41146 Construct and dismantle formwork of moderate complexity for concrete structures

Kaupae | Level	4
Whiwhinga | Credit	10
Whāinga | Purpose	This skill standard is for people working in or entering the concrete construction trade. People credited with this skill standard have the skills to construct and dismantle formwork of moderate complexity for concrete structures. This skill standard aligns with the New Zealand Certificate in Concrete Construction (Building and Infrastructure) (Level 4) [Ref: 4188] and may also contribute to other construction and infrastructure qualifications.

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

Hua o te ako | Learning outcomes	**Paearu aromatawai |** Assessment criteria
1. Construct and check formwork for concrete structures.	a. Formwork is fixed securely and constructed in accordance with plans and specifications.
	b. Temporary supports are positioned and adjusted safely to maintain formwork stability and alignment.
	c. Connections and fixings are tightened and secured to withstand concrete pressure and height.
	d. Cast-in components and joints are positioned and secured in accordance with plans and specifications.
	e. Formwork is checked and confirmed for stability, support, and correct alignment before concrete placement.
2. Complete and coordinate the dismantling of formwork, falsework and propping systems.	a. Stripping times are confirmed in accordance with concrete curing and strength requirements and industry standards.
	b. Dismantling is carried out safely and without damaging the finished concrete surface.
	c. Materials and components are cleaned, stored ready for reuse in accordance with industry standards.

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

Assessment specifications:

To achieve this standard, the candidate must construct and dismantle formwork of moderate complexity for concrete structures to industry standards.

Examples may include in-situ, modular, table, custom or permanent formwork systems that use falsework or propping.

Industry standards must reflect industry best practice, workplace procedures, and be within acceptable tolerances as defined in New Zealand codes, standards and regulations.

Plans and specifications can include working drawings, plan specifications, manufacturer specifications, installation instructions and demolition and project plans.

Evidence for this standard must be demonstrated:

- to current and relevant Legislation, Standards, and Codes (including safety),
- in an environmentally sustainable manner,
- within an acceptable timeframe,
- with acceptable behaviours.

Definitions:

Acceptable behaviours refer to professional behaviours expected in a construction environment. This includes working safely with others, communicating effectively, following workplace procedures, respecting people, tools, equipment, and materials, and responding appropriately to hazards and changing work conditions.

Moderate complexity refers to formwork construction involving a range of tasks and varied site conditions. Work may include falsework, propping systems or other temporary supports for concrete elements such as slabs, beams, columns, or walls, where there may be increased height requirements, multiple pours, curved, angled or stepped formwork, or additional load considerations from concrete pressure, curing or sequencing.

***Ngā momo whiwhinga* |** *Grades available*

Achieved.

Ihirangi waitohu | Indicative content

Planning and site preparation

- Plans and specifications.
- Site layout, access and safety zones.
- Equipment, tools and materials.
- Environmental and safety considerations.

Formwork and temporary systems

- Design responsibility.
- System types and components (e.g. modular, in-situ, table, custom, permanent propping).
- Propping, shoring, and bracing methods.
- Load distribution and stability.
- Connections, ties and fittings.
- Understanding how concrete pressure affects formwork during placement and how height and pour rate increase pressure at the base.
- The role of fixings, bolts and ties in maintaining formwork.

Construction and assembly

- Setting out and alignment.
- Fixing, joining, and adjustment techniques.
- Positioning of cast-in components and joints.
- Inspection and tolerance checks.

Loading and stability

- Load factors during erection, concrete placing, and curing.
- Support requirements and sequencing.
- Monitoring for movement or deflection during concrete pour.

Dismantling and material management

- Curing and stripping times.
- Safe dismantling sequence.
- Cleaning, storing, and reusing materials and components.
- Protection and maintenance of equipment.

Industry standards

Rauemi | Resources

Programme Guidance information available from info@cstisb.nz.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa | Standard Setting Body	Construction and Specialist Trades Industry Skills Board
Whakaritenga Rārangi Paetae Aromatawai | DASS classification	Planning and Construction > Concrete > Concrete Construction
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga | CMR	0120

Hātepe | Process	**Putanga |** Version	**Rā whakaputa |** Review Date	**Rā whakamutunga mō te aromatawai |** Last date for assessment
Rēhitatanga | Registration	1	26 February 2026	N/A
Kōrero whakakapinga | Replacement information	N/A		
Rā arotake | Planned review date	31 December 2030		

Please contact Construction and Specialist Trades Industry Skills Board at info@cstisb.nz to suggest changes to the content of this skill standard.