

Insulation L4 Complete installation of thermal insulation.

Kaupae Level	4
Whiwhinga Credit	
Whāinga Purpose	<p>This skill standard recognises the skills required to complete installation of thermal insulation.</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. Complete installation of thermal insulation.	a. Thermal insulation is installed using equipment and methods to reflect plans, specifications and industry standards.
	b. Process and end-product are confirmed to meet industry standards, including confirmation of compliance requirements.

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

Assessment specifications:

To achieve this standard the candidate must be capable of installing two different types of thermal insulation to each of walls, floors, and ceilings, 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, demolition and project plans.

Under supervision refers to direction of work tasks being given by a qualified tradesperson.

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

Insulation types and their applications

- Types of insulation: natural wool, mineral wool, cellulose, fiberglass, polyester, polystyrene, glazing, expanded polyurethane foam.
- Properties: R-value/performance, sound absorption, thermal zones, forms (roll, sheet, loose), flammability, sustainability, and environmental friendliness.

Principles of heat transfer and their relevance to insulation

- Mechanisms of heat transfer: radiation, convection, conduction.
- Storage of heat and thermal mass.

Insulation requirements for different building areas

- Applications of insulation in floors, walls, and ceilings.
- Differences in residential vs. Commercial building insulation.

Compliance with building codes and inspections

- Pre-line inspection.
- Legislation requirements for thermal performance and safety.

Considerations for specialised insulation systems

- Warm roofs and their requirements.
- Safe installation practices for glass wool products.

Planning and installing insulation

- Safety protocols, including personal protective equipment and handling precautions.
- Steps for measuring, cutting, and installing insulation materials to ensure compliance with standards.

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
Rēhitatanga 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@waihangaarau.nz to suggest changes to the content of this skill standard.