

# YOU'VE GOT THE POWER TO INSULATE YOUR HOME

Around 35% of the energy used by an average New Zealand household goes on heating the home. If you don't have adequate insulation, then a lot of this heat is just being wasted.

Properly insulating your ceiling, under floors and in walls, is one of the most effective things you can do to improve the energy efficiency of your home.

Insulating makes your house easier and cheaper to heat, letting you keep it warmer, healthier and drier. For every dollar spent on insulating old, cold houses, you get two dollars worth of energy and health benefits.

Nearly two-thirds of New Zealand's homes were built before insulation became mandatory in 1978, so many of our houses don't have any insulation at all. In some cases the insulation has been in place for years and may no longer be doing its job properly.

The easiest time to think about insulation is when you are designing, building or renovating. Make sure you factor in insulation as early as you can.

## WHAT DO I NEED TO DO?

### Assess what's there

The first step is to check and see if you have insulation and if so, what state it is in. It should be fairly straightforward to check your ceiling and under the floor. Check wall cavities when you are renovating.

If there is some existing insulation have a look for the following:

**Is it damp?** If it is, remove it and replace with new insulation. Also remove or repair the source of the dampness. The effectiveness of insulation is greatly reduced when it is damp.

**How thick is it?** It should be no less than 120mm. If it's lower than that, add another layer over the top of the existing insulation and the joists.

**Has your ceiling insulation been moved or blown around?** Does it have any gaps? It may be almost completely inefficient. Reposition it or level it out before adding another layer of blanket insulation over the top.

Installing ceiling insulation can save up to \$400 a year in the colder regions – of New Zealand. Add underfloor insulation and save even more.

### Work out what R value you need

The effectiveness of insulation is measured by its R value. The higher the R value, the more it slows down the transfer of heat. For example an R3.0 product provides more insulation than a R1.0 product; and with ceiling insulation, the R value gets higher as the product gets thicker.

The R value you need depends on how cold it gets where you live.

The Building Code specifies minimum R values, but it is a good idea to try to install more than the minimum where you can.

#### Zones 1 & 2: North Island excluding Central Plateau

|  | Ceiling | Walls | Floor |
|--|---------|-------|-------|
| Minimum <small>(Building Code)</small> | R2.9    | R1.9  | R1.3  |

#### Zone 3: South Island & North Island Central Plateau

|  | Ceiling | Walls | Floor |
|--|---------|-------|-------|
| Minimum <small>(Building Code)</small> | R3.3    | R2.0  | R1.3  |

The Central Plateau includes the Taupo district, Ruapehu district and the northern part of the Rangitikei district.

## Choosing the right product

There are a variety of insulation products available in New Zealand, both locally made and imported. These include fibreglass, polyester, wool, mineral wool, expanded polystyrene and loose fill.

Each has its own pros and cons and personal preferences vary. The cost, what the product is made from (natural versus synthetic fibres) and ease of installation in your house are things to be considered. Talk to your insulation supplier or visit [www.energywise.govt.nz](http://www.energywise.govt.nz) for more information.

When correctly installed, high quality insulation can remain effective for years. Only use products tested to the AS/NZS4859/1 Standard. Look for a statement of compliance with the Standard on the insulation packaging or label. These products have been through tests for thermal performance, so by choosing these you know you're getting exactly what you're paying for.

High quality insulation products are available from most hardware shops or specialist insulation suppliers.

You may qualify for a Government grant to assist with home insulation. If you are a low-income homeowner or tenant, or a landlord with low-income tenants, find out more at [www.energywise.govt.nz](http://www.energywise.govt.nz)

## General guidelines for good installation

Quality of installation is just as important as the quality of the insulation itself.

Poor installation, such as gaps as small as 2mm, can reduce the performance of the insulation by as much as 50% so it's worth taking the time to do it properly. Standards New Zealand have a comprehensive easy-to-use guide on installing insulation NZS4246:2006. You can download this for free from [www.energywise.govt.nz](http://www.energywise.govt.nz)

## OTHER INSULATING MEASURES

There are number of other things you can consider when looking to properly insulate your home.

- Check for air leakage and draughts – particularly around doors, windows, skylights, fireplace.
- Hang lined curtains of good quality thermal or close woven fabrics.
- Consider double glazing – this can halve energy loss through windows, and lessen condensation and external noise.
- Control ventilation. Exhaust fans and rangehoods can help avoid condensation problems. Vent these to the outside, not into the roof space.
- Find the source of damp problems. In most houses insulating doesn't fix the source of damp. If the area underneath your house is damp, fix any drainage issues and look at installing damp proof sheeting on the ground as well as underfloor insulation.
- Consider replacing halogen downlights with models that allow ceiling insulation to be fitted right up to the lights. See NZS4246:2006 for more information.

## GET THE EXPERTS IN!

If you're unsure about how best to insulate your home, consider paying for a home energy rating.

You will receive an independent assessment of the energy performance of your home including how well the building's design, construction and orientation enables it to maintain a comfortable indoor temperature, and how efficient the space heating and water heating are. You'll get a star rating that will guide you in comparing one house to another. And you'll get expert recommendations about the most cost-effective ways to improve the home's energy efficiency and reduce your energy costs.

Looking at your current levels of insulation and outlining any improvements you can make is a key part of this assessment.



**YOU'VE GOT THE POWER TO CHOOSE**

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