

# DIFFUTHERM External Wall Insulation System for rendered walls

The Diffutherm Masonry Wall System is for external insulation of masonry buildings which are to be externally finished with render. Diffutherm systems use woodfibre boards over the outside of the building in a continuous layer, thus providing an unbridged thermal shell, which is highly breathable. Mineral based breathable renders are provided for the outside of the wall, along with a range of fixings, tapes and rails. Mineral plasters and environmental paints can also be provided for the inside of the building.

## **System Application:**

**Existing buildings:** Diffutherm boards are highly vapour open and hygroscopic making them very suitable for the thermal upgrading of existing solid wall buildings, as well as brick-infilled traditional timber frames, all of which need to breathe. They can also be used with cavity constructions.

**New Masonry walls:** Diffutherm systems can be used with both new solid wall and cavity walls.

## **System Benefits:**

- Excellent thermal performance, with reduced thermal bridging
- Highly vapour open and hygroscopic system ensuring fully breathing and dry walling, with reduced risk of damp and interstitial moisture.
- Excellent acoustic performance increasing flanking sound protection
- Increased overheating protection
- Simple, robust detailing with full systems parts
- Full design and site support available
- Tried and tested system, fully certified

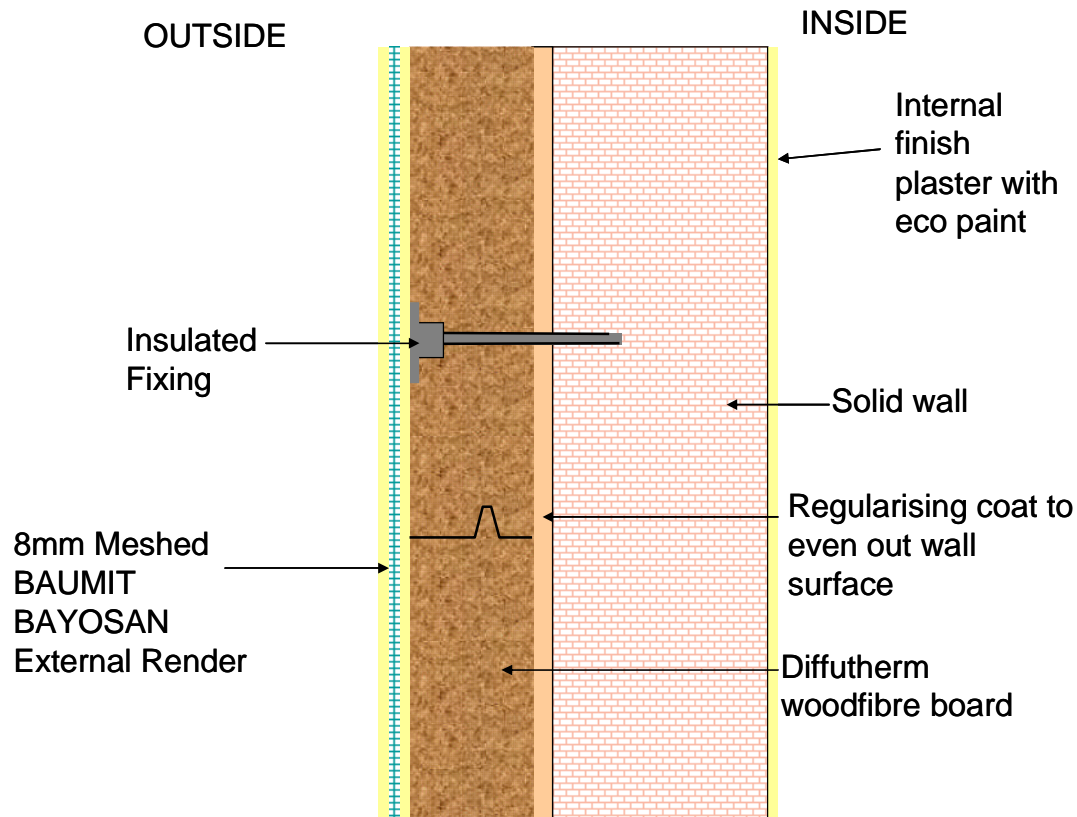


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## Environmental Performance:

- BREEAM Green Guide and WRAP assessed
- Carbon positive (locks up 1.2 tonnes of carbon for every tonne of boards produced) and non-toxic
- Woodfibre Boards are over 95% waste wood from sustainable forests

## Example System Diagram:



## Full System Components:

**Insulation boards:** Interlocking Diffutherm boards (60, 80, 100mm), square edged backing insulation Pavatherm boards (20 to 100mm) and plinth and reveal boards.

**Fixings, tracks and tapes:** Insulated fixings, starter tracks and sealing tapes

**Renders:** A fully warranted thin coat mineral render system from BaumitBayosan, with over 200 colours in many types of finish. Comes with full system of reinforcing meshes, beads, APU rails and window cills.

**Plaster boards and paints:** GreenSteps can provide clay boards, breathing mineral based plasters and environmentally friendly paints for internal walls.

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## Available Support:

**Design support:** Full design support including drawings review, assistance with detailing, thermal bridging (New Part L), and interstitial moisture calculations.

**Training:** On site for applicators, site managers etc.

**Site Support:** Assistance on site, advice on technical, application and quality issues.

**Approved Applicators:** Trained and approved applicators.

## Technical Performance Details:

### Thermalite Turbo Block 215mm (k=0.11, 470kg/m<sup>3</sup>)

Insulation Layer	60mm Diffutherm	80mm Diffutherm	100mm Diffutherm	60mm Diffutherm	60mm Diffutherm	60mm Diffutherm
Insulation Layer				60mm Pavatherm	80mm Pavatherm	100mm Pavatherm
U-Value (W/m <sup>2</sup> K)	0.32	0.28	0.25	0.21	0.19	0.17
Decrement Factor	0.17	0.13	0.10	0.09	0.07	0.05
Decrement Delay (h)	13.2	14.5	15.9	16.9	18.2	19.5
Admittance (W/m <sup>2</sup> K)	2.57	2.57	2.57	2.57	2.57	2.57

### Brick 215mm (k=0.75, 1700kg/m<sup>3</sup>)

Insulation Layer	60mm Diffutherm	80mm Diffutherm	100mm Diffutherm	60mm Diffutherm	60mm Diffutherm	60mm Diffutherm
Insulation Layer				60mm Pavatherm	80mm Pavatherm	100mm Pavatherm
U-Value (W/m <sup>2</sup> K)	0.55	0.44	0.37	0.30	0.25	0.23
Decrement Factor	0.17	0.15	0.13	0.11	0.09	0.07
Decrement Delay (h)	10.5	11.7	13.0	14.1	15.4	16.7
Admittance (W/m <sup>2</sup> K)	4.24	4.24	4.24	4.24	4.24	4.24