

40580**Detail structural components and connections using specialist materials**

Kaupae Level	5
Whiwhinga Credit	10
Whāinga Purpose	This skill standard is for people intending to complete qualifications and credentials in structural detailing. This skill standard recognises the skills required to apply knowledge of specialist materials and practices to detail structural components and connections. This skill standard aligns with the New Zealand Diploma in Detailing (Structural) (Level 5) with strands in Light Steel Frame, Reinforcing Steel, Structural Steel, and Precast Concrete [Ref: 4515].

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Detail structural components and connections.	a. Design specifications and information are interpreted to produce accurate structural model, component and connection details.
	b. Quality control processes are applied to detailing practices according to organisational practices.
	c. Conflicts and omissions in design information are identified and communicated according to contract requirements.
	d. Any variations are identified and actioned as required.
	e. Limitations of materials are identified and reported, and modification instructions are confirmed.
2. Apply specialist materials detailing practices to optimise structural component manufacture.	a. Manufacturing and logistical constraints are identified and managed.
	b. Manufacturing sequence and timelines are maintained and contract requirements met.

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

Specialist materials detailing practices are applied to one or more of the following: light steel, heavy steel, precast concrete, steel reinforcement.

Specialist materials detailing refers to the application of structural material knowledge and the use of modelling software to produce models and drawings for the fabrication/manufacture of components for construction of structural systems.

Logistics refers to movement, handling, storage and transportation of structural components during fabrication/manufacture and construction.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Underpinning knowledge

- Specialist terminology.
- See strand details. Examples for each strand focus.
- Documentation – design, detailing output requirements.
- Specifications and documentation requirements for concrete, light steel, precast concrete and structural steel.
- Industry specialist skills – Heavy steel, light steel, steel reinforcement and precast concrete.
- Building Information Modelling (BIM) advanced practitioner skills – model management, clash detection.
- Site erection drawings. (Light steel calls erection drawings ‘componentry drawings’).
- Light steel.

Materials

- Properties.
- Advantages and limitations.
- Procurement/supply chain considerations.
- Environmental sustainability.
- Environmental product declaration.
- Coatings, finishes and aesthetics.

Processes

- Manufacturing.
- Logistics.
- On-site construction.
- Quality control.

Structural Concepts

- Terminology.
- Member identification.
- Construction principles.
- Primary and secondary structures.

Regulations, compliance and quality management

- The Building Act.
- Producer statement framework.

Rauemi | Resources

Programme guidance available from qualifications@waihangaararau.nz.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Waihanga Ara Rau Construction and Infrastructure Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Planning and Construction > Construction > Core Planning and Construction
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0120

Hātepe Process	Putanga Version	Rā whakaputa Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	25 September 2025	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2030		

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