

Title	Lay refractories		
Level	4	Credits	40

Purpose	<p>This unit standard aligns with the New Zealand Certificate in Trowel Trades – Specifications, developed on behalf of the trowel trades to specify the skills and knowledge required to achieve the New Zealand Certificate in Trowel Trades (Level 4) with strands in Brick and Block Laying, Floor and Wall Tiling, Proprietary Plaster Cladding Systems, Ferro-cement Tank Manufacture, Refractory Installation, and Solid Plastering (with optional strands in Fixing Cavities and Substrates, and Decorative Mouldings) [Ref: 3137].</p> <p>This unit standard is intended for those working in the refractory installation industry.</p> <p>People credited with this unit standard are able to lay refractories to the level required of a commercially competent refractory installer.</p>
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Classification	Masonry > Refractory Installation
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Available grade	Achieved
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Guidance Information

This unit standard is one of a family of standards that align with the *New Zealand Certificate in Trowel Trades – Specifications* and should be read, interpreted and assessed in the context of those *Specifications* and the New Zealand Certificate in Trowel Trades (Level 4) with strands in Brick and Block Laying, Floor and Wall Tiling, Proprietary Plaster Cladding Systems, Ferro-cement Tank Manufacture, Refractory Installation, and Solid Plastering (with optional strands in Fixing Cavities and Substrates, and Decorative Mouldings) [Ref: 3137].

The overarching level of performance for the family of unit standards is commercial competence.

Commercial competence requires a candidate to be capable of consistently performing the requirements of the unit specification:

- to current regulatory, industry and commercial standards
- within a commercially viable timeframe
- in commercial environments
- without supervision
- in different and unfamiliar contexts.

The sufficiency of evidence required to demonstrate commercial competence against this unit standard is determined within the context of the family of unit standards aligned to the *Specifications*.

The assessor must be confident that the candidate is capable of applying the skills and knowledge included in this skill specification to the level, scope and complexity required to support the achievement of related skills included in the *Specifications*.

Commercial competence can only be demonstrated, and must be assessed, in the workplace.

The assessment of commercial competence must be corroborated and confirmed by a person who has current expertise in the refractory installation trade and has had the opportunity to regularly observe the candidate in the workplace.

Reference

New Zealand Certificate in Trowel Trades – Specifications, BCITO, February 2016, available from www.bcito.org.nz.

Skill specification and performance level guidance

Skill specification

Lay refractories.

- Know**
- How to set up ready to lay refractory bricks, blocks, tiles and components of different sizes and shapes.
 - How to apply membranes.
 - How to set out the first course.
 - How to place refractory mortar.
 - How to lay courses.
- Do**
- Set up to lay refractory bricks, blocks, tiles and components of different shapes and sizes, and set out the first course.
 - Apply membranes.
 - Lay courses of refractory bricks, blocks, tiles and components of different shapes and sizes.
 - Form and complete openings.

Performance level guidance

Membranes include laid, sprayed and trowelled.

Placing mortar includes spreading beds and buttering bricks, blocks, tiles, and other components to the correct thickness.

Laying courses includes placing refractory bricks, blocks, tiles and other components to flat and curved surfaces; fixing ties and anchors; forming internal and external corners, control and expansion joints, anchorage and air vents.

Replacement information	This unit standard was replaced by unit standard 33081.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 September 2018	31 December 2025
Review	2	25 August 2022	31 December 2025

Consent and Moderation Requirements (CMR) reference	0048
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.