

<b>Title</b>	<b>Demonstrate knowledge of fabrication and placing of reinforcing for concrete product manufacture</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	People credited with this unit standard are able to: explain factors relating to reinforcing and its use in concrete product manufacture, and explain factors relating to fabrication and placing of reinforcing for concrete product manufacture.
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<b>Classification</b>	Concrete > Concrete Product Manufacture
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Definitions

*Specifications* refer to documented instructions (oral, written, graphic) and may include any of the following: manufacturer's specifications, recommendations or technical data sheets; material specifications; specifications from a specialist source such as an architect, designer, engineer or a supervisor; site or work specific requirements.

*Workplace practice* refers to the documented procedures specific to a workplace which set out the standard and required practices of that workplace.

#### 2 Credit for this unit standard indicates compliance with industry practice. *Industry practice* refers to the ability to demonstrate knowledge that reflects the uniformity, finish quality and material economies currently accepted within industry.

#### 3 Legislation relevant to this unit standard includes:

Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995;

Resource Management Act 1991;

New Zealand Building Code;

NZS 3109:1997 *Concrete construction*, available from Standards NZ

(<http://www.standards.co.nz>).

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### Outcomes and performance criteria

#### Outcome 1

Explain factors relating to reinforcing and its use in concrete product manufacture.

**Performance criteria**

- 1.1 Different types of reinforcing are described in terms of their properties and uses.
- Range round bars, deformed bars, mesh, fibre, mild steel, special coated steel, quenched and tempered, microalloy, grade of steel, strand, chain link.
- 1.2 Placement of reinforcing is described in terms of achieving design requirements by location and position within precast concrete units.
- 1.3 Methods of calculating material lengths and quantities are described, and accurate sample calculations performed in accordance with industry practice.
- 1.4 Reinforcing schedules are described in terms of purpose and content.
- 1.5 Methods for storing reinforcing to prevent damage or deterioration are described in accordance with workplace practice.
- Range contamination, rusting, mill scale, physical damage.

**Outcome 2**

Explain factors relating to fabrication of reinforcing for concrete product manufacture.

**Performance criteria**

- 2.1 Factors relating to fabrication of reinforcing are described in terms of given examples of job specifications.
- Range cutting and bending, method of production, selection of materials, use of end product.
- 2.2 Machinery and equipment used in fabrication of reinforcing are described in terms of function, purpose, and adjustment.
- 2.3 Procedures for maintaining health and safety requirements when fabricating reinforcing are described.
- Range operating procedures, identification of hazards and controls.

**Outcome 3**

Explain factors relating to placing reinforcing for concrete product manufacture.

**Performance criteria**

- 3.1 Placement factors for reinforcing are described in terms of given examples of job specifications.
- Range lifting of fabricated cages, fixing into position, support and preventing displacement during placement of concrete.

- 3.2 Procedures for maintaining health and safety requirements when placing reinforcing are described.

Range operating procedures, identification of hazards and controls.

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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	20 November 2009	31 December 2023
Review	2	28 October 2021	31 December 2023

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

0048

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