

REGISTERED NATIONAL STANDARD



UNIT OF COMPETENCY

Title:	Carry out cavity brick and block construction ¹				
TQF Level:	4	Credits:	6	Version:	1
National standard code:	NS148-04				
Associated qualification (and code):	National Certificate in Bricklaying and Blocklaying Level 3 QR-03-NQ-028-01-1005-26-01				
Approval date:	10 September 2026		Review date:	11 September 2031	
Purpose:	This unit describes the skills and knowledge required to safely and effectively select, prepare, use, clean, and store bricklaying and blocklaying tools, plant, and equipment. The unit focuses on understanding functional and operational features of tools and equipment and applying manufacturer instructions, workplace procedures, and work health and safety requirements. It is designed for individuals performing routine bricklaying and blocklaying tasks under supervision on new or existing structures. The unit supports skilled bricklayers and blocklayers who are expected to carry out brick and block construction tasks with supervision while complying with workplace and regulatory requirements. In successfully completing this unit standard, learners are able to: • Apply workplace safety, environmental, and quality requirements • Construct cavity brick/block buildings and structures. • Install moisture barriers, ventilation systems, and roof tie-downs. • Interpret plans, specifications, codes, and drawings for cavity brick/block construction. • Calculate material quantities using measurements and formulas. • Plan work sequence and coordinate site activities. • Identify hazards and apply appropriate risk control measures. • Set out brickwork, gauge, bond patterns, and openings. • Mix mortar and construct base brickwork. • Install damp-proofing, weepholes, and ventilation systems. • Constructing cavity walls to maintain plumb, level, and alignment. • Installing structural components (wall ties, lintels, frames, roof tie-downs). • Finish brick/blockwork joints and clean surfaces. • Clean worksite, maintain tools, and manage materials responsibly.				

¹ Due to safety issues inherent in working with electricity and combustible substances, all training and assessment activities must be in accordance with Tonga National Building Code.

Learning Outcome 1 (LO1)	Prepare to carry out cavity brick and block work construction
Performance standards	1.1 Determine potential hazards, assess risks and implement control measures; 1.2 Read and interpret apply cavity brick construction requirements from plans, specifications, standards and codes; 1.3 Select and use personal protective equipment (PPE) appropriate for job; 1.4 Follow workplace safety and environmental requirements in documentation and workplace procedures; 1.5 Use measurements and apply formulas to calculate material quantities; 1.6 Determine and sequence job tasks in consultation with others on site; 1.7 Select plant, equipment and tools and report damage or faults to relevant person.
Learning Outcome 2 (LO2)	Set out brick and block work
Performance Standards	2.1 Set out and mark base brick and block work; 2.2 Set out brick and block work. gauge and bond; 2.3 Set out load bearing brick and block work; 2.4 Set out window and door positions.
Learning Outcome 3 (LO3)	Construct brick work
Performance standards	3.1 Mix mortar to specified consistency; 3.2 Lay cavity brick base to set out marks; 3.3 Determine locations of damp-proofing and weepholes; 3.4 Install damp-proofing and weepholes for floor construction. 3.5 Construct brick walls straight, plumb and level; 3.6 Fix wall ties to specified positions; 3.7 Locate standard door and window positions; 3.8 Build in standard height door jambs and window frames into cavity walls.
Learning Outcome 4 (LO4)	Construct block work
Performance standards	4.1 Mix mortar to specified consistency;

	4.2 Cut and lay corner blocks to set out marks; 4.3 Locate standard door and window positions; 4.4 Build in standard height door jambs and window frames into correct position; 4.5 Construct block walls straight plumb and level 4.6 Fill all block cavities.
Learning Outcome 5 (LO5)	Finishing surface of brick and block and clean-up work area
Performance standards	5.1 Rake or rule joints to specified profile and depth; 5.2 Brush down face of brickwork to remove unwanted mortar prior to drying; 5.3 Clear the work area, and dispose of, reuse or recycle materials following workplace and environmental requirements; 5.4 Clean tools and equipment, check for serviceability and report damage or faults; 5.5 Store and secure tools and equipment following workplace procedures.
Pre-requisites	NS133-03 Apply <i>Occupational Health and Safety</i> (OHS) requirements, policies and procedures
Co-requisites	N/A
Underpinning skill and knowledge	The following skills and knowledge underpin this unit standard: <u>Skills:</u> Work Planning and Safety • Reading and interpreting work plans and specifications • Identifying hazards and implementing appropriate control measures • Calculating material quantities using measurements and formulas • Following OHS policies, environmental procedures, and site documentation • Selecting, fitting, and using appropriate personal protective equipment (PPE) Tool and Equipment Preparation • Selecting suitable hand tools, power tools, plant, and equipment for bricklaying and blocklaying tasks

	• Conducting pre-operational checks on tools and equipment • Identifying faults, damage, or limitations from manufacturer instructions • Tagging and reporting damaged or unsafe tools and equipment Practical Tool and Equipment Use • Safely using tools and equipment only for their intended purpose • Setting up and stabilising static equipment • Connecting and disconnecting electrical tools using RCD protection • Using equipment to achieve different brick and block joint finishes • Assisting in bricklaying or blocklaying work under supervision Housekeeping and Storage • Cleaning tools and equipment after use • Checking serviceability and reporting defects • Disposing of, reusing, or recycling materials according to workplace and environmental requirements • Storing and securing tools and equipment in line with workplace procedures <u>Knowledge:</u> Tools, Equipment, and Plant • Terminology related to bricklaying and blocklaying tools and equipment • Functional and operational features, uses, and limitations of: • Hand tools (trowels, jointing tools, bolster chisels, hammers, squares, bevels) • Measuring and levelling tools (spirit levels, laser levels, water levels) • Power and battery-operated tools (drills, wet-cut brick saws) • Plant and mechanical equipment (cement mixers, wheelbarrows, pallet trolleys, hoists, brick buggies)
--	---

	• Small engines, compressors, and mixers Manufacturer and Operational Requirements • Manufacturer specifications and instructions, including: • Safety requirements during operation • Identification and purpose of components • Maintenance, cleanliness, and serviceability • Basic troubleshooting procedures Materials and Construction • Basic construction and bricklaying terminology • Characteristics, properties, and applications of materials used in bricklaying and blocklaying • Purpose and interpretation of plans and specifications Work Processes and Handling Techniques • Manual handling principles • Mechanical handling techniques • Use of supports, clamps, guides, and holding devices OHS requirements relevant to bricklaying and blocklaying, including: • Job Safety and Environmental Analysis (JSEA) • Electrical safety • Working at heights • Noise control and hearing protection • Dust suppression and silica exposure management • Environmental requirements for waste management, reuse, and recycling on construction sites
Assessment requirements	<u>Assessment methods</u> may include more than one of the following: Direct Observation

	Assessment of learners while they are performing tasks in real time in a simulated environment. • The learner performs practical tasks. • The assessor watches the learner complete these tasks against a checklist or performance standards. Assessor Requirements • Use a structured observation checklist aligned to performance standards • Observe multiple occasions to ensure consistency of competence. • Record evidence of safe work practices, correct use of equipment, etc. • Provide immediate feedback where appropriate. • Ensure conditions reflect real workplace standards. Oral Questioning Verbal questions asked to assess the learner's understanding of knowledge and reasoning. • Conducted during or after practical tasks. • Can be structured (planned questions) or informal (follow-up probing). Assessor Requirements • Ask questions that test underpinning knowledge • Use open-ended questions • Confirm learner understanding where practical performance is not enough. Record responses clearly (notes or checklist). • Adjust language to suit learner literacy levels. Written Test A structured assessment requiring learners to provide written responses. Short-answer questions, multiple choice, or case scenarios. • Typically conducted off-site or in a classroom environment. Assessor Requirements • Design questions that assess knowledge. • Ensure the test is clear, aligned to unit requirements and appropriate for language, literacy, numeracy levels • Mark responses using a marking guide or model answers. • Provide feedback and identify gaps in knowledge. • Ensure results reflect the learner's independent performance.
--	--

	Work-Based Activity Assessment conducted in a real workplace while the learner performs actual job tasks. • Learners complete normal workplace duties. • Evidence is collected over time. • Assessor Requirements • Coordinate with workplace supervisors. • Gather evidence such as - Observation reports, Supervisor feedback, etc. • Verify that tasks meet unit performance standards. • Ensure authenticity (learner's own work). • Confirm competence across different situations and timeframes. Assessment should use a combination of the above methods to ensure sufficient, valid, authentic, and current evidence of competence in both skills and knowledge, in line with unit requirements. <u>Context of Assessment:</u> Competency is to be assessed in the workplace or a simulated workplace environment that accurately reflects a real workplace setting. Assessment is to comply with relevant regulatory or relevant standards' requirements. Assessment of essential knowledge will usually be conducted in an off-site situation.
Moderation arrangements	1. Training providers must have their own moderation system approved by TNQAB before accreditation is granted: a) Relevant internal moderation processes are documented; b) Assessment is planned for each unit, and moderation processes are integrated into such plan. 2. Unless specified elsewhere, external moderation is conducted by the National Qualifications unit of TNQAB for all unit components of a national qualification: a) Samples of assessed activities are submitted for moderation; b) Moderation (external) forms are available on request.
Resource requirements	1. Power point presentations. 2. Trainer's Guide

3. Learner's Guide
4. Tonga National Building Code
5. Videos
6. Plans and Specifications
7. Trowels, floats, and jointing tools
8. Screeds and screed rails
9. Measuring tools (tape measures, spirit levels, string lines)
10. Bricklaying tools (trowels, jointers, levels)
11. Measuring tools (tape measures, string lines, spirit levels)
12. Hammers and chisels
13. Mortar mixing tools (mixers, buckets, boards)
14. Cutting tools (brick saws)
15. Battery-operated tools and hand tools
16. Bricks/Blocks
17. Cement, lime, and aggregates
18. Mortar materials
19. Damp-proof course (DPC) materials
20. Flashings and ventilation components
21. Weepholes
22. Wall ties
23. Lintels (steel or concrete)
24. Door jambs and window frames
25. Roof tie-down components
26. Parapet and gable components
27. Loadbearing elements
28. PPEs
29. Structured assessment and evidence-collection tools
30. 2 tents (12x6m)
31. Water tank (1000L) trailer
32. First aid kit
33. Demountable site office
34. Demountable storage container (20ft)
35. Tele-handler
36. Scissor lift
37. Portable star link

	38. Walkie talkie (set) – range coverage all Tongan Group
Requirements to complete this unit	There are five (5) Learning outcomes and thirty (30) performance standards to measure competence. To demonstrate competence, the person studying this unit is: - Required to demonstrate all LOs to the expected standards; - Required to attain an Achieved Grade (Competent) to fulfil the requirements of the Unit Standard; - Eligible to three (3) attempts to achieve the required competency within 14 days of the first attempt. Failure to achieve the required competency after three (3) attempts on the specific part of the assessment will require the person studying this Unit to re-enrol for the same Unit.
Important notes and definitions	<u>Notes:</u> - All training and assessment activities must be in accordance with Tonga National Building Code. - Assessors must comply with the Tonga national assessment and moderation requirements. <u>Definitions:</u> <i>Bond pattern</i> refers to arrangement of bricks to ensure strength and appearance. <i>Cavity wall</i> refers to wall consisting of two layers of masonry separated by a gap (cavity). <i>Cavity</i> refers to space between inner and outer brick layers to prevent moisture penetration. <i>Cleaning face work</i> refers to removing excess mortar from brick surface <i>Damp-proof course (DPC)</i> refers to barrier to prevent moisture rising through walls. <i>Electrical Hazards</i> refer to risks associated with electrical equipment and improper grounding. <i>Environmental Requirements</i> refer to regulations and workplace procedures aimed at reducing environmental impact, including waste management and recycling. <i>Flashing</i> refers to material used to prevent water ingress at joints and openings.

	9. <i>Gauge</i> refers to measurement controlling horizontal brick course height. 10. <i>Joint profile</i> refers to shape and finish of mortar joints. 11. <i>JSEA (Job Safety and Environmental Analysis)</i> refers to the process identifying hazards and environmental risks. 12. <i>Level</i> refers to horizontal alignment. 13. <i>Lintel</i> refers to beam supporting loads above doors and windows. 14. <i>Loadbearing wall</i> refers to wall supporting structural loads. 15. <i>Mortar</i> refers to mixture of cement, sand, lime, and water used to bond bricks. 16. <i>Parapet</i> refers to extension of a wall above roof level. 17. <i>Plumb</i> refers to vertical alignment of a wall. 18. <i>Raking joints</i> refer to removing mortar to create a profile. 19. <i>Roof tie-down</i> refers to system securing roof structure to walls. 20. <i>Set out</i> refers to marking positions for brickwork and openings. 21. <i>Silica Dust Exposure</i> refers to health risk from inhaling fine dust from masonry materials. 22. <i>Tonga National Building Code</i> refers to a set of technical standards governing the design and construction of buildings in Tonga. 23. <i>Wall tie</i> refers to connector securing inner and outer leaves of a cavity wall. 24. <i>Weepholes</i> refer to openings that allow moisture to escape from cavity walls.
Public comments on unit	Please contact TNQAB National Qualifications Unit (email EnquireNQ@tnqab.to or Telephone 28136) if you like to discuss or suggest changes to the details of this unit.