

ENVIRONMENTAL BENEFITS OF INSULATION

ICANZ Fact Sheet 2

Glasswool and rockwool are the world's leading choice of insulation products, and are the most versatile insulation products in use today.

There are dozens of different insulation materials on the market but only glasswool and rockwool insulation products have the all round environmental benefits combined with proven thermal, acoustic and fire properties to provide the best insulation value.

With increasing pressures on our environment, focus is sharpening on ways in which more 'environmentally friendly' products and practices can be developed and/or used. In the building industry this translates to sustainable building practices, building for longevity whilst minimising the impact on the environment.

Insulation products are one of the few building materials which make a positive contribution to improving the environment. They save many times more energy than is used to produce them. In the case of glasswool and rockwool, the 'embodied energy' is recovered more than 100 times over the lifetime of the products.

There is a great deal of interest in Life Cycle Assessment of products to try and build a complete environmental profile of products from the 'cradle to grave'. Data is still being assembled for most products, including glasswool and rockwool, but the following factors are known:

RAW MATERIAL ACQUISITION

Glasswool and rockwool are made from abundantly available natural resources. Raw materials include substances like sand, limestone and basalt. None of these are scarce resources.

MANUFACTURE

Glasswool and rockwool are manufactured in large scale plants that are professionally managed and incorporate modern process and energy control systems and pollution control equipment.

All ICANZ members' factories meet or exceed the stringent requirements set by the EPA in Australia. Waste generation is minimised through recycling of waste product and reuse of resources like process water.

RECYCLING

Glasswool manufactured by ICANZ members contains up to 70% recycled material in the form of waste glass. Rockwool contains 10% recycled waste in the form of building waste and 15% recycled waste slag from the steel process. This also reduces energy usage.

EMBODIED ENERGY

"The quantity of energy required by all the activities associated with a production process".

International studies suggest glasswool and rockwool recover their embodied energy more than 100 times, and in some cases 400 times, over their lifetime.

A background study by BRANZ - "Environmental Choice - Thermal Insulation Specification" published on their website www.branz.org.nz, estimated very low levels of embodied energy in glasswool and rockwool insulation products.

ICANZ is currently commissioning a full Life Cycle Assessment on insulation products as manufactured in Australia including more detailed embodied energy estimates.

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ENERGY SAVING

Glasswool and rockwool insulation make a substantial contribution to a better environment through the energy saved as a result of the use of these products.

The energy conserved translates to reductions in the amount of fossil fuel burned to generate that energy.

Not only does this mean a reduction in harmful greenhouse gas emissions, but scarce nonrenewable resource consumption is also reduced. This is particularly important in Australia where we rely heavily on fossil fuels for power generation.

In addition, increased insulation usage will result in reduced energy demand and improved peak demand load management, reducing the need for investment in expensive power generation infrastructure.

THE RIGHT INSULATION MATTERS

Whilst insulation products make a strong contribution to the environment, product performance must be sustained over the life of the insulation product for this contribution to be realised. In simple terms, the thermal resistance, or R-value, must not deteriorate over time. This requires product installed thickness and thermal conductivity to be maintained for the life of the product.

Glasswool and rockwool have a long history of use and confidently meet this requirement.

Glasswool and rockwool do not settle over time and therefore retain their thickness. Additionally thermal conductivity remains the same over time and does not deteriorate.

Glasswool and rockwool deliver consistent long term performance at the right cost.

Glasswool and rockwool insulation products are the leading choice for sustainable energy conservation worldwide.

TRANSPORTATION

Glasswool and rockwool are lightweight materials which are compressed to minimise the volume to be transported.

WASTE MANAGEMENT

Glasswool and rockwool can be moved and reused in maintenance situations.

Waste disposal as landfill is most common. The products are non hazardous and can be compressed to significantly reduce the volume of waste. There are no adverse environmental impacts as a result of using these products as landfill. Recycling of production offcuts in the manufacturing process further improves waste management.

HEALTH AND SAFETY

Glasswool and rockwool are safe to use. They are the world's most researched insulation products, and are classified as non-hazardous.



ICANZ

Insulation Council of Australia and New Zealand.

Formed in 2004 to replace FARIMA as the Australian industry body and expanded to include New Zealand, reflecting the trend towards common insulation product standards, closer ties in research, testing and other Trans-tasman building industry initiatives.

Note that OH&S Standards vary between Australia, New Zealand and local state requirements.

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