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Insulation Fact Sheet

Greener Houses
Growing Greener Neighbourhoods

jikajika community centre

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Stay warmer, stay cooler

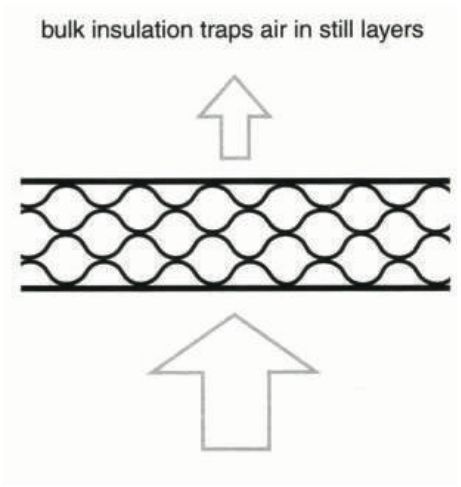
- A well-insulated and well-designed home will provide year-round comfort, cutting cooling and heating bills by up to half.
- Insulation reduces heat flow through the walls, floor and ceiling. Installing insulation in your home will keep warmth inside during winter, and keep the heat outside during summer. Adding insulation to your home provides a major opportunity to increase comfort, reduce energy costs and greenhouse gas emissions. An ideal time for doing this is during renovations.
- Heat loss or gain through the ceiling can range between 25-35% during winter and summer.
- Wall insulation can help to prevent between 10-20% heat loss during winter, and between 15% - 25% heat gain during summer.

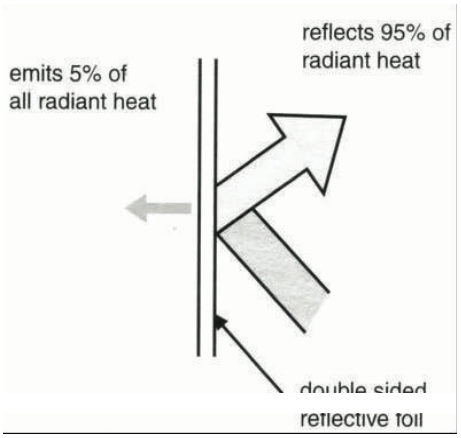
North East Neighbourhood House Network
Sustainability Fund State Government Victoria
Helen Macpherson Smith Trust
Thornbury Women's Neighbourhood House
City of Darebin

Why Insulation is Useful

- To make rooms more comfortable without relying on the split system air conditioner, which makes savings on your energy bills.
- Where walls are timber framed, they rely on insulation to maintain thermal comfort.
- The insulating ability of the products available is indicated by their R-value, which measures resistance to heat flow. The higher the R-value, the higher the level of insulation and hence better the thermal performance.
- In climates like Melbourne, the best practice is to install insulation with a minimum standard of R3.5 for roof (ceiling) and a minimum of R1.5 for walls[1].
- Painting the roof white will help to reflect 80% of the sun's rays in summer. This can help to reduce energy needs by up to 40%, by reducing the need to have a heater or air conditioner on, therefore saving energy inputs. It can help to save up to 40% on energy use.
- To ensure the insulation is installed adequately, it is possible to use a thermal camera to judge, in real time, where any gaps may be. [This was done at Jika Jika Neighbourhood House.]

[1] http://www.peachinstitute.com/docs/insulation.pdf





Types of Insulation

- Bulk insulation (Batts and blankets - glasswool, rockwool, wool, polyester; Boards - expanded polystyrene, extruded polystyrene; and loose fill - cellulose fibre) all work on the principle of trapping air within the insulation material. Air is a good insulator so restricts heat flow. Bulk insulation reduces heat loss mainly from convection and conduction.
- Reflective insulation (foil sarking, concertina foil batts, reflective multi-cell foil[2]) work by reflecting radiant heat and it works best when located adjacent to a still air pocket so that heat can be 'bounced' back into a space.

What we have done

Roof Insulation

- There was old 2 inch [50mm] thick fibreglass batts – less than R2. It was topped up with GreenStuf Bulk Insulation (100% polyester, up to 80% recycled content, bonded using heat instead of chemical binders, available from Autex Industries)

Wall Insulation

- At Jika Jika we found when we removed the plasterboard that the external walls had been insulated probably in the 1970s or 80s. You can now see this through our "truth windows".
- At Watsonia Neighbourhood House we have also insulated the walls with blow-in rockwool (by Just-rite). You can also see this through our "truth window"

[2] Moreland Energy Foundation

Bulk insulation - Source: Home Technical Manual; Reflective foil - Source: SEAV Insulation Guide