

REGISTERED NATIONAL STANDARD



UNIT OF COMPETENCY

Title:	Install decorative tiling ¹				
TQF Level:	4	Credits:	8	Version:	1
National standard code:	NS176-04				
Associated qualification (and code):	National Certificate in Wall and Floor Tiling Level 4 QR-04-NQ-028-04-1005-26-01				
Approval date:	10 September 2026		Review date:	10 September 2031	
Purpose:	This unit describes the skills and knowledge required to plan, set out, and install decorative tiling patterns on walls and floors to meet design specifications and client requirements in residential and commercial construction. It includes interpreting drawings and plans, selecting appropriate materials, preparing substrates, designing and setting out decorative patterns (including heritage styles), cutting tiles accurately, and installing tiles using advanced alignment and layout techniques while complying with Tonga National Building Code, OHS, environmental requirements, manufacturer specifications, and workplace procedures. It emphasises accuracy in pattern formation, design interpretation, and finishing to ensure tiled surfaces are visually appealing, structurally sound, and compliant with standards and specifications. It ensures that learners can carry out decorative tiling while working independently or as a member of a team In successfully completing this unit standard, learners are able to: • Apply OHS and environmental procedures throughout all decorative tiling activities • Interpret drawings, plans, and specifications for decorative tiling projects • Plan and organise decorative tiling tasks, including sequencing work • Select tiles, materials, and patterns suitable for design requirements • Identify architectural styles and develop appropriate tiling patterns • Follow and set out decorative layouts, including borders and strip patterns • Calculate material quantities required for decorative tiling work				

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.

	• Prepare substrates to required standards for tiling application • Mark and set out tile positions to achieve accurate pattern alignment • Cut and shape tiles to fit complex patterns and layouts • Install wall and floor tiles maintaining symmetry, alignment, and design integrity • Align joints plumb, level, and square for consistent appearance • Apply adhesive or mortar to secure tiles according to specifications • Grout, clean, and polish tiles to achieve the required finish • Ensure finished work meets client expectations and quality standards • Clean up work areas and manage waste responsibly • Maintain and store tools and equipment • Dispose of waste materials, reuse, or recycle in accordance with environmental requirements and building code • Minimise environmental impact during plastering preparation tasks • Report task completion
Learning Outcome 1 (LO1)	Prepare for decorative tiling works
Performance standards	1.1 Obtain work instructions and operational details; <i>(Range using relevant information, confirmed and applied for planning and preparation purposes for installing decorative tiles)</i> 1.2 Follow safety (OHS) requirements; 1.3 Identify and implement signage and barricade requirements; 1.4 Select tools and equipment to carry out tasks and are consistent with the requirements of the job; 1.5 Calculate material quantity requirements; 1.6 Determine materials appropriate to the work application are prepared, safely handled and located ready for use; 1.7 Determine environmental requirements for the project. <i>(Range in accordance with environmental plans)</i>
Learning Outcome 2 (LO2)	Form decorative design
Performance Standards	2.1 Inspect tiles to conform with the design/specifications; <i>(Range including colour, shape and geometry of the project)</i> 2.2 Set out and lay out tiles to required shape and size for decorative design; 2.3 Cut tiles to complete the design set out; 2.4 Align tile joints, plumb, level, square, and fit/position tiles.

Learning Outcome 3 (LO3)	Install decorative tiles
Performance standards	3.1 Prepare substrate surfaces; 3.2 Match and mix adhesive with tile and substrate material; (Range according to usage and climatic conditions and manufacturer's recommendation) 3.3 Install tiles to designed set out; 3.4 Install and adjust border and/or decorative tiles to set out; 3.5 Allow curing time. (Range according to manufacturer's recommendations)
Learning Outcome 4 (LO4)	Grout tiles
Performance standards	4.1 Clean and prepare joints to receive grout; 4.2 Mix and apply grout; 4.3 Clean and polish tiles; 4.4 Protect tiles from damage during remaining construction.
Learning Outcome 5 (LO5)	Clean up decorative tiling area
Performance standards	5.1 Clear the work area and dispose waste; 5.2 Clean tools and equipment, check for serviceability; 5.3 Report damage or faults to relevant personnel; 5.4 Store tools and equipment; 5.5 Store materials for reuse or recycle; (Range following environmental requirements) 5.6 Report task completion.
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> Communication • Read and interpret drawings, specifications, and instructions • Communicate clearly with team members and clients

	• Report faults and confirm requirements • Use verbal and non-verbal communication effectively Tiling Techniques • Follow and set out decorative tile patterns • Identify and apply appropriate tiling styles and layouts • Cut tiles accurately for decorative designs • Align tiles and joints precisely (plumb, level, square) • Install tiles maintaining pattern accuracy and uniform spacing • Apply adhesives, mortar, and grout correctly • Finish and polish tiled surfaces to specification Planning and organisational • Plan work tasks and sequencing • Organise tools, materials, and resources • Calculate material quantities for patterns and layouts Creativity • Interpret design concepts and architectural styles • Develop decorative patterns to suit design requirements • Solve layout challenges in complex tiling designs Teamwork • Work effectively with others on-site • Adapt to diverse team members and working conditions • Record work processes and results • Interpret technical documentation and design specifications Technological • Use communication devices (e.g., mobile phones, two-way-radios) • Apply site communication systems such as hand signals Safety • Identify hazards and apply risk control measures • Follow OHS procedures and safety plans • Use PPE correctly <u>Knowledge:</u> Standards and compliance
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	• Tonga National Building Code relating to floor tiling installation • OHS requirements, including Job Safety Analysis (JSA) • Environmental requirements for waste and material handling Materials • Types and characteristics of tiles (ceramic, porcelain, tessellated, stone) • Adhesives, mortar, and grout properties and applications • Substrate types and preparation requirements Tools and equipment • Types, uses, and limitations of tiling tools • Safe operation and maintenance of tools and equipment Planning • Reading and interpreting plans, drawings, and specifications • Processes for calculating material quantities • Quality requirements and standards Safety and compliance • Job Safety Analysis (JSA) • Material Safety Data Sheets (MSDS) • Hazards related to adhesives, solvents, and grouts • Workplace safety and environmental requirements Environmental • Waste management and recycling practices • Environmental protection procedures on-site
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 real 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 on installing floor tiles 6. Plans Specifications and design layouts 7. Decorative tiles (ceramic, porcelain, tessellated, stone)

	8. Adhesives and mortar 9. Grout and sealants 10. Decorative pattern materials 11. Tile cutters and scribes 12. Measuring tools (tapes, squares, levels, string lines) 13. Installation tools (trowels, spacers, floats) 14. Cutting tools (nippers, saws) 15. Grouting tools (sponges, buckets) 16. Mixing equipment 17. Hand and power tools Tape measures 18. Spirit levels 19. Straight edges 20. Squares 21. String lines 22. Tile cutters 23. Wet saws 24. Angle grinders 25. Hole saws 26. Trowels (notched) 27. Spacers and wedges 28. Floats 29. Sponges 30. Buckets 31. Mixing equipment (manual or mechanical mixers) 32. Hand and power tools 33. Mortar boards 34. Wheelbarrows 35. Personal Protective Equipment (PPE) 36. Safety signage and barricades 37. Safety Data Sheets (SDS) 38. Job Safety Analysis (JSA) 39. Mobile phones 40. Two-way-radios
Requirements to complete this unit	There are five (5) Learning outcomes and twenty-six (26) Performance Standards to measure competence. To demonstrate competence, the person studying this unit is:

	a. Required to demonstrate all LOs to the expected standards; b. Required to attain an Achieved Grade (Competent) to fulfil the requirements of the Unit Standard; c. 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> 1. All training and assessment activities must be in accordance with Tonga National Building Code. 2. Assessors must comply with the Tonga national assessment and moderation requirements. <u>Definitions:</u> 1. <i>Adhesive</i> is a bonding material used to fix tiles to surfaces. 2. <i>Alignment</i> refers to proper positioning of tiles to maintain straight lines and patterns. 3. <i>Beading / Strip Returns</i> refer to decorative elements used to enhance tile patterns. 4. <i>Border Tiles</i> are tiles used to frame or define an area within a decorative layout. 5. <i>Decorative Tiling</i> refers to the installation of tiles in artistic or patterned designs to achieve aesthetic effects. 6. <i>Design Geometry</i> refers to use of shapes and measurements to form decorative patterns. 7. <i>Environmental Requirements</i> are regulations and workplace procedures aimed at reducing environmental impact, including waste management and recycling. 8. <i>Grout</i> refers to material used to fill joints between tiles. 9. <i>Heritage Tiles</i> are tiles designed to replicate historical styles and patterns. 10. <i>Joint Alignment</i> refers to consistency in spacing and positioning between tiles. 11. <i>JSEA (Job Safety and Environmental Analysis)</i> is a process to identify risks. 12. <i>Level</i> refers to horizontal alignment 13. <i>Mortar</i> is a mixture used for bedding tiles.

	14. <i>MSDS (Material Safety Data Sheet)</i> refers to information on safe handling of materials and chemicals. 15. <i>OHS (Occupational Health and Safety)</i> refers to workplace safety practices and regulations. 16. <i>Pattern Set-Out</i> refers to the process of marking and arranging tile positions to achieve a specific design. 17. <i>Plumb</i> refers to vertical alignment 18. <i>Square</i> refers to right angle alignment 19. <i>Substrate</i> refers to the surface onto which tiles are fixed. 20. <i>Tessellated Tiles</i> are small tiles arranged in repeating patterns or mosaics. 21. <i>Tonga National Building Code</i> is a set of technical standards governing the design and construction of buildings in Tonga.
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.