

**BRICKLAYING****Title: Plan, set out and construct chimneys and fireplaces****Level: 4****Credits: 8****Purpose**

This unit standard specifies the competencies required to construct brick fireplaces and chimneys in various types and styles of buildings. It includes the planning, preparation, set out and construction requirements of the work. This unit standard is intended for those who work as bricklayers and plasterers.

**Special Notes**

## 1. Entry information

Prerequisite:

- Unit 3 - *Apply safety rules and regulations in bricklaying operations* or demonstrated equivalent knowledge and skills.

## 2. The unit standard requires the laying of bricks to construct fireplaces and chimneys. Construction of fireplaces and chimneys may include, but not be limited to, brick/block veneer and solid brick/block/stone wall structured buildings. Bricklaying and blocklaying tasks include all concrete brick/block (hollow and solid) masonry work.

## 3. To demonstrate competence, at a minimum, requires evidence of, given the plans and specifications, calculating the materials required and constructing a brick fireplace and chimney. Perform these tasks ensuring correct identification of requirements and finishing of the tasks, correct selection and use of appropriate processes, tools and equipment and completing all work to specification.

## 4. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which bricklaying operations are carried out.

## 5. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' guidelines and instructions.

6. '*Specifications*' refers to any, or all of the following manufacturers' specifications and recommendations, site and workplace specific requirements.7. Regulations and legislation relevant to this unit standard include the following:

- Labour Act No 6, 1992
- Occupational Health and Safety Regulations No.18, 1997

and all subsequent amendments.

## **Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on [www.nta.com.na](http://www.nta.com.na)

## **Elements and Performance Criteria**

### **Element 1: Plan and prepare for work**

#### **Range**

Planning and preparation is to include but is not limited to worksite inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

Tools and equipment are to include but are not limited to wheelbarrows, cement mixers, brooms, buckets, hoses, shovels, measuring tapes/rules, hammers (club, scutch), bolsters, shovels, spirit levels, trowels, mortar boards, straight edges, profiles, line blocks, line pins, builders lines, masonry saws, jig saws, elevators, brick grabs and pointing tools. Tools and equipment may also include elevators, scaffolds, material hoists, brick barrows and small petrol/diesel mixers.

Materials are to include but are not limited to fire rated masonry blocks, stone, aggregates, cement and lime.

#### **Performance Criteria**

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied.
- 1.2 Safety requirements are followed in accordance with safety plans and policies.
- 1.3 Sign and barricade requirements are identified and implemented.
- 1.4 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement.
- 1.5 Material quantity requirements are calculated in accordance with plans and/or specifications.
- 1.6 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.
- 1.7 Environmental protection requirements for the project are identified and applied in line with environmental plans and regulatory obligations.

## **Element 2: Set out and prepare base**

### **Performance Criteria**

- 2.1 Set out area is correctly located and footing is checked for conformity to dimensions and location as per job drawings and specifications.
- 2.2 Fireplace base is set out to correct measurements and location to job drawings.

## **Element 3: Construct base**

### **Performance Criteria**

- 3.1 Mortar mix is prepared and checked for conformity to specifications and standards.
- 3.2 Bricks/blocks/stone are laid to set out for base in accordance with specifications and standards.
- 3.3 Bricks/stone laid to line and level and constructed in accordance with specifications and standards.

## **Element 4: Construct hearth and fireplace**

### **Performance Criteria**

- 4.1 Damp proof courses are installed to specifications and in accordance with standards.
- 4.2 Bricks/blocks/stone are laid to form hearth to designed shape, pattern and job drawings and specifications.

## **Element 5: Construct firebox and face brick/block work**

### **Performance Criteria**

- 5.1 Specified materials for fire box and face brick/block work are selected to specifications.
- 5.2 Firebox is constructed to form shape for rear and side walls to specifications.
- 5.3 Face brick/block work is laid to form shape of openings to designed dimensions and finish of drawings and specifications.
- 5.4 Lintel is installed to specifications.
- 5.5 Facework is laid to bond/pattern/colour finish to wall and aligned to specification.
- 5.6 Protrusions and/or mantelpiece is formed and finished to designed shape and specifications.

5.7 Plumb and level is maintained for straight work.

### **Element 6: Form throat and chimney shaft**

#### **Performance Criteria**

- 6.1 Work platform is erected in accordance with requirements of regulatory authority and workplace.
- 6.2 Throat is formed, parged and shaped for fire box and chimney design and specifications and constructed in accordance with specifications and standards.
- 6.3 Parging to flue is completed to specifications.
- 6.4 Brick/stone is laid to build outer skin and form chimney shaft to specifications and constructed in accordance with specifications and standards.
- 6.5 Baffles are built in, where designed, to location and specifications.

### **Element 7: Complete chimney**

#### **Performance Criteria**

- 7.1 Chimney tray is built into chimney design and installed to specification in accordance with standards.
- 7.2 Chimney is constructed in accordance with specifications and standards.
- 7.3 Head of chimney is completed to designed finish in accordance with drawings and specifications.

### **Element 8: Finish joints**

#### **Performance Criteria**

- 8.1 Joints to laid brickwork/blockwork/stonework are raked or ruled to designed depth in accordance with the job specifications.
- 8.2 Joints to laid brickwork/blockwork/stonework are raked out for provision of apron and stepped flashing at roof line.
- 8.3 Brickwork/blockwork/stonework is brushed down prior to drying using appropriate brushing tool.

### **Element 9: Clean up**

#### **Performance Criteria**

- 9.1 Work area is cleared and materials disposed of, reused or recycled in accordance with legislation/regulations and job specification.
- 9.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices.

## **Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	28 September 2006
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<b>Body responsible for review:</b>	Namibia Training Authority