

CASE STUDY

Ecoliv Buildings



PRODUCTS USED

Earthwool® R-6.0
Ceiling Insulation
Earthwool R-2.5HD
Wall Insulation

"Eco Balanced 1 was designed to demonstrate a home achieving a high energy rating without relying on high embodied energy materials. Earthwool batts were used in the home because they are made using up to 80% recycled glass and are non-irritant, user friendly, thermally and acoustically efficient and one of the most sustainable glasswool insulation products available."

Ashley Beaumont

PROJECT

Ecoliv Buildings
Eco-Balanced Display Home

CLIENT

Beaumont Concepts
Building Design



CHALLENGE

The Eco Balanced 1 is a finely tuned yet modest design. With an 8 star energy rating, this home displays what can be achieved when building a cost-effective and environmentally friendly home. Pushing the boundaries of standard domestic construction achieves the cost, time and resource efficiencies that appeal to the sustainable prefabricated housing market.

Its contemporary form and streamlined layout combined with a holistic approach to passive solar design and systems integration, contributes to aspirations of sustainability by ensuring thermal comfort all year round.

Internally the focus is on using affordable, sustainably sourced and recyclable finishes, with low toxicity, to preserve the internal air quality within the home.

Integration of products that ensured optimal energy, water and material utilisation, enhance the long term sustainability of the home.

The passive solar design achieves an 8 star thermal performance rating coupled with solar hot water and electricity, high performing Earthwool® insulation, energy efficient lighting and appliances, 3,000 litre water tank configurations, high WELS rated plumbing, grey water system, Green Switch, Low VOC paints and no MDF joinery and fixtures to reduce environmental impact.

Plantation timber subfloor and framing was chosen because it uses less energy to produce than traditional concrete subfloor and can reduce environmental impact significantly. The naturally lightweight construction methods of Eco Balanced 1 utilise plantation timber frames and trusses and high levels of Earthwool insulation to respond to the temperate southerly climate. This combination results in a home that doesn't rely on high embodied energy materials, which enhances the overall sustainability of the home.

Overall the house is spatially and energy efficient and reflects a contemporary ambience. The homes sustainability will continue well beyond the design and construction with systems provided to monitor and change behaviours.

SOLUTION

Earthwool insulation made using ECOSE® Technology is one of the most sustainable glasswool products available. ECOSE Technology is a revolutionary formaldehyde-free binder, based on rapidly renewable materials instead of petro-based chemicals. It contains no added formaldehyde, phenols or acrylics.

"The aim of the home was to ensure all products had a low embodied energy and Earthwool met the requirement of the Eco Balanced 1 home," said Ashley Beaumont.

"Earthwool insulation was installed in the roof, wall and floor of Eco Balanced 1. As well as providing thermal and acoustic insulation, Earthwool insulation also has Eurofins Gold certification for indoor air quality, which was important for this home as we wanted to preserve the air quality."

Furthermore, the use of Earthwool insulation allowed Ecoliv Buildings to build a home that didn't rely on thermal mass and high embodied energy products to achieve an 8 star thermal rating.

The well insulated and oriented lightweight timber building naturally responds to heat and cool and is well suited to the southern Victorian temperate climate.

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