

6 Str Sys Describe basic structural systems used in construction

Kaupae Level	4
Whiwhinga Credit	5
Whāinga Purpose	<p>This standard recognises knowledge of the basic structural systems used in in construction.</p> <p>This skill standard may contribute to the New Zealand Diploma in Detailing (Structural) (Level 5) with strands in Light steel, Structural steel, Precast concrete, and Reinforcing steel [Ref:4515].</p>

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Describe structural systems used in construction.	a. Common structural systems are described using agreed industry terminology.
	b. Types and uses of common structural systems comply with construction industry standards.
2. Describe components and connections that form structural systems used in construction.	a. The main structural components and their connections are described using agreed industry terminology.
	b. The functions of each component and connection are described according to structural principles.
3. Describe forces and stresses under a range of loading conditions in a structural system.	a. Appropriate load combinations and resultant load paths in a structural system are described according to structural principles.
	b. Forces and stresses within a structural system are identified accurately.

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

Assessment specifications:

Common structural systems, components and connections described adhere to established guidelines to ensure structures meet safety and performance criteria.

Forces and stresses acting within structural systems used in construction align with the following structural principles - Newtons Law, statics, dynamics, shear force and bending moment, torsion, axial forces and buckling, material properties, safety factors and failure analysis.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Structural principles

- Appropriate member selection and application
- Vertical and horizontal load resisting systems

Basic theory of structures

- Forces
- Loadings
- Design Philosophy, Design Features Report

Common structural systems type and application

Structural components type and function

- Primary versus secondary structural component
- Member/component categories and classifications

Structural connections type and use

- Mechanically fastened
- Welded connections

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
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0048

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitanga Registration	<type here>	[dd mm yyyy]	[dd mm yyyy]
Arotakenga Review	<type here>	[dd mm yyyy]	[dd mm yyyy]
Kōrero whakakapinga Replacement information	<type here>		
Rā arotake Planned review date	[dd mm yyyy]		

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.

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