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*This leaflet is intended as a guide only.*

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# A GUIDE TO Treated Timber



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## What is a leaky building?

Leaky buildings are those buildings that allow water to penetrate the building envelope or cladding system and then hold the water in the wall cavity, where it may remain for some time. This results in the timber framing of the building staying wet and raises its moisture content to levels that allow fungal growth.

It is the fungal growth that eats away at the timber framing and creates structural and health risks for people. There can also be extensive water damage to plaster walls, carpets, interior fittings, etc.

## Which buildings are affected?

The building types generally affected appear to be new constructions using monolithic cladding systems with design features that compromise water management.

Water management (rather than water proofing), requires deflection (using eaves and flashings), drainage (using drainage cavities), drying (ventilation) and durability (treated timber).

It is also important to note that water management aims at minimising water leakage, not eliminating it. It is generally accepted that all buildings will experience water intrusion at some stage. Provided there is sufficient drainage and ventilation and the timber is durable, any dampness should dry out before fungus starts to grow.

## What is untreated timber?

Until the mid-1990s, radiata pine used for house framing was usually treated with boron salts (boric treated) to protect against insect attack. It was discovered that the boric treatment also provided resistance to fungal decay.

Boric treated timber cannot easily be kiln-dried and drying takes time. In 1995, the building regulations were changed to allow the use of non-treated or LOSP-treated (insecticide-only), kiln dried, radiata framing. This timber reduces the tolerance of buildings to moisture and is vulnerable to rot and decay when wet.

In 2003, a new standard, NZS 3604 (Timber Framed Buildings), was introduced. This covers treatment for timber used in all buildings.

It is important to note, that once a certain level of moisture content is reached in any timber, decay is common. Even treated framing timber that remains wet will fail after a period of two to five years.

## What can I do to reduce the risks?

The building industry has identified the following leaky building risk areas:

- The absence of flashings around windows and doors. Flashings help divert water away from the structure
- Complex roof structures
- The lack of eaves. Overhanging eaves help keep water off the tops of the walls, limiting the amount of leakage of water from the roof into the external wall structure
- The use of parapets
- EIFS, monolithic and stucco cladding systems
- The common use of sealants instead of flashings. If not applied properly, sealants can fail, causing the buildings to leak
- Internal and external balconies. With recessed balconies, the building is more prone to wind driven rain penetration
- Building in exposed or strong wind zones, such as hill ridges, where the wind can channel water past the cladding into the structure of a dwelling.

If your structure has any of the features mentioned above, you need to give careful consideration to your design. It is advisable to use a qualified draughtsperson or architect to prepare the details of your design.

## Can I make my building weathertight?

No, you can never make your building 100% weathertight.

You can, however, reduce the risks by incorporating stronger water management methods and ensuring that the plans submitted comply with E2/AS1. These are clauses in the New Zealand Building Code.

When building, the materials you use should have the ability to:

1. Deflect or shed water, either into the gutters or onto the ground around the building
2. Drain well. Water lodged behind the cladding should be able to drain back outside the building
3. Evaporate any residual moisture through ventilation and drying
4. Be durable. Use materials with a sufficient level of durability for the environment within which they operate, including those designed to manage water in areas where contact with water is likely.