, position and stack stones in the correct manner
- ◆ Select appropriate lifting devices for different types of stones and situations
- ◆ Identify natural bedding planes
- ◆ Recognise natural faults and defects in stone
- ◆ Cut a stone to receive four boning blocks and check for twist
- ◆ Cut marginal draughts between boning block levels and pitch the stone to a flat surface
- ◆ Finished stone to measure 350mm x 300mm on face and 200mm thick (naturally bedded)
- ◆ Produce a tooled surface finish to 45 degrees on the face as per task

National Unit specification: statement of standards (cont)

Unit title: Stonemasonry: Cutting a Plane Surface on Stone (SCQF level 6)

Throughout all of the practical elements of this Unit candidates must:

- ◆ Select, use, clean and store appropriately all tools used
- ◆ Work in accordance with the current health and safety legislation

The evidence will be produced on assessment and should be carried out under supervised conditions. Candidates must be observed in the attainment of all Outcomes and Performance Criteria in the statement of the standards. An assessor observation checklist must be retained as evidence that the candidate has achieved all Outcomes and Performance Criteria.

Outcomes 2 and 3

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Posture and Balance	Yes/No
Clear route	Yes/No
Position on banker	Yes/No
Stone prepared for fixing.(Dowal, Cramp, etc)	Yes/No
Safe manner and supervised	Yes/No
Health and Safety	Complies at all times.
Risk Assessment	Safety boots worn at all times High visibility vest worn at all times. All other PPE as risk assessed.
Method Statement	Working area kept clean at all times Materials stacked correctly at all times Tools handled correctly at all times Tools Cleaned at stored safely at the end of working day.

National Unit specification: statement of standards (cont)

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Outcome 5

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Minimum stone size	350mm x 300 mm x 200 mm
Face of stone out of twist	+/-2 mm
Draughts	+/-2 mm
Surface true	+/-2 mm
Indentations on surface (maximum of three)	Not exceeding 10 mm
Sequence of Roughing Down	To be correct
Risk Assessment	Safety boots worn at all times Airstream helmet worn at all times Boilersuit worn at all times. High visibility vest worn at all times. All other PPE as risk assessed.
Method Statement	Working area kept clean at all times Materials stacked correctly at all times Tools handled correctly at all times Tools cleaned at stored safely at the end of working day.

National Unit specification: support notes

Unit title: Stonemasonry: Cutting a Plane Surface on Stone (SCQF level 6)

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 a mandatory Unit in the Professional Development award in Stonemasonry at SCQF level 6.

The successful completion of this Unit will provide candidates with the required underpinning knowledge and skills relating to the process of using various tools for hand hewing, manual and mechanical handling techniques, identifying faults in stone and forming a flat plane surface out of twist.

The Unit should be offered to candidates from the construction and related service industries. The skills and knowledge and understanding are transferable within different working environments but the Unit is primarily aimed at candidates whose normal place of work would be a site, workshop or similar environment.

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. Learning and Teaching should include details on how safe systems of work have been drawn up to ensure that stone handling has been planned by a competent person, is adequately supervised and is carried out in a safe manner.

National Unit specification: support notes (cont)

Unit title: Stonemasonry: Cutting a Plane Surface on Stone (SCQF level 6)

Guidance on learning and teaching approaches for this Unit

The achievement of skills and underpinning knowledge required for this Unit will be assisted by the provision of information sources in the form of:

- ◆ Oral and/or written instructions; graphic and photographic materials and technical information
- ◆ Hands-on task on uses of tools on stone to create an even plane surface, out of twist, and to finish off with a tooled finish on the face at 45 degrees

The teaching approach should ensure the candidate gains the underpinning knowledge required for the Unit. Teachers/Lecturers should demonstrate practical activities step-by-step until the candidate is competent to attempt the tasks under assessment conditions. Effective questioning should be encouraged throughout, focusing on skills, stonemasonry practices and underpinning knowledge related to cutting a plane surface on stone, how to lift stone mechanically and prepare for a fixing as specified.

Opportunities should be taken throughout the delivery of this Unit to meet the requirements of the generic Units of the Training and Assessment Programme including:

- ◆ *Conform to General Workplace Health, Safety and Welfare*
- ◆ *Confirm Work Activities and Resources for the Work*
- ◆ *Develop and Maintain Good Working Relationships*
- ◆ *Confirm the Occupational Method of Work*
- ◆ *Conform to Productive Working Practices*
- ◆ *Move, Handle or Store Resources*

The requirement to adopt safe working practices and comply with safety legislation must be emphasised throughout.

It is recommended that this Unit be delivered in order of Outcomes as the order stated in the Statement of Standards.

National Unit specification: support notes (cont)

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Guidance on approaches to assessment for this Unit

Detailed assessment material for this Unit will be found in the Stonemasonry TAP. Centres may use the instruments of assessment which they consider to be most appropriate but are advised to use the Stonemasonry 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.

The candidate's knowledge and understanding of terminology, techniques and construction practices of Stonemasonry will be assessed through a question paper.

Candidates should be given as much practice as possible in the use of tools required for cutting a plane surface on stone, prior to being set the assessment. Evidence will be gathered for all Outcomes through observation that the candidates have met the given standards and tolerances during the practical assessment. An assessor observation checklist can be used to record this evidence.

In order to allow candidates to achieve all Outcomes and Performance Criteria candidates should be given a clear brief detailing the nature of exercises involved.

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 social software. 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)*.

National Unit specification: support notes (cont)

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Opportunities for developing Core Skills

Components of the Core Skill of *Problem Solving*, such as Planning and Organising and Critical Thinking will be developed 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 tools, appropriate materials, safety issues, safety equipment and sustainability. Individual discussions with assessors will enhance the evaluation of efficient working practices.

There are opportunities to develop Core Skill of *Working with Others* at SCQF level 4, particularly in Outcome 2 as this practical assessment may be carried out working in pairs, as part of teaching and learning. 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.

There will be opportunities for candidates to develop the Core Skill of *Communication* at SCQF level 4. Candidates will have the opportunity to develop written and/or oral communication skills for the knowledge part of the assessment. As candidates complete practical tasks, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

This Unit has the Critical Thinking component of Problem Solving embedded in it. This means that when candidates achieve the Unit, their Core Skills profile will also be updated to show they have achieved Critical Thinking at SCQF level 4.

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

History of changes to Unit

Version	Description of change	Date

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