



National Unit Specification: general information

UNIT Masonry Repairs (SCQF level 6)

CODE F2G1 12

SUMMARY

This Unit is suitable for candidates with limited experience in the construction and heritage industries who wish to gain knowledge and understanding of masonry repairs. It is particularly suitable for candidates who wish to work in the field of conservation masonry.

This Unit has been designed to develop the candidate's ability to remove and replace small areas of defective stonework, carry out surface repairs to individual stones and inspect and carry out repairs of roof level masonry. It also develops the candidate's knowledge and understanding of the procedures involved in carrying out repairs to wall and roof level masonry.

OUTCOMES

- 1 Develop a strategy for specific masonry repairs.
- 2 Replace defective isolated stone in masonry walling in line with developed strategy.
- 3 Replace defective stone masonry at roof level in line with developed strategy.
- 4 Repair the surface stonework in accordance with repair strategy.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

2 credits at Higher (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.*

Administrative Information

Superclass: TG

Publication date: October 2007

Source: Scottish Qualifications Authority

Version: 01

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National Unit Specification: general information (cont)

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CORE SKILLS

There are opportunities to develop aspects of the Core Skills of Problem Solving and Working with Others in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

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 the Scottish Qualifications Authority.

OUTCOME 1

Develop a strategy for specific masonry repairs.

Performance Criteria

- (a) Inspect wall and roof level masonry using the correct inspection process.
- (b) Identify and record areas of the structure which require masonry repairs.
- (c) Identify the appropriate type and methods of repair for the masonry which is unsafe.
- (d) Identify appropriate fixings and fitting to use in the repair.
- (e) Work in accordance with current health and safety legislation throughout.

OUTCOME 2

Replace defective isolated stone in masonry walling in line with developed strategy.

Performance Criteria

- (a) Measure and prepare an appropriate template before removing defective stone.
- (b) Prepare area to receive replacement stone correctly.
- (c) Source and prepare similarly dimensional stone for replacement of missing masonry.
- (d) Build in replacement stone to match the existing masonry walling.
- (e) Select, use, clean and store appropriately all tools used in the task.
- (f) Work in accordance with current health and safety legislation throughout.
- (g) Work in accordance with the developed repair strategy throughout.

OUTCOME 3

Replace defective stone masonry at roof level in line with developed strategy.

Performance Criteria

- (a) Remove defective and unstable masonry components at roof level.
- (b) Prepare area to receive replacement masonry components correctly.
- (c) Fix and re-bed replacement masonry components correctly.
- (d) Work in accordance with the developed repair strategy throughout.
- (e) Select, use, clean and store appropriately all tools used in the task.
- (f) Work in accordance with current health and safety legislation throughout.

National Unit Specification: statement of standards

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OUTCOME 4

Repair the surface stonework in accordance with repair strategy.

Performance Criteria

- (a) Identify appropriate materials to be used in stone work repair.
- (b) Identify defects and carry out the repair correctly.
- (c) Protect and cure the surface repair correctly.
- (d) Work in accordance with the developed repair strategy throughout.
- (e) Select, use, clean and store appropriately all tools used in the task.
- (f) Work in accordance with current health and safety legislation throughout.

EVIDENCE REQUIREMENTS FOR THIS UNIT

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

Product evidence is required for Outcome 1 in the form of the candidates repair strategy. Candidates should be given a clear brief before completing the strategy to be sure it covers all aspects detailed in the Performance Criteria. The structure for repair should include a section of 3 metres of wall head and gable coping Stones 500mm wide. 1 number gable stone springer, 2metres of stone ridging, 1 chimney can minimum of 1 metre high x 300mm diameter and 4 number of chimney copes. The repair strategy should be produced at an appropriate point in the Unit once candidate has had the opportunity to develop relevant skills and knowledge.

Product evidence and performance evidence supported by an assessor observation checklist is required to show that the candidate has achieved the standard specified in Outcomes 2, 3 and 4 and their Performance Criteria.

Performance evidence is required to show that the candidate can:

- ◆ identify areas of unsafe masonry
- ◆ identify the requirement for replacement and repair of individual components
- ◆ remove defective isolated stone from masonry walling
- ◆ prepare area to receive replacement stone
- ◆ source and prepare stone to match existing
- ◆ build in replacement stone
- ◆ carry out task according to developed repair strategy
- ◆ carry out repair and protect repair work

The product evidence will be the candidates repair and surfaced masonry walling. Where it is impractical to store and keep the work of each candidates photographic evidence or video evidence will be acceptable.

The evidence will be produced at appropriate points throughout the Unit under supervised conditions.

National Unit Specification: support notes

UNIT Masonry Repairs (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 National Progression Award in Conservation of Masonry at SCQF level 6 and can also be delivered as a freestanding Unit.

Candidates successfully completing this Unit will have the knowledge and understanding to be competent in the inspection and repair of wall face and basic roof level masonry and will gain underpinning knowledge relating to practical applications and use of tools and equipment for the repair of wall face and an introduction to the repair of roof level masonry and surface repair of stonework.

The Unit is suitable for candidates from the construction and related service industries and trades. The skills are transferable within different working environments but the Unit is aimed at candidates whose normal place of work would be a site, a conservation project or a similar working environment.

The Unit is applicable to all areas of construction or other related industries but specifically includes the safe working practices associated with working with lime based mortars and deals specifically with the inspection and repair of masonry, both at the wall face and at roof levels, and is complemented by other Units in the National Progression Award in Conservation of Masonry at SCQF level 6.

The Unit deals specifically with the application of surface finishing to walls, including any background preparation and repair of masonry Units and components where appropriate. Where this Unit is being taken as part of the National Progression Award in Conservation of Masonry at SCQF level 6 it is recommended that it is delivered after candidates have completed the following Units:

XXXX XX	<i>Principles of conservation in the Built Heritage (SCQF level 6)</i>
XXXX XX	<i>Working with Traditional Mortars (SCQF level 6)</i>
XXXX XX	<i>Masonry Materials and Performance (SCQF level 6)</i>

All working practices must be in accordance with current and relevant health and safety legislation and regulations and the following acts in their most current form are relevant.

- ◆ Health & Safety at Work Act 1974
- ◆ The Personal Protective Equipment at Work Regulations 1992 (as amended)
- ◆ Provision and Use of Work Equipment Regulations 1998 (as amended)
- ◆ The Construction (Design & Management) Regulations 2007
- ◆ The Control of Substances Hazardous to Health 2002 (as amended)
- ◆ The Lifting Operations and Lifting Equipment Regulations 1998(as amended)
- ◆ The Work at Height Regulations 2005
- ◆ The Management of Health and Safety at Work Regulations 1999 (as amended)
- ◆ The Manual Handling Operations Regulations 1992 (as amended)

National Unit Specification: support notes (cont)

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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; technical information and examples of fixing methods adopted on roof level masonry, also from manufacturers of limes, sands and pre-mixed mortars; codes of practice; building standards; statutory regulations; hands-on examination of roof level masonry.

Teachers/Lecturers will demonstrate practical elements step-by-step until the candidate feels competent enough to attempt them on his/her own. The requirement to adopt safe working practices and comply with safety legislation must be emphasised throughout.

An order of delivery for this Unit will be at the discretion of centres however candidates should complete Outcome 1 and develop their repair strategy for the works which will be carried out through the remainder of the Unit.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

Aspects of the Core Skill of Problem Solving, that is, critical thinking, planning and organising, and reviewing and evaluating, could be effectively developed and enhanced in the Unit, which requires an application of theoretical knowledge to practical repair work in wall and roof level masonry. Identifying and examining the relevance of all factors at various stages of the process will be essential to successful achievement. Initially candidates will have to inspect masonry to establish the extent of repair needed basing their judgement on established principles. Analysing resource requirements in a range of environmental and seasonal contexts will involve a high level of critical thinking. The identification and selection of appropriate approaches and techniques will be essential. Knowledge, understanding and compliance with current regulations and codes of practice will underpin safe working. Discussions with the assessor could support and reinforce analytical evaluation of proposed and actual solutions in masonry repairs and would be of value in developing problem solving skills.

There may also be practical opportunities to develop aspects of Working with Others in group co-operative working during work undertaken on a conservation project. Group discussion of issues such as site requirements, and the impact of environment and seasonal factors may be useful to support decision making. Although candidates should independently identify and determine best practice they could be encouraged to discuss proposed solutions, analyse the task and its component elements and discuss and negotiate the nature and scope of goals, roles and responsibilities involved in site work. They could possibly be involved in negotiating rules for effective management of the team and tasks, and be encouraged to demonstrate and explain methodology and resources selected as they review and evaluate their own performance in communicating and working with others in a workplace environment.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

It is recommended that Candidates be assessed on an Outcome basis as this reflects how the work would progress in a real working environment. However centres may chose to assess a combination of Outcomes on a single assessment occasion.

National Unit Specification: support notes (cont)

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This Unit may be assessed on a live project or alternatively on a simulation module incorporating a stone built structure.

In this Unit an appropriate instrument of assessment would be a series of practicable assignments which the candidates complete in a real or simulated workplace environment. Before the practical assignment candidates should complete Outcome 1 which initiates a repair strategy as a guide to completing the practical assignments. These assignments will cover stonemasonry repairs, taking down and cleaning off of masonry components and re-bedding and fixing.

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

Centre should retain observation check lists and product evidence in the form of candidates repair strategies and completed work which can be recorded in photographic or video form.

CANDIDATES WITH DISABILITIES AND/OR 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. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).