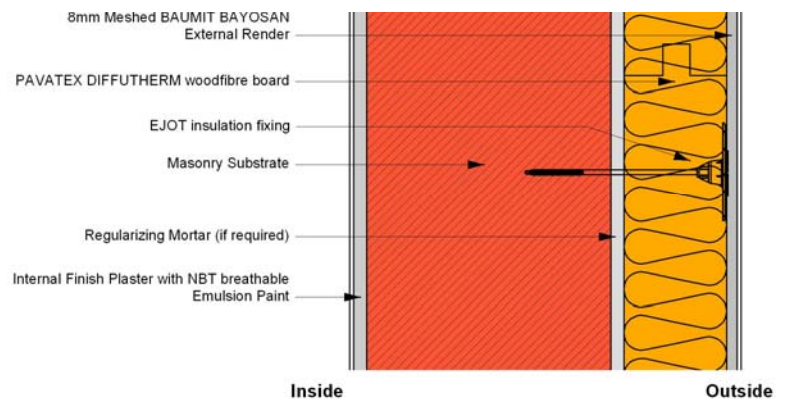


## DIFFUTHERM / System description:

The NBT Masonry Diffutherm System is for externally insulating masonry buildings where they are to be externally finished with render.

NBT Diffutherm systems use woodfibre boards over the outside of the building in a continuous layer, thus providing a high performance unbridged thermal shell, with excellent acoustic properties, in a fully breathing construction. 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.

### NBT Masonry DIFFUTHERM System



### System Application:

**Existing buildings:** NBT Diffutherm systems 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:** NBT Diffutherm systems can be used with both new solid wall and cavity walls.



### System Benefits:

- Excellent thermal performance, with reduced thermal bridging and excellent  $\psi$  (psi) values
- 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 from NBT
- Tried and tested system, fully certified

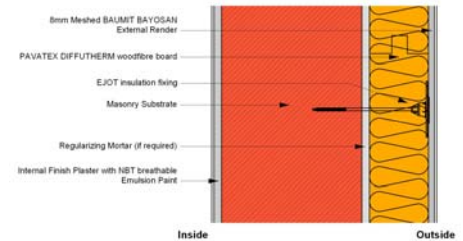
### Environmental Performance:

Woodfibre boards are non-toxic, contain over 95% waste wood from sustainable forests, and lock up 1.2 tonnes of CO<sub>2</sub> for every tonne of boards produced. They are BREEAM Green Guide, and WRAP assessed.

## Technical details: Thermal values

### Thermalite Turbo Block 215mm ( $k=0.11$ , $470\text{kg/m}^3$ )

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 ( $k=0.75$ , $1700\text{kg/m}^3$ )

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

Also the calculation of  $\gamma$  values is available for specific build ups, enabling better thermal performance (New Part L) calculations and/or thinner structures.

Calculations for other masonry wall types and build ups available from NBT

## Full System Components:

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

**Fixings, tracks and tapes:** Insulated screw fixings, along with starter tracks, and sealing tapes

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

**Plasters and paints:** Breathing mineral based (including clay) plasters and environmental paints for internal upgrading of walls if required.

## NBT Support:

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

**Training:** either at NBT or on site for applicators, site managers etc

**Site Support:** NBT will assist on site, giving advice on technical, application and quality issues.

**Approved Applicators:** NBT have a list of trained and approved applicators for the various systems processes.

