

**40303****Describe suitability of concrete used in construction**

<b>Kaupae   Level</b>	3
<b>Whiwhinga   Credit</b>	3
<b>Whāinga   Purpose</b>	<p>This skill standard recognises the knowledge to describe suitability of concrete used in construction.</p> <p>This skill standard contributes to qualifications designed for the construction environment.</p>

**Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria**

<b>Hua o te ako   Learning outcomes</b>	<b>Paearu aromatawai   Assessment criteria</b>
1. Describe composition and characteristics of concrete used in construction.	a. Composition of concrete is described according to industry standards.
	b. The way the main characteristics of concrete can vary is explained.
2. Describe suitability of admixtures in concrete for use for construction.	a. Examples when use of each concrete admixture is suitable are identified.
	b. The intended function of each admixture and its effect on the properties of concrete are described.

**Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria***Assessment specifications:*

Assessment must reflect the industry standards that set the expectations for concrete production and construction.

Composition of concrete includes:

- fine and coarse aggregate,
- cement,
- water, and
- admixtures.

Evidence of admixtures must include:

- set-retarding,
- air entrained,
- water-reducing,
- set accelerator,
- superplasticisers.

**Ngā momo whiwhinga | Grades available**

Achieved.

**Ihirangi waitohu | Indicative content****Composition**

- Cement.
- Aggregates: fine and coarse.
- The role of water.

**Admixtures**

- Set-retarding.
- Air entrained.
- Water-reducing.
- Set accelerator.
- Superplasticisers.
- Purpose and benefits.
- Effects on concrete properties.
- Environmental and health considerations.

**Characteristics of concrete**

- Strength.
- Durability.
- Workability.
- Density.
- Permeability.
- Shrinkage and cracking.

**Uses**

- Precast and in-situ structures.
- Foundation slabs.
- Driveways.
- Block masonry.

**Stages of construction**

- Pour to cure and finishing.

**Rauemi | Resources**

Programme Guidance available from [qualifications@waihangaararau.nz](mailto:qualifications@waihangaararau.nz).

Industry standards, available from [www.standards.govt.nz](http://www.standards.govt.nz)

- NZS 3109:1997 Concrete construction.
- NZS 3121:2015 Water and aggregate for concrete.
- NZS 3122:2009 Specification for Portland and blended cements (General and special purpose).

**Pārongo Whakaū Kouna | Quality assurance information**

<b>Ngā rōpū whakatau-paerewa  </b> Standard Setting Body	Waihanga Ara Rau Construction and Infrastructure Workforce Development Council
<b>Whakaritenga Rārangi Paetae Aromatawai  </b> DASS classification	Planning and Construction > Construction > Core Planning and Construction
<b>Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga  </b> CMR	0048

<b>Hātepe   Process</b>	<b>Putanga   Version</b>	<b>Rā whakaputa   Date</b>	<b>Rā whakamutunga mō te aromatawai  </b> Last date for assessment
<b>Rēhitatanga   Registration</b>	1	28 November 2024	N/A
<b>Kōrero whakakapinga  </b> Replacement information	This skill standard, skill standard 40301 and skill standard 40302 replaced unit standard 30855.		
<b>Rā arotake  </b> Planned review date	31 December 2029		

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