



National Unit specification: general information

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (SCQF level 6)

Unit code: H0V0 12

Superclass: TG

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Source: Scottish Qualifications Authority

Version: 01

Summary

This Unit is suitable for candidates working towards a Modern Apprenticeship in Stonemasonry and will develop the candidate's craft skills in the preparation and use of lime mortars for Masonry. This Unit is designed to provide candidates with competence in the selection of materials and mixing of different lime based mortars for masonry and use of tools for pointing and an understanding of how to control the curing of lime mortar and methods of protection from the atmospheric elements. It is also designed to enable candidates to develop their skills and understand and use stonemasonry lime terminology, techniques and practices.

Outcomes

- 1 Prepare and mix a range of lime mortars.
- 2 Re-point joints in random rubble walling with lime mortar.
- 3 Control curing rate and protect lime pointing.
- 4 Demonstrate knowledge and understanding of lime terminology, techniques and practices.

Recommended entry

While entry to this Unit 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)

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Credit points and level

1 National Unit credit at SCQF 6 (6 SCQF credit 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

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (SCQF level 6)

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

Prepare and mix a range of lime mortars.

Performance Criteria

- (a) Select and use equipment appropriate to the task.
- (b) Select and measure hydraulic and non-hydraulic limes and aggregates correctly.
- (c) Mix and gauge mortars accurately in accordance with the given specification.
- (d) Comply with current Health and Safety legislation during all work methods and activities.

Outcome 2

Re-point joints in random rubble walling with lime mortar.

Performance Criteria

- (a) Select and use equipment appropriate to the task.
- (b) Select and measure hydraulic and non-hydraulic limes and aggregates correctly.
- (c) Mix and gauge mortars accurately in accordance with the given specification.
- (d) Clean existing masonry joints to a suitable depth to accept pointing.
- (e) Re-point and pin to given specification and apply finishing techniques appropriately.
- (f) Comply with current Health and Safety legislation during all work methods and activities.

Outcome 3

Control curing rate and protect lime pointing.

Performance Criteria

- (a) Carry out dampening in accordance with the specification.
- (b) Use protective covers in accordance with the specification.
- (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 4

Demonstrate knowledge and understanding of lime terminology, techniques and practices.

Performance Criteria

- (a) Explain the preparation of hydraulic lime accurately.
- (b) Explain the preparation of non-hydraulic lime.
- (c) Describe the gauging of mortars.
- (d) Explain the lime cycle.

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 Outcomes and Performance Criteria.

Outcomes 1-3

Product and performance evidence is required to demonstrate that the candidate has achieved all Outcomes to the standards specified in the Performance Criteria. Candidates will be required to select, prepare and produce a range of lime mortar mixes. Use the mix for a pointing task and protect and cure the applied mortar. Assessment of these Outcomes will be evidenced through observation of work processes and assessment of completed work model. Candidates must meet the given standards and tolerances during the practical assessments. An assessor observation checklist must be used to record this evidence. Assessment should be conducted under controlled, supervised conditions.

Outcome 4

Written and/or oral recorded evidence is required to demonstrate that the candidate has achieved all Outcomes to the standard specified in the Performance Criteria. This assessment will take the form of a question paper and will be conducted under controlled, closed-book supervised conditions.

National Unit specification: statement of standards (cont)

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (SCQF level 6)

Outcome 1

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Correct lime and aggregate selected	Yes/No
Mortar free from lumps of unmixed binder exceeding 3mm	Yes/No
Water content	minimum addition so mortar is just workable.
Workable Stiff sticky mortar.	Yes/No
Health and safety	Complies at all times.

Outcome 2

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Correct lime and aggregate selected	Yes/No
Mortar free from lumps of unmixed binder exceeding 3mm	Yes/No
Water content	minimum addition so mortar is just workable.
Workable Stiff sticky mortar.	Yes/No
Health and safety	Complies at all times.
Masonry wall Clean free from staining	Yes/No

Outcome 3

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Curing	Slow curing 7 days minimum.
Use of tools and equipment	Yes/No
Protective covering	Use of protective covering.
Health and safety	Complies at all times.

National Unit specification: support notes

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (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 candidate successfully completing this Unit will be given knowledge and understanding of terminology, construction practice in the use of tools and equipment for working with a range of lime mortars. Candidates will also carry out pointing of rubble masonry using these mixes and how to cure and protect the work.

This Unit should be offered to candidates from the construction and related services 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.

The Unit deals preparation, mixing and use of lime mortars. It should be delivered as part of a structured programme of training and orientated to the context of the candidate's work and area of responsibility.

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.

National Unit specification: support notes (cont)

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (SCQF level 6)

Guidance on learning and teaching approaches for this Unit

The candidate should be given the opportunity to further develop their skills in preparation and use of lime mortars for pointing. Lime mortar mixing and re-pointing techniques used in the stonemasonry craft. The task should be integrated with an existing practical task/test as it is undertaken, and the basic principles of such explained as the task/test is being produced. The use of graphic and photographic materials along with technical information will aid the candidate's knowledge.

This teaching approach should ensure the candidate is acquiring the underpinning knowledge required for the Unit. Teachers/Lecturers should demonstrate practical elements step by step until they feel that the candidate is competent to attempt tasks under assessment conditions. Effective questioning should be encouraged throughout, focusing on skills construction practices and underpinning knowledge related to the use and preparation of lime mortar for pointing.

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

Opportunities should be taken throughout 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 Practice
- ◆ Move, Handle or Store Resources

Guidance on approaches to assessment for this Unit

Detailed assessment materials for this Unit will be found in the Stonemasonry Training and Assessment Programme (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 candidates' knowledge and understanding of lime terminology, techniques and construction practices of stonemasonry will be assessed through a question paper.

Candidates should be given as much practise as possible in the preparation and use of lime mortar for pointing. Prior to being set the assessment, evidence could be gathered using an assessor observation checklist which can be used to record this evidence.

The candidates' knowledge and understanding of lime, techniques and construction practices of stonemasonry will be assessed through a question paper and conducted under controlled, supervised conditions.

National Unit specification: support notes (cont)

Unit title: Stonemasonry: Prepare and Mix Lime Mortar (SCQF level 6)

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)*.

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 for candidates to develop the Core Skill of *Working with Others* at SCQF level 4 particularly in Outcome 4 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.

Opportunities also arise for candidates to develop the Core Skill of *Information and Communication Technology* at SCQF level 3 by researching Health and Safety legislation affecting their area of work.

Numeracy *Core Skills* at SCQF level 4 will be developed through the interpretation of information from three dimensional working drawings and the practical use of calculation and measuring.

There will be opportunities for candidates to develop 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 for Outcome 3. 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.

National Unit specification: support notes (cont)

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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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