

Title	Make measurements and calculations for the manufacture of timber structures		
Level	3	Credits	3

Purpose	<p>This unit standard is intended for people working in timber structure manufacturing.</p> <p>People credited with this standard are able to make measurements and calculations for the manufacture of timber structures to commercial standards.</p>
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Classification	Construction Trades > Carpentry
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Available grade	Achieved
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Guidance Information

1 Assessment

This unit standard is intended to align with the *New Zealand Certificate in Timber Structure Manufacture – Specifications* and the *New Zealand Certificate in Timber Structure Manufacture (Level 3)* with strands in *Wall Frame Manufacture*, and *Roof Truss Manufacture* [Ref: 4319].

Evidence for this standard must reflect commercial standards.

Commercial standards refer to verbal and written information covering company policy, standard operating procedures and processes and job-specific instructions.

Working to commercial standards must be confirmed by a person with current expertise in the timber structure manufacturing trade.

2 Definitions

Timber structures are cut and assembled in a controlled environment. They may include wall frames and/or roof trusses.

Workplace procedures refer to the documented procedures specific to a workplace, which set out the standards and required practices of that workplace.

3 Legislation, standards and guidance information relevant to this standard includes the following; and any subsequent amendments and replacements:

New Zealand Certificate in Timber Structure Manufacture – Specifications, BCITO, October 2020, available from www.waihanga.nz.

Legislation accessed at www.legislation.govt.nz

- Building Act 2004
- Health and Safety at Work Act 2015
- The New Zealand Building Code.

Standards accessed at www.standards.govt.nz

- NZS 3602:2003 *Timber and wood-based products for use in building*
- NZS 3604:2011 *Timber-framed Buildings*.

Best practice and good practice guidelines

- *The Absolutely Essential Health and Safety Toolkit for Small Construction Sites*, and other Worksafe NZ publications available from www.worksafe.govt.nz.

Skill specification and performance level guidance

Skill specification

Make measurements and calculations for the manufacture of timber structures.

Knowledge

The purpose and use of different units of measurement for timber structure manufacturing operations.

Range length, area, weight, time, angle.

The purpose and use of individual and running lineal measurements for timber structure manufacturing operations.

Range overall measurement, individual measurement, running measurement.

The purpose and use of centres and spacings for timber structure manufacturing operations.

Range in-and-over measurement, inside measurement, outside measurement.

The purpose of, and method to calculate surface area for use in timber structure manufacturing operations.

The principles of right-angled triangles, and how they relate to confirm accuracy of manufactured structures.

Range may include – Pythagoras Theorem, the 3, 4, 5 rule, interior angles in a triangle.

Skills

Take measurements required for timber structure manufacturing operations.

Range includes – length, area;
may include – weight, time, angle.

Use lineal measurements to calculate the placement and spacings of timber members in the manufacture of timber structures.

Range overall measurement, individual measurement, running measurement; may include – in-and-over measurement, inside measurement, outside measurement.

Use the mathematical principles associated with right-angled triangles to confirm accuracy of manufactured structures.

Range may include – Pythagoras Theorem, the 3, 4, 5 rule, interior angles in a triangle.

Use working drawings to calculate materials required for the manufacture of timber structures, and make the appropriate allowances.

Performance level guidance

Performance must reflect working drawings and documentation, and workplace procedures.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 November 2021	N/A

Consent and Moderation Requirements (CMR) reference	0048
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.