



WATTEC™

Air Conditioning and Refrigeration Services

Home Insulation Technical Information

Insulating your home is the most effective way to improve the comfort level throughout the year. It will help you to save money by reducing the amount of energy needed to keep your home warm or cool.

By having insulation installed you can reduce the required size of any cooling or heating units that you have to buy. This will save you money with the initial purchase cost and the insulation will keep the running costs down because the units will not have to work as hard to do the required job.

As a guide your ceiling insulation should generally have a minimum "R" value rating of 2.5 and your walls should have an "R" of 1 to 1.5.

Key Steps to Insulation

- Match the type of insulation and its material to the application and space available.
 - Make sure that the insulation "R" value is appropriate for your application.
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What is the "R" value?

- The "R" value is the most important aspect of choosing insulation. It is the measure of the product's resistance to heat transfer and is a guide to its performance as a heat insulator.
- The higher the "R" value, the more effective the insulation is in reducing heat flow in or out of your home.



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How much insulation do you need?

- How much insulation your home will need will depend upon the climate where you live as well as the design of your house.
- Most coastal areas will need an "R" of 2.5 to 3 for the ceiling.
- For inland areas you will need an "R" of 3.5 to 4.0 for the ceiling.
- For your walls you can choose an "R" of either 1.5 to 2.0.

Generally your ceiling should have a minimum "R" value of 2.5 and your walls an "R" value of 1.0 to 1.5

Did you know?

- Up to 42% of your home's heat is transferred through the ceiling and 25% through external walls.
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What will you pay?

The price for insulating an average ceiling of 120m² to an "R" value of 2.5 is:

- \$660 for fibreglass batts (installed by you) (add \$150 if installed by the supplier).
- \$770 for polyester batts (installed by you) (add \$200 if installed by the supplier).
- \$770 - \$1,200 for loose fill cellulose (this is usually installed by the supplier).
- \$1,100 - \$1,600 for loose fill sheep wool (this is usually installed by the supplier).



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What insulation is available?

Polyester (Our recommendation) - is manufactured from synthetic carbon fibres and polymer fibres complying to Australian Standard 4859.1. It provides efficient thermal insulation against extremes of heat and cold and also reduces noise levels in residential, commercial and industrial buildings. Polyester insulation batts are a non-allergenic, extremely clinical product, suited to asthma sufferers. They are non-toxic, vermin proof, and fire retardant.

Mineral Fibres - the correct name for insulating fibreglass is glass wool. This is mainly available as batts and blankets that can be used to insulate ceilings and walls. It is made from spun fibres of molten glass.

Rock Wool - insulation is made from the spun fibres of molten volcanic rock and also comes in batts and blankets. It can also come in loose-fill form and is usually denser than glass wool, which when installed to the same thickness allows it to offer better insulation and noise absorption.

Cellulose - insulation is made from pulverised recycled paper. To make the material fire retardant a mix of borax and boric acid is added. This also helps to inhibit cockroaches and silverfish. Make sure your cellulose insulation meets the Australian Standard. Cellulose is mainly used as loose-fill ceiling insulation.

Sheep's Wool - this type is made from waste wool and is mainly sold as loose-fill ceiling insulation.

Other materials - that are available include polyurethane and polystyrene foams, mineral loose-fill granulates such as Perlite and Vermiculite. There are also reflective foils and combinations of different materials such as wool/polyester batts and blankets or fibreglass batts with reflective foil on one side.