	Unit ID: 16
Domain	**BRICKLAYING**
Title:	**Cast, finish and cure concrete**
Level: 2	**Credits: 4**

Purpose

This unit standard specifies the competencies required to transport and place concrete into prepared formwork or foundations to establish a strong base for the next stage of building work. The unit includes the moving of concrete from mixer to pour location, concrete placement, screeding, finishing and curing. 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. To demonstrate competence, at a minimum, transport and place at least 9m² of concrete, screed to level and compact/vibrate to specifications; finish using a hand trowel at least 3m² of concrete slab to job specifications; apply a curing compound/method to at least 3m² of concrete to specifications using at least two of the compounds/methods specified in the range. 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.

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

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

5. *'Specifications'* refers to any, or all of the following: manufacturers' specifications and/or recommendations, site and/or workplace specific requirements.

6. 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

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 may include but are not limited to measuring tapes/rules, shovels, wheel barrows, brooms, screed boards, chutes, trowels, wooden floats, steel trowels, rakes, bull floats, hoses, sprinklers, edging tools and v-jointers.

Materials may include but are not limited to concrete, water, curing compounds, water, plastic sheet.

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 that 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: Locate and prepare work area

Performance Criteria

2.1 Location of concrete placement is determined from plans and specifications and check location for placement is free of debris and waste.

2.2 Safe working area is maintained around pour location using barriers and signage consistent with safety regulations.

2.3 Plant, tools and equipment is located to suit planned placement.

Element 3: Mix Concrete

Performance Criteria

3.1 Materials required for concrete are identified according to job specifications.

3.2 Materials are batched according to job specifications.

3.3 Materials are mixed by hand or machine according to job specifications.

Element 4: Transport and place concrete

Performance Criteria

4.1 Levels are checked.

4.2 Concrete is transported to pour location by wheelbarrow.

4.3 Concrete is placed in horizontal layers into location to levels as indicated by markers, level pegs or lines.

4.4 Height of vertical drop of concrete is minimised to avoid segregation of concrete.

4.5 Poured concrete is consolidated during process using hand compaction.

Element 5: Screed / level concrete

Performance Criteria

5.1 Concrete is hand screeded to correct levels and/or grades.

Element 6: Finish concrete

Range

Finishing techniques for concrete are to include but are not limited to steel trowel, mechanical trowelling machine, broom finished, wood float, and brushed.

Evidence of two techniques for finishing concrete is required for assessment purposes.

Performance Criteria

6.1 Float and trowel are applied after initial screeding to assist in maintaining a level surface and remove screeding inaccuracies.

6.2 Control joints are installed, edges finished and concrete trowelled to specifications.

6.3 Final trowel/finish applied to concrete surface to specifications.

Element 7: Cure concrete

Range

Curing techniques/methods may include but are not limited to hosing, sprinklers, ponding, curing compounds, plastic sheeting, hessian sheeting and sand.

Evidence of the use of two techniques/methods is required for assessment purposes.

Performance Criteria

7.1 Concrete cured to specifications.

7.2 Curing compound/method is applied and maintained on concrete surface to specifications.

7.3 Concrete is protected during curing process by isolating and/or barricading the area.

Element 8: Clean up

Performance Criteria

8.1 Work area is cleared and materials disposed of, reused or recycled in accordance with legislation/regulations and job specification.

8.2 Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices.

Registration Data

Subfield:	General Construction
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