



Higher National Unit specification

General information for centres

Unit title: Wall and Floor Tiling: Industry Studies

Unit code: F8MN 34

Unit purpose: This Unit is designed to enable candidates to develop their knowledge and understanding of Wall and Floor Tiling within a wider construction industry context. This Unit is primarily designed to give candidates an appreciation of the professional occupations within the construction industry and the knowledge and understanding needed to quantify material for a given project. This Unit also gives candidates the opportunity to develop an awareness of the manufacturing processes of tiles, adhesives and grouts and has a practical element where candidates are required to manufacture ceramic tiles. On completion of this Unit candidates should be able to:

- 1 Demonstrate a knowledge and understanding of the role of professional occupations within the construction industry.
- 2 Demonstrate a knowledge and understanding of quantifying material for a given project.
- 3 Demonstrate an awareness of product manufacture process.
- 4 Manufacture ceramic tiles.

Credit points and level: 1 HN credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**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.*

Recommended prior knowledge and skills: Access to this Unit will be at the discretion of the centre. It would be beneficial if candidates have successfully completed the Professional Development Award (PDA) in Wall and Floor Tiling at SCQF level 6 (G9AP 46) or have the equivalent level of industrial experience and prior learning.

Core Skills: There are opportunities to develop the Core Skills of *Communication* at SCQF level 5, *Information and Communication Technology, Numeracy*, and *Problem Solving* at SCQF level 4 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes. This Unit was developed as part of the Professional Development Award in Wall and Floor Tiling at SCQF level 7 and is aimed at candidates following a career in Wall and Floor Tiling and receiving complementary industrial experience.

General information for centres (cont)

Assessment: This Unit is assessed on the candidate's knowledge and understanding of professional construction occupations, quantifying materials, product manufacture and the actual performance of ceramic tile manufacture.

Evidence will be gathered through observation of work processes and assessment of the completed work. Assessment should be carried out under controlled, supervised conditions. In order to achieve this Unit, candidates are required to present sufficient evidence that they have met all the Knowledge and/or Skills elements for each Outcome. Details of these requirements are given for each Outcome.

The assessment instruments used should follow the general guidance offered by the Scottish Qualifications Authority (SQA) assessment model and an integrative approach to assessment is encouraged. Centres may use the instruments of assessment which they consider to be most appropriate but are advised to use the Wall and Floor Tiling Training and Assessment Programme (TAP) SCQF level 7 which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP 7.

Accurate records should be made of the assessment instruments used showing how evidence is generated for each Outcome and given marking schemes, checklists and recorded candidate feedback. Records of candidates' achievements should be retained. These records must be made available for external verification.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Outcome 1

Demonstrate a knowledge and understanding of the role of professional occupations within the construction industry

Knowledge and/or Skills

- ◆ Roles and responsibilities of Architects
- ◆ Roles and responsibilities of Quantity surveyor
- ◆ Roles and responsibilities of Clerk of Works
- ◆ Roles and responsibilities of Site Manager

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ describe the role and responsibilities of an architect within the construction industry
- ◆ describe the role and responsibilities of a quantity surveyor within the construction industry
- ◆ describe the role and responsibilities of an clerk of works within the construction industry
- ◆ describe the role and responsibilities of a site manager within the construction industry

Evidence must be gathered under controlled, supervised, open-book conditions. Candidates may bring to the event any notes that they have made personally. They may not bring textbooks, handouts or other material not prepared by them.

Assessment Guidelines

The assessment could be in the form of an exercise where the candidate will describe the primary roles and responsibilities of the professional occupations listed. It is recommended that evidence is presented in a word processed format. Though the assessment of this Outcome could be assessed individually, this Unit affords the opportunity for centres to take a holistic approach in assessing this Unit by creating a combined project of the requirements of Outcomes 1, 2 and 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Wall and Floor Tiling: Industry Studies

Outcome 2

Demonstrate a knowledge and understanding of quantifying material for a given project

Knowledge and/or Skills

- ◆ Standard Method of Measure Version 7 (SMM7)
- ◆ Bill of Quantities
- ◆ Construction drawings
- ◆ Schedule of works

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ interpret the information given in SMM7
- ◆ take sizes and dimensions from a construction drawing
- ◆ construct a bill of quantities from a given specification
- ◆ produce a working schedule

Evidence must be gathered under controlled, supervised, open-book conditions. Candidates may bring to the event any notes that they have made personally. They may not bring textbooks, handouts or other material not prepared by them.

Assessment Guidelines

The assessment could be in the form of an exercise where the candidate will interpret the information from SMM7 and take sizes and dimensions from a construction drawing. Using this information candidate's should produce a bill of quantities and a working schedule. It is recommended that evidence is presented in a word processed format. Though the assessment of this Outcome could be assessed individually, this Unit affords the opportunity for centres to take a holistic approach in assessing this Unit by creating a combined project of the requirements of Outcomes 1, 2, and 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Wall and Floor Tiling: Industry Studies

Outcome 3

Demonstrate an awareness of product manufacture process

Knowledge and/or Skills

- ◆ Tile manufacture
- ◆ Adhesive and grout manufacture
- ◆ Adhesive and grout categorisation and uses
- ◆ Sustainability

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify the raw materials used in the manufacture of wall and floor tiles
- ◆ describe the manufacturing process of tiles
- ◆ identify the raw materials used in the manufacture of adhesives and grouts
- ◆ describe the manufacture process of adhesives and grouts
- ◆ describe the different categories and uses of adhesives and grouts
- ◆ describe good sustainability practices in the manufacturing processes of tiles, adhesives and grouts

Evidence must be gathered under controlled, supervised, open-book conditions. Candidates may bring to the event any notes that they have made personally. They may not bring textbooks, handouts or other material not prepared by them.

Assessment Guidelines

The assessment could be in the form of an exercise where the candidate will identify the raw materials used in the manufacture of tiles, adhesives and grouts. Candidates should then describe the manufacturing processes of these products and the good sustainability practices involved in their manufacture. Candidates should also describe in a suitable exercise the various categories and uses of adhesives and grouts. It is recommended that evidence is presented in a word processed format. Though the assessment of this Outcome could be assessed individually, this Unit affords the opportunity for centres to take a holistic approach in assessing this Unit by creating a combined project of the requirements of Outcomes 1, 2, and 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Wall and Floor Tiling: Industry Studies

Outcome 4

Manufacture ceramic tiles

Knowledge and/or Skills

- ◆ Specification interpretation
- ◆ Ceramic tile raw materials
- ◆ Quantifying materials
- ◆ Tile moulds
- ◆ Using a kiln
- ◆ Kiln timing
- ◆ Current Health and Safety legislation
- ◆ Sustainability considerations

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can manufacture six ceramic tiles with the minimum size 100mm × 100mm.

Summary of standards (working towards industrial tolerances)

- ◆ specification- interpreted correctly
- ◆ raw materials -selected correctly
- ◆ materials -quantified correctly
- ◆ tile mould –filled and used correctly
- ◆ tile kiln- used correctly
- ◆ timing in kiln — correctly timed
- ◆ comply with health and safety throughout all activities
- ◆ sustainability considered

Whilst there are no minimum tolerances to be achieved an assessor observation checklist should be completed to ensure that the candidate has met the required specification and has followed the correct sequence of operations to obtain a good understanding of the manufacture process; observation checklist should be retained as evidence.

Evidence must be gathered under controlled, supervised conditions with candidates working individually to carry out all activities.

Assessment Guidelines

Candidates should work individually to manufacture the tiles in accordance with the specification and tolerances required for this Outcome. The assessment of this Outcome should be assessed individually apart from all other Outcomes. Candidates should be provided with specifications for the practical task and assessment should be carried out in a suitable workshop environment.

Administrative Information

Unit code: F8MN 34

Unit title: Wall and Floor Tiling: Industry Studies

Superclass category: TG

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Version	Description of change	Date

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Higher National Unit specification: support notes

Unit title: Wall and Floor Tiling: Industry Studies

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 (PDA) in Wall and Floor Tiling at SCQF level 7.

This Unit is intended to equip candidates with all necessary underpinning knowledge relating to the professional occupations within the construction industry and the knowledge and understanding needed to quantify material for a given project. This Unit also gives candidates the opportunity to develop an awareness of the manufacturing processes of tiles, adhesives and grouts and the knowledge and skills to manufacture ceramic tiles.

In Outcome 1, the candidate should be guided to understanding the different roles professional occupations have within the construction industry. The candidate should be encouraged to explain the specific roles and responsibilities these occupations have and relate them to a Wall and Floor Tiling context.

In Outcome 2 it should be stressed to candidates the importance of accurate take offs and measurement, the purpose of Standard Method of Measure Version 7 (SMM7) and the completing of a schedule.

In Outcome 3 the manufacturing process of tiles should be explained to the candidate with the candidate encouraged to research this using manufacturer's literature and the internet.

In Outcome 4 candidates should be guided on the correct quantities of raw materials used in the manufacture of a ceramic tile. Workshop specifications could be used to aid the candidate in the mixing and manufacture of the tile and on the timings and safe use of a kiln.

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. Safe 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. Emphasis should be placed on appropriate areas such as waste management and effective sourcing and use of materials.

Where feasible, centres should also incorporate modern methods of construction used in industry. Candidates should be made aware of current industry practice and emerging practice or technology which may become conventional in the future.

Higher National Unit specification: support notes (cont)

Unit title: Wall and Floor Tiling: Industry Studies

Guidance on the delivery and assessment of this Unit

As part of the Professional Development Award (PDA) in Wall and Floor Tiling at SCQF level 7, this Unit may be delivered in a sequence suitable to individual candidates and centres. When completing this Unit as part of the PDA it is recommended that, where possible opportunities are taken to integrate aspects of Constructional Technical Communication Skills (DW4D 34).

This Unit could be delivered through a series of lectures, formative theory and practical examples which will involve the candidate carrying out the activities outlined in the Outcomes. Candidates should be encouraged to access and use visual evidence from the internet, textbooks and notes which describe the professional roles and responsibilities of professional occupations and the methods used to quantify materials in the construction industry. Candidates should also be encouraged to access information on the manufacture and uses of adhesives and grouts and the manufacturing process of ceramic tiles.

Outcome 1 could be delivered with the candidates working individually to generate the relevant evidence. This Outcome provides the candidate with the opportunity to use the internet to access the information required to satisfy the Outcome requirement. Candidates could also be encouraged to word process responses for summative assessments and could use digital images as part of their evidence.

Outcome 2 could be delivered with the candidates working individually to generate the relevant evidence. This Outcome provides the candidate with the opportunity to use the internet to access the information required to satisfy the Outcome requirements. It is recommended that candidates are given exemplars of Bills of Quantities and Schedules and guidance on taking off sizes from drawings. Candidates could also be encouraged to word process responses for summative assessments. It is strongly recommended for consistency that all references to measurement and quantities follow the SMM7 in particular section M20 appertaining to wall and floor tile finishes.

Outcome 3 could be delivered with the candidates working individually to generate the relevant evidence. This Outcome provides the candidate with the opportunity to use the internet to access the information required to satisfy the Outcome requirement. Candidates should be encouraged to research the manufacture of tiles, adhesives and grouts from different manufacturers and should also be encouraged to word process responses for summative assessments.

In Outcome 4 candidates will be required to work individually to manufacture ceramic tiles. Guidance and instruction in the quantifying of the raw materials and the safe use of the kiln should be given by the lecturer.

If feasible, site visits or information about modern and potential future methods of construction would be beneficial. This approach could be used to enhance the candidate's experience and understanding of how their skills and knowledge might be applied in real industry situations.

Centres may use the instruments of assessment which they consider to be the most appropriate but are advised to use the Wall and Floor Tiling Training and Assessment (TAP) at SCQF level 7 which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP 7.

Higher National Unit specification: support notes (cont)

Unit title: Wall and Floor Tiling: Industry Studies

Opportunities for developing Core Skills

There are opportunities to develop the Core Skill of *Problem Solving* at SCQF level 4. Candidates will need to take account of a range of factors in order to work efficiently, particularly in Outcome 4 where candidates are required to consider safety, choice of tools, appropriate materials, safety issues, safety equipment and sustainability. Individual discussions with assessors and the use of role play will enhance the evaluation of efficient working practices.

There are opportunities to develop the Core Skill of *Communication* at SCQF level 5 throughout this Unit by the candidates describing the various professional roles within the construction industry and the manufacture of tiles, adhesives and grouts.

There are opportunities to develop the Core Skill of *Information and Communication Technology* at SCQF level 4 in Outcome 1, 2 and 3 where the candidates will be encouraged to access information through internet research particularly in the manufacturing process of tiles adhesives and grouts as used in the craft of wall and floor tiling. They could also be encouraged to word process responses for formative assessments and could use digital images as part of their evidence.

There are opportunities to develop the Core Skill of *Numeracy* at SCQF level 4 particularly in Outcome 2 through the interpretation of information from working drawings and the practical use of calculation and measuring scales.

Open learning

Although this Unit could be delivered in part by distance learning, it would require considerable planning by the centre to ensure the sufficiency and authenticity of candidate evidence. Arrangements would have to be made to ensure that:

- ◆ candidates have access to a suitable workshop with suitable equipment and tools
- ◆ health and safety considerations were fully taken into account
- ◆ the practical activities would have been supervised by a responsible person and clearly recorded (using an assessment checklist for the assessor)
- ◆ the assessor must, at some point, be able to question the candidate on that performance
- ◆ assessment must be carried out under the stated conditions

For information on open learning arrangements, please refer to the SQA guide *Assessment and Quality Assurance of Open and Distance Learning* (www.sqa.org.uk)

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

General information for candidates

Unit title: Wall and Floor Tiling: Industry Studies

This Unit has been designed to further your career in the construction industry by developing your competencies and improving your knowledge and understanding of Wall and Floor Tiling within a wider construction industry context. It has been written as part of the Professional Development Award (PDA) in Wall and Floor Tiling at SCQF level 7, and is intended for experienced crafts persons working in the construction industry as Wall and Floor Tilers.

The Unit will help develop your underpinning knowledge and understanding related to the roles of professional occupations within the construction industry.

You will be assessed on your knowledge of these professional roles and on quantifying materials for a given project. You will also be assessed on the manufacture and use of adhesives and grouts.

You will also be assessed practically in a workshop on the manufacture of six ceramic tiles. You will be given all specifications required prior to undertaking the practical assessments.

Though this Unit requires you to be assessed on your knowledge and understanding of professional roles within the construction industry, the quantifying of materials for a given project and the manufacture and use of adhesive, grouts, the centre where you are undertaking this Unit may assess all of these requirements individually or together as a combined project.

There are opportunities within the Unit to develop your Core Skills *Problem Solving* at SCQF level 4, *Communication* at SCQF level 5, *Information and Communication Technology* and *Numeracy* at SCQF level 4 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

If you successfully complete this Unit and the full PDA at SCQF level 7, you will not only have advanced your craft skills, but will automatically receive some credit if you progress on to the HNC Construction.