

Case Study

DIY Underfloor Insulation with Earthwool® FloorShield

September 2024



Products used

Earthwool® FloorShield Batts

Building type

Stand-alone House

Application

Underfloor

Manufactured by

KNAUFINSULATION



Declare.



Homeowners in a traditional Queenslander style home faced cold floors and high energy bills due to the thermal inefficiency of their house. To address these challenges and create a comfortable living environment year-round, Earthwool® FloorShield was installed.

Featuring a wind-wash barrier, TwinTech® smooth finish, and enhanced moisture resistance, FloorShield proved effective in delivering improved thermal comfort and energy efficiency, while being easy to install. The low carbon attributes of the product also aligned with the sustainability goals of the homeowners and will continue to provide additional long-term benefits.



What was the challenge?

Located in the breezy Bayside of Brisbane, a traditional Queenslander style home regularly experienced thermal inefficiency and uncomfortable floor temperatures. Due to a lack of existing insulation, cold air would seep through the floorboards, leaving the homeowners in discomfort and having to spend a lot on heating to stay warm. Improving home comfort and reducing energy consumption were the key goals of the project. However, finding a product that was easy to install, cost effective, and aligned with the sustainability goals of the homeowners was also an important consideration.

What was the solution?

The decision was made to install Earthwool® FloorShield underfloor batt, as it possessed many attributes that would enhance the thermal performance of the house and address the challenges at hand. Earthwool® FloorShield is made with up to 80 per cent recycled glass and manufactured from durable silicone-coated fibres and incorporates a glass veil facing, which acts as a wind-wash barrier. This barrier is crucial in preventing air movement under the floor, ensuring that the insulation performs at its rated R-value and provides a consistent thermal barrier.

Durability of the insulation is ensured through DriTherm® Technology, which offers enhanced moisture resistance.



Earthwool® FloorShield also utilises ECOSE® Technology, a unique plant-based binder with no added formaldehyde, acrylic dyes, or colours, and is certified by DECLARE as being Red-List Free, meaning it does not contain any ingredients considered harmful to health, according to the International Living Futures Institute.

The installation process benefited from the product's TwinTech® Technology, which provides a smooth finish on both sides of the batt. The soft and easy-to-handle nature of the insulation product, the friction fit design, and the compression packaging that maximized coverage per pack, additionally made the DIY install simple.

Why Earthwool® Insulation?

Following the installation of Earthwool® FloorShield, the benefits of the product have become evident. The cold floors that once left the homeowners shivering through winters have been eliminated, and they have noticed significant improvement in the overall thermal comfort and energy efficiency of the house. The insulation's wind-wash barrier and high thermal performance has also helped stabilise the indoor temperature, resulting in the home staying cooler in the summer and warmer in the winter, while reducing the need for artificial heating and cooling.

An additional benefit of FloorShield comes through its strong sound-absorbing properties, delivering a quieter living space.

With sustainability being a key focus for the homeowners, Earthwool® FloorShield also has a number of key sustainable attributes, which include the usage of recycled materials, the absence of formaldehyde, and GreenTag Level A Certification, making it a suitable choice.

Overall, the installation of FloorShield has solved the immediate problem facing the homeowners by eliminating cold floors and will continue to provide additional benefits in energy savings and home comfort long into the future.



About Earthwool® Glasswool FloorShield

Earthwool® Glasswool FloorShield underfloor batt is manufactured from durable silicone coated glasswool and is faced with a glass veil, providing a wind-wash barrier. The wind-wash barrier prevents any loose fibres during installation and provides protection from air movement under the floor to ensure the insulation will perform as per the stated R-value. Earthwool® Glasswool FloorShield underfloor batt will improve the thermal comfort and energy efficiency of the building in which it has been installed thus keeping it cool in summer and warm in winter.

- › Wind-wash barrier – protection from air movement
- › High thermal performance – year-round comfort
- › Sound absorbing
- › Saves energy – lower energy bills
- › No added formaldehyde
- › Soft to handle and install
- › Friction fit
- › Odourless
- › Compression packed – more product per pack



ECOSE® Technology

A unique plant-based binder which contains no added formaldehyde or phenol. It is made from natural raw materials that are rapidly renewable, is 70% less energy intensive to manufacture than traditional binders, and makes our insulation soft to touch and easy to handle.



TwinTech® Technology

An advancement in insulation manufacture – the dual forming technique enables thicker products for evolving building code requirements and ensures there is a smooth finish on both sides of the insulation for optimal product handling and appearance.



DriTherm® Technology

A silicone treatment that is added during manufacture to upgrade the moisture resistance of the glasswool insulation.



For more information about Earthwool's range of insulation products, visit:
www.knauf.com

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