

REGISTERED NATIONAL STANDARD



UNIT OF COMPETENCY

Title:	Install wall tiles ¹				
TQF Level:	4	Credits:	8	Version:	1
National standard code:	NS174-04				
Associated qualification (and code):	National Certificate in Wall and Floor Tiling Level 3 QR-03-NQ-028-03-1005-26-01				
Approval date:	10 September 2026		Review date:	10 September 2031	
Purpose:	This unit describes the skills and knowledge required to install wall tiles to different substrates, using mortar or adhesive across a range of substrates and wall conditions. It includes the preparation, cutting, fixing and grouting of tiles for walls, including internal and external wall junctions and between wall and floor junctions. The unit applies to tiling workers who undertake wall tiling tasks independently and responsibility for organising and completing work. All tasks must comply with Tonga National Building Code, OHS requirements, manufacturer specifications, and environmental regulations. The unit emphasises precision in layout, correct adhesive application, accurate cutting, and high-quality finishing to ensure functional, durable, and visually consistent wall tiling systems. In successfully completing this unit standard, learners are able to: • Apply workplace safety, environmental, and quality requirements • Interpret drawings, specifications, and standards for wall tiling installation • Plan and organise tiling activities to ensure efficiency and quality • Apply OHS, environmental, and workplace procedures throughout the task • Inspect and prepare substrates, including checking waterproofing integrity • Select and prepare tools, equipment, and materials for tiling tasks • Calculate quantities of tiles, adhesives, and grout • Set out wall tiling layout to achieve symmetry, alignment, and minimal waste • Check tiles for size, colour, pattern, and suitability • Cut tiles accurately for edges, corners, and penetrations				

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.

	• Mix and apply adhesive/mortar to walls and/or tiles according to manufacturer requirements • Install tiles maintaining line, level, plumb, and pattern alignment • Form joints that are straight, uniform, and within specified tolerances • Tile internal and external corners using trims, mitres, or cove tiles • Insert movement joints to accommodate structural movement • Grout, clean, and polish tiled surfaces • Protect completed tiling work from damage • Ensure finished work complies with standards and tolerances • Clean up work areas and manage materials through reuse, recycling, or disposal • Maintain and store tools and equipment in safe and serviceable condition
Learning Outcome 1 (LO1)	Prepare and organise work to install wall tiles
Performance standards	1.1 Read and interpret work instructions and plan sequence of installing wall tiling work; 1.2 Plan all work to comply with occupational health and safety (OHS) and environmental requirements, manufacturers' specifications, workplace requirements, drawings and specifications; 1.3 Inspect work area, assess hazards and apply risk controls, including required signage and barricades; 1.4 Select and use personal protective equipment (PPE) as required for each stage of installing wall tiling task; 1.5 Follow requirements of job safety analyses and safety data sheets; 1.6 Select tools and equipment, check for serviceability and report any faults; 1.7 Select materials required for installing wall tiling task, calculate quantities, handle safely and prepare and position ready for use.
Learning Outcome 2 (LO2)	Set out for wall tiling work
Performance Standards	2.1 Prepare area to be tiled to requirements of job specification; 2.2 Check tiles for conformity to size, patterns, colours and characteristics; 2.3 Set out floor tile work for symmetrical and balance, and to produce minimal waste; 2.4. Install waterproof membrane in wet areas.

Learning Outcome 3 (LO3)	Cut tiles as required <i>(Range to ensure that biscuit is not exposed and is in accordance with workplace procedures and manufacturer recommendations)</i>
Performance standards	3.1. Obtain dimensions, mark and cut tiles to requirements; 3.2. Prepare templates to cut holes, curves and shapes; 3.3. Cut recess hole or curve by hand or machine to shape and size and to specified tolerance; 3.4 Form a mitre to tile edged at the joint; 3.5 Check and replace tiles with jagged edges or damage to tile surfaces.
Learning Outcome 4 (LO4)	Lay wall tiles <i>(Range in accordance with manufacturer recommendations)</i>
Performance standards	4.1 Mix and apply mortar and/or adhesive to tile surface; 4.2 Prepare and fix tiles to level alignment/plumb; 4.3 Check horizontal joint for straightness, and tile edges and surface alignment; 4.4 Install tiles to alignment maintaining designed pattern to specification; 4.5 Maintain even margins around openings, frames and fittings to specification; 4.6 Cut and fix bottom course to create a rake or square corner; 4.7 Fix splayed, manufactured, formed coves; 4.8 Finish vertical tiles plumb and true to square corners; 4.9 Maintain joints straight and uniform in width within tolerance; 4.10 Allow control joints.
Learning Outcome 5 (LO5)	Tile external corners
Performance standards	5.1 Check setting out for plumb, level and square to be within specified tolerance; 5.2 Check external corners to ensure surface intersections are straight; 5.3 Fix curved bead angle trim or tiles so that external return and bead are square, and measurements are accurate to junction with tiles and set out, where applicable; 5.4 Fix tiles with minimum voids in tile bed while maintaining fully bedded alignment to specifications;

	5.5 Check corner is kept square within specified tolerance and finish to specifications.
Learning Outcome 6 (LO6)	Tile internal corners
Performance standards	6.1 Check internal corner to ensure surfaces are flat and intersection is straight; 6.2 Cut tiles where required and fixed to one wall to maintain alignment; 6.3 Cut tiles where required and fixed abutting adjacent wall tiles to line, set out and specifications; 6.4 Allow joints for abutting tiles in accordance with designed margin for grouting or for expansion joint, where applicable, to specifications; 6.5 Install coved tile or skirting tile to internal wall or wall and floor junctions; 6.6 Install aluminum trims to top wall or external wall corners, around door and windows edges or openings; 6.7. Fix tiles to trim and finish to alignment and specifications.
Learning Outcome 7 (LO7)	Grout and clean wall tile face
Performance standards	7.1 Clean and prepare joints to receive grout 7.2 Mix and apply grout; 7.3 Clean and polish tiles with dry cloth to specifications, removing all dust from surface and joints; 7.4 Apply approved sealant to wall intersections
Learning Outcome 8 (LO8)	Clean up wall tiling area
Performance standards	8.1 Clear the work area and dispose waste following environmental requirements; 8.2 Clean tools and equipment, check for serviceability; 8.3 Report damage or faults to relevant personnel; 8.4 Store tools and equipment following workplace procedures; 8.5 Store materials for reuse or recycle 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:

Skills:

Planning and organisational skills

- Interpret drawings, specifications, and instructions
- Plan and sequence wall tiling activities
- Calculate material quantities and layout requirements

Technical tiling skills

- Prepare and inspect substrates and waterproofing systems
- Set out wall tiling patterns and grids
- Cut tiles accurately, including for penetrations and edges
- Mix and apply adhesive/mortar to substrate and tiles correctly
- Install tiles ensuring level, plumb, and alignment
- Form uniform joints and align tile edges and surfaces
- Install tiles to internal and external corners using trims or mitres
- Insert movement joints and maintain design tolerances
- Mix and apply grout and complete finishing processes
- Clean, polish, and protect completed tile surfaces

Measurement and numeracy skills

- Measure vertical surfaces and tile layouts accurately
- Apply geometry for alignment, grid patterns, and symmetry
- Calculate materials and spacing

Problem-solving skills

- Identify substrate defects and alignment issues
- Adjust layouts to suit site conditions and minimise waste
- Select appropriate materials and installation methods

Communication skills

- Communicate with supervisors and team members

	• Report defects, hazards, and issues • Follow workplace procedures and documentation Safety and compliance skills • Apply WHS requirements and safe work practices • Use PPE correctly • Identify and control hazards • Comply with Australian Standards and workplace requirements Tool and equipment skills • Select and operate tiling hand and power tools • Maintain and store tools and equipment • Use cutting and measuring tools accurately Environmental and housekeeping skills • Dispose, reuse, or recycle materials appropriately • Maintain clean and safe work areas <u>Knowledge:</u> Regulatory and Compliance • Workplace best practices applicable to installing wall tiles • OHS requirements, including job safety analyses (JSA) and safety data sheets (SDS) • Workplace procedures and manufacturers' specifications for installing wall tiles Materials • Types and characteristics of wall tiles (ceramic, porcelain, large-format) • Adhesive types, classifications, and compatibility • Grout types, including epoxy grout • Waterproofing systems and materials • Movement joint materials and design Substrate • Types of substrates (masonry, cementitious, framed surfaces) • Preparation requirements for different substrates • Waterproofing integrity requirements Processes and techniques • Wall tiling processes:
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	○ Set-out and layout planning ○ Tile cutting and shaping ○ Adhesive application ○ Tile installation ○ Grouting and finishing • Techniques for tiling internal and external corners • Installation of trims, mitres, and cove tiles • Matching joints and maintaining alignment Measurement and calculation • Calculation of material quantities • Layout geometry and grid patterns • Determining tolerances and alignment Tools and equipment • Types and uses of tiling tools (cutters, trowels, spacers, levels) • Safe operation and maintenance • Manufacturer recommendations for use Quality requirements • Tolerances for alignment, plumb, and level • Joint spacing and uniformity • Prevention of lippage and defects Safety • Hazards (manual handling, dust, cutting tools) • Risk control measures • Safe handling of materials and tools
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 wall tiles 6. Plans and Specifications 7. Wall tiles (standard and large-format) 8. Adhesives 9. Grouts (cement-based and epoxy)

	10. Waterproofing membranes 11. Sealants and joint materials 12. Tile trims and corner profiles 13. Measuring tools (tapes, levels, squares) 14. Cutting tools (tile cutters, grinders, saws) 15. Installation tools (trowels, spacers, wedges) 16. Grouting tools (floats, sponges, buckets) 17. Mixing equipment 18. Hand and power tools 19. Levels 20. Mixing equipment 21. Cutting tools for membranes 22. Cleaning tools and finishing tools 23. Hand and power tools 24. Job Safety Environment Analysis (JSEA) 25. Safety Data Sheets (SDS) 26. PPEs 27. Structured assessment and evidence-collection tools 28. Cones and connector arms
Requirements to complete this unit	There are eight (8) Learning outcomes and forty-seven (47) 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.

Definitions:

1. *Adhesive* refers to bonding material used to fix tiles to the substrate.
2. *Cementitious* refer to materials having the properties, qualities, or binding strength of cement.
3. *Cove Tile* is a curved tile used at internal corners for smooth transition.
4. *Environmental Requirements* refer to regulations and workplace procedures aimed at reducing environmental impact, including waste management and recycling.
5. *External Corner* refers to the outward-facing junction of two walls.
6. *Grout* refers to material used to fill joints between tiles.
7. *Internal Corner* refers to the junction where two walls meet inwardly.
8. *Joint Spacing* is the gap between tiles for grouting.
9. *JSEA (Job Safety and Environmental Analysis)* is the process identifying hazards and environmental risks.
10. *Level* refers to horizontal alignment
11. *Line* refers to straight alignment
12. *Lippage* refers to uneven alignment between adjacent tiles.
13. *Mitre* is a technique of cutting tile edges at an angle for corner joining.
14. *Movement Joint* is a joint allowing expansion and contraction of tiled surfaces.
15. *Plumb* refers to vertical alignment
16. *SDS (Safety Data Sheet)* is a document providing safety information about materials and chemicals.
17. *Set-out* is the process of planning and marking tile layout before installation.
18. *Substrate* is the base surface to which tiles are applied (e.g., concrete, plasterboard).
19. *Tolerance* is the allowable variation in construction dimensions or application thickness.
20. *Tonga National Building Code* is a set of technical standards governing the design and construction of buildings in Tonga.
21. *Trim* is a finishing strip used at edges or corners of tiles.

	22. <i>Wall Tiling</i> is the process of installing tiles vertically to wall surfaces. 23. <i>Waterproof Membrane</i> is a barrier applied to prevent water penetration in wet areas.
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.