

EARTHWOOL®
the feel good glasswool insulation



***Your new home
deserves insulation
without compromise***

*A guide to achieving comfort, quiet,
and lower energy bills.*

KNAUFINSULATION

Insulation makes a house your home

Your home is your place to relax. Where you can be comfortable and carefree. It's a safe space, built to protect you and your family, as you make memories together.

To do that job well, your home needs the right insulation. Without it you risk an uncomfortably warm or cold living space, along with unwanted noise and higher energy bills. The wrong insulation could also make your home more vulnerable to fire and harmful chemicals.

You're right to have high standards and, although it's mostly hidden from sight, insulation will play a significant role in helping you meet them. The challenge is navigating the broad range of options available.

So, where do you start?

With your trusted insulation partner - Earthwool® by Knauf Insulation. As global manufacturers, we've spent over 45 years refining our products to make sure they deliver the reliable performance you and your family need. We understand that a home needs to be comfortable, and it needs to be safe and healthy too.

This guide provides an introduction to glasswool insulation and includes important questions to ask your builder. It also outlines the National Construction Code energy requirements your home must meet and how to maximise your insulation to save you money now and in the long-term.

This guide is a useful tool to empower you to make an informed choice that will benefit your home and family for years to come.

Knauf Insulation Team

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Everything you need to know about insulation (at a glance)

Insulation is essential for your new home, but the type and amount you choose can greatly impact your experience both now and in the future. The right decision today can ensure lower energy bills, a quieter space, reduced fire risk, healthier indoor air quality, and a lighter environmental footprint.

Here's how you can choose insulation that doesn't compromise...

There are regulations your builder needs to follow

The National Construction Code (NCC) sets out the minimum standards that your home must meet, including for energy efficiency and energy use. There's a lot to consider but insulation can help to simplify your solution.

See page 8.

It pays to go beyond the minimum

It is estimated that a 9-star home will require around 55% less energy to heat and cool than a 7-star home.¹ With rising demand for electricity-powered homes, energy prices are likely to increase over the coming years. Maximising the energy efficiency of your home will save you money today and in the future. While sustainability and material health aren't yet regulated, you deserve a home that is low in volatile organic compounds (VOCs) and free from harmful chemicals. That's why you need insulation that delivers more.

See page 10.

Not all insulation is created equal

As well as differences in thermal performance, some products can contribute to fire risk, enable noise pollution, and contain chemicals that could harm you and your family. Earthwool® insulation delivers thermal comfort and noise reduction, is non-combustible², and is free from harmful chemicals found on the DECLARE 'Red List'.

See page 14.



Your insulation checklist

Speak to your builder early to ensure you get the most from your insulation.



Does your insulation:

Provide thermal performance and comfort beyond the minimum requirements?

Provide peace and quiet throughout your home?

Minimise fire risk, by being non-combustible, and contribute to BAL compliance?

Have certifications for superior indoor air quality and low-VOC?

Achieve DECLARE 'Red List Free' status, showing it's free from harmful chemicals on the Red List?

Don't accept anything less than complete performance for your home.

Choose insulation without compromise.
Keep reading to find out more...



¹ Acacia House Designed for Sydney, Free Home Designs, Your Home. Estimate based on Acacia House design for Sydney. Actual annual energy use for heating and cooling depends on chosen appliances, their use, and their efficiency.

² Unfaced glasswool insulation only.

Enjoy comfort, safety, and lower energy bills

Insulation keeps your home comfortable, whatever the temperature outside. It reduces your energy bills, minimises unwanted noise, and the right product even supports the health of your family.

Maintain year-round comfort, with lower energy bills

Insulation's primary role is to resist heat transfer, ensuring a comfortable indoor temperature whether it's cold outside or the middle of a heatwave.

How well it does that, is measured as an 'R-value'. The higher the R-value, the better the 'thermal resistance'. As insulation reduces the need for heating and air conditioning, it also keeps your energy bills down.

A fully insulated home can reduce the cost of heating and cooling by approx. 40-50% annually, compared to a non-insulated home.³

New homes must meet certain energy efficiency standards set out in the National Building Code, but it pays to go beyond the minimum requirements

Comparing a home designed at mandatory 7-star rating, with a 10-star home, the cost of energy used in heating and cooling can be reduced by over 95%.⁴

See page 10.

Value peace and quiet

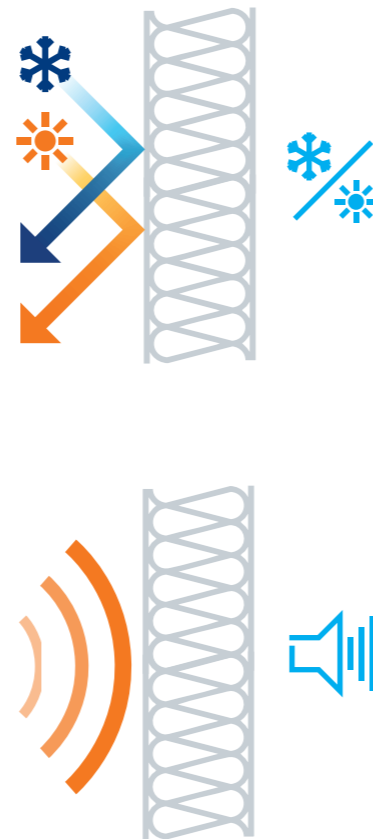
Insulation absorbs sound, reducing unwanted noise from people, traffic, and transport links.

It also stops sound travelling between rooms. Environmental noise has been linked to problems like disturbed sleep and cardiovascular disease⁵ so it's important that your insulation provides the peace and quiet you need.

³ Compared to a non-insulated home. Home Insulation, Sustainability Victoria, 2025.

⁴ Calculations based on an average sized home in VIC.

⁵ enHealth, The Health Effects of Environmental Noise, 2018.



Prioritise your family's safety

Fire safety is a serious consideration for homes in Australia but those with a high Bushfire Attack Level (BAL) rating face even greater risk.

BAL ratings assess the risk to buildings from bushfire exposure. Building standards⁶ suggest using low-flammability sarking to protect against ember attack, but this can be damaged during construction and over time, leaving your home vulnerable.

Non-combustible insulation helps to prevent the rapid spread of flames. So, it can reduce the potential impact of a fire, whatever the cause, allowing more time to evacuate.

What is your home's Bushfire Attack Level (BAL) rating?

Understand the risks associated with your BAL zone by visiting your local government website or speaking to a qualified bushfire consultant.

Remember: Even homes in low-risk zones should use non-combustible insulation, to help mitigate risk in the event of a fire.



Protect your air quality and health

Some insulation contains chemicals that could be harmful to your health.

Choosing products that are low in volatile organic compounds and free from harmful chemicals will improve the air quality inside your home.

⁶ Building Standard AS 3959.



Ask your builder

Does your insulation exceed thermal performance requirements?

How well does your insulation absorb sound?

Is your insulation non-combustible?

Does it contain any harmful ingredients?



What energy regulations do you need to follow?

The National Construction Code (NCC) sets the minimum standards for new homes in Australia, including for energy efficiency. There's a lot to consider but insulation can help to simplify your solution.

Fire safety and acoustics are also regulated, so it's important to look for these performance criteria in your insulation. In this guide we will focus on energy efficiency regulations.

Residential buildings are primarily covered by NCC Volume Two.
The energy efficiency guidance on these pages relates to Class 1 buildings.



To get a building permit, your home must:⁷

1. Achieve a minimum of 7-stars under the Nationwide House Energy Rating Scheme (NatHERS), or meet minimum building element R-values, set out in the NCC.
2. Meet a Whole of House energy use 'budget', based on factors like floor area and climate zone.



Learn more

There are lots of ways to increase the energy efficiency of your home, but some are more straightforward than others:

Energy Efficiency Measures	Does not affect aesthetic of home	Does not affect use of home	Always possible
Optimise building orientation	✓	✓	✗
Use a light roof colour	✗	✓	✓
Rooms instead of open plan	✗	✗	✓
Minimise amount of glazing	✗	✗	✓
Use double or triple glazing	✓	✓	✓
Increase your insulation	✓	✓	✓

Increasing the R-value of your insulation is the easiest and most cost-effective way to improve the energy performance of your home, with minimal disruption to your design.



Image illustrates where insulation is used and does not represent the specific details of a construction build-up.

⁷ Guidance in this document applies to the majority of Australia but certain requirements may vary between states. Other standards unrelated to energy efficiency will also apply in order to acquire a building permit.

It pays to go further

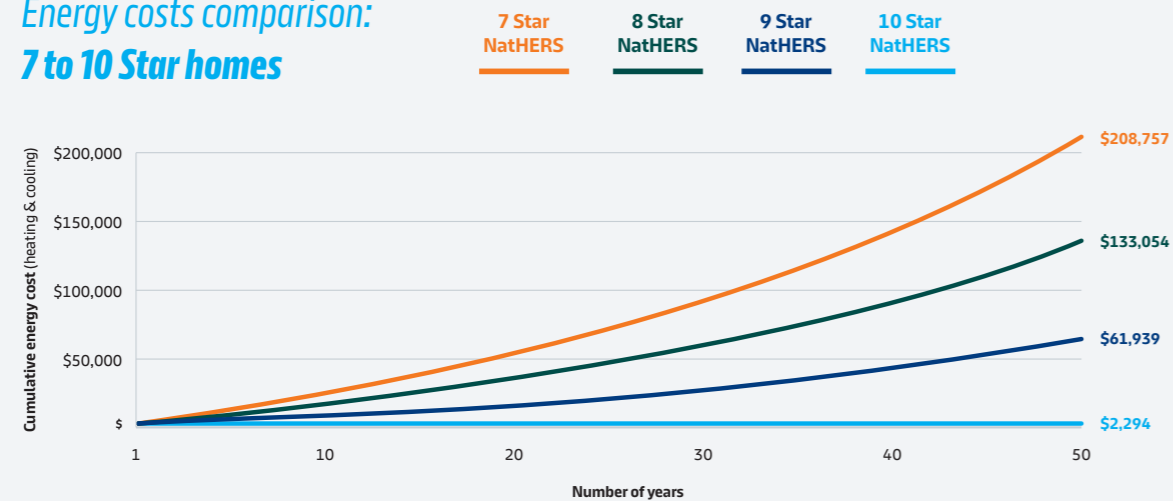
The more insulation you use, the less energy your home will require, saving you money on energy bills. It is estimated that a 9-star home will require approx. 55% less energy to heat and cool than a 7-star home.⁸

The savings will likely increase as more homes change from gas to electric power, driving the cost of electricity up. NCC requirements are also expected to become stricter, so investing in your insulation now avoids costly renovation work later. Homes that are more energy efficient even tend to sell for higher prices. **As of 2025, energy efficient homes sold for 14.5% more compared to their non-energy efficient counterparts.⁹**

How much should you insulate?

A 7-star home is the minimum requirement but it's beneficial to aim for 8, 9, or 10 stars.

Energy costs comparison: 7 to 10 Star homes



Based on an average-sized home in Victoria (NatHERS climate zone 62), over a 50 year period.



Contact our Technical Team to get an energy saving calculation for your new home.

Below are the recommended R-Values to achieve a higher thermal rating for your new home.

	Ceiling	Walls	Underfloor
Good	210mm R5.0 Ceiling batt	90mm R2.5 Wall batt	
Better	330mm R7.0 Ceiling batt	90mm R2.7 Wall batt	90mm R2.5 Underfloor batt
Superior	350mm R8.0 Ceiling batt	140mm R4.0 Wall batt	

⁸ Acacia House Designed for Sydney, Free Home Designs, Your Home. Estimate based on Acacia House design for Sydney. Actual annual energy use for heating and cooling depends on chosen appliances, their use, and their efficiency.

⁹ Sustainability in Property 2025: Demand, supply and affordability of energy-efficient homes, Domain, 2025.



Ask your builder

Will your new home exceed the 7-star minimum?

Could you increase the R-value of your insulation?

What type of insulation is best for your home?

Different insulation materials offer different results. But when it comes to your home, there's no room for compromise. Your insulation must deliver thermal comfort, sound reduction, improved safety, and health benefits.

The most common insulation material for new homes is glasswool.



At Knauf Insulation we manufacture Earthwool insulation as your optimal glasswool choice:

- Made from up to 80% recycled glass
- Flexible material
- Available in batts & rolls
- No added formaldehyde
- No harmful 'Red List' ingredients



What to look for when choosing glasswool insulation:

	Generic glasswool	Earthwool®
Comfort & running costs		
Energy efficiency/ lower running costs	✓	✓
Comfortable indoor temperature	✓	✓
Sound reduction	✓	✓
Safety & health		
Non-combustibility ¹⁰	✓	✓
Free from 'Red List' ingredients	X	✓
Low VOCs	X	✓
No added formaldehyde	X	✓
Environmental		
Low embodied carbon	X	✓

¹⁰ Fire safety ratings vary between products. Always check the fire safety rating of each individual product you use. Earthwool® ceiling and wall insulation and Multi-use roll are non-combustible to AS 1530.1. (Unfaced glasswool insulation only.)



Ask your builder

What does your insulation offer beyond thermal performance?



Why insist on Earthwool® insulation?

Earthwool® offers insulation without compromise; reliable thermal and acoustic performance, with health and sustainability benefits, certified to the highest standards.

It provides comfort and lower energy bills

- Keeps your home comfortable, whatever the temperature outside.
- Higher thermal performance – Australia’s thickest ceiling batt at 350mm with thermal performance of R8.0 in a single layer.
- Flexible and easier to install correctly than rigid foam boards, helping to minimise air gaps.
- Reduces demand on heating and air conditioning.



It reduces unwanted noise

- Reduces sound between rooms.
- High Noise Reduction Coefficient rating (high sound absorption).



It's sustainable and low carbon

- Based on market-leading Environmental Product Declarations (EPDs), Earthwool® products can help reduce embodied carbon by up to 65%, compared to equivalent glasswool products.¹¹
- Made with up to 80% recycled glass, including glass sourced from our Townsville recycling plant, Queensland.
- Certified at the highest level by world’s most trusted verification program – Global GreenTag, showing that our products meet rigorous standards for sustainable building.



See our **Environmental Product Declarations**

It offers safety and health benefits

- Non-combustible to AS 1530.1, for peace-of-mind.¹²
- Supports compliance with BAL rating requirements.
- Holds Eurofins Gold Certificate for Indoor Air Comfort, thanks to low levels of volatile organic compounds (VOC).
- Free from harmful ingredients detailed on the DECLARE ‘Red List’.
- Made with our unique, plant-based binder ECOSE® that is low-VOC. Products made with ECOSE® also produce low levels of dust.
- Glasswool fibres are bio-soluble and safe to use, certified by EUCEB.
- Odourless, does not sustain vermin, and won’t encourage fungi, mould, or bacteria.



Ask your builder

What is the R-value of your insulation?

Is your insulation low in embodied carbon?

Does your insulation have healthy building credentials?



¹¹ Published EPDs in EPD International and EPD Australasia databases.

¹² Glasswool component only for Earthwool® FloorShield Underfloor batt and Earthwool® Quilted Underfloor batt.

Find the right product for every part of your home

- 1 Earthwool® Space Blanket®**
Specialist under-metal roof insulation. Glasswool insulation, laminated with anti-condensation facing foil.



Available in R1.3 and R1.8
- 2 Earthwool® Ceiling batt**
Range of insulation batts, including Australia's thickest and highest performing ceiling insulation in a single layer.




Available in R3.5 – R8.0
- 3 Earthwool® Wall batt**
High-density batts designed to provide ultimate performance.



Available in R2.0 – R4.0
- 4 Earthwool® DriTherm® Cavity Slab**
Specially designed non-combustible insulation with water repellent treatment for masonry cavities.



Available in R1.5
- 5 Earthwool® FloorShield Underfloor batt**
Features a wind-wash barrier, for protection from underfloor air movement.



Available in R2.5
- 6 Earthwool® Quilted Underfloor batt**
Wrapped in perforated plastic film to provide moisture control.



Available in R2.5
- 7 Earthwool® Multi-use roll**
Australia's only handy roll designed for easy installation and top-ups.



Available in R2.5

All Earthwool® products deliver:

- High thermal performance
- Sound absorption
- No added formaldehyde



Learn more about the Earthwool range



Image illustrates where insulation is used and does not represent the specific details of a construction build-up.

Our team will help you find the best solution for your new home.

Contact us today.



Some certifications only relate to certain Earthwool® products. See our Product Guide for full details.

We're here to help

Building your new home is an exciting journey and you'll appreciate the results for decades to come. It's also a big job and the pressure to 'get it right' can feel overwhelming. That's why we're here to help.

Knauf Insulation is part of the Knauf Group, a leading global manufacturer of building materials and construction systems. With more than 45 years of experience, we'll take the complexity out of insulating your home and support you every step of the way.

Our Earthwool® product range will help you create a comfortable, safer, healthier, and more cost-efficient home. As our insulation is easier to install correctly, you'll get the performance you pay for. Meanwhile, our installation guides, online videos, and Technical Team are here to answer your questions and help you create the home of your dreams.

You can count on us to go the extra mile and help you achieve the best results. Everything we do is guided by our promise to customers - that you can Build on us.

Make Earthwool® your trusted home insulation partner.

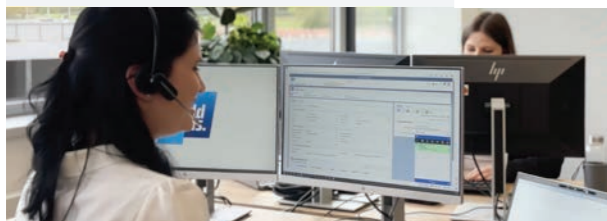
Visit our
Homeowners Hub.



Learn how insulation can earn green building credits in our guide:
A new vision of sustainability.



Questions about your build?
Contact our Technical Team.



Questions about a product?
Download our Product Guide.



Our certifications¹³

CodeMark™ provides confidence that our certified products meet the requirements of the Australian Building Code.



BRANZ Appraisal demonstrates compliance with the Building Code AS/NZS 4859.1 thermal requirements and demonstrates that our products are fit for use.



Eurofins shows compliance with low-VOC emission requirements. Earthwool® has achieved the highest Eurofins Gold Standard.



GreenTag™ certifies our products within the top end of the green product market. Earthwool® is the first glasswool insulation in Australia to have Global GreenTag^{CERT™} GreenRate™ Level A certification, contributing to credits under the GreenStar® system.



EUCEB certifies that our fibres are bio-soluble.



FireMark certifies the majority of our products as non-combustible to AS1530.1, as defined in the Building Code of Australia.



DECLARE 'Red List Free' indicates our products are free from chemicals and elements known to pose serious risks to human health.



¹³ Some certifications only relate to certain Earthwool® products. See our Product Guide for full details.

The product credentials of Earthwool® help buildings to achieve GreenStar® certification and earn credits with rating schemes such as Homestar, LEED, WELL, and NABERS.

How can you tell it's Earthwool®?

Earthwool® is easy to spot. It doesn't contain any artificial colours, so it has a distinctive natural brown colour that sets it apart from most other insulations.

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