



National Unit specification: general information

Unit title: Bricklaying: Fireplaces, Flues and Chimney Stacks
(SCQF level 6)

Unit code: H08V 12

Superclass: TH

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Summary

This Unit is suitable for candidates working towards a Modern Apprenticeship in Bricklaying and will develop the candidate's skills and knowledge in fireplace and flue construction. This Unit is designed to provide candidates with competence in the use of tools and equipment to set out and build a chimney breast, flue and chimney stack and the ability to apply these skills in the workplace.

Outcomes

- 1 Demonstrate knowledge and understanding of the terminology, bonding arrangements, setting out techniques and construction practices used in the construction of fireplaces, flues and chimney stacks.
- 2 Set out and build a double flue chimney breast.
- 3 Set out and build a chimney stack.

Recommended entry

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

Credit points and level

2 National Unit credits at SCQF level 6: (12 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.*

General information (cont)

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Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Core SkillCore SkillCore Skill

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 knowledge and understanding of the terminology, bonding arrangements, setting out techniques and construction practices used in the construction of fireplaces, flues and chimney stacks.

Performance Criteria

- (a) Identify and select terminology related to the construction of fireplaces, flues and chimney stacks correctly.
- (b) Identify and select setting out techniques correctly.
- (c) Identify and select construction practices correctly.
- (d) Solve bonding arrangements correctly.

Outcome 2

Set out and build a double flue chimney breast.

Performance Criteria

- (a) Set out chimney breast and flue liners in accordance with the given specification.
- (b) Build chimney breast incorporating a fireplace lintel and flue liners in accordance with the given specification.
- (c) Comply with current Health and Safety and sustainability requirements during all work methods and activities.

Outcome 3

Set out and build a chimney stack.

Performance Criteria

- (a) Set out the chimney stack in accordance with the given specification.
- (b) Build the chimney stack in accordance with the given specification.
- (c) Comply with current Health and Safety and sustainability requirements during all work methods and activities.

National Unit specification: statement of standards (cont)

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Evidence Requirements for this Unit

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

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

Written and/or oral recorded evidence is required to demonstrate that the candidate has achieved Outcome 1 to the standard specified in the Performance Criteria. Candidates will be required to demonstrate their knowledge and understanding of terminology, bonding arrangements, techniques and practices by defining terms, solving bonding problems, describing setting out techniques and construction practices. This assessment will take the form of a question paper and will be conducted under controlled, open-book supervised conditions.

Performance evidence is required to demonstrate that the candidate has achieved Outcome 2 to the standards specified in the Performance Criteria. Candidates will be required to build a first floor double flue chimney breast incorporating a fireplace lintel and flue liners. Assessment of this Outcome will be evidenced through observation of work processes and assessment of the completed workpiece. Candidates must meet the given standards and tolerances during the practical assessment. An assessor observation checklist must be used to record this evidence. Assessment should be conducted under controlled, supervised conditions.

Performance evidence is required to demonstrate that the candidate has achieved Outcome 3 to the standards specified in the Performance Criteria. Candidates will be required to build a double flue chimney stack incorporating flue liners, oversailing courses and chimney pots. Assessment of this Outcome will be evidenced through observation of work processes and assessment of the completed workpiece. Candidates must meet the given standards and tolerances during the practical assessment.

National Unit specification: statement of standards (cont)

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Outcome 2

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Overall length	±8mm
Gauge	±5mm
Level of chimney breast	±5mm
Level of Fireplace lintel/flue Unit	±3mm
Plumb of chimney breast/ adjoining wall at 17 plumbing points	±5mm
Joint Finish	Full and to all arises
Joint thickness	±5mm
Faceplane deviation	±6mm
Width of fireplace opening	±3mm
Bearing of fireplace lintel	±10mm
Reducing width of fireplace opening	Corbelled to building regulations and full cross joints
Positioning of flue liners	Minimum 100mm apart
Building and jointing of flue liners	Fully jointed with sockets uppermost
Jointing between flues and surrounding brickwork	Full and packed tightly
Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Risk assessment	
Safety boots	Worn at all times
Hard hat	Worn at all times
High visibility vest	Worn at all times
All other PPE	As risk assessed
Method statement	
Working area	Kept clear at all times
Materials	Stacked safely at all times
Tools (during working)	Handled correctly at all times
Tools (after work)	Cleaned and stored safely
Sustainability	
Waste	Kept to a minimum at all times.
Recycling	Materials recycled whenever possible.
Waste disposal	Waste disposed correctly/appropriately

National Unit specification: statement of standards (cont)

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Outcome 3

Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Overall length	±8mm
Gauge	±5mm
Level	±5mm
Plumb (all points)	±6mm
Weather Struck joint finish	Regular, consistent and to all arrises
Joint thickness	±5mm
Faceplane deviation	±6mm
Projection of oversailing course	±3mm
Level of oversailing course or pre-cast Unit	±5mm
Joints of oversailing course	Must be full
Distance between flues	100 minimum apart
Building and jointing of flue liners	Fully jointed with sockets uppermost
Jointing between flues and surrounding brickwork	Full and packed tightly
Mortar Fillet	Consistent angle and smooth finish
Flaunching	Consistent angle and smooth finish
Level of chimney pot (two readings, checked at right angles to each other)	±3mm
Summary of standards (working towards industrial tolerances)	
Item	Measurement of standard
Risk assessment	
Safety boots	Worn at all times
Hard hat	Worn at all times
High visibility vest	Worn at all times
All other PPE	As risk assessed
Method statement	
Working area	Kept clear at all times
Materials	Stacked safely at all times
Tools (during working)	Handled correctly at all times
Tools (after work)	Cleaned and stored safely
Sustainability	
Waste	Kept to a minimum at all times.
Recycling	Materials recycled whenever possible.
Waste disposal	Waste disposed correctly/appropriately

National Unit specification: support notes

Unit title: Bricklaying: Fireplaces, Flues & Chimney Stacks (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 80 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 Bricklaying at SCQF level 6.

The successful completion of this Unit will provide candidates with the required underpinning knowledge and craft skills relating to setting out techniques and construction practices associated with building fireplaces, flues and chimney stacks.

This Unit would be offered to candidates working towards a modern apprenticeship in Bricklaying and will develop the candidates craft skills in fireplace, flues and chimney construction. 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 with the construction of chimney breasts incorporating fireplace openings and flues. 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 comply 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.

Guidance on learning and teaching approaches for this Unit

The candidate should be given the opportunity to further develop the skills required to construct fireplaces, flues and chimney stacks incorporating gathering over to form flue openings. The terms used for fireplaces, flues and chimney stack construction should be integrated to the practical task as it is undertaken, and the basic principles of such explained as the task is being built. This teaching approach should ensure the candidate is acquiring the underpinning knowledge required for the Unit.

The candidate is required to develop the ability to set out and build a double flue chimney breast and chimney stack in a safe manner at all times and, therefore, it is anticipated that the majority of learning will take place in a workshop/site environment. This practical assessment may be carried out working in pairs.

National Unit specification: support notes (cont)

Unit title: Bricklaying: Fireplaces, Flues & Chimney Stacks (SCQF level 6)

Practical demonstrations underpinned by effective questioning techniques should focus on key skills, construction practices, techniques and underpinning knowledge related to the setting out and building chimney breasts, flues and stacks. During the learning process, practical learning is fundamental as candidates must become proficient in terminology and construction practices relevant to fireplaces, flues and chimney stacks.

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 Work Method
- ◆ Conform to Productive Working Practices
- ◆ Move and Handle Resources

Guidance on approaches to assessment for this Unit

Detailed assessment material for this Unit will be found in section six of the Bricklaying 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 Bricklaying 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 terminology, bonding arrangements, techniques and construction practices of bricklaying will be assessed through a question paper.

Candidates should be given as much practise as possible in setting out and building chimney breasts, flues and stacks prior to being set the assessment. Evidence will be gathered for Outcome 2 and Outcome 3 through observation of work processes and assessment of the completed workpiece to ensure that the candidates have met the given standards and tolerances during the practical tasks. The assessor observation checklist must be used to record this evidence.

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* at SCQF level 4, 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 interpretation of drawings, choice of tools and appropriate materials, application of scientific principles, risk assessments, health, safety and welfare and a sustainable approach. Individual discussions with assessors will enhance the evaluation of productive work practices.

There are opportunities to develop the Core Skill of *Working with Others* at SCQF level 4, particularly in Outcomes 2 and 3, as these practical assessments should be carried out in pairs or teams. Candidates can agree responsibilities and provide support and information to each other during the practical group activities.

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, manufacturer's instructions and specifications, interpretation of drawings.

Numeracy at SCQF level 4 could be enhanced through the knowledge evidence in set out masonry substructures and the practical use of calculation and measuring scales required for teaching and learning assessments for Outcomes 1, 2 and 3.

There will be opportunities for candidates to develop the Core Skills of *Communications* at SCQF level 4 through the knowledge part of the assessment for Outcome 1. As candidates complete practical tasks in Outcomes 2 and 3, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace while interpreting drawings.

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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