

YBS Insulation

HIGH QUALITY PRODUCTS FOR THE BUILDING INDUSTRY

CI/SfB47 Rn7



FULLY PATENTED

Certificate No. 090/02

Manufactured in UK and made to a Quality System meeting the requirements of BS EN ISO 9002



Breather-Foil^{FR} INSULATING FIRE RETARDANT Breather/Venting Membrane

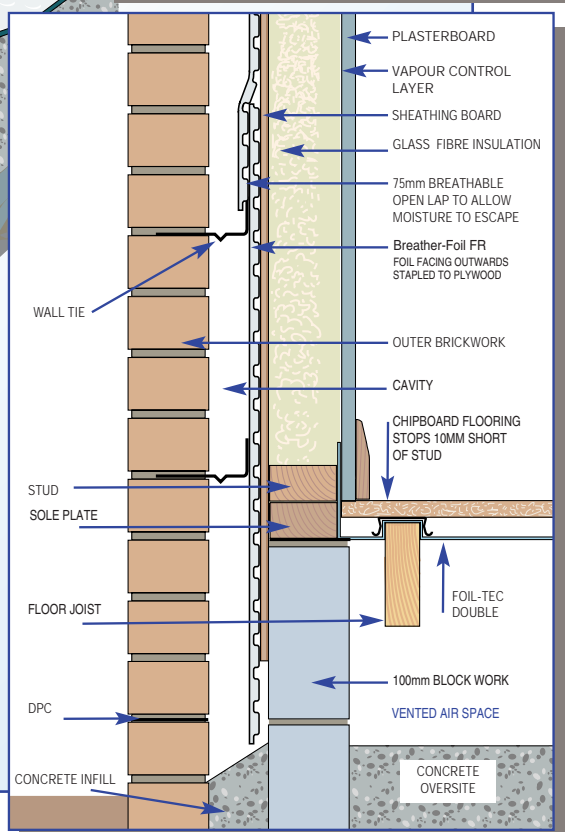
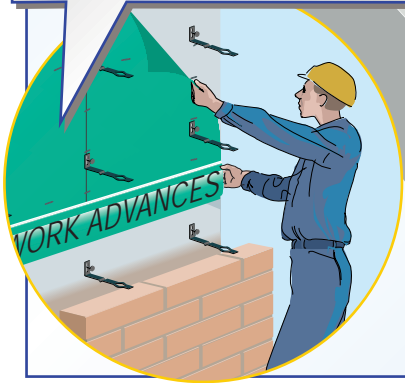
FOR TIMBER FRAME MODULAR HOUSING APPLICATIONS



NOW AVAILABLE
2.62m wide rolls!
Speed up your production!

- Out-performs Breather Membrane
- Independently Tested for Breathability
- Fully Waterproof
- Can Improve U-VALUE To 0.27 W/m²K! (See back page)
- FIRE RETARDANT**
- CFC/HCFC Free

YOUR COMPANY LOGO AND COLOURED MEMBRANE **HERE!**
Call: 01909 721 662
For Details



AVAILABLE UPON REQUEST

Specially developed for use in timber-frame and modular building construction, **Breather-Foil FR** can greatly increase the U-value of the timber-frame wall. Whether pre-fabricated or assembled on site, **Breather-Foil FR** can afford the designer and contractor maximum flexibility when detailing timber-frame walls, without the expense of thicker timber frames or higher priced materials.

The **Breather-Foil FR** timber-framed wall system creates a wind-tight, draught-free, weather-sealed, yet vapour-permeable enclosure, when used in conjunction with external cladding, such as tile-hanging, masonry or weather-boarding.

Breather-Foil FR is available with or without a removable coloured membrane (which can carry your company logo!).

Breather-Foil^{FR}

INSULATING FIRE RETARDANT Breather/Venting Membrane

Manufactured in UK and made to a Quality System meeting the requirements of BS EN ISO 9002

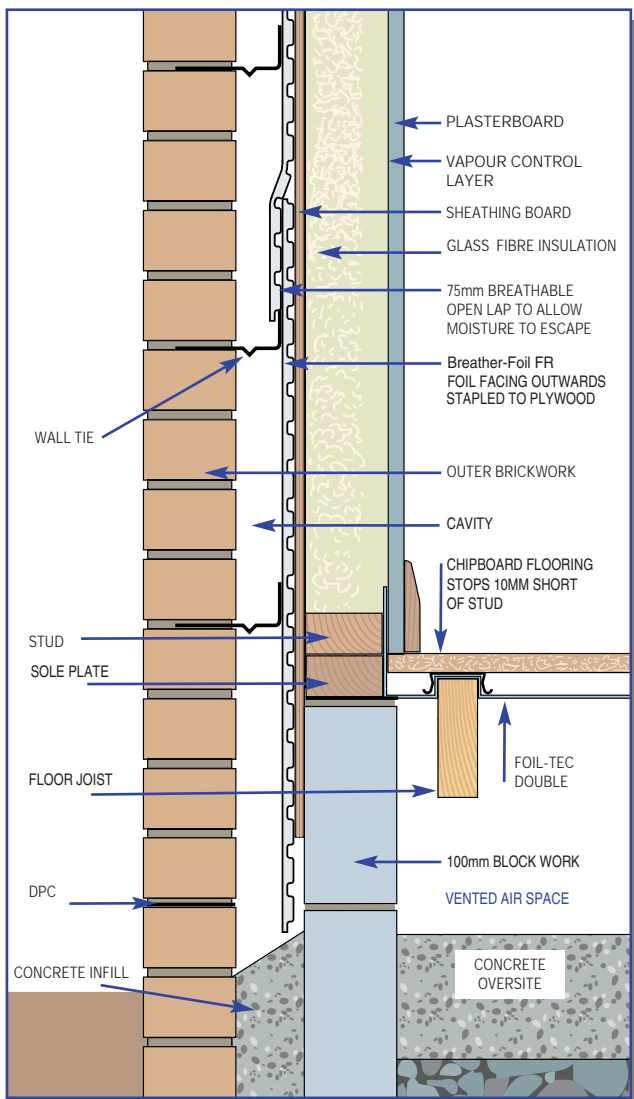


FOR TIMBER FRAME MODULAR HOUSING APPLICATIONS

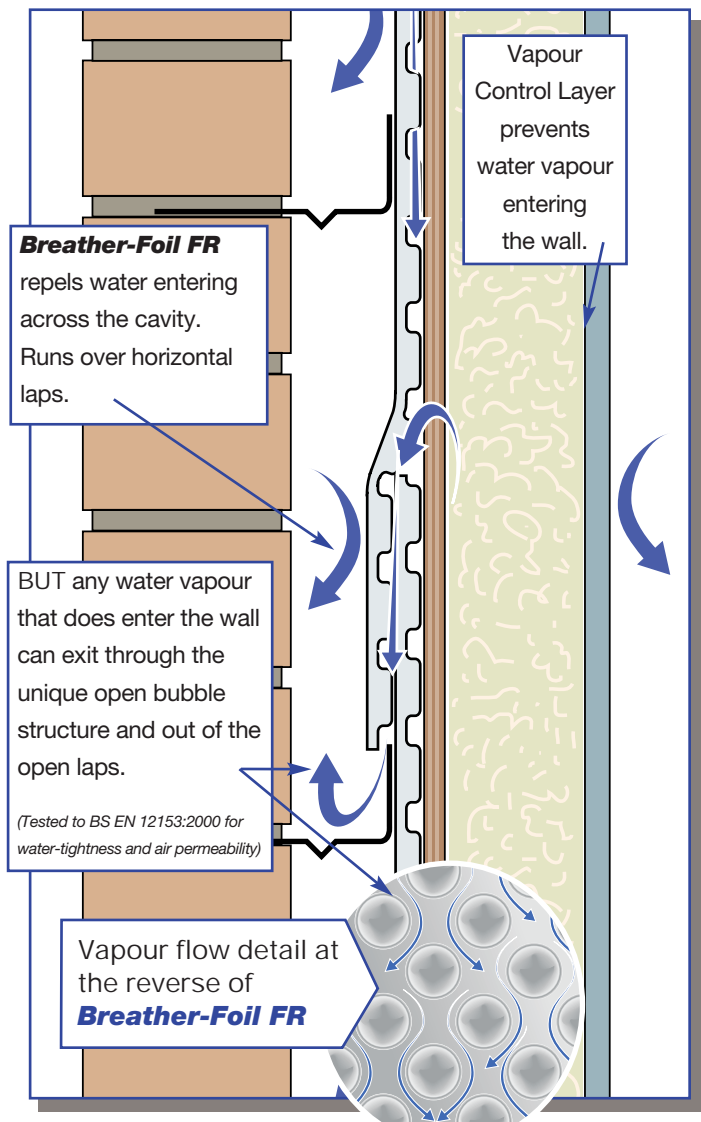
The **Breather-Foil FR** timber-frame wall system also offers the following installation benefits:

- **Breather-Foil FR** protects the timber frame components during construction
- **Breather-Foil FR** details and installation procedures apply regardless of cladding type
- **Breather-Foil FR** will protect the timber and insulation components from the elements

Breather-Foil FR - timber frame build up



Breather-Foil FR protects the timber frame

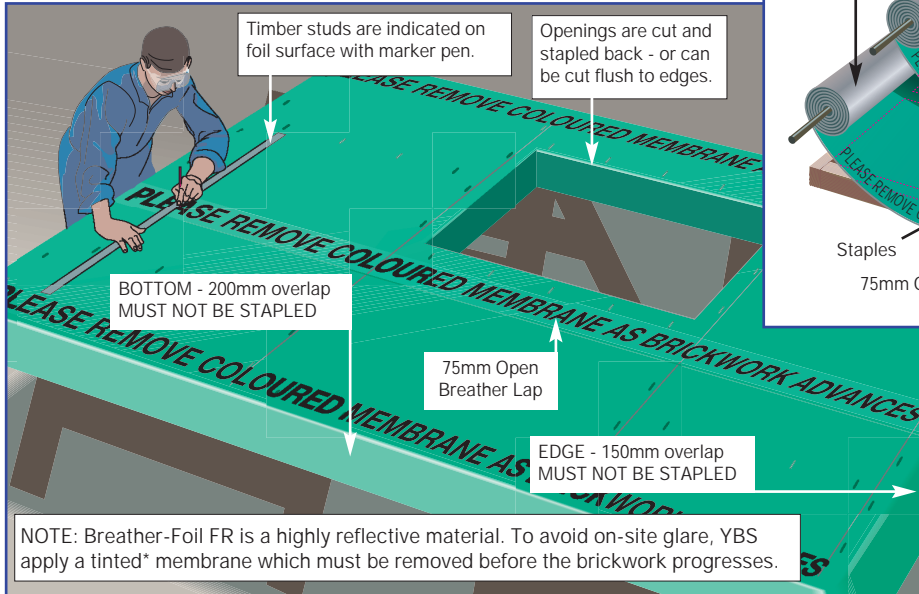


COMPREHENSIVE FIXING DETAILS ARE AVAILABLE UPON REQUEST

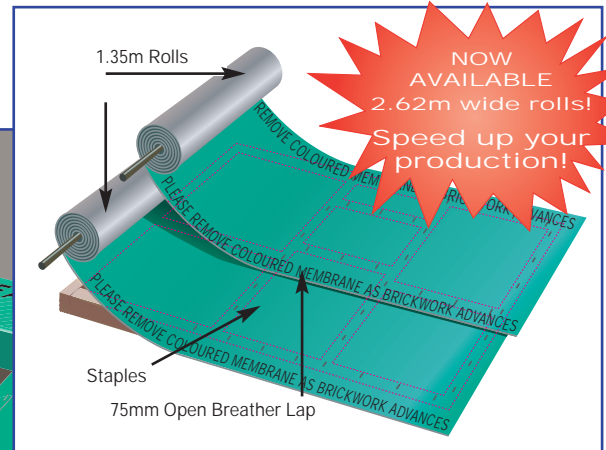
Breather-Foil FR INSTALLATION DETAILS

FACTORY ASSEMBLY

The timber framework is to be constructed with the sheathing board in position. Breather-Foil FR is rolled out into position and then stapled to the sheathing board. An overlap of 200mm must be allowed at the lower edge of the panel. This is to allow for coverage of the lower sole plate or upper floor joists. An overlap of 150mm must be allowed at the right hand edge of the panel. This is to allow for coverage and sealing of the vertical joint on assembled panels. The end overlap and the bottom overlap should not be stapled, but left loose for site fixing.

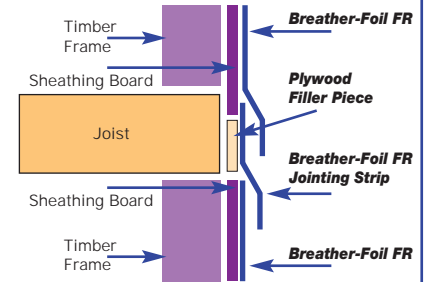


All mid panel horizontal joints have an overlap of 75mm. The upper layer must overlap the lower layer to allow any penetrating water to be dispersed to a safe outlet. These horizontal laps are to be left open to allow the panels to breathe. The location of the timber studs should now be highlighted with indelible ink to allow for future accurate positioning of the wall ties.



Floor Jointing

Where the floor joists are greater than 150mm, a Breather-Foil FR jointing strip of 270mm or 337mm is to be used. When stapling, ensure that the overlaps are face downwards.



Any window and door openings are to be cut out with the Breather-Foil FR and can now be turned inside the opening and fixed to the studwork or cut flush to the edges of the opening.

STACKING/TRANSPORT

Stack and strap the panels, for transport, as normal. The bubbles compress slightly under load but **DO NOT** burst. They will reform once the panel is erected. The smooth surface of BF-FR means the timber panels slide off each other resulting in less damage.

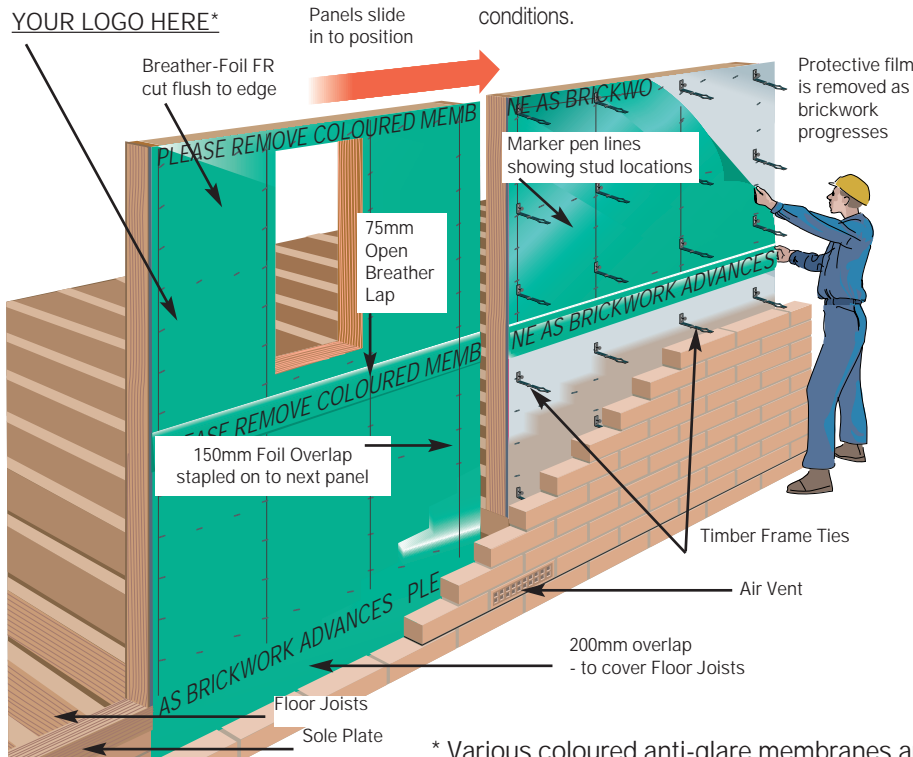
SITE WORK

Panels are erected in to position with the overlaps to the bottom and to the right (looking from outside). After fixing the panels, the vertical overlaps are stapled.

YBS Breather-Foil FR wall ties are fixed along the 'marked' vertical stud line as the external brick wall is built. The anti-glare membrane should be peeled off over the ties as the brick work progresses.

SITE WORK EXTERIOR

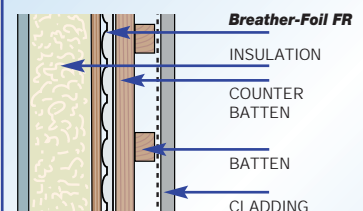
If left exposed use edge battens fixed all around the perimeter to help prevent wind lifting and damaging the Breather-Foil FR in extreme conditions.



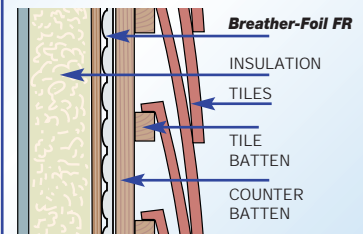
CLADDINGS FOR TIMBER-FRAMED WALL SYSTEMS

Breather-Foil FR can be used in conjunction with most external claddings, such as tile-hanging, masonry or weather-boarding, as shown below.

PROFILE BOARDING



TILE HANGING



* Various coloured anti-glare membranes are available - call: 01909 721 662

Technical Data - Breather-Foil FR U-Values

With Brick	A			B			C				
	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)		
U-Value to 0.35 89mm stud - standard glass fibre				U-Value B to 0.3 89mm stud - high performance glass fibre				U-Value C to 0.3 95mm stud - plus type glass fibre			
Outside surface resistance	-	-	0.040	-	-	0.040	-	-	0.040		
Brick, External <i>bridged by 17.2% Mortar (102.5mm)</i>	102.50	0.770	0.133	102.50	0.770	0.133	102.50	0.770	0.133		
BF-FR Cavity	50.00	-	0.665	50.00	-	0.665	50.00	-	0.665		
BF-FR Bubble	4.00	-	0.125	4.00	-	0.125	4.00	-	0.125		
OSB board	9.00	0.130	0.069	9.00	0.130	0.069	9.00	0.130	0.069		
Glass fibre <i>bridged by 15% Timber (89.0mm)</i>	89.00	0.044	2.223	89.00	0.033	2.697	95.00	0.035	2.714		
Polythene, 500 gauge	-	-	-	-	-	-	-	-	-		
Plasterboard	12.50	0.190	0.066	12.50	0.190	0.066	12.50	0.190	0.066		
Inside surface resistance	-	-	0.130	-	-	0.130	-	-	0.130		
U-value, Combined Method:	0.35W/m²K			U-value, Combined Method:			0.30W/m²K				

With Block and Render	D			E			F				
	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m ² K/W)		
U-Value - Dense Block to 0.35 89mm stud - standard glass fibre				U-Value - Dense Block to 0.3 95mm stud - plus type glass fibre				U-Value - Lightweight Block to 0.27 95mm stud - high performance glass fibre			
Outside surface resistance	-	-	0.040	-	-	0.040	-	-	0.040		
Render	19.00	1.000	0.019	19.00	1.000	0.019	19.00	1.000	0.019		
Block <i>bridged by 6.6% Mortar (100mm)</i>	100.00	1.130	0.088	100.00	1.130	0.088	100.00	0.270	0.370		
BF-FR Cavity	50.00	-	0.665	50.00	-	0.665	50.00	-	0.665		
BF-FR Bubble	4.00	-	0.125	4.00	-	0.125	4.00	-	0.125		
OSB board	9.00	0.130	0.069	9.00	0.130	0.069	9.00	0.130	0.069		
Glass fibre <i>bridged by 15% Timber (89.0mm)</i>	89.00	0.044	2.023	95.00	0.035	2.714	95.00	0.033	2.879		
Polythene, 500 gauge	-	-	-	-	-	-	-	-	-		
Plasterboard	12.50	0.190	0.066	12.50	0.190	0.066	12.50	0.190	0.066		
Inside surface resistance	-	-	0.130	-	-	0.130	-	-	0.130		
U-value, Combined Method:	0.35W/m²K			U-value, Combined Method:			0.30W/m²K				

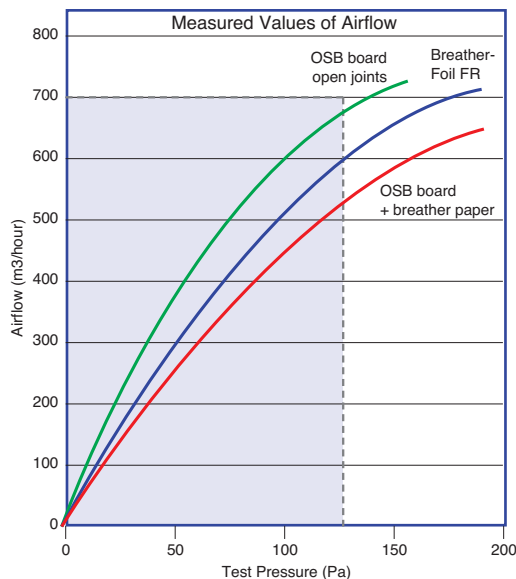
Many U-value combinations are available. All U-values using Combined Method - timber content at 15%. Other materials to BRE conventions for U-values or using manufacturers' certified data. Mineral fibre to new European CE marking. See technical references listed below.

Hygrothermal research by the BRE and supervised by TRADA - Breather-Foil FR was subjected to extreme internal and external conditions and left for an extended period of time. Moisture content of the timber structure was well within acceptable limits.

Rainscreen/Watertightness Breather-Foil FR has been successfully tested for water tightness and is an effective rainscreen. (EN 1254:1999 Class R5).

Please contact YBS Technical on: 01909 721 662 for more information.

Construction Type	
Element:	Wall
Exposure:	Normal
Internal surface emissivity:	High
External surface emissivity:	High
Building use:	BS5250 dry/ moist occupancy



In airflow tests by the BRE, Breather-Foil FR allowed more air out than a standard breather membrane.

Breather-Foil FR - Technical Specification	
Breather-Foil FR Bubble	0.125m ² K/W
Breather-Foil FR Cavity	0.665 m ² K/W
Breather-Foil FR - Total Thermal Resistance	0.790 m ² K/W
Nail Tear Resistance BS4016 (wet & dry)	0 min 70N
Environmental	CFC & HCFC Free
Dimensions	
Thickness	4mm
Width	1350mm/2620mm
Length	50m/25m
Jointing Strip (to suit truss depth)	270, 337, 450mm x 50m
Foil Tape	50m x 75mm (24 rolls/box)

Technical References	Tested
<ul style="list-style-type: none"> Building Regulations 2000 Approved Documents L1 & L2. Building Standards Part J Sept. 2001 BRE publication 'Thermal Insulation: Avoiding the risks'. BRE Paper IP12/94 'Assessing the Condensation Risk and Heat Loss at Thermal Bridges Around Openings'. BS EN ISO 6946 : 1997 Building components and building elements - Thermal resistance and thermal transmittance - Calculation method. British Standard References: BS 5250 	<p>Breather-Foil FR:</p> <ul style="list-style-type: none"> Emissivity measured by National Physical Laboratory. Thermal resistance measured by Independent Test Laboratories. Tested to BS EN 12153:2000 for water tightness and air permeability. Manufactured in the UK and meeting the requirements of BS EN ISO 9002.

