

<b>Title</b>	<b>Demonstrate knowledge of masonry product manufacture</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>8</b>

<b>Purpose</b>	People credited with this unit standard are able to, for masonry product manufacture, demonstrate knowledge of: concrete technology; production processes; and quality control procedures.
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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 Definition  
*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 productivity, uniformity, finish quality, and material economies currently accepted within industry.
- 3 Legislation and publications relevant to this unit standard include:  
Health and Safety in Employment Act 1992 and Health and Safety in Employment Regulations 1995;  
Resource Management Act 1991;  
NZS 3109:1997 *Concrete construction*; NZS 3111:1986 *Methods of test for water and aggregate for concrete*; NZS 3114:1987 *Specification for concrete surface finishes*; NZS 3116:2002 *Concrete segmental and flagstone paving*; AS/NZS 4455.1:2008 *Masonry units, pavers, flags and segmental retaining wall units – Masonry units*; AS/NZS 4456:2003 *Masonry units, segmental pavers and flags – Methods of test*, available from Standards NZ (<http://www.standards.co.nz>).

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of concrete technology for masonry product manufacture.

**Performance criteria**

- 1.1 Properties of constituent materials for semi-dry concrete mix designs for masonry and paving are described in terms of their effect on fresh concrete workability.
- Range constituent materials – portland cement, aggregates, admixtures, additives, water.
- 1.2 Factors in the production of semi-dry concrete for masonry and paving are described in terms of their relationship to strength of finished product.
- Range aggregate properties, cement content, moisture, density of green product, compression time.
- 1.3 The water/cement ratio of semi-dry concrete is described for masonry product.
- 1.4 Types of curing for semi-dry concrete for masonry and paving are described in terms of purpose and application for end product.
- Range exothermic, steam.
- 1.5 Water absorption in relation to strength of hardened semi-dry concrete for masonry and paving is described, and its effect on finished product quality on site is explained.
- 1.6 Primary and secondary efflorescence is described in terms of cause, and effect on finished product.

**Outcome 2**

Demonstrate knowledge of production processes for masonry product manufacture.

**Performance criteria**

- 2.1 Batching sequence and mixing processes are described for masonry product groups.
- Range hollow core masonry block, paving; description must include – mix moisture control processes including pre-wet.
- 2.2 The process by which individual materials are fed to the mixer is described in terms of own workplace practice.
- 2.3 The process of manufacturing masonry product using a block machine is described for the machine used in own workplace.
- 2.4 Processes for transporting and curing of masonry product are described in terms of own workplace practice.

2.5 Post-curing production processes for masonry product are described in terms of own workplace practice.

Range cubing, palletising, wrapping, labelling, storage.

### Outcome 3

Demonstrate knowledge of quality control procedures for masonry product manufacture.

#### Performance criteria

3.1 New Zealand Standards for masonry product manufacture are identified and described in terms of their impact on quality control procedures in own workplace.

Range three examples.

3.2 Key locations in the manufacturing process that influence masonry product quality are identified and described in terms of quality factors to be considered.

Range quality factors – dimensions, slump, surface finish, density.

3.3 Continuous product quality monitoring processes and their documentation are described in terms of own workplace practice.

3.4 Actions to be taken in the event of non-compliance with workplace quality control standards are described in accordance with workplace practice, including identification of sources of support.

**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>.