

Case Study

Sealing Out The Sound with Inter-tenancy Wall System Substitution

December 2025



Project Name

Hereford Street Multi-Dwelling Construction, Christchurch

Products Used

R2.2 Wall insulation
R2.8 Wall insulation
R3.6 Ceiling insulation

Building Type

Multi-dwelling

Application

Inter-tenancy

Builder / Installer

DC Living / Phase 2 Construction / Living House

Build on us.



The Christchurch multi-dwelling project was specified with the GIB® Barrier system which incorporated an 11kg acoustic insulation infill. This system is designed to meet NZBC acoustic requirements and improving the thermal and acoustic performance of multi-dwelling properties. Earthwool® Glasswool R2.2 11 kg/m² wall insulation was used as the infill insulation, meeting the GIB Barrier system specifications without compromising on any aspect of the performance.

What was the challenge?

Under the New Zealand Building Code, a Sound Transmission Class (STC) for walls, floors and ceilings of no less than 55 is required for building elements between occupancies in household units.

To meet these requirements, project managers, DC Living, have specified the GIB® Barrier system for the internal walls of the multi-unit townhouse project. Featuring double stud framing, 13mm plasterboard on each side, and 11kg/m³ density acoustic insulation, the system achieves a 56-68 STC.

Seeking to maximise the overall comfort and indoor health of the building, in addition to meeting thermal and acoustic requirements, the project manager has requested a substitution for the specified R2.2 wall insulation infill.

What was the solution?

Knauf Insulation proposed that the **Earthwool Glasswool R2.2 Wall insulation** be substituted into the wall system. This product substitution is supported by a statement of equivalence from Marshall Day Acoustics, confirming that an insulation infill material of the same density and thickness may be used in the system without affecting acoustic performance.

Further technical support from Winstone Wallboards – the manufacturer of the GIB system – confirmed that the GIB system's warranty and fire performance would not be impacted by the substitution.

At 90mm thickness, the R2.2 Wall insulation is designed to fit snugly between the studs and dwangs, offering a smooth friction fit installation and delivering exceptional acoustic performance.

Marshall Day's statement of equivalence paves the way for the Earthwool Glasswool R2.2 11kg/m³ Wall insulation to be an accepted solution for GIB inter-tenancy wall system. This will afford specifiers, installers, and homeowners the opportunity to take advantage of Earthwool Glasswool's unique benefits without compromising on performance.

To complete the acoustic envelope, Earthwool Glasswool R3.6 Ceiling insulation was installed in the midfloor, while the R2.8 Wall insulation was selected for the external walls.



Why Knauf Insulation?

Substituting the Earthwool® Glasswool wall product allowed the inter-tenancy wall system to achieve the required acoustic and thermal performance without impacting the integrity of the system. It also allowed the project manager to take advantage of Earthwool Glasswool's range of unique benefits that will deliver positive outcomes for occupants throughout the life of the building.

Earthwool® Glasswool products are manufactured with ECOSE® Technology, a low-carbon, plant-based binder free of added formaldehyde. Products with ECOSE are low-Volatile Organic Compounds (VOC) and free from chemicals known to pose serious health risks on the DECLARE 'Red List', delivering better indoor health and comfort.

The inherent properties of Earthwool Glasswool also deliver a non-combustible, soft to touch and easy-to-handle product, significantly improving the installation process.

All Earthwool Glasswool products are supported by market leading Environmental Product Declarations (EPDs) and are backed by national and international certifications including CodeMark, BRANZ, and Eurofins Gold for added peace of mind.

Furthermore, DriTherm® Technology – a silicone treatment for moisture resistance – is added during manufacturing to improve water resistance and long term durability.



About Earthwool® Glasswool

Wall insulation

The Earthwool Glasswool Wall batt range includes a selection of R-values to provide builders, designers, installers and homeowners the opportunity to choose the best thermal performance for their project.

Earthwool Glasswool Wall batt will also absorb the transfer of unwanted sound from outside to inside the building. Up to 25% of heat loss and gain in a home occurs through the wall*. Earthwool Glasswool Wall 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.

- > High thermal performance - year-round comfort
- > Sound absorbing
- > Saves energy - lower energy bills
- > No added formaldehyde
- > Soft to handle and install
- > Odourless
- > Non-combustible



*www.yourhome.gov.au/passive-design/insulation



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 & 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

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