



Case Study

## **Built to Last: DriTherm® Ensures Durability for School Infrastructure**

June 2025

### *Project Name*

Madora Bay Catholic College

### *Products Used*

Earthwool® DriTherm® Cavity Slab

### *Building Type*

School

### *Application*

Brick wall

### *Contractor*

Universal Constructions Pty Ltd

### *Distributor*

Thermacon Insulation

## **Build on us.**



**Declare.**



## Overview

*Situated in the seaside suburb of Madora Bay, Western Australia, St. Marcellin Catholic College is a new build educational facility due to open late 2025. As the building is located near the ocean, the double brick masonry constructed building will commonly experience sea spray and strong breezes from the West. Therefore, a challenge to achieve thermally efficient external walls.*

*To meet the non-combustible requirements and achieve thermal compliance, Knauf Insulation recommended the Earthwool® DriTherm® Cavity Slab. In addition to delivering outstanding thermal efficiency, the DriTherm Cavity Slab is uniquely manufactured with an innovative water repellent treatment, enabling the insulation to be placed in the cavity of a double brick or masonry wall. The product's unique ability to be used in this way maximises the wall's thermal performance without compromising the wall-moisture management. This will ensure a comfortable year-round learning environment that protects occupants from the elements.*



## What was the challenge?

The St. Marcellin Catholic College is a single-storey, double brick masonry constructed school building located in close proximity to Madora Bay, south of Perth. As the building will serve as an educational facility for primary education students, it was important that it provided a comfortable, quiet, safe environment for all occupants. Another challenge facing the project was the consistent winds blowing in from the bay. These gusts of cold air and sea spray would pierce the building through airgaps in the masonry, causing the wall's thermal performance to be significantly reduced. The sea spray and wind driven rain will increase moisture in the cavity requiring a product that can help prevent this. Addressing these issues required a solution with high thermal properties that was also water repellent.

With the building being a school, another key consideration for the project was ensuring ideal conditions for children. As children can take longer to react and evacuate in a fire, it was essential that the building materials reduce the risk of fire. Children are also more susceptible to health risks due to Volatile Organic Compound (VOC) exposure<sup>1</sup>. Hence, it was vital to use non-combustible solutions, as well as materials that have low VOC and help promote indoor air quality.

## What was the solution?

Due to the unique challenges at hand, Knauf Insulation proposed the use of Earthwool DriTherm Cavity Slab for the project.

Developed specifically for application in masonry cavity walls, the DriTherm Cavity Slab is a unique product that can fill the walls' cavity, provide excellent thermal performance and manage the cavity's environmental conditions. Distinctive to this solution is the inclusion of a silicone treatment – DriTherm Technology – that prevents water ingress and prevents moisture seeping from the outside to the inside.

DriTherm products are manufactured in 600 x 1200mm slabs, making them quick to install. The product is easy to cut making it easy to accommodate all brick tie spacings. Install was also aided by the physical attributes of Knauf Insulation glasswool products, including being soft to touch, handle, and cut while on-site. This was important for ensuring a continuous layer of insulation was installed, with special considerations for detailing at the junctions between the elements and the openings, and for ensuring the leaves remained in continuous contact.

Knauf Insulation's unfaced glasswool products are naturally non-combustible, independently tested in accordance AS/NZS 4859.1 to comply with the project's requirement. They also provide outstanding thermal performance and sound absorption characteristics, delivering year-round comfort. Delivering a facility with superior sound and thermal qualities was essential for supporting an optimised educational facility conducive to learning, with minimal outside disruptions.

<sup>1</sup> National Library of Medicine: "Health Risk Assessment of Volatile Organic Compounds at Daycare Facilities." PubMed. Accessed June 2, 2025. <https://pubmed.ncbi.nlm.nih.gov/33586827>.

Current Opinion in Environmental Science & Health: "Indoor Environment Exposure and Children's Health." ScienceDirect. Accessed June 2, 2025. <https://www.sciencedirect.com/science/article/abs/pii/S2468584423000090>.



## Why Knauf Insulation?

The Earthwool® DriTherm® Cavity Slab was the preferred solution over rigid board insulation primarily due to its non-combustible and moisture resistant properties.

With cost consideration a key focus for the project, the DriTherm Cavity Slab product offers a cost-effective insulation solution that delivers top thermal performance for improved energy efficiency. Additionally, it offers superior sound reduction characteristics, an integral quality for improving indoor comfort and the ability to concentrate in an educational facility frequented by primary students.

Indoor comfort is additionally supported by ECOSE® Technology, a unique plant-based binder free of added formaldehyde used in the manufacture of all Knauf Insulation glasswool products. Through ECOSE, Knauf Insulation products deliver low-VOCs for improved indoor air quality, and are certified as being Declare Red List free, meaning they do not contain any raw materials or chemicals found on the Red List. The DriTherm Cavity Slab is also Eurofins “Indoor Air Comfort” Gold Standard Certified, helping to improve the well-being of all students through a healthier indoor environment.

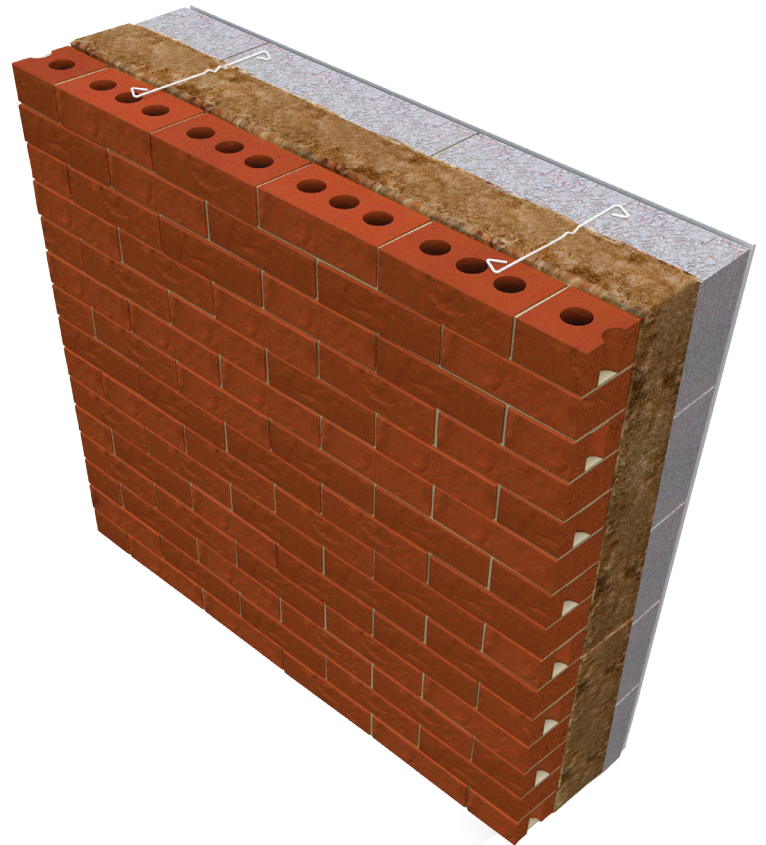


# About Earthwool® DriTherm® Cavity Slab

DriTherm Cavity slab can be used in masonry cavity external walls and is installed within the cavity to provide a continuous, non-combustible thermal and acoustic barrier. Manufactured at 600mm widths, DriTherm Cavity slab is suitable for standard wall tie spacings and furring channel clips used in residential and commercial construction types.

With over 4 million double brick homes already insulated with water resistant cavity insulation across Europe, DriTherm Cavity slab is a proven, thermally efficient insulation.

- > High thermal performance - year round comfort
- > Sound absorbing
- > Silicone treated - water repellent
- > Non-combustible
- > No added formaldehyde
- > Soft to handle and install
- > Odourless



## 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.



## DriTherm® Technology

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

**Declare.** 

## Declare & Red List Free

Knauf Insulation's glasswool, free from Red List materials and certified for excellent air quality, features up to 80% recycled content and ECOSE® Technology, offering safer, eco-friendly building solutions.



For more information about Knauf Insulation's range of insulation products, visit:  
[www.knauf.com](http://www.knauf.com)

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