

## Unit 18: Developing Advanced Skills in Roofing Tiling Operations

Unit code: H/503/5763

QCF Level: 3

Credit value: 20

Guided learning hours: 200

### Unit aim

This unit enables learners to understand the tools, equipment and working techniques used to perform roofing tiling operations to complex shapes, and gives learners the opportunity to use these techniques on a variety of complex tiling systems.

### Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes	Assessment criteria
1 Understand the preparation required to form valleys to roof layouts	<ul style="list-style-type: none"><li>1.1 Describe the setting out method for a valley in a double lap roof covering</li><li>1.2 Identify tools and equipment for a valley construction, including personal protective equipment</li><li>1.3 Calculate the quantity of resources required for a valley construction</li><li>1.4 Explain how to carry out a raking cut for a single lap tiled valley</li><li>1.5 Describe the construction details for a sheet metal valley in a double lap roof covering</li><li>1.6 Explain how to install and safeguard a temporary electricity supply for a portable abrasive disc cutter</li><li>1.7 Describe the hazards and risks to the roofer when constructing a valley in wet and very windy conditions</li></ul>

	<p>1.8 Describe the use of shared welfare facilities that are provided by the main contractor for a sub-contractor</p> <p>1.9 Explain a waste reduction technique to minimise waste when forming a lead valley in a tiled roof</p>
<p>2 Be able to construct valleys in roof coverings safely</p>	<p>2.1 Select equipment for a tiled valley for a single lap interlocking roof system</p> <p>2.2 Carry out inspections of equipment for a tiled valley for a single lap interlocking roof system to ensure that the equipment is fit for purpose</p> <p>2.3 Construct a lead valley in a plain tiled roof, complying with current legislation</p> <p>2.4 Construct a tiled valley to a single lap interlocking roof, complying with current legislation</p> <p>2.5 Sort and salvage waste from a leaded valley in a plain tiled roof while minimising its creation</p>
<p>3 Understand the preparation required to form hips to roof layouts</p>	<p>3.1 Describe the setting out method for a hip ended plain tiled roof</p> <p>3.2 Calculate the tile and batten requirements from a given roof plan with a valley and hip layout</p> <p>3.3 Explain how to construct a lead capped hip end for a plain tiled roof</p> <p>3.4 Describe the construction details for a hipped end for a single lap interlocking roof</p> <p>3.5 Explain the safety inspections that are carried out prior to accessing a roof to construct a hipped end</p> <p>3.6 Describe the maintenance issues that arise from a bonnet hipped end using cement mortar</p> <p>3.7 Describe site procedures for requesting scaffolding to be altered</p> <p>3.8 Explain the reason for the use of ear defenders when cutting tiles with an abrasive wheel cutter</p>

<p>4 Be able to construct hip ends to roof layouts safely</p>	<p>4.1 Select equipment for lead capping a hip in a single lap tiled roof</p> <p>4.2 Carry out inspections of equipment used for lead capping a hip in a single lap tiled roof to ensure that the equipment is fit for purpose</p> <p>4.2 Construct a lead hip capping for a single lap tiled roof complying with current legislation</p> <p>4.3 Construct a bonnet hip for a double lap tiled roof complying with current legislation</p> <p>4.4 Describe the safety, health and welfare facilities provided by the main contractor</p>
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## Unit content

### 1 Understand the preparation required to form valleys to roof layouts

*Roof:* mono pitched (L-shaped plan, dormers, abutments); duo pitched (asymmetrical, various pitch, L-shaped on plan, complex pitches); warm roof; cold roof

*Valley:* simple (straight); complex (mixed pitch, split direction); double lap tiling (plain, various gauges, ornamental); construction (traditional lair board, preformed proprietary valley; proprietary valley tile

*Roof covering:* tiling (plain double lap, single lap, single lap interlocking, ornamental)

*Quantity of resources:* supporting structures (traditional purlined roof carcass with sarking board, trussed rafter pitched roof carcass); counter-battening; timber valley construction

*Main contractor:* standing scaffold; reboard scaffold procedure; shared welfare facilities; main contractor's responsibilities (site safety, health and welfare)

*Sub-contractor's legal, statutory and contractual responsibilities under safety health and welfare:* environment; Building Regulations (stability, wind, fire); waste; insurance (employer, public liability, contractual); Control of Substances Hazardous to Health (COSHH)

*Tools and equipment:* hoist provided by main contractor; material handling (manual, mechanical); portable power tools (cutting, forming, shaping, site electrical, portable); personal protective clothing

*Waste:* removal methods (manual and mechanical); carrier licences (transporting, hazardous and non-hazardous); waste calculations (numeric, percentage)

### 2 Be able to construct valleys in roof coverings safely

*Roof:* mono pitched (L-shaped plan, dormers, abutments); duo pitched (asymmetrical, various pitch, L-shaped on plan, complex pitches); warm roof; cold roof

*Valley:* simple (straight); complex (mixed pitch, split direction); double lap tiling (plain, various gauges, ornamental); construction (traditional lair board, preformed proprietary valley; proprietary valley tile; metal; polymer)

*Roof system:* tiling (plain double lap, single lap, single lap interlocking, ornamental); proprietary tiled valley; metal

*Roof covering:* tiling (plain double lap, single lap, single lap interlocking, ornamental)

*Legislation:* working at height legislation; COSHH; manual handling; Lifting Operation and Lifting Equipment Regulations (LOLER); Provision and Use of Work Equipment Regulations (PUWER); site safety induction and control; permits to work; hot permit; main contractor's responsibility for the site safety, health and welfare; sub-contractor's legal, statutory and contractual responsibilities under

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safety health and welfare; environment; Building Regulations (stability, wind, fire); waste; insurance (employer, public liability, contractual)

*Waste:* segregation, site storage bins, recycle methods (crushing, screening, separating); site waste protocol; carrier waste licence protocol; removal methods (manual and mechanical); carrier licences (transporting, hazardous and non-hazardous); waste calculations (numeric, percentage)

*Main contractor:* standing scaffold; reboard scaffold procedure; shared welfare facilities

*Equipment:* hoist provided by main contractor, material handling (manual, mechanical); portable power tools (cutting, forming, shaping, site electrical, portable) personal protective clothing

### 3 Understand the preparation required to form hips to roof layouts

*Roof:* mono pitched (L-shaped plan, dormers, abutments); duo pitched (asymmetrical, various pitch, L-shaped on plan, complex pitches); warm roof; cold roof

*Hip:* simple (straight); complex (mixed pitch, split direction); double lap tiling (plain, various gauges, ornamental); single lap tiling; hip tiles (plain straight, shaped, bonnet); proprietary hip tile; metal; polymer

*Tiled roof:* tiling (plain double lap, single lap, single lap interlocking, ornamental); proprietary tiled hip; metal capping

*Safety inspections:* working at height legislation; COSHH; manual handling; LOLER; PUWER; noise; health monitoring; site safety inspections and monitoring; accident reporting (site, organisation, RIDDOR); scaffolding

### 4 Be able to construct hip ends to various roof layouts safely

*Roof:* mono pitched (L-shaped plan, dormers, abutments); duo pitched (asymmetrical, various pitch, L-shaped on plan, complex pitches); warm roof; cold roof

*Hip end:* simple (straight); complex (mixed pitch, split direction); double lap tiling (plain, various gauges, ornamental); single lap tiling; proprietary hip tiles; metal capping

*Roof:* tiling (plain double lap, single lap, single lap interlocking, ornamental)

*Inspection:* visual; statutory examination; recording; test

*Equipment:* hoist provided by main contractor; material handling (manual, mechanical); portable power tools (cutting, forming, shaping, site electrical, portable); personal protective clothing

*Main contractor:* site safety; induction; inspections; examination; coordination; shared facilities (safety, health and welfare); site layout (site logistics, walkways, traffic control)

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