



National Unit specification: general information

Unit title: Wall and Floor Tiling: Science for Tile Work

Unit code: F6NY 12

Superclass: TG

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Summary

This Unit is suitable for candidates undertaking a Modern Apprenticeship in Wall and Floor Tiling. The Unit requires candidates to identify where capillary action and movement occurs in tile work and complete both a silt test for aggregate and an absorption test for tile work. This Unit requires candidates to carry out an absorption test on a variety of materials. It is also designed to develop candidates underpinning knowledge and understanding of the processes of capillary action and movement in tile work and absorption testing of tiles.

Outcomes

- 1 Demonstrate knowledge and understanding of capillary action and controlling movement in tile work.
- 2 Carry out silt testing for tile work.
- 3 Carry out absorption testing of materials used in backgrounds for tile work.

Recommended entry

While entry to this Unit is at the discretion of the centre, candidates undertaking the Professional Development Award in Wall and Floor Tiling 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

1 National Unit credit at SCQF level 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.*

General information (cont)

Unit title: Wall and Floor Tiling: Science for Tile Work

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.

National Unit specification: statement of standards

Unit title: Wall and Floor Tiling: Science for Tile Work

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 capillary action and controlling movement in tile work.

Performance Criteria

- (a) Identify where capillary action occurs in cement work.
- (b) Describe the purpose of an isolating membrane in tile work.
- (c) Describe the purpose of a movement joint in tile work.
- (d) Describe how pre-manufactured movement joints are installed.
- (e) Describe how in-situ movement joints are installed.

Outcome 2

Carry out silt testing for tile work.

Performance Criteria

- (a) Select aggregate and equipment correctly.
- (b) Complete silt test correctly.
- (c) Record silt test results accurately.
- (d) Comply with current health and safety regulations in all activities.

Outcome 3

Carry out absorption testing of materials used in backgrounds for tile work.

Performance Criteria

- (a) Select materials and equipment correctly.
- (b) Set up equipment correctly.
- (c) Carry out absorption testing of materials correctly.
- (d) Record absorption test results accurately.
- (e) Comply with current health and safety regulations in all activities.

National Unit specification: statement of standards (cont)

Unit title: Wall and Floor Tiling: Science for Tile Work

Evidence Requirements for this Unit

Evidence is required to demonstrate that the candidates have achieved this Unit to the standard specified in all the Outcomes and Performance Criteria. All working practices must be in line with relevant and current Health and Safety legislation and regulations.

Outcome 1

Written and/or oral evidence is required to show that the candidate has achieved the standards specified in the Performance Criteria in Outcome 1. Assessment of the underpinning knowledge of capillary action and movement in tile work, and the installation methods of isolating membranes and pre-manufactured movement joints will be assessed through short answer questions supported by annotated drawings. This must be carried out under controlled supervised conditions.

Outcomes 2 and 3

Written and/or oral evidence is required to show that the candidate has achieved the standards specified in the Performance Criteria in all Outcomes. Candidates will undertake practical silt and absorption experiments prior to recording all results accurately. The types of materials tested must include dense concrete block, aerated concrete block, common brick, sandstone and engineering brick. This must be carried out under controlled supervised conditions.

Item	Measurement of standard
Capillary action cement work	Identified correctly
Purpose of an isolating membrane	Described correctly
purpose of a movement joint	Described correctly
Installation of pre-manufactured movement joints	Described correctly
Installation of in-situ movement joint	Described correctly
Silt testing for tile work	
Aggregate and equipment is correctly selected	Correctly selected
(b) Silt test is carried out correctly.	Carried out correctly
(c) Silt test results are accurately recorded	Accurately recorded
(d) Health and safety complied with at all times	Complied with at all times
Absorption test for tile work	
Aggregate and equipment	Correctly selected
Absorption equipment	Correctly set up
Absorption tests	Carried out correctly
Absorption test results	Accurately recorded
Health and safety	Complied with at all times

National Unit specification: statement of standards (cont)

Unit title: Wall and Floor Tiling: Science for Tile Work

Assessment of this Unit should be carried out when the candidate has received sufficient training and is deemed ready to be assessed.

These Evidence Requirements will be met by the completion of the Training and Assessment Programme (TAP) Wall & Floor Tiling.

National Unit specification: support notes

Unit title: Wall and Floor Tiling: Science for Tile Work

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 Wall and Floor Tiling at SCQF level 6, which is a mandatory component of the Modern Apprenticeship.

This Unit would 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. It should be delivered as part of a structured programme of training and orientated to the context of the candidates work and area of responsibility.

The successful completion of this Unit will provide candidates with the required underpinning knowledge and skills relating to identifying and describing capillary action and movement in a Wall and Floor Tiling context. Candidates will also acquire the underpinning knowledge and skills to describe the methods used to test aggregate and the absorption rates of materials used in the wall and floor tiling industry.

The context of this Unit allows for a holistic integrated approach into other Units within the PDA in Wall and Floor Tiling. Therefore there are opportunities to integrate this Unit into *Wall and Floor Tiling: Floor Screeding for Tile work*, *Wall and Floor Tiling: Fixing Wall Tiles Using Thin Set Adhesives* and *Wall and Floor Tiling: Fixing Floor Tiles Using Adhesives*, as candidates will be able to acquire an underpinning knowledge of the properties of materials before using them in a practical context.

Health and Safety and Sustainability are integral and key to the Construction Industry and so 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 legislation affecting the conservation of the environment and its relevance to this trade and to the construction industry in general. Attention should also be drawn to the dangers of not implementing this legislation.

National Unit specification: support notes (cont)

Unit title: Wall and Floor Tiling: Science for Tile Work

Guidance on learning and teaching approaches for this Unit

Learning and teaching for this Unit should be a combination of workshop and classroom learning. Candidates should be made aware of capillary action in tile work. A recommended teaching approach for this Unit would be for candidates to see this occur in a practical environment. A variety of different aggregates could be silt tested and this will enable candidates to gain the underpinning knowledge of the different properties of these aggregates. A recommended teaching approach for the absorption testing of materials could be for candidates to test a selection of materials commonly found in a wall and floor tiling context. This will enable candidates to identify their properties and give an understanding of where they would be suitable to use. The internet can also be used as a valuable source of information, though it is recommended that candidates only research tiles and movement joints manufactured to British standards. This approach will again enhance the underpinning knowledge for this Unit.

The candidate should be given the opportunity to further develop their skills through visual aids, electronic presentations, reference books, classroom exercises and group discussions.

Candidates will be required to wear appropriate Personal Protective Equipment (PPE) whilst carrying out the practical activities, keep a clean working area and adopt safe working practices throughout all practical activities.

It is recommended that candidates must work individually in all Outcomes.

Where appropriate, 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 Efficient Working Practices
- ◆ Conform to General Workplace Safety
- ◆ Move and Handle Resources
- ◆ Confirm Work Activities and Resources for the Work
- ◆ Develop and Maintain Good Working Relationships
- ◆ Confirm the Occupational Method of Work

Guidance on approaches to assessment for this Unit

Centres are advised to use the Wall and Floor Tiling Training and Assessment Programme (TAP) which has been developed centrally by the SQA. Any other instruments of assessment used must be comparable to the TAP and have been through prior verification.

Sections 2 and 6 of the Wall and Floor Tiling TAP provides detailed assessment material for this Unit. It is expected that candidates will be given as much practice as possible and should be deemed competent prior to being set the assessment tasks contained within the TAP.

National Unit specification: support notes (cont)

Unit title: Wall and Floor Tiling: Science for Tile Work

Outcome 1

A suitable method of assessing underpinning knowledge and understanding would be through short answer questions supported by annotated drawing.

Outcomes 2 and 3

Practical experiments with all results accurately recorded must be used to assess Performance Criteria. In this Unit Assessment must be carried out under controlled supervised conditions.

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

The Core Skill of *Problem Solving* could be developed to SCQF level 4 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 and setting up of laboratory equipment, the selection of materials and the recording of test results. Individual discussions with assessors will enhance the evaluation of efficient working practices.

Opportunities in Outcome 1 also arise for candidates to develop the Core Skill of *Information and Communication Technology (ICT)* to SCQF level 3 by researching the effect of capillary action and the effects of movement in tile work. Candidates can also research the various properties of tiles and the different proprietary movement joints available.

Numeracy skills could be developed to SCQF level 3 through the calculation of the percentage of silt in an aggregate and the varying absorption rates in materials.

Candidates could have the opportunity to develop *Communication* to SCQF level 4 for the practical aspects of this Unit. As candidates complete practical tasks, they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

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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