

# TF200 THERMO

## INSULATING BREATHER MEMBRANE



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### Specification clause:

Timber frame breather membrane to be Protect TF200 Thermo supplied by Protect Membranes, 2 Brooklands Road, Sale, Cheshire M33 3SS. Tel: 0161 905 5700 Fax: 0161 905 2085. Email: info@protectmembranes.com Breather membrane to be non-woven PP core, with a permeable high purity aluminium foil layer with a thermal resistance of 0.77 W/m<sup>2</sup>K and a vapour resistance of 0.45MNs/g. Breather membrane to be fitted into wall in accordance with TRADA recommendations and manufacturer's instructions.

Additional clause for further thermal performance: Air and vapour control layer to be Protect VC Foil Ultra supplied by Protect Membranes, 2 Brooklands Road, Sale, Cheshire M33 3SS. Tel: 0161 905 5700 Fax: 0161 905 2085. Email: info@protectmembranes.com Air and vapour control layer to be of triple ply construction with non-woven core and solid corrosion resistant aluminium layer and integrated sealing tapes on opposing edges of the roll. Air and vapour control layer to be fitted into wall/ceiling/floor\* in accordance with BS 5250, BS 9250 and manufacturer's instructions.

\* Delete as required

**P**rotect TF200 Thermo is a high performance, timber frame membrane with high tear strength, weather resistance and vapour permeability. Protect TF200 Thermo has all the features and benefits of the tried and tested Protect TF200 membrane, but with the addition of a highly reflective surface enhancing the thermal performance of the final wall construction.

### Low emissivity technology

Protect TF200 Thermo provides a highly reflective yet permeable, low emissivity layer. When installed facing into an unventilated airspace, this effectively blocks infra red radiation and enhances the thermal performance of the airspace, and hence the overall U-value of the wall construction. Normal high emissivity airspaces are compared with low 'e' spaces in the table below. Thermal resistance has been tested in accordance with BS EN ISO 8990.

### Composition

Protect TF200 Thermo includes a tough, non-woven PP core with a durable, bright, high purity, permeable aluminium layer, bonded to the substrate.

### Roll sizes

Protect TF200 Thermo is available in the following sizes:  
0.3m x 100m, 0.6m x 100m, 1.5m x 50m, 2.7m x 100m and 3.0m x 100m.

## BENEFITS

- Resists the passage of water, wind blown snow and dust into the interior of the building.
- Low emissivity reflective surface enhances the thermal performance of the wall.
- Helps to meet the requirements of Approved Document Part L and Scotland Part J.
- Corrosion and damage resistant reflective surface.
- UV and heat stabilised.
- Good nail tear resistance compared with alternative membranes.
- High burst strength, tough and durable.
- Unaffected by conditions found in timber frame walls.
- Meets the permeability requirements recommended by TRADA and NHBC.
- BM TRADA Independently certified.

### Improvement in thermal resistance values using Protect TF200 Thermo

Wall heat flow horizontal	Airspace (mm)	Unventilated airspace: no special treatment (m <sup>2</sup> K/W)	Protect TF200 Thermo facing into airspace (m <sup>2</sup> K/W)	Improvement with Protect TF200 Thermo
	>20	0.18	0.77*	272%

### Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with modifications	160	160
Tensile strength (N/50mm) to EN 12311-1 with modifications	229	226
Vapour water resistance (MNs/g) to BS EN ISO 12572	0.45	
Thermal resistance (W/m <sup>2</sup> K)	0.77*	
Weight (g/m <sup>2</sup> )	150	

\* Independently tested by National Physical Laboratories (NPL) in a typical UK house timber frame wall construction and verified by BM TRADA.





EN13859-2

**Flexible Sheets for Waterproofing. Underlays for walls. Reflective breather membrane, non-woven PP core with high purity permeable aluminium layer.**

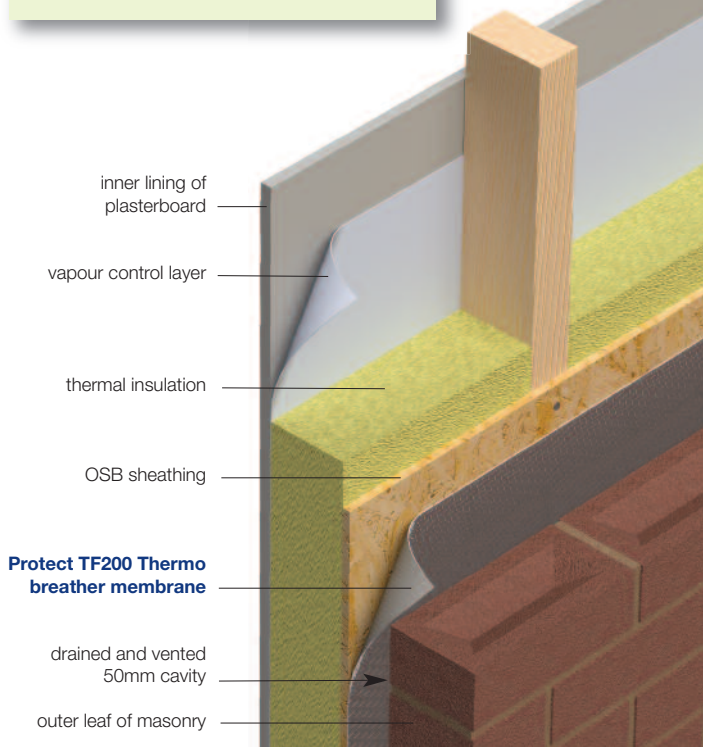


Table 1

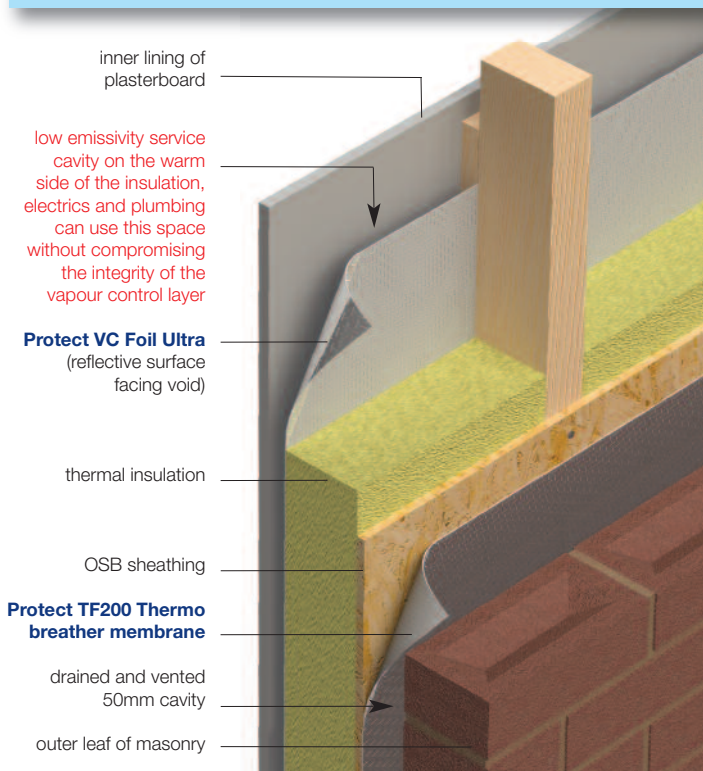
**Protect TF200 standard breather membrane**

140mm stud in timber frame		Insulation lambda value		
		0.022	0.030	0.035
Description	Thickness	Thermal resistance values		
Rsi	-	0.130	0.130	0.130
Plasterboard	12.5mm	0.060	0.060	0.060
Vapour control layer	-	-	-	-
Timber frame (insulation between studs)	140.0mm	6.364	4.667	4.000
OSB sheathing	9.0mm	0.069	0.069	0.069
Protect TF200 standard breather membrane				
Unventilated air cavity	50.0mm	0.180	0.180	0.180
Brick outer leaf	102.5mm	0.133	0.133	0.133
Rse	-	0.040	0.040	0.040
Total	314.0mm	4.427	3.830	3.544
U-value W/m²K (rounded)		0.22	0.26	0.28

Table 2

**Timber frame construction with Protect TF200 Thermo breather membrane**

140mm stud in timber frame		Insulation lambda value		
		0.022	0.030	0.035
Description	Thickness	Thermal resistance values		
Rsi	-	0.130	0.130	0.130
Plasterboard	12.5mm	0.060	0.060	0.060
Vapour control layer	-	-	-	-
Timber frame (insulation between studs)	140.0mm	6.364	4.667	4.000
OSB sheathing	9.0mm	0.069	0.069	0.069
Protect TF200 Thermo breather membrane				
Low emissivity cavity	50.0mm	0.770	0.770	0.770
Brick outer leaf	102.5mm	0.133	0.133	0.133
Rse	-	0.040	0.040	0.040
Total	314.0mm	5.017	4.420	4.134
U-value W/m²K (rounded)		0.19	0.22	0.23

**THE ULTIMATE PROTECT SOLUTION**

**Further thermal performance can be obtained by using Protect TF200 Thermo in combination with Protect VC Foil Ultra, see the table below.**

Table 3

**Timber frame construction with Protect TF200 Thermo breather membrane and Protect VC Foil Ultra**

		Insulation lambda value		
140mm stud in timber frame		0.022	0.030	0.035
Description	Thickness	Thermal resistance values		
Rsi	-	0.130	0.130	0.130
Plasterboard	12.5mm	0.060	0.060	0.060
Low emissivity service cavity	20.0mm	0.780	0.780	0.780
Protect VC Foil Ultra				
Timber frame (insulation between studs)	140.0mm	6.364	4.667	4.000
OSB sheathing	9.0mm	0.069	0.069	0.069
Protect TF200 Thermo breather membrane				
Low emissivity cavity	50.0mm	0.770	0.770	0.770
Brick outer leaf	102.5mm	0.133	0.133	0.133
Rse	-	0.040	0.040	0.040
Total	334.0mm	5.519	4.923	4.636
U-value W/m²K (rounded)		0.18	0.20	0.21

## PRODUCT RANGE



### PROTECT ROOFING UNDERLAYS

The Protect range of roofing underlays provides the complete solution for all types of slate or tile roofs and they can be used as a temporary roof covering.

The range includes both vapour permeable (Type LR) and impermeable (Type HR) underlays.

#### Vapour permeable (Type LR)

VP400 Plus<sup>LR</sup>  
Zytec  
VP300

#### Impermeable (Type HR)

A1T3  
A1  
Wunderlay

### PROTECT CONSTRUCTION MEMBRANES

The Protect range of building membranes are designed and developed to provide cost-effective, innovative solutions for the construction standards of today and the future.

The range includes the latest in reflective technology and airtightness.

#### Wall

TF200  
TF200 Thermo  
5000 Façade

#### AVCL

VC Foil Ultra  
BarriAir

#### Floor

FCM750  
F1

#### Other

Party Wall Air Barrier  
Sealing tapes & accessories

For more information or to request a brochure, email: [info@protectmembranes.com](mailto:info@protectmembranes.com) or visit [www.protectmembranes.com](http://www.protectmembranes.com)

Stockist's stamp

### PROTECT MEMBRANES

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Protect Membranes maintains a policy of continuous development and reserves the right to amend product specifications without notice.



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