

Dispelling the Myths About Insulation

Adding insulation to a cavity wall is a relatively new concept, driven by the SANS-10400-XA regulation. In the first of two features, Suria Ramnarain, Sales Development Manager at Knauf Insulation sets the record straight about some misconceptions surrounding cavity wall insulation and insulation in general.

MYTH: You only need a cavity; adding insulation makes properties unbearable in hot weather

TRUTH Many people believe insulation should not be installed in warmer climates because properties will over-heat, but actually, insulation will help keep them cool.

Heat always flows from warm to cool areas. Mineral Wool insulation has a low level of conductivity, so in cold weather, it prevents heat from escaping through a building's walls and roof. But equally, in hot weather, insulation keeps an air-conditioned home cool and slows down heat gain in homes without AC, making the internal temperature more pleasant. Remember, if insulation didn't stop heat gain, your refrigerator wouldn't stay cold!

And because it helps maintain a stable indoor air temperature, less energy is needed to cool or heat a property, leading to lower energy bills.

MYTH You can only partially fill a cavity with insulation

TRUTH In fact, fully filling a cavity with Mineral Wool insulation can give better real world thermal performance than partially filling it with products with higher declared performance values.

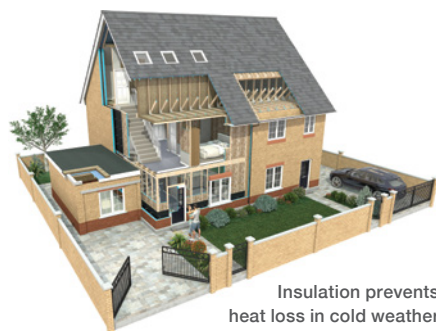
This is because Mineral Wool has been manufactured to fit between standard centres for brick ties and brick force. It compresses slightly during installation then springs back to create a tight fit inside the cavity. Mineral Wool adapts to any imperfections in the substrate, such as mortar snots or protruding brick force, and insulation knits together filling gaps and preventing thermal bridging.

By contrast, rigid insulation boards are harder to install correctly. Substrate

imperfections cause boards to pivot, breaking contact between the insulation and substrate or between boards. This creates air gaps, reducing thermal and acoustic performance.

When using Mineral Wool in a cavity wall, look for products developed specifically for external applications, such as our DriTherm Cavity Slab. It contains water repellent additives, so if any water enters the cavity it will not transmit across to the inner leaf or affect the slab's performance. Remember, not every product with 'cavity' in its name is appropriate for the application.

Fully filling a cavity with unfaced Mineral Wool also improves fire safety. It is non-combustible with the highest possible Euroclass A1 Reaction to Fire Classification rating, so will not contribute to the development or spread of fire should it occur.



MYTH All thermal measurements are the same

TRUTH In South Africa, the thermal conductivity, known as the R-value, of an insulation product is determined using Standard Thermal Measurement, which calculates the median (middle) value from tested product samples. This means 50% of the products purchased could have a

performance value under the declared lambda and 50% could be over. So, half the time, customers don't get what they pay for.

By contrast, the European Lambda 90/90 Value guarantees 90% of a manufacturer's insulation will meet or exceed the declared lambda value 90% of the time. Knauf Insulation only uses Lambda 90/90 Value, so customers can be confident our products will perform as required.

MYTH Insulation can be specified by density or thickness

TRUTH Density refers to how much insulant there is in a cubic metre of a product. The more material there is, the higher the density, but density doesn't actually reflect thermal, fire or acoustic performance so you could easily be under or over-specifying.

Similarly, thickness is not a good measure, because you won't be comparing like-for-like. Different insulants are made from different materials so even if they are the same thickness, they won't provide the same level of performance. But even products manufactured from the same material will perform differently depending on the applications they are designed to insulate. For example, both Ceiling Roll and Cavity Roll are manufactured from Glass Mineral Wool, but 100mm of Ceiling Roll has an R-value of 2.4 while 100mm of Rafter Roll has an R-value of 2.63.

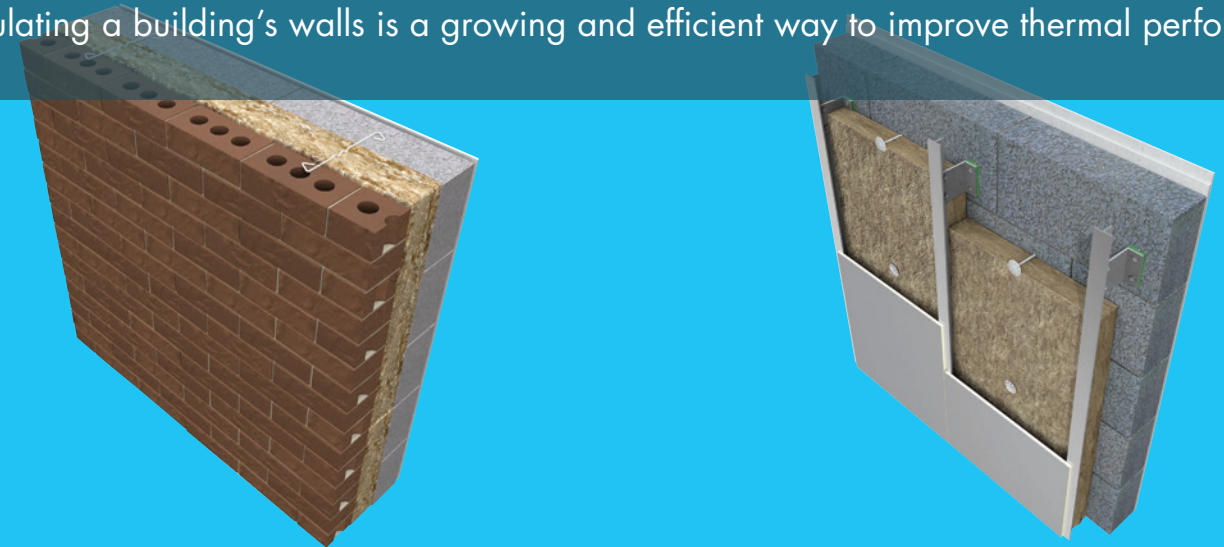
Therefore, insulation must only be specified by performance measures such as R-value, fire safety or acoustic performance, or a combination of all three. This ensures you're choosing insulation for the performance it delivers, not any other arbitrary measure that may lead to under-performance or unnecessary extra cost.

KNAUFINSULATION

with **ECOSE** TECHNOLOGY

DON'T FORGET TO INSULATE YOUR WALLS

Insulating a building's walls is a growing and efficient way to improve thermal performance



Masonry cavity walls



DriTherm Masonry Cavity Wall Slab

- Non-combustible A1 Euroclass Reaction to Fire Classification rating
- Excellent thermal performance to save cooling and heating costs
- Quick and easy to install
- Manufactured with our unique ECOSE® Technology bio-based binder and added water repellent silicone

Rainscreen façade systems



RainScreen Slab

- Non-combustible A1 Euroclass Reaction to Fire Classification rating so it can be used on all buildings where fire safety is critical
- Excellent thermal performance, saving energy costs
- Excellent sound absorption
- Manufactured with our unique ECOSE® Technology bio-based binder

To learn more about our range please visit

www.knaufinsulation.co.za



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