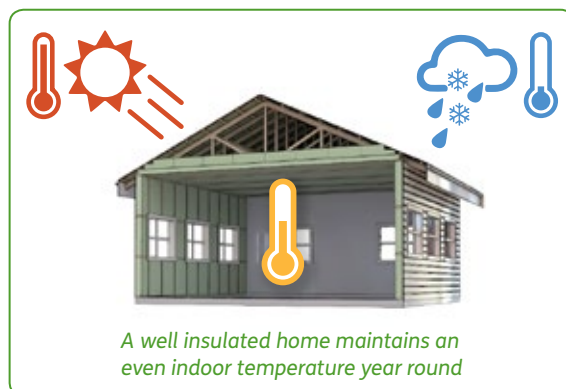




An insulated home; **warmer, drier, healthier** and more **economical**

Insulating your home is the most effective thing you can do to keep your home comfortable and healthy, and to save energy and money.

A well insulated home provides year-round comfort; it is cooler in the summer and warmer in the winter. An insulated home is a drier, healthier home.



Around 35% of the energy used in the average New Zealand household goes on heating your home. If your home doesn't have adequate insulation, a lot of your energy spend is wasted as the heat escapes.

Insulation is one of your home's best defences against wasteful energy spending. Improving your home's ability to keep out winter cold and summer heat generates huge potential for financial savings.

Insulating your Pocket

In the last decade electricity costs have increased significantly. You can reduce the effect of future rises by choosing better insulation for your home today.

A fully insulated house needs about half the heating of an uninsulated house. In fact, paying a bit more for insulation now will save you money well into the future. The increased savings each year will eventually pay for the insulation that will continue saving you money, year after year.

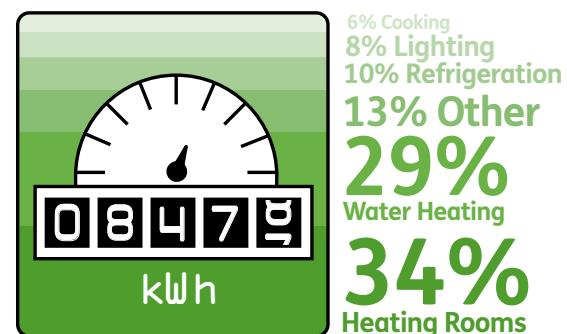
Feeling Home Sick?

Many New Zealand homes have inadequate insulation and are cold and damp as a result. Better insulation means warmer, drier and healthier homes that will be easier and more cost effective to heat. Insulation is especially important for people with respiratory illness or other conditions brought on by living in cold, damp houses.

An Insulated Home is a Healthy Home

Research studies in New Zealand have found a definite link between insulation and health. The Wellington School of Medicine and Health Sciences study (Published 1 March 2007) showed:

- A substantial drop in energy use when the houses were properly insulated.
- People in insulated houses reported their homes were 'significantly warmer' and drier.
- There was a considerable improvement in the self-reported health of those living in the insulated houses compared to those whose houses were not insulated.
- Adults and children in insulated homes reported fewer GP visits, less hospital admissions for respiratory conditions and less reported sick days.
- People living in insulated houses reported less visible mould inside their homes.



GreenStuf® for your Home

We all desire a warm, comfortable home, but many New Zealand houses are difficult and expensive to heat to healthy temperatures. If your home (like a majority of New Zealand houses) doesn't have adequate insulation, a lot of the heat energy generated is lost.

Improving your home's ability to retain heat and the smart use of a clean and efficient heating system will make your home more cost-effective to run and warmer and healthier to live in.

Good insulation makes a big difference to a home's warmth, comfort and health. Unfortunately, nearly 60% of New Zealand homes have inadequate ceiling and underfloor insulation.

Many homes built before insulation became mandatory in 1978 have no insulation at all. In other cases the insulation may have been in place for years and is either not working properly or is well below today's standards. Either way, there is a good chance your home will benefit from more insulation.

Is my insulation keeping my house warm?

Having a properly insulated house is the first step to creating a warmer, healthier and more comfortable home for you and your family. Here is a quick guide for checking whether your insulation is satisfactory or needs improving.

Ceiling Insulation

If possible, get a step ladder, pop your head through the hatch into your roof space and have a look around. Is there insulation? If not – then you need to get some! If yes, let's check to make sure it is up to standard.

You will need an extra layer of insulation if:

- ☐ Insulation is less than 12cm thick
- ☐ Insulation doesn't cover whole ceiling
- ☐ Insulation has gaps in it, or places where it is squashed or tucked in

You will need to remove the old insulation and replace it if:

- ☐ Insulation is wet or damp in areas
- ☐ Insulation is damaged by rodents or birds

Underfloor Insulation

If it is possible to access your underfloor, check for insulation. Insulation will be either in-between or stapled to the underside of the joists. If not – then you need to get some! If yes, let's check to make sure it is up to standard.

You will need to repair or replace your insulation if:

- ☐ Insulation is loose or doesn't sit hard against the underside of the floorboards
- ☐ Insulation doesn't extend under the entire floor space
- ☐ Insulation has gaps in it or bits missing
- ☐ Insulation is foil and has taped seams that have come undone
- ☐ Insulation has been damaged

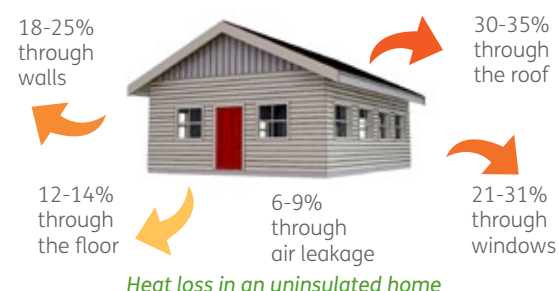
Insulation for Existing Homes

We all desire a warm, quiet and comfortable home and choosing the right insulation will play a significant role in achieving this. Designing your home's ability to retain heat and make smart use of a clean, efficient heating system will make your home more cost-effective to run, and warmer and healthier to live in.

Insulation for your Home

If you have no insulation, your ceiling should be your first priority as this is where the most heat is lost.

Secondly, insulate under your floor - if the floor is cold, you will feel cold. If you already have some ceiling insulation, insulate with GreenStuf® Underfloor first before topping up the ceiling.



Wall Insulation

Wall insulation is relatively difficult to install in an existing home as the wall lining or cladding needs to be removed first. Tackle this during renovations.

Ceiling Insulation

Well planned and correctly installed GreenStuf® Ceiling insulation will help make your home warm, dry and energy efficient. Insulating with GreenStuf® will trap heat inside your home for winter warmth and keep summer heat out for year round comfort.

Installing ceiling insulation can save you up to \$400 a year on home heating costs in the colder regions of New Zealand

Blanket insulation (roll form) or segment (pre-cut pads) are both designed to insulate ceilings, however GreenStuf® installed as a blanket covering the ceiling joists is the best option for existing homes. This will reduce thermal bridging (heat loss through timber).

Cut your Hot Water Heating Bill

GreenStuf® ECO Wrap® is a non-irritant thermally efficient insulation wrap designed for older electric hot water cylinders. Thermally efficient water heating saves energy costs and the Energy Efficiency and Conservation Authority (EECA) estimate that wrapping an older cylinder can save you up to \$80 per year in water heating costs. If your hot water cylinder is warm to touch, it's losing energy. GreenStuf® ECO Wrap® will reduce heat loss and help your hot water stay hotter for longer.

Underfloor Insulation

If you need underfloor insulation, we have specifically designed GreenStuf® Underfloor for exposed floor joists. GreenStuf® Underfloor is another blanket-type insulation that is easy to handle and definitely not a 'hard' option. There is no tricky cutting or trimming to fit, so no mess and no fuss. Simply stapled into place between the joists without the need for clips or tape, GreenStuf® Underfloor will significantly reduce heat loss and draughts caused by joins in the floor. You'll enjoy having warmer feet and a warmer home.

GreenStuf® Underfloor is designed with flexibility in mind and is perfect for use in-between variable joist spacings — a common occurrence in many older New Zealand homes

Downlights

There are many types of downlights available and without careful consideration the thermal performance of your home can be compromised. Only rated downlights allow insulation to abut the luminaire. All others require insulation to maintain a minimum 100mm clearance.

GreenStuf® is classified non-flammable/non-combustible in accordance with the requirements of IEC/NZS 60598 and IEC 60695 for abutting and covering downlights.

GreenStuf® insulation is simple to install! Visit www.greenstuf.co.nz for installation videos and information.

Good, Better, Best

Guidelines for Insulation Best Practice

Double-Layer Ceiling Insulation

There are several different types of ceiling insulation. Segments or Pads are the conventional format for insulation products. These are installed snug between joists. Because they don't cover the ceiling joists you lose heat through 'thermal bridging'.

Insulation blankets can help avoid thermal bridging as they are installed over the top of the ceiling joists providing complete coverage. Blanket insulation is supplied as rolls for easy and fast installation.

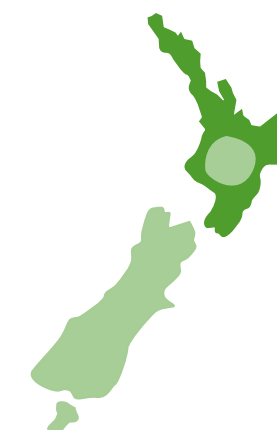
The best option is a double-layer of insulation. The first layer is installed between joists and a blanket layer is installed over the top. If installed correctly, this will eliminate leakage and ensure your home stays warmer in winter and cooler in summer.



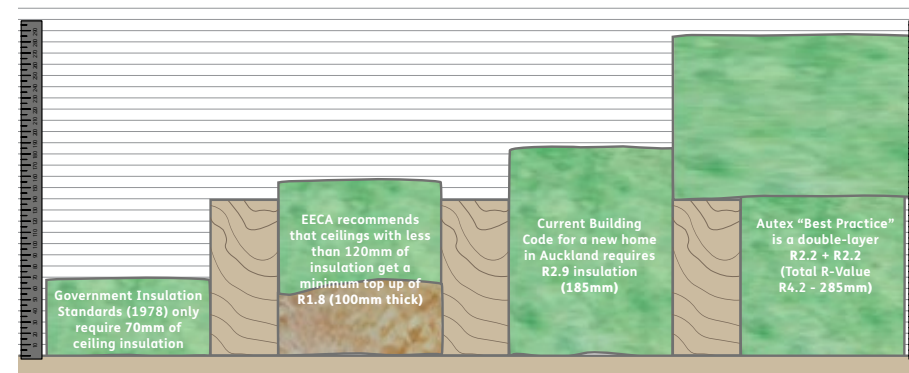
R-Values

Using higher-rated insulation is better for us all and a good indicator of the product's thermal performance is the insulation's R-Value. The R-Value is based on the product's ability to reduce heat flow. The higher the R-Value, the better the insulation performs, however it's effectiveness also depends on where and what form of insulation is used. The following table compares the minimum R-Value requirements for insulation type and area.

Application	NZBC Minimum	"Better"	"Best Practice" Recommended
Area 1 - North Island (excluding Central Plateau area)			
Ceilings	R2.9	GreenStuf® R1.8 + R1.8 Double-Layer	GreenStuf® R2.2 + R2.2 Double-Layer
External Walls	R1.9	GreenStuf® R2.2 Wall	GreenStuf® R2.5 Wall
Under Floors	Foil Barrier	GreenStuf® R1.5 Underfloor	GreenStuf® R1.8 Underfloor
Internal Walls	Nil	GreenStuf® Sound Solution	GreenStuf® Sound Solution
Between Floors	Nil	GreenStuf® Sound Solution	GreenStuf® Sound Solution
Area 2 - South Island and Central Plateau area			
Ceilings	R3.3	GreenStuf® R2.2 + R1.8 Double-Layer	GreenStuf® R3.2 + R2.2 Double-Layer
External Walls	R2.0	GreenStuf® R2.2 Wall	GreenStuf® R2.5 Wall
Under Floors	Foil Barrier	GreenStuf® R1.5 Underfloor	GreenStuf® R1.8 Underfloor
Internal Walls	Nil	GreenStuf® Sound Solution	GreenStuf® Sound Solution
Between Floors	Nil	GreenStuf® Sound Solution	GreenStuf® Sound Solution



Minimum Ceiling Insulation Guidelines



Insulation is critical to building performance and the health of its homeowners. However, it is important to understand that the insulation required in the building code is a minimum specification; you can install much more than that.

Get your hands on the right **Stuf**



Guaranteed



GreenStuf® will not settle or reduce its performance over time and is backed by a **50 Year Product Durability Warranty**.



Safe to Touch

GreenStuf® is **100% polyester** (like a duvet) so there's no nasty itching or scratching and does not require protective clothing when handling or installing.

Fire Safe



GreenStuf® insulation is **non-flammable** and meets all the relevant fire standards for NZBC compliance including downlights.



Allergy Safe

GreenStuf® has been accepted into Asthma New Zealand's **Breathe Easy** programme as a product considered safe for New Zealanders living with Asthma.

Recycled & Recyclable



GreenStuf® is manufactured using a **minimum of 45%** previously recycled polyester fibre (from PET plastic) and is reusable and recyclable at end of life.



No Chemicals

GreenStuf® contains **no added chemicals** like formaldehyde based binders or fibres that can be breathed into your lungs.



Moisture Resistant

GreenStuf® is **not affected by moisture**, mould or mildew which means no nasty odours. Consistent performance is ensured over its lifetime.



Local & Proud

GreenStuf® Pure Polyester Insulation is proudly a **New Zealand made** product.



Declare.



made for **Kiwis** by **Kiwis**



Autex Industries Limited was established in Auckland in 1967 and proudly remains a privately owned New Zealand company. Ongoing investment in technology and innovation has allowed Autex to develop high performance products that lead the way in environmentally responsible manufacturing.

Our quality polyester products are manufactured in Auckland and exported to over 24 countries around the world.

Developed in New Zealand by Autex, all GreenStuf® products are manufactured using only 100% polyester fibre. Some products contain up to 85% recycled polyester fibre made from used PET plastics like drink bottles. GreenStuf® proudly contains the highest level of declared minimum recycled content of any insulation product available in New Zealand.

GreenStuf® insulation and other 'friendly-fibre' products are being used in hospitals, schools, offices and homes all over New Zealand and Australia. Considered one of the most commonly used fibres in the world, polyester is renowned for its safety, durability and performance.

Committed to best practices; GreenStuf® is proudly manufactured in New Zealand to exacting specifications under strict ISO 9001 and ISO 14001 accredited Quality and Environmental Management Systems. It is also appraised by BRANZ (Building Research Association of New Zealand) to meet all requirements of the New Zealand Building Code.

GreenStuf® Insulation Life Cycle



We are at the forefront of developing insulation products in response to an increasing demand for a user-friendly alternative to fibreglass insulation.

Visit **www.greenstuf.co.nz**
or call us on **0800 428 839**
to find out more about
GreenStuf® Pure Polyester Insulation!





AUTEX



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