

<b>Title</b>	<b>Demonstrate knowledge of materials, and store and protect materials and products used to manufacture ferro-cement tanks</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	<p>This unit standard is intended for people working in the ferro-cement tank manufacture industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of materials, and store and protect materials and products used to manufacture ferro-cement tanks to the level required of a commercially competent ferro-cement tank manufacturer.</p>
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<b>Classification</b>	Concrete > Precast Concrete
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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 unit standard must reflect 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.

Commercial competence must be confirmed by a person who has current expertise in the ferro-cement tank manufacture trade.

### 2 Definitions

*Manufacturer's specifications* refer to all relevant information about a specific product provided by the manufacturer.

*Modified* refers to tanks manufactured for an alternative purpose and may include killing sheds and dangerous goods storage.

*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)

- Building Act 2004,
- Health and Safety at Work Act 2015,
- The New Zealand Building Code.

Best practice and good practice guidelines

- *The Absolutely Essential Health and Safety Toolkit for Small Construction Sites*, and other Worksafe NZ publications available from [www.worksafe.govt.nz](http://www.worksafe.govt.nz).

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## Skill specification and performance level guidance

### Skill specification

Demonstrate knowledge of materials, and store and protect materials and products used to manufacture ferro-cement tanks.

### Knowledge

The different types, sizes, configurations and components of ferro-cement tanks.

Range ferro-cement tanks used for – water, wastewater, modified.

The different ingredients, composition and limitations of the concrete used to manufacture ferro-cement tanks.

Range composition includes – proportions of ingredients used to achieve specific strengths.

The testing procedure to confirm the correct composition of concrete.

The different ingredients and composition of the various coats of sand and cement plaster used to manufacture ferro-cement tanks.

Range coats include – wirecoat, internal coat, final coat, and stipple coat.

The different types and properties of reinforcing used to manufacture ferro-cement tanks.

Range steel bars, mesh, chain link wire, wire, fibre.

The different types and uses of accessories used by ferro-cement tank manufacturers.

Range risers, pipes, doors, windows, reinforcing chairs.

The requirements and methods to store materials to protect them from the weather and other trades.

### Skills

Store and protect concrete and other materials from the weather and other trades.

### Performance level guidance

Performance must reflect manufacturer's specifications, and workplace procedures relevant to ferro-cement tank manufacture.

<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	27 September 2018	31 December 2025
Review	2	25 August 2022	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0048
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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 [qualifications@waihangaararau.nz](mailto:qualifications@waihangaararau.nz) if you wish to suggest changes to the content of this unit standard.