

Steel frame roof L4 Install light steel roof framing

Kaupae Level	4
Whiwhinga Credit	
Whāinga Purpose	<p>This skill standard recognises the skills required to install light steel roof framing.</p> <p>It contributes to the New Zealand Certificate in Carpentry (Level 4) with optional strand in Metal Roof Cladding Installation [Ref:2738].</p>

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

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Light steel roof framing is erected and assembled.	a. Light steel roof framing is erected and assembled using prefabricated and individual components, ensuring alignment with plans and specifications, and industry standards.
2. Bracing and support members for light steel roof framing are installed.	a. Light steel roof framing is permanently tied together, braced, and connected to wall framing, ensuring compliance with plans and specifications.
	b. Roofing support members are fixed to light steel roof framing according to job specifications and industry standards.
3. Light steel roof finishing components are installed.	a. Light steel roof finishing components are constructed and installed in accordance with plans, specifications, and industry standards.

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

Assessment specifications:

To achieve this standard the candidate must be capable of installing light steel roof framing to industry standards.

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, work, demolition and project plans.

This standard may be assessed in the workplace or a simulated work environment.

Evidence for this standard must be:

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

- in different and unfamiliar contexts,
- with acceptable behaviours.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Light steel roof framing overview:

- Types of light steel roof framing systems:
- Trusses, portal frames, and rafters.
- Prefabricated and site-assembled systems.
- Roof framing for different roof pitches and shapes (e.g., gable, hip, skillion).
- Integration with other structural elements (e.g., wall framing and foundations).

Ties and braces for light steel roof framing:

- Roof space bracing systems:
- Steel strap bracing for rigidity.
- Diagonal bracing and cross-bracing techniques.
- Collar ties and their function in light steel systems.
- Dragon ties for roof stability at junctions.
- Sarking materials for moisture and thermal management.

Safety and access equipment:

- Safe practices for constructing and installing light steel roof frames.
- Use of elevated work platforms and scaffolding.
- Installation and use of edge protection systems.
- Use of drop netting and other fall-prevention measures.
- Compliance with workplace health and safety regulations.

Finishing components for light steel roofs:

- Installation of soffits, fascia, and bargeboards.
- Detailing verges, eaves, and overhangs.

Roof penetrations:

- Preparing and framing openings for chimneys, flues, and skylights.
- Installing flashing and sealing materials to prevent water ingress.
- Ensuring compliance with manufacturer's instructions and design specifications.

Construction and installation processes:

- Erecting light steel roof framing:
- Marking and aligning roof framing members.
- Using specialized fasteners for steel-to-steel connections.
- Techniques for ensuring plumb and level installation.
- Securing roof bracing and ties to achieve structural stability.
- Installation of purlins and battens for roof cladding support.
- Checking alignment and tolerances during installation.

Tools and equipment:

- Tools specific to light steel roof framing:

- Aviation snips, cutting saws for steel, and drilling equipment.
- Fastening tools: rivet guns, impact drivers, and screw guns.
- Use of laser levels and alignment tools for precision.

Inspection and quality assurance:

- Checking connections and bracing for compliance with plans and specifications.
- Verifying that roof penetrations and finishes meet standards.
- Reporting and documenting the installation process.

Health and safety considerations:

- Handling and lifting light steel components safely.
- Managing risks associated with working at height.
- Using appropriate personal protective equipment (PPE).

Rauemi | Resources

Programme Guidance information 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 Trades > Carpentry
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	1	[dd mm yyyy]	N/A
Kōrero whakakapinga Replacement information	This skill standard replaces unit standards:		
Rā arotake Planned review date	31 December 2029		

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.