

## Unit 11: Developing Advanced Skills in Decorative Masonry Operations

Unit code: D/503/5759

OCF 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 bricklaying operations to complex designs and decorative brickwork. It gives learners the opportunity to develop skills used in producing decorative and architectural brickwork where a high degree of accuracy and quality is required.

### 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 complex architectural brickwork	1.1 Describe the setting out procedure for architectural brickwork that is 1 course high and has a projecting horizontal band in a brick wall 1.2 Describe the work method for building a featured chimney stack with tumbling based on given architectural details and contract documents 1.3 Calculate the quantity of resources required to build a circular brick retaining wall using special facing bricks to a given specification 1.4 Explain how to construct a 2-course dog-toothed verge that is pointed in matching coloured mortar with a weather struck joint profile 1.5 Describe the construction details for an indented herringbone pattern panel with raked out joints 1.6 Prepare a method statement for

	<p>setting out a featured fireplace, flue and stack from given architectural details</p> <p>1.7 Explain the site protocol to be followed when constructing a natural stone coping to a Dutch gable parapet</p> <p>1.8 Explain a technique for minimising waste when forming a segmental stone arch in a cavity wall structure</p>
<p>2 Be able to construct curved brickwork safely</p>	<p>2.1 Set out a radius in a brick wall, following a plan to a given detail</p> <p>2.2 Construct a 1-brick wall to a specified radius following a plan to a given detail, complying with current legislation</p> <p>2.3 Construct a segmental arch for an opening 1 metre wide, rake out joints and flush point in coloured mortar, complying with current legislation</p>
<p>3 Be able to construct fireplace, flues and stacks safely</p>	<p>3.1 Select equipment used in fireplace construction</p> <p>3.2 Inspect equipment used in fireplace construction to ensure it is fit for purpose</p> <p>3.3 Construct a decorative brick fireplace surround for an open fire to given details, complying with current legislation</p> <p>3.4 Construct a double flue chimney stack, with a projecting band to given details, complying with current legislation</p>

## **1 Understand the preparation required to form complex architectural brickwork**

*Architectural brickwork (decorative and featured brickwork):* bands; plinths; panels; projections; sills; lintels; quoins; fireplaces (surround, flue, stack); plan (curved and radius work); arches (rough ring, axed and cut arches, arch centres, voussoirs, key brick)

*Setting out:* location; shape; size; arches (semi-circular, segmental, flat); graphical (scaled drawings, plans, elevations, detailed sections, sketches); template; temporary support

*Quantity of resources:* masonry materials (bricks, blocks, natural stone, local materials, mortars, lightweight blocks, insulating blocks); fixing devices; frames (door, window); wall extension profiles; lintels (steel, in-situ concrete, precast concretes); brick reinforcement; mortars; hand tools; shoring equipment; access equipment (ladders, hop-ups, stepladders, lightweight tower scaffolds, trestles and staging); material handling (manual, mechanical); number of portable power tools (cutting, forming, shaping, site electrical, portable); personal protective clothing; safety barriers; guards

*Site protocol:* safety (entry, inductions, site logistics, first aid, emergency, hazards, operational, general public); risk control mechanism; work methods; site logistics; hazardous materials; material movement; storage; mechanical plant and equipment (lifting, transporting, fixing, forming cutting); scaffold; power access equipment; welfare facilities; component protection; site storage; traffic routes; walkways; waste (licences, consent)

*Waste:* reduction; recycle; off-site manufacturer; carbon footprint; minimisation

## **2 Be able to construct curved brickwork safely**

*Radius:* plan (buttress radius, direction, stop end); buttress on elevation

*Arches:* one and two ring arches (segmental, semi-circular, shaped, rough); flat arches (on end, on stretcher); profiled steel arch and former; temporary formers

## **3 Be able to construct fireplace, flues and stacks safely**

*Fireplaces:* solid fuel (open, enclosed); gas (floor, wall mounted); accessories (fireback, surround, throat unit, soot door, capping, pots, flaunching)

*Details:* working drawings (plans, elevations, sections, layout, assembly, component); sketches; specifications (material, finished quality, product, Agrément Certificate, British Standards Specification (BSS), Codes of Practice, Eurocodes)

*Chimney stacks:* flush; attached (corbelled, tumbled in); flue blocks; flue chest; flue liner (square, circular, insulated metal); metalwork; ornamental pots and finials

*Legislation:* working at height legislation; COSHH; manual handling; Lifting Operations and Lifting Equipment Regulations (LOLER); Provision and Use of Working Equipment Regulations (PUWER); noise; health monitoring; site safety inspections and monitoring; accident reporting (site, organisation, RIDDOR); Building Regulations (structure, fire safety, ventilation, combustion appliances and fuel storage systems, conservation of fuel and power)

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