

<b>Title</b>	<b>Mix masonry mortars</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: mix masonry mortars; demonstrate knowledge of cement materials used in the manufacture of mortar; demonstrate knowledge of aggregates and water used in the manufacture of mortar; demonstrate knowledge of admixtures and pigments in mortar; and demonstrate knowledge of mix composition and production.
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<b>Classification</b>	Masonry > Brick and Block Laying
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<b>Available grade</b>	Achieved
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### Explanatory notes

- 1 This unit standard must be assessed against on the basis of evidence of demonstrated performance in the workplace and/or situations that reflect the workplace environment.
- 2 Definitions  
*Industry practice* refers to the expected standard required at the location in which credit for this standard is sought; such standards may be set down in: industry codes of practice, enterprise procedures, which refer to documented procedures specific to the enterprise which set out the standard business practice, and activities of that enterprise.  
*Specifications* refer to any, or all of the following:
  - manufacturer's specifications and/or recommendations;
  - site and/or workplace specific requirements.
- 3 New Zealand Standard and legislation relevant to this unit standard include the following:  
 NZS 4210:2001, Masonry Construction: Materials and Workmanship;  
 Health and Safety in Employment Act, 1992.

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### Outcomes and evidence requirements

#### Outcome 1

Mix masonry mortars.

**Evidence requirements**

- 1.1 Materials are stored to ensure their delivered quality is maintained until mixing in accordance with industry practice.
- 1.2 Methods used to measure materials for mixing ensures that specified mix proportions are achieved in accordance with the specifications.  
  
Range        weight, volume.
- 1.3 Materials are mixed for the specified time and to required consistency in accordance with the specifications.
- 1.4 Work area is maintained in a tidy state to ensure materials are not contaminated prior to mixing and equipment is kept free of spilt mortar in accordance with industry practice.

**Outcome 2**

Demonstrate knowledge of cement materials used in the manufacture of mortar.

**Evidence requirements**

- 2.1 Cement as a component of mortar is described in terms of its role.
- 2.2 Types of cement suitable for mortar are identified in terms of Portland cement and fire resistance High Alumina.
- 2.3 Lime as a binding agent is described in terms of its role.
- 2.4 Hydrated lime is described in terms of its role.

**Outcome 3**

Demonstrate knowledge of aggregates and water used in the manufacture of mortar.

**Evidence requirements**

- 3.1 The requirements of sand for mortar are described in terms of NZS 4210.
- 3.2 The effect of sand grading and particle shape on workability is described.
- 3.3 The role of water in the manufacture of mortar is described in terms of NZS 4210.
- 3.4 The effect of contaminants in water on mortar properties is described.

**Outcome 4**

Demonstrate knowledge of admixtures and pigments in mortar.

**Evidence requirements**

4.1 Types of chemical admixtures and pigments used in mortar manufacture are described in terms of NZS 4210.

Range includes but is not limited to – water reducers, retarders, accelerators, combinations, air entrainers.

4.2 Admixtures and pigments in mortar are described in terms of their role.

**Outcome 5**

Demonstrate knowledge of mix composition and production.

**Evidence requirements**

5.1 The composition of mortar is described in terms of parts by volume of hydrated lime used.

5.2 The provisions for mixing mortar are described in terms of NZS 4210.

<b>Planned review date</b>	31 December 2012
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	21 September 2007	31 December 2011
Revision	2	21 July 2011	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>.

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact the Building and Construction Industry Training Organisation [national.office@bcito.org.nz](mailto:national.office@bcito.org.nz) if you wish to suggest changes to the content of this unit standard.