

## Ecological Building Systems

For over 20 years, Ecological Building Systems has been at the forefront of environmental and sustainable building products. As the sole distributor in Ireland and the UK for Pro Clima, Gutex and Diasen products, Ecological supply a range of innovative airtightness solutions and natural insulations backed up with expert technical support. Read more at: [www.ecologicalbuildingsystems.com](http://www.ecologicalbuildingsystems.com)

## Technical Product and Sales Support

Full technical support is available for all products. At each stage of your new build or refurbishment project during planning, specification, installation, and build, Ecological provide expert assistance and guidance to optimise outcomes in compliance with building regulations. U-value and WUFI calculations, construction details and specification clauses can also be provided along with technical drawing reviews and in-depth CPD training.

Products have been independently tested and have the following certifications (please see our website for product specific certifications):



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## Why Passive EcoWall®?

Passive EcoWall® is a building solution designed by Ecological Building Systems, which provides a complete low-energy, diffusion-open design based on tried and tested Passive House principles. Featuring the use of Gutex woodfibre boards, Finsa airtight racking boards, and the Pro Clima suite of airtight and windtight solutions. A number of certified passive houses and modular buildings have already been constructed in Ireland and the UK utilising Passive EcoWall®, which delivers significant reductions in energy use combined with high levels of comfort.



**Passive EcoWall®**  
by Ecological Building Systems

## A low-carbon building solution for Passive House walls and roofs

Suitable for new buildings with timber framing



Discover our solutions online at [ecologicalbuildingsystems.com](http://ecologicalbuildingsystems.com)

Working to Passive House standards produces comfortable, healthy buildings with a low ecological impact; it is as much about build quality as it is about comfort, health and energy efficiency.



As proud members of the Passive House Association of Ireland and UK Passivhaus Trust, we're passionate about advocating for building projects to meet the Passive House standard.

Members of our technical team are fully qualified Passive House designers, consultants, and tradespersons.



## Key Benefits

- Ideal balance of exterior vapour permeability and interior vapour control
- High breathability reduces condensation and mould risk
- External woodfibre insulation minimises thermal bridging
- High thermal mass of woodfibre helps offset summer overheating
- Natural materials with low embodied energy reduce carbon footprint
- Internal racking board provides airtightness, structural support, and vapour control
- Excellent thermal and acoustic insulation up to Passive House levels
- Comprehensive detailed drawings available

# A low-carbon approach to Passive House and low-energy building



Suitable for new buildings with timber framing



### External view

Showing open jointed timber cladding installed horizontally over vertical timber battens.



### Internal view

Showing plasterboard fixed over horizontal battens; service cavity insulated with flexible woodfibre insulation.



**Pro Clima Solitex Fronta Quattro**  
Plain black UV resistant windtight breather membrane\*



**Gutex Multitherm**  
Natural wood fibre T&G external insulation board



**Pro Clima Tescon Invis**  
Airtight fully black discreet UV resistant adhesive tape



**Gutex Thermoflex**  
Flexible wood fibre insulation mat



**Pro Clima Tescon Vana**  
Multi-purpose airtight adhesive tape



**Finsa SuperPan VapourStop E-Z**  
Airtight vapour barrier racking board for timber frame walls and ceilings



**Gutex Thermoflex**  
Flexible wood fibre insulation mat

\* Pro Clima Solitex Fronta Quattro is compatible with open jointed cladding. For closed jointed cladding use Pro Clima Solitex Fronta WA.

## Passive EcoWall® and U-values

Passive EcoWall® also offers a high degree of flexibility allowing specifiers to amend either the frame depth or Gutex Multitherm insulation thicknesses to achieve a range of thermal resistances, from the Passive House backstop of 0.15 W/m<sup>2</sup>K to 0.10 W/m<sup>2</sup>K.

Passive EcoWall® is a perfect example of how it is possible to combine low-energy construction with more sustainable building materials with lower, or even carbon neutral emissions. Building methods like this are key to reducing operational emissions and also the significant embodied emissions produced during manufacture of building materials.

### Typical U-values of a Passive EcoWall® (W/m<sup>2</sup>K)\*

External Gutex Multitherm insulation	Depth of timber studs (and thickness of Gutex Thermoflex insulation used)		
	180mm	200mm	220mm
60mm	0.145	0.137	0.130
80mm	0.135	0.128	0.122
100mm	0.127	0.120	0.114
120mm	0.119	0.113	0.108

### Typical U-values Passive EcoWall® Roof (W/m<sup>2</sup>K)\*

Gutex Multitherm external insulation protected with Solitex Plus Pro Clima membrane	Depth of rafters (and thickness of Gutex Thermoflex insulation used)		
	180mm	200mm	220mm
60mm	0.137	0.129	0.122
80mm	0.128	0.121	0.115
100mm	0.120	0.114	0.108
120mm	0.113	0.108	0.103

\* Calculated with 50mm Gutex Thermoflex in the service cavity.