

<b>Title</b>	<b>Complete preparation requirements and lay refractories</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>54</b>

<b>Purpose</b>	<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 complete preparation requirements and lay refractories to the level required of a commercially competent refractory installation trade professional.</p>
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<b>Classification</b>	Masonry > Refractory Installation
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<b>Available grade</b>	Achieved
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## Guidance Information

### 1 Assessment

This unit standard is one of a family of standards intended to align with the *New Zealand Certificate in Trowel Trades – 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].

Evidence for this standard must reflect commercial competence.

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

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

Commercial competence must be corroborated and confirmed by a person who has current expertise in the refractory installation trade.

### 2 Definitions

*Dry lay* are refractories placed without mortar.

*Job description pack* refers to all required documentation for a provided to a supervisor for a specific job. A supervisor uses the information in the job description pack to provide guidance to the refractory installers.

*Manufacturer's specifications* refer to the documented technical data for materials provided by the manufacturer, including the specific composition of ingredients, properties, use, and safe handling procedures for the material.

*Workplace procedures* refer to the documented procedures specific to a workplace which sets out the standard and the required practices of that workplace.

- 3 Legislation, and guidance information relevant to this standard includes the following, and any subsequent amendments and replacements:

*New Zealand Certificate in Trowel Trades – Specifications*, BCITO, August 2021, available from [www.WaihangaAraRau.nz](http://www.WaihangaAraRau.nz).

Legislation accessed at [www.legislation.govt.nz](http://www.legislation.govt.nz)

- Health and Safety at Work Act 2015,
- Resource Management Act 1991.

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## Skill specification and performance level guidance

### Skill specification

Complete preparation requirements and lay refractories.

### Knowledge

The preparation requirements for the set up in readiness to lay refractory bricks, blocks and tiles.

Range requirements takes into consideration – scope of the job, work environment, the use and history of the refractory.

The purpose and application methods of membranes.

Range membranes include – laid, sprayed, trowelled.

The requirements for the set out the first course.

Range flat surfaces, curved surfaces.

The requirements and methods to place refractory mortar.

Range spreading beds, buttering bricks, blocks, tiles and other components.

The requirements and methods to lay courses.

Range laying courses includes – flat and curved surfaces, fixing ties, anchorage.

How key bricks support the structure of arches.

The safe methods to cut refractories using a diamond saw.

Range straight cuts, cut shapes.

The requirements for the set out of different bond patterns.

The requirements for different anchor fixing patterns.

Range anchors include – steel, brick, ceramic.

**Skills**

Set up to lay refractory bricks, blocks and tiles.

Range requirements takes into consideration – scope of the job, work environment, the use and history of the refractory.

Apply membranes.

Range membranes may include – laid, sprayed, trowelled.

Place refractories with mortared joints to the required thickness.

Range spreading beds, buttering bricks, blocks, tiles and other components.

Dry lay refractories.

Cut refractories using a diamond saw.

Range straight cuts, cut shapes.

Lay courses to surfaces.

Range laying courses includes – flat and curved surfaces, fixing ties, anchorage.

Create expansion and control joints when laying courses.

Form and complete openings.

**Performance level guidance**

Performance must reflect manufacturer’s specifications, workplace procedures, and job description pack relevant to refractory installations.

Bond patterns can vary across courses in refractory installation.

<b>Replacement information</b>	This unit standard replaced unit standard 31365.
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<b>Planned review date</b>	31 December 2027
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 August 2022	N/A

**Consent and Moderation Requirements (CMR) reference**

0048

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at [qualifications@WaihangaAraRau.nz](mailto:qualifications@WaihangaAraRau.nz) if you wish to suggest changes to the content of this unit standard.