

Title	Demonstrate knowledge of construction factors affecting the design of prefabricated timber products for a small building		
Level	5	Credits	10

Purpose	<p>This unit standard is intended for use in the training of frame and truss detailers.</p> <p>People credited with this unit standard are able to demonstrate knowledge of the influence of: the construction of foundations and substructure, the construction of timber framed buildings and associated supporting structural components, and construction of the envelope, on the design of prefabricated timber products for a small building.</p>
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Classification	Construction > Core Planning and Construction
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Available grade	Achieved
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Guidance Information

1 Definitions

Design requirements refer to requirements for sustainability, durability, appearance, maintenance, practicality for intended use, general cost implications and water/weathertightness.

Small building is a small scale, light weight building, generally of non-specific design, and of domestic scale with lightweight framing and/or concrete or concrete masonry construction.

Timber framed building components – any component within a building that is structural timber. This can include walls, trusses, beams, floor systems etc.

2 Assessment of this unit standard can be by simulation using given site information, and/or observation.

3 Legislation and publications relevant to this unit standard include:

Resource Management Act 1991;

Building Act 2004;

New Zealand Building Code;

NZS 3604:1999 *Timber Framed Buildings*, and NZS 4229:1999 *Concrete masonry buildings not requiring specific engineering design*, available from Standards New Zealand (<http://www.standards.co.nz>).

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the influence of the construction of foundations and substructure on the design of prefabricated timber products for a small building.

Performance criteria

- 1.1 The geotechnical factors that influence the design of prefabricated timber products including bracing, load path, and bearing capacity are explained.
- 1.2 The construction process for foundations and substructure is explained, including a description of the relationship and effect of site constraints, materials, and time and general cost implications on the process. The influence of these on the design of prefabricated timber products is explained.

Range materials – timber, concrete.

Outcome 2

Demonstrate knowledge of the influence of the construction of timber framed buildings and associated supporting structural components on the design of prefabricated timber products for a small building.

Performance criteria

- 2.1 The construction process for timber framed building structure is explained, including a description of the effect of code requirements, design requirements, structural requirements, product technical requirements, site constraints, materials, and time and general cost implications. The influence of these on the design of prefabricated timber products is explained.

Range materials – timber, in-situ reinforced concrete floor, concrete masonry blockwork, structural steel.

Outcome 3

Demonstrate knowledge of the influence of the construction of the envelope on the design of prefabricated timber products for a small building.

Performance criteria

- 3.1 Types of wall and roof claddings are explained in terms of their ability to meet different design requirements. The influence of these on the design of prefabricated timber products is explained.

Range materials, four of – timber, rendering, metal sheet, cellulose cement, masonry, concrete, glass.

- 3.2 Technical requirements of typical cladding jointing systems are described in terms of sealants, flashings, and compatibility and jointing between systems. The influence of these on the design of prefabricated timber products is explained.
- 3.3 The construction process for the building envelope is explained, including a description of the effect of structural requirements, site constraints, materials, and time and general cost implications. The influence of these on the design of prefabricated timber products is explained.

Range materials, four of – timber, rendering, metal sheet, cellulose cement, masonry, concrete, glass.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 January 2013	31 December 2023
Review	2	16 December 2021	31 December 2023

Consent and Moderation Requirements (CMR) reference

0048

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.