

Why wood works

Timber is construction's material mainstay, playing a strong role in building since the 1800s, based on its natural qualities of strength, durability and an aesthetically pleasing appearance.

According to the New Zealand Timber Industry Federation (NZTIF), the thousand-year tradition has retained its popularity in recognition of cost advantages, access to services and seismic performance amongst many other benefits.

Seismic strength

In New Zealand wood has long been favoured over brick for residential buildings because of its ability to flex under stress. Experiments carried out last year by the Building Research Association of New Zealand (BRANZ) show timber is the best construction material for coping with New Zealand's seismic conditions.

NZTIF chief executive Brent Coffey says "This just confirms what Kiwis have known for generations; timber framed housing is the safest and best choice for the family home. Timber is the kindest construction material to the environment, comes from a plentiful and renewable source and is incredibly cost-effective.

"It is hard to understand why you would build with anything else."

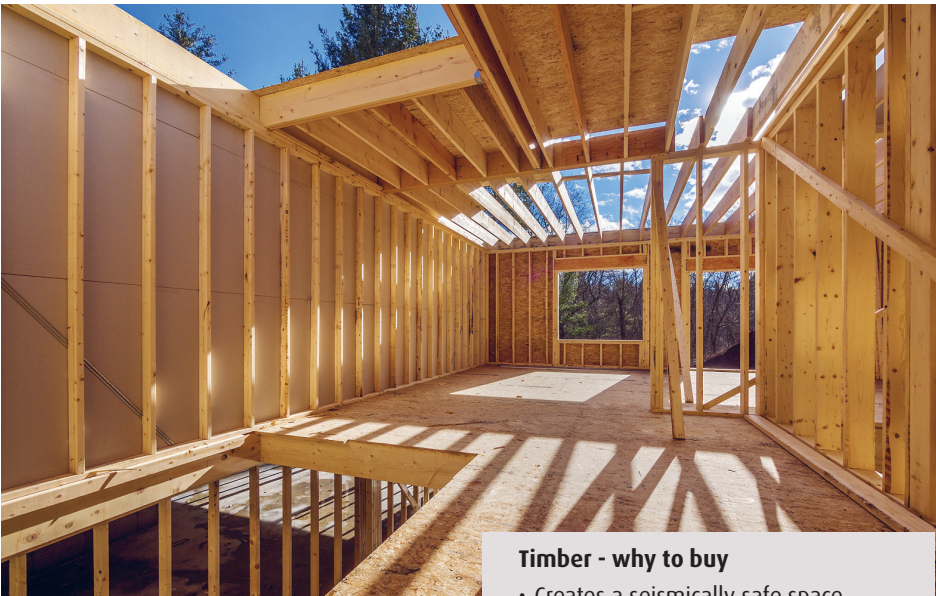
Physical factors

A number of other factors make timber a superior product for use in construction, including thermal insulation and electrical insulating properties.

The New Zealand Building Code requires houses to comply with thermal insulation standards.

Timber framed construction methods have superior thermal insulating qualities to competing products because of its lower thermal bridging properties. Timber also has a lower temperature gradient profile, therefore reducing the condensation issues associated with steel.

Modern preservatives provide timber with protection against the effects of moisture and insect attack balanced with minimal



Timber - why to buy

- Creates a seismically safe space
- Cost competitive
- Superior thermal insulation
- Natural electrical insulator
- Ease of use building with timber.

use of chemicals and unlike steel, timber does not rust.

Timber is also a natural electrical insulator, particularly when dry as is the norm in modern house framing. If steel comes in accidental contact with a live source of electricity it can pose a serious risk to life.

Another key benefit is ease of access to plumbing, electrical and communication services a raised timber floor provides.

"With piled systems you have that ease of access, whether you are installing, maintaining or repairing services such as your electrical wiring, plumbing, IT cabling etc under the house. In a solid concrete foundation this becomes much more difficult and a much bigger challenge," NZTIF director Kevin Hing explains.

Suitably sustainable

Plantations occupy about six percent of our land area and produce more than enough to meet the country's future needs. Almost all of the timber used in New Zealand's construction is sourced from these sustainably managed plantation forests and not from our indigenous forests. This plantation resource continues to expand as harvested trees are replaced.

Both our native and plantation forests absorb and store carbon dioxide for the full duration of their life cycle. By actually soaking up and storing carbon, timber is the only construction material which has a positive impact on greenhouse gases within the atmosphere.

The manufacturing process for competing materials, such as steel and concrete, actually emit carbon dioxide into the atmosphere.

Timber is easily the most sustainable and environmentally friendly building material available for residential home construction.

Cost competition

The cost of timber in frames for an affordable new home build is four to five percent of the total cost. "Timber framed construction is very cost-effective and that includes timber piled and framed flooring systems," Kevin says.

Several grades of framing timber can be used in residential house construction, SG6, SG8 and SG10. "These grades have different physical properties, but all comply with building codes and perform to required standards. While SG8 is the most commonly used grade, other grades such as SG6 can be substituted into house designs very easily and could in fact result in cost savings.

"The difference in retail price between SG8 and SG6 is around \$20 a cubic metre. While more SG6 timber may be required to build a house than SG8, the price difference could still mean a saving of up to \$1,500 in the price of timber for a typical home".

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