

GreenSteps DIFFUTHERM Timber Frame Wall System

The Timber Frame Diffutherm System is for timber frame buildings externally finished with render. Diffutherm systems use Pavatex woodfibre boards over the outside of the frame in a continuous layer. The racking board is fitted on the inside of the structure, acting also as both the airtightness and the vapour control layer, in a fully breathable construction. Externally a mineral based thin render system is applied directly to the woodfibre. Internally we recommend a service void between racking board and plasterboard for effective airtightness control and easy service alterations.



System Application:

The Timber Frame Diffutherm System can be used with any conventional timber frame design, provided that the racking board is fixed on the inside of the frame rather than the outside. The same limitations apply as to all timber frame applications. The Diffutherm system has good fire rating and is suitable in many situations requiring fire resistance.

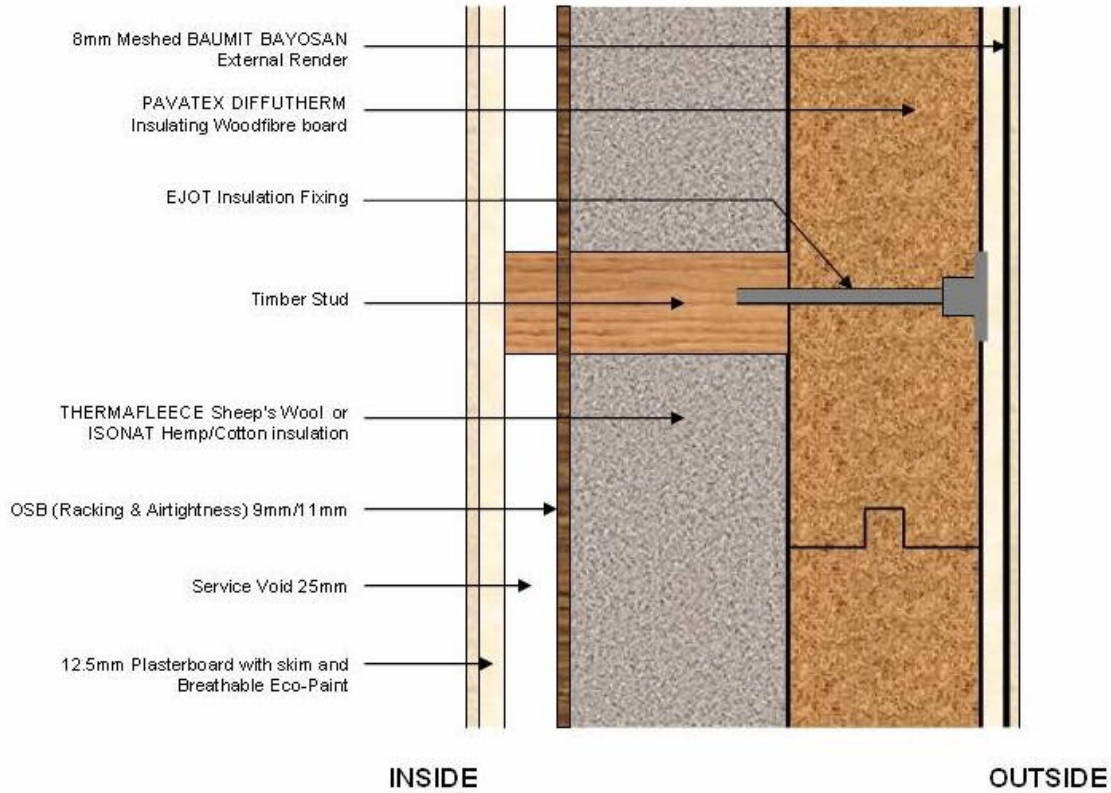
System Benefits:

- Excellent thermal performance, with very low thermal bridging (y values), enabling very slim construction for new Part L compliance
- Alternatively, very high thermal shell performance possible in slim and cost effective way
- Excellent airtightness by design
- Excellent acoustic insulation
- Good overheating control
- Fully breathing construction
- Full design and site support available
- All system components from GreenSteps
- Tried and tested system, fully certified

Environmental Performance:

- BREEAM Green Guide rating: A
- Carbon positive (1.2 tonnes of carbon locked in every 1 tonne of board) and non toxic
- Woodfibre Boards are over 95% waste

System Diagram & Technical Performance Details:



89mm Timber Stud

Insulation onto Stud	60mm Diffutherm	80mm Diffutherm	100mm Diffutherm
Insulation between Stud	Thermafleece or Hemp	Thermafleece or Hemp	Thermafleece or Hemp
U-value* (W/m ² K)	0.28	0.25	0.22
Decrement factor	0.63	0.49	0.37
Decrement delay (h)	6.6	8.1	9.5
Admittance (W/m ² K)	1.50	1.50	1.50

140mm Timber Stud

Insulation onto Stud	60mm Diffutherm	80mm Diffutherm	100mm Diffutherm
Insulation between Stud	Thermafleece or Hemp	Thermafleece or Hemp	Thermafleece or Hemp
U-value (W/m ² K)	0.22	0.20	0.18
Decrement factor	0.55	0.41	0.31
Decrement delay (h)	8.0	9.5	11.0
Admittance (W/m ² K)	1.52	1.52	1.52

*Based on JPA calculation with 15% bridging (timber)



Member of Association for Environment Conscious Building

Full System Components:

Insulation boards: Interlocking, waterproof Diffutherm boards (60, 80 or 100mm), plinth and reveal boards.

Fixing, tracks and tapes: Insulated screw and staple fixings, along with starter tracks and sealing tapes

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

Infill insulation: GreenSteps will provide either Thermafleecce sheep's wool insulation or Hemp.

Plaster boards and paints: GreenSteps can provide clay boards, plasters and environmentally friendly paints for ceilings.

Timber frames: GreenSteps can provide access to timber frame manufacturers if required.

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: Access to a list of trained and approved applicators.

