



## Higher National Unit specification

### General information for centres

**Unit title:** Roofing: Alternative Roof Coverings

**Unit code:** F8N3 34

**Unit purpose:** This Unit is designed to enable candidates to develop a knowledge, understanding and skills of Alternative Roof Coverings. The Unit allows candidates to enhance their experience in installation of shingles to pitched roofs, single ply and flashing details to openings.

On completion of the Unit the candidate will be able to:

- 1 Explain theoretical details associated with shingles to pitched roofs and flashing details.
- 2 Explain theoretical details associated with flat roof coverings.
- 3 Produce a roof covered in alternative roof coverings.
- 4 Specify the methods used for maintaining Health and Safety requirements for roof work.

**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 Roof Slating, Tiling and Cement Work at SCQF level 6 (G9GG 46) or have the equivalent level of industrial experience and prior learning.

**Core Skills:** There are opportunities to develop the Core Skills of *Problem Solving, Numeracy, Working with Others, Communication* at SCQF level 5 and *Information and Communication Technology* 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 Roof Slating and Tiling at SCQF level 7 and is aimed at candidates following a career in Roofing and receiving complementary industrial experience.

## **General information for centres (cont)**

### **Unit title:** Roofing: Alternative Roof Coverings

**Assessment:** It is possible to assess candidates either on an individual Outcome basis or combination of Outcomes. Evidence should be shown by the candidate that there is sufficient knowledge of how alternative coverings are used as a decorative finish and used to prevent the ingress of water at abutment and valley junctions. The candidate must also provide evidence of how flashings are completed at structural junctions incorporating an apron, back and side flashings. The candidates should be able to develop a knowledge and understanding of alternative roof systems used in the industry including Health and Safety requirements when installing alternative roof covering.

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 Roof Slating and 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.

### **Outcome 1, 2 and 4**

The assessment paper(s) for these Outcomes should be composed of an appropriate balance of completing short answer, restricted response and structured questions. Assessment should be conducted under supervised, controlled conditions. Written assessment should not exceed three hours in duration.

### **Outcome 3**

The assessment(s) for this Outcome involves the installation alternative roof coverings to a pitched and flat roof including the fabrication and installation of lead and non lead flashing details. Candidates should be fully aware of the health and safety issues that cover the working at heights, hot working and working with lead.

## Higher National Unit specification: statement of standards

**Unit title:** Roofing: Alternative Roof Coverings

**Unit code:** F8N3 34

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

### Outcome 1

Explain theoretical details associated with shingles to pitched roofs and flashing details

#### Knowledge and/or Skills

- ◆ Roof condition
- ◆ Roof pitch
- ◆ Waterproofing membrane
- ◆ Timber grading
- ◆ Timber battening
- ◆ Roof covering
- ◆ Roof details
- ◆ Traditional flashing details
- ◆ Modern flashing details

#### Evidence Requirements

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

- ◆ explain property groundwork for shingle roof coverings.
- ◆ inspect and grade timber battening.
- ◆ explain construction methods and techniques used to shingle roofs.
- ◆ produce annotated sketches for hip and ridge details.
- ◆ produce annotated sketches for flashing details.

In any assessment of this Outcome all knowledge and/or skill items should be included. Candidates must provide a satisfactory response to all items which must be in accordance with current British Standards and codes of practice for workmanship on building sites.

Evidence must be gathered under open-book controlled, supervised conditions. Candidates may bring to the event any notes that they have made personally. They must have access to the relevant manufacturer guidelines and information for the product to be used on the roof.

#### Assessment Guidelines

Assessment of the knowledge and skills in this Outcome should be composed of a proposed project for which a roof is to be covered in shingles incorporating traditional and modern flashing details.

The assessment for this Outcome might be combined with that for Outcomes 2 and 4.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Roofing: Alternative Roof Coverings

### **Outcome 2**

Explain theoretical details associated with flat roof coverings

#### **Knowledge and/or Skills**

- ◆ Constructional details
- ◆ Types of flat roofing membrane
- ◆ Substructure
- ◆ Thermal insulation
- ◆ Imposed loads
- ◆ Surface finishes

#### **Evidence Requirements**

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

- ◆ describe common types and uses of flat roof systems
- ◆ state the benefits of using flat roof systems
- ◆ explain property groundwork for flat roof coverings.
- ◆ explain construction methods for flat roof details.
- ◆ describe the basic requirements for the installation of flat roof systems
- ◆ illustrate the details of fixing flat roof systems
- ◆ calculate surface area for a flat roof systems

In any assessment of this Outcome will all Knowledge and/or Skills items should be included. Candidates must provide a satisfactory response to all items.

Evidence must be gathered under controlled, supervised conditions.

#### **Assessment Guidelines**

Questions used to elicit candidate's evidence should take the form of an appropriate balance of annotated sketches, short answer, restricted response and structured questions.

The assessment for this Outcome might be combined with that for Outcomes 1 and 4.

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Roofing: Alternative Roof Coverings

### Outcome 3

Produce a roof covered in alternative roof coverings

#### Knowledge and/or Skills

- ◆ Interpretation of manufacturer's instructions
- ◆ Roof structure suitability
- ◆ Roof covering compatibility
- ◆ Health and Safety controls
- ◆ Roof preparation
- ◆ Installation of a pitched roof with shingles
- ◆ Installation of a flat roof system with single ply
- ◆ Sustainability considerations

#### Evidence Requirements

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

##### Planning

- ◆ interpret given information from manufacturer's instructions
- ◆ confirm roof structure suitability
- ◆ confirm roof covering compatibility
- ◆ calculate required area for shingles
- ◆ calculate areas for flat roofs
- ◆ calculate materials
- ◆ ensure health and safety controls are appropriate

##### Preparation

- ◆ check installation and manufacturer's instructions
- ◆ measure area for installation and fixings
- ◆ ensure underlay and counter batten detail correct
- ◆ check batten gauge
- ◆ check head lap and bonding for shingles
- ◆ install correct substructure for flat roof
- ◆ cut and form flashing systems
- ◆ check equipment and tools and suitability

Install shingles and single ply to various roof surfaces including flashing details in line with manufacturer guidance and current British Standards:

- ◆ shingle a roof surface
- ◆ lay a single ply roof covering
- ◆ install traditional and modern flashing systems
- ◆ check and ensure quality of work in line with current british standards

## Higher National Unit specification: statement of standards (cont)

### Unit title: Roofing: Alternative Roof Coverings

All Knowledge and/or Skills items must be evidenced. An assessor observation checklist should be completed to ensure that the candidate has met the required specification and manufacturer guidelines and this observation checklist should be retained as evidence. Evidence must be gathered under controlled, supervised conditions.

#### Assessment Guidelines

The assessment of this Outcome is based on the preparation and installation of shingles and single ply systems in which the candidate must refer to the manufacturer's instructions.

Evidence could be generated through assessment undertaken in controlled, supervised conditions.

### Outcome 4

Specify the methods used for maintaining Health and Safety requirements for roof work

#### Knowledge and/or Skills

- ◆ Working at height
- ◆ Risk assessment
- ◆ Method statements
- ◆ Manual handling
- ◆ Health and Safety regulations
- ◆ COSHH
- ◆ Working with lead
- ◆ Hot working

#### Evidence Requirements

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

- ◆ correctly adhere to current health and safety methods and activities in terms of working at height
- ◆ undertake a risk assessment
- ◆ explain requirements for a method statement
- ◆ correctly adhere to current health and safety methods and activities in terms of manual handling
- ◆ correctly adhere to current health and safety methods and activities in terms of controlling substances hazardous to health
- ◆ correctly adhere to current health and safety methods and activities in terms of working with lead
- ◆ correctly adhere to current health and safety methods and activities in terms of hot working

In any assessment of this Outcome all Knowledge and/or Skills items should be included. Candidates must provide a satisfactory response to all items.

Evidence must be gathered under open-book, supervised conditions.

## **Higher National Unit specification: statement of standards (cont)**

**Unit title:** Roofing: Alternative Roof Coverings

### **Assessment Guidelines**

Questions used to elicit candidate's evidence should take the form of an appropriate balance of annotated sketches, short answer, restricted response, structured questions and completion of a Risk Assessment.

The assessment for this Outcome might be combined with that for Outcomes 1 and 2 conducted under open-book conditions.

## Administrative Information

**Unit code:** F8N3 34

**Unit title:** Roofing: Alternative Roof Coverings

**Superclass category:** TG

**Original date of publication:** August 2010

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### History of changes:

Version	Description of change	Date

**Source:** SQA

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## Higher National Unit specification: support notes

### Unit title: Roofing: Alternative Roof Coverings

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 an optional Unit in the Professional Development Award (PDA) in Roof Slating and Tiling at SCQF level 7.

This Unit is designed to enable candidates to develop a knowledge and understanding of Alternative Roof Coverings. The Unit begins with the preliminary stages and installation of shingles to pitched roofs, single ply and flashing details to openings.

At the time of writing the following applies, although centres must ensure the most up to date standards and legislation are adhered to:

- ◆ BS 5534: the British Standard Code of practice for slating and tiling
- ◆ BS 8000: Part 6: the British Standard Code of practice for workmanship on building sites.
- ◆ Working at Height Regulations 2005
- ◆ Manual Handling Operations Regulations 1992
- ◆ COSHH 1992
- ◆ Reference should also be made to the Control of Lead at Work (third edition) Control of Lead at Work Regulations 2002 Approved Code of Practice and Guidance (ISBN 0-7176-2565-6)

The following information may be helpful in relation to specific Outcomes:

#### **Outcome 1: Explain theoretical details associated with shingles to pitched roofs and flashing details** (Recommended 4 hours)

- ◆ **Roof inspection**
  - Condition of supporting timbers in new and existing roof work.
  - Suitability of materials for pitched and flat roof surfaces
  - Roof pitch
  
- ◆ **Shingles**
  - Fixing of waterproofing membranes
  - Head laps and bonding
  - Gauge calculation for pitched roofs
  - Technical details to ridge
  - Timber battening
  - Special fixings
  - Flashings
  - Roof area requirements
  - Use of manufactures instructions

## Higher National Unit specification: support notes (cont)

**Unit title:** Roofing: Alternative Roof Coverings

**Outcome 2: Explain theoretical details associated with flat roof coverings** (Recommended 6 hours)

- ◆ **Flat roofing methods (single ply system)**
  - type of single ply systems
  - minimising waste for specific details
  - details in line with specification
  - details of openings
  - maintaining laps for water penetration and aesthetics
  - use of manufactures instructions

**Outcome 3: Produce a roof covered in alternative roof coverings** (Recommended 23 hours)

- ◆ **Initial planning requirements for installation**
  - source and interpret information for installation
  - inspect roof structure (defects in timber work, roof covering compatibility, roof size, pitch)
  - calculation of materials required
  - roof pitch, covering lap, gauge, bond
- ◆ **Installation of shingle roof covering and flashings**
  - confirm safety precautions for working at height
  - position and fix ground work (underlay, batten, timber fillets)
  - position and fix shingles to pitched roof surfaces
  - position and fix traditional and modern flashing systems
  - double lap cover to be maintained around openings
  - check all flashings and weathering details
  - manufacturers details to be used throughout installations
- ◆ **Installation of flat roof covering**
  - confirm safety precautions for working at height
  - position and fix ground work (underlay, fillets, metal trim)
  - position and fix a single ply covering
  - check all flashings and weathering details
  - manufacturers details to be used throughout installations

Candidates should be encouraged to work in teams for the initial planning, preparation, setting out and shingles and single ply systems with weathering details. The final roof inspection could be peer assessed and verified with assessor.

**Outcome 4: Specify the methods used for maintaining Health and Safety requirements for roof work** (Recommended 7 hours)

- ◆ **Health and Safety requirements**
  - current work at height regulations
  - requirements for existing places of work or means of access or egress
  - guard-rails, toe-boards, barriers or similar collective means of protection.
  - requirements for working platforms
  - requirements for collective safeguards for arresting falls
  - requirements for personal fall protection system
  - requirements for ladders
  - particulars to be included in a report of inspection

## Higher National Unit specification: support notes (cont)

### Unit title: Roofing: Alternative Roof Coverings

- ◆ **Risk Assessment**
  - what is a risk assessment?
  - completion of a risk assessment: task description, location, completion date, review date, persons affected individuals or groups, hazards/consequences, identifying existing control procedures, risk ranking
- ◆ **Method Statements**
  - what is a method statements?
  - requirements of a method statements: task description, preparation, installation, information sources
- ◆ **Manual Handling**
  - avoiding hazards
  - assessing hazards
  - reducing the risk of injury
- ◆ **Control of Substances Hazardous to Health (COSHH)**
  - what is covered?
  - what are the main obligations?
  - define good control practices

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.

### Guidance on the delivery and assessment of this Unit

As part of the Professional Development Award (PDA) in Roof Slating and 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, opportunity is taken to integrate aspects of Constructional Technical Communication Skills (DW4D 34). This Unit could also be delivered as a free standing Unit.

This Unit builds on the knowledge and understanding of roofing skills gained in the Roof Slating, Tiling and Cement Work PDA at SCQF level 6. It is recommended that evidence for the Outcomes is achieved through well-planned course work, assignments and projects. Assessment may be formative and summative and both may feature as part of the process. Although assessments must be focused on the individual achievement of each candidate, group work may contribute to the assessment. Integrative assignments and project work will help to link this Unit with other Units in the Roof Slating and Tiling PDA at SCQF level 7.

## Higher National Unit specification: support notes (cont)

### Unit title: Roofing: Alternative Roof Coverings

If feasible, site visits or information about of traditional and modern 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 Roof Slating and Tiling Training and Assessment Programme at SCQF level 7 (TAP) which has been developed centrally by SQA. Any other instruments of assessment used must be comparable to the TAP.

Details on approaches to assessment are given under Evidence Requirements and Assessment guidelines under each Outcome in the Higher National Unit specification: statement of standards section. It is essential that these sections be read carefully before proceeding with assessment of candidates.

#### *Opportunities for developing Core Skills*

*Problem Solving* at SCQF level 5 could be developed for Outcomes 3 and 4 through analysing a range of factors in order to work efficiently and safely, such as the suitability and condition of the roof, choice of tools and equipment, 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.

*Numeracy* skills at SCQF level 5 could be developed for Outcomes 2 and 3 through roofing calculations for areas and materials.

Opportunities also arise for candidates to develop the Core Skill of *Information and Communication Technology* at SCQF level 4 for Outcome 1, 2 and 4 through researching traditional and heritage roofing terminology and techniques used on the internet, spreadsheets for materials information, e-learning and e-assessment.

There are opportunities for candidates to develop the Core Skill of *Working with Others* at SCQF level 5 through working in pairs for Outcome 3. Candidates can agree responsibilities and provide support and information to each other during the practical group activities.

Candidates will have the opportunity to develop *Communication* skills at SCQF level 5 throughout practical tasks, as they should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

## Higher National Unit specification: support notes (cont)

**Unit title:** Roofing: Alternative Roof Coverings

### Core Skills Signposting

Core Skill	Outcome 1	Outcome 2	Outcome 3	Outcome 4
<b>1 Communication</b>				
Reading	SCQF 5	SCQF 5	SCQF 5	
Writing	SCQF 5	SCQF 5	SCQF 5	
Oral	SCQF 5	SCQF 5	SCQF 5	
<b>2 Numeracy</b>				
Using Number		SCQF 5	SCQF 5	
Using Graphical Information		SCQF 5	SCQF 5	
<b>3 IT</b>				
Using Information Technology	SCQF 4	SCQF 4		SCQF 4
<b>4 Problem Solving</b>				
Critical Thinking			SCQF 5	SCQF 5
Planning and Organising			SCQF 5	SCQF 5
Reviewing and Evaluating			SCQF 5	SCQF 5
<b>5 Working with Others</b>			SCQF 5	

### Open learning

Although this Unit could be delivered by distance learning, it would require a considerable degree of 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 are fully taken into account
- ◆ the practical activities are supervised by a responsible person and clearly recorded (using an assessment checklist for the assessor)
- ◆ the assessor is, at some point, able to question the candidate on that performance
- ◆ assessment is 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](http://www.sqa.org.uk))

### Disabled candidates and/or those with additional support needs

The Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. 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](http://www.sqa.org.uk/assessmentarrangements)

## General information for candidates

### Unit title: Roofing: Alternative Roof Coverings

This Unit has been designed to further your career in the construction industry by developing your competence and improving your knowledge of roofing, with a particular focus on shingles and single ply systems. It has been written as part of the Professional Development Award (PDA) in Roof Slating and Tiling at SCQF level 7, and is for experienced crafts persons working in the construction industry as roofers.

The Unit will help develop your underpinning knowledge and skills related to roofing skills, shingles incorporating traditional and modern flashing systems and flat roof systems (single ply). You will also focus on Health and Safety considerations when working at heights, working with lead and hot working.

On successful completion of the Unit you should be able to:

- ◆ explain theoretical details associated with shingles to pitched roofs and flashing details
- ◆ explain theoretical details associated with flat roof coverings
- ◆ produce a roof covered in alternative roof coverings
- ◆ specify the methods used for maintaining health and safety requirements for roof work

Evidence that you can satisfy the knowledge and skill elements of this Unit will be obtained by assessment in controlled, supervised conditions. The assessment(s) will be open-book which will necessitate the reference to textbooks, handouts, manufacturer data sheets and instruction manuals.

You will also be assessed on your practical ability to produce a roof covered in alternative roof coverings. Your assessor will observe what you do and how well you demonstrate your ability.

There are opportunities for you to develop the Core Skills of *Problem Solving, Numeracy, Working with Others, Communication* at SCQF level 5 and *Information and Communication Technology* 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.