



National Unit Specification: general information

UNIT Carpentry and Joinery: Flat Roof Construction (SCQF level 6)

CODE F6MW 12

SUMMARY

This Unit is suitable for candidates working towards a Modern Apprenticeship in Carpentry and Joinery and will develop the candidates craft skills in flat roof construction. The Unit is designed to provide candidates with competent in constructing flat roofs to include verge and eaves finishes. It is also designed to enable candidates to develop their skills and understanding in flat roof component functions and technical information. The work throughout will be based on recognised craft practices including working in a safe manner.

OUTCOMES

- 1 Demonstrate knowledge and understanding of flat roof terminology, components and fixings.
- 2 Plan and set out a flat roof to given specification.
- 3 Construct a flat roof to given specification.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates undertaking the Professional Development Award in Carpentry and Joinery at SCQF level 6 must meet the requirements of the Modern Apprenticeship, which includes being employed in the relevant craft industry. It is recommended that candidates have attained *Carpentry and Joinery: Workshop Practice Skills* at SCQF level 6 prior to undertaking this Unit.

Administrative Information

Superclass: TG

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National Unit Specification: general information (cont)

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CREDIT VALUE

1 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.*

CORE SKILLS

While there is no automatic certification of Core Skills or Core Skill components in this Unit, opportunities for developing aspects of the following Core Skills are highlighted in Support Notes of this Unit:

- ◆ Problem Solving at SCQF level 4
- ◆ Working with Others at SCQF level 4
- ◆ Numeracy at SCQF level 4
- ◆ Communication at SCQF level 4

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 flat roof terminology, components and fixings.

Performance Criteria

- (a) Define flat roof terminology correctly.
- (b) Identify flat roof components correctly.
- (c) Describe the function of flat roof components correctly.
- (d) Describe the use of flat roof fixing devices and connectors correctly.

OUTCOME 2

Plan and set out a flat roof to given specification.

Performance Criteria

- (a) Plan layout of flat roof correctly.
- (b) Calculate quantity of materials correctly.
- (c) Set out flat roof correctly.
- (d) Comply with current health and safety regulations in all activities.

OUTCOME 3

Construct a flat roof to given specification.

Performance Criteria

- (a) Correctly cut flat roof components.
- (b) Correctly position and fix flat roof structural components.
- (c) Correctly position and fix roof decking including verge and eaves finishing.
- (d) Comply with current health and safety regulations in all activities.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required to demonstrate that the candidates have achieved this Unit to the standard specified all Outcomes and Performance Criteria. All working practices must be in line with relevant and current Health and Safety legislation and regulations. A Risk Assessment and Method Statement must be completed **prior** to any practical activities taking place.

Written and/or oral evidence is required which demonstrates that the candidate has achieved Outcome 1 to the standard specified. Evidence will be required to demonstrate that the candidate can describe the terminology, function of components and forms of construction and fixing associated with flat roof construction. The evidence for this Outcome will be obtained under closed-book supervised conditions.

Product and performance evidence is required to record candidate achievement in Outcomes 2 and 3 to the standard specified, supplemented with an assessor observation checklist and feedback form. As this is a group activity, each candidate will be observed individually to show that they can achieve all of the Performance Criteria.

Candidates should be working towards the following standards:

Specification:

- ◆ approximate minimum span 2.0m
- ◆ minimum rafter section 50mm x 100mm
- ◆ rafters fixed at c/c to suit centre
- ◆ suitable decking fixed to roof deck
- ◆ verge and eaves finished to suit centre and maximise use of materials

Positioning and securing joists:

- ◆ correct joist bearing
- ◆ joists positioned to required centres $\pm 5\text{mm}$
- ◆ joist positioned with camber uppermost and level, no deviation more than 6mm in 3.0m
- ◆ outer joists adjacent to walls (minimum 50mm gap and max 60mm gap)
- ◆ all joints tight fit and securely held
- ◆ joists securely fixed as per specification to line on ends
- ◆ strutting positioned as per specification
- ◆ strutting securely fixed without protruding above or below joist
- ◆ joists parallel to each other and walls $\pm 3\text{mm}$
- ◆ firrings laid in accordance with the drawing

National Unit Specification: statement of standards (cont)

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Positioning and securing joist coverings:

- ◆ all joints tight fit and securely held
- ◆ nails punched below surface
- ◆ sheet material covering positioned and supported as manufacturer's instructions

These Evidence Requirements and standards will be met by the completion of the Practical and Knowledge Evidence elements within the Training and Assessment Programme (TAP) *Carpentry and Joinery*.

National Unit Specification: support notes

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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 Carpentry and Joinery at SCQF level 6, which is a mandatory component of the Modern Apprenticeship.

The 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.

The content and context of this Unit is aimed at candidates pursuing a career in the craft of Carpentry and Joinery and following the Training and Assessment Programme (TAP). The successful completion of this Unit will provide candidates with the required underpinning knowledge and skills relating to the correct function of components, terminology, construction and fixing details in flat roof construction. Candidates will gain practical experience in planning and constructing a flat roof including decking, abutment, verge and eaves finishes. Candidates will also learn how to work as a team and the importance of good communication and observing Health and Safety.

Content should include:

- ◆ types of joists and their support: wallplates, wall bearer or joist hangers
- ◆ creating fall: sloping joists, furring pieces
- ◆ strutting: timber and steel
- ◆ restraining straps
- ◆ decking: tongue and groove flooring, plywood, chipboard (W.R.) oriented strand board, cement bonded chipboard, metal decking, translucent sheeting
- ◆ thermal insulation, vapour barrier venting and weatherproofing

There would be opportunity to integrate aspects of this Unit with others in the Carpentry and Joinery PDA eg *Carpentry and Joinery: Woodworking Machine Skills*; *Carpentry and Joinery: Woodworking Power Tool Skills* and *Carpentry and Joinery: Repairs and Maintenance*. 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 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.

National Unit Specification: support notes (cont)

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GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

The candidate should be given the opportunity to further develop their skills of measuring, setting out, cutting and fixing timber components in line with the given specifications and drawings. The teaching approach should ensure the candidate is acquiring the underpinning knowledge required for the Unit. Candidates should be introduced to basic principles of damp prevention, spacing, size and support of joists, decking, insulation, ventilation, slope of roof. Drawing and sketching could be integrated into the learning and teaching to assist in clarifying construction details. Terminology used and Health and Safety in Flat Roof construction should be integrated into the practical tasks.

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

The candidate should be given the opportunity to further develop their skills through visual aids, electronic presentations, DVD's, e-learning, reference books, classroom exercises and group discussions. The function of each component should be thoroughly demonstrated and practised by each candidate through elevations, sections, plans and detailed drawings. Construction methods should be demonstrated and attempted by candidates in order to show good techniques in measuring, drawing, marking out, plumbing, levelling and nailing and fixing of components from manufacture to fitting. This teaching approach should ensure the candidate is acquiring the underpinning knowledge and skills required for the Unit.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

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 of tools, appropriate materials, safety issues, safety equipment and sustainability.

There are opportunities for candidates to develop the Core Skill of *Working with Others* to SCQF level 4 in Outcomes 2 and 3 as these practical assessments may be carried out in pairs or groups. Candidates can provide support and information to each other during the Practical group activities and should be encouraged to consider how effectively they supported each other.

The Core Skill of *Numeracy* to SCQF level 4 could be developed through the interpretation of information from working drawings and the practical use of calculation and measuring scales required for the practical activities.

National Unit Specification: support notes (cont)

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The Core Skill of *Communication* to SCQF level 4 could be developed as candidates complete practical tasks. Individual discussions with peers and assessors and the use of role-play (ie assuming position of general foreman/team leaders) could be used to enhance the evaluation of efficient working practices. Candidates should be expected to communicate with others using the correct terminology, tone and style suited to the workplace.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Section four of the Carpentry and Joinery Training and Assessment Programme (TAP) provides detailed assessment material for this Unit. It is advised to use the 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. It is expected that candidates will be given as much practice as possible, prior to being set assessment tasks.

The candidates' knowledge and understanding of terminology, components and fixings in relation to flat roof construction will be assessed through a question paper and conducted under controlled supervised conditions.

For Outcomes 2 and 3, candidates will be required to plan and construct a flat roof to a given specification. Evidence will be gathered for Outcomes 2 and 3 through observation that the candidates have met the given standards and tolerances during the practical activity. An assessor observation checklist can be used to record this evidence. Assessment should be conducted 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 communications technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. 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)*.

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