

Using NZS 3604 Timber-framed buildings

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NZS 3604 Timber-framed buildings, is published by Standards New Zealand. It is referenced, with some modifications, as an Acceptable Solution for Building Code clause B1 Structure. Following the Acceptable Solution is one way to comply with B1, but you can choose other ways to comply.

NZS 3604 shows how to construct **timber-framed buildings** up to a maximum of three storeys where there is “good ground”.

NZS 3604 is used to design most homes and other low-rise timber-framed buildings in New Zealand. It is aligned with AS/NZS 1170 Structural design actions, and is referenced in Acceptable Solution for Building Code clause E2 External Moisture, E2/AS1.

You can follow NZS 3604 for structure and E2/AS1 for the roof and wall claddings.

NZS 3604 has been around in one form or another since the aftermath of the Napier earthquake in 1931. Today it is used in the construction of an estimated 93 per cent of New Zealand’s light timber-framed buildings.

It provides prescribed methods for the design and construction for timber-framed, low-rise buildings to meet the requirements of the Building Code without the need for specific engineering design.

Building Code clause B1 Structure requires buildings to **withstand loads** they are likely to experience during construction, throughout their life and when they are altered. These loads include those from people, wind, earthquakes and snow.

The design, construction and alteration of structural work in residential properties is likely to be **restricted building work** that must be undertaken by a licensed building practitioner.

Scope of NZS 3604

It sets out construction requirements for timber-framed buildings on good ground, and up to a maximum of three storeys in height with attic spaces.

By limiting the size of the building and scope of application, NZS 3604 presents a series of solutions, enabling a designer to select an element or detail without having to engage a structural engineer.

- It provides for the installation of and gives the limiting criteria (eg loadings, spans, spacings) for truss roofs. However, the design of the trusses requires specific engineering design and is outside of the scope of the Standard.
- Cladding is not included, as E2/AS1 is referenced. It is important specific requirements for claddings are considered in conjunction with timber framing and concrete foundation design. Depending on claddings selected, specific wall and roof framing spacing and sizes, foundation details, bracing and set outs will be required.

NZS 3604 provides a definition of “good ground”. In referencing NZS 3604, the Acceptable Solution for B1 Structure contains some modifications about reinforcing concrete slabs on ground and foundations. This applies to all regions in New Zealand. The modification to the definition of good ground made for the Canterbury Earthquake Region (to exclude ground subject to liquefaction or lateral spread) still applies, but only to that region. Read more about [building on ground subject to liquefaction \(https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/building-on-ground-with-liquefaction-potential/\)](https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/building-on-ground-with-liquefaction-potential/).

Overview of NZS 3604

The first section contains notes on the scope and interpretation, general requirements and site requirements. It shows building classifications

and a table of the 'imposed floor live load reference values'. Definitions of spans and loaded dimensions are also given.

NZS 3604 discusses meeting the requirements of Building Code clause B2 Durability.

It provides design details with drawings and tables for:

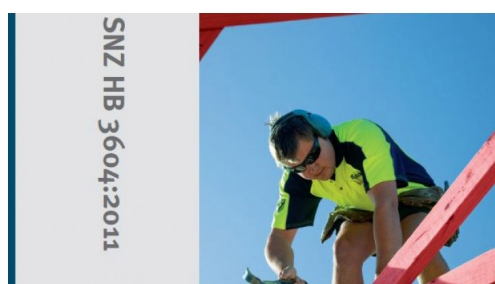
- bracing design
- foundation and subfloor framing
- floors
- walls
- posts
- roof framing
- interior linings
- ceilings
- additional information (normative)
 - requirements for 3kPa floor loads
 - 1.5kPa and 2.0kPa snow loading
 - composite construction lintel tables
- additional information (informative)
 - expansive soils

NZS 3604 references other Standards, particularly loading Standard AS/NZS 1170 Structural design actions and Standards for timber and masonry such as NZS 3602 Timber and wood-based products for use in building, NZS 3603 Timber structures, and NZS 4210 Masonry construction: materials and workmanship.

Any design details not included in NZS 3604 will require specific design. Similarly, any variations to a given design detail in NZS 3604 (such as different fixings) will require specific design.

SNZ HB 3604:2011 Timber-framed buildings

If you are familiar with common methods and details for designing and constructing timber-framed buildings, this handbook will provide a useful reference. It contains a collection of figures and tables extracted from NZS 3604:2011 Timber-framed buildings, with some associated text. This information is commonly used in the design and construction of timber-framed buildings up to three storeys in height including residential buildings, garages and decks.



SNZ HB 3604:2011 Timber-framed buildings

Download a free copy

<https://www.standards.govt.nz/sponsored-standards/building-standards/nzs3604/>

any matter to which the information relates according to the circumstances of the particular case. Expert advice may be required in specific circumstances. Where this information relates to assisting people:

- with compliance with the Building Act, it is published under section 175 of the Building Act
- with a Weathertight Services claim, it is published under section 12 of the Weathertight Homes Resolution Services Act 2006.