

Choosing windows and door materials

External glazed windows and doors need a frame that is durable, strong and weather-tight. In New Zealand, all windows must be tested and certified to ensure they are acceptable for our conditions, which can include exposure to strong winds and high levels of UV light.

Key Facts



New Zealand window and door frames need to be strong and durable to withstand our climate and conditions.



Aluminium, timber and uPVC are among our most commonly used framing materials.



Aluminium is popular because it is light, durable and low-maintenance. It is also reusable and recyclable.



Timber is more energy efficient than aluminium but requires regular painting or staining to stay in good condition.



uPVC window frames are energy efficient, but because they are often imported it's important to check that they meet the New Zealand Building Code.

Aluminium joinery

Aluminium is one of the most popular and versatile materials for framing windows and glazed doors in New Zealand. Light but strong and durable, it doesn't require regular repainting and needs less cleaning and maintenance than timber frames, which helps reduce its overall cost over a lifetime. Aluminium is also a high-value recyclable that can be melted down and used again indefinitely.



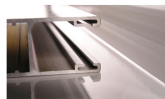
High Performance

Bare or mill-finish aluminium can be either anodised or powdercoated. Both processes produce a surface finish and colour that is rot- and weather-resistant. This makes aluminium window and door framing ideal for coastal areas, or locations that are exposed to a lot of light. Regular washing every three months is recommended to keep your aluminium frames in good condition.



Thermal breaks improve energy efficiency

Aluminium is a great conductor of energy and therefore has a low energy efficiency (internal link to Energy Efficiency section) rating. This means aluminium allows heat to travel from a hot environment (interior to a cold environment (exterior)) very quickly, making a traditional aluminium frame a poor choice in cold areas. However, many frames now have a 'thermal break' – a section of nylon or resin that interrupts the transfer of heat or cold and improves energy efficiency. When used in combination with double or triple glazing, an aluminium frame with a thermal break becomes a very energy-efficient unit.



Reusing and recycling

Because aluminium is so durable it is one of the longest-lasting window framing materials available. As long as a used aluminium window still meets the requirements of the New Zealand Building Code, it can be reused and should provide a long life of service. Aluminium windows and doors sold by our members can also be returned to them for recycling. Anecdotal evidence suggests that as much as 100% of all disused aluminium windows are recycled or reused – we aim to keep it that way.

Timber joinery

Wooden window and door frames are also a popular choice. Timber joinery is energy efficient and looks great, but it is less durable than other materials and requires regular painting or staining to protect and maintain its surface. It is also more expensive than other types of joinery primarily due to a higher labour content and level of craftsmanship required to manufacture. Internal reveals – the parts of the frame on the interior of the window or door – are also typically made of wood in New Zealand, even on window frames of other materials.

Variety of styles and colour

Wood-framed windows come in a wide variety of styles, including double-hung, sliding, casement, and tilt-and-turn. Unlike some other window materials, they can be stained or painted in any colour. However, this does require regular reaplication and maintenance to ensure the wood stays in good, weather-tight condition.



Insulation and energy efficiency

Wood offers better insulation than aluminium and doesn't attract as much condensation directly to its surface. However, condensation on the glass pane itself can lead to water pooling on the frame edge, which can damage or even rot the timber frame. It's a good idea to take steps to reduce condensation on your windows as much as possible.

Use durable wood

Because timber is susceptible to moisture and decay, the New Zealand Building Code requires a minimum 15 years' durability for any timber used in timber reveals (the parts of the frame that secure the window to the building). The Building Code provides a list of timbers suitable for joinery, which includes commonly available options such as treated Pinus radiata.

uPVC joinery

PVC (polyvinyl chloride) is a plastic and comes in a wide variety of colours and styles. Window frames are made of uPVC – a special rigid, unplasticised PVC which is usually strengthened by the insertion of metal stiffeners before the frames are assembled. In New Zealand, the rigidity and durability of uPVC frames are especially important because they need to withstand strong winds and exposure to high levels of UV light.

Pros and cons

Window frames made of uPVC are energy efficient and do not require painting. However, the formula for manufacturing uPVC can vary widely from one country to another. In the past, some imported uPVC windows and siding (cladding) failed here, even though the same products worked well in the countries for which they were formulated.

Choose wisely

Because uPVC window framing is often imported, it's important to ensure the frames you choose meet the New Zealand Building Code. In New Zealand, for example, it's recommended that the uPVC used for window frames contains certain levels of titanium dioxide, which acts as a sunscreen to protect the frames from damage by UV light. If you are purchasing uPVC windows or doors, check they have a certificate of compliance with the uPVC standard for New Zealand conditions.

More information can be found [here](#).