

The wrap on insulation

A well insulated and designed home will provide year-round comfort and cut your heating and cooling bills in half

One of the best ways to save money on energy bills is to insulate your home. Insulation is like a barrier, preventing heat passing in and out of the house. By reducing heat flow you can maintain a comfortable temperature inside, regardless of the temperature outside. In winter, once the dwelling has been heated to a comfortable level, it will stay that way with less energy input than an uninsulated home. In summer the insulated home will take longer to heat up, and airconditioners will need less energy for cooling.

Bulk and reflective insulation

There are two main types of insulation: bulk and reflective. Bulk insulation comes in many shapes, thicknesses and materials and is primarily used in ceilings and sometimes in walls. The most common bulk insulation material is mineral wool or glass fibre. Other materials include recycled and virgin polyester, wool and cellulose fibre. Bulk insulation stops heat flow by trapping air in small air pockets.

Reflective insulation resists radiant heat by reflecting or not emitting heat. It is usually shiny aluminium foil laminated onto paper or plastic. Reflective insulation needs a layer of air between its shiny reflective side and the roof or wall cladding. The insulation's effectiveness can also decrease if it becomes dirty or dusty.



Know your Rs

When looking for insulation you will come across the term 'R-value'. The R-value measures the product's ability to insulate, or resist heat transfer. The higher the R-value, the greater the level of insulation. A batt with an installed R-value of R1.5 will let more heat through than an R2.6 batt.

Another insulation term you may hear is U-value, which is the opposite of R-value. The U-value relates to how well the material transfers heat. With U-values, the lower the number the better.

Bulk insulation products come with one R-value for a given thickness. Reflective insulation's R-value depends on where and how the insulation is installed.

What type of insulation material should I use?

The type and level of insulation you need for your home varies on where you live, the building materials used for your house and whether you will be using additional heating or cooling. If you live in a naturally ventilated home in the tropics, the aim of insulation is to reduce the amount of heat getting in without restricting the hot air escaping. Reflective insulation under the roof and in walls that are not permanently shaded would work well.

However, a home in an alpine region would want to stop heat flowing out in winter and prevent heat coming in during summer. These homes benefit from reflective insulation under the roof, and higher R-Value bulk insulation under floors, in walls, and ceiling (depending on construction materials). No matter where you live in Australia, insulation produces will improve your level of comfort.

Most common building materials have little insulating value, but there are some exceptions. Aerated concrete blocks, hollow expanded polystyrene blocks, straw bales and rendered polystyrene sheets can insulate your home with little or no need for additional wall insulation.

Finally, when choosing insulation compare the environmental benefits of different products. Ask how much of the product is made from recycled materials and how easily the product can be recycled. For example some products are made from recycled glass fibres recycled plastic drink bottles or recycled paper.

For more information:
Your Home
www.yourhome.gov.au

“ Save up to 15 per cent of heating and cooling energy with wall insulation ”



“ Save up to 45 per cent on heating and cooling energy with roof and ceiling insulation ”



Insulation tips

- Choose the appropriate type of insulation for your climate zone
- Insulation should be used in conjunction with passive design techniques
- Check the R-value of the product, the higher the better the thermal performance
- Check the U-value, the lower the less it transfers heat
- Avoid gaps in all types of insulation

“ Save up to 5 per cent on winter energy bills with floor insulation ”