



# BreatherQuilt

## TECHNICAL DATA SHEET

YBS BreatherQuilt is a high performing Agrément Certified insulating multi-foil offering thermal properties along with a highly effective breathable membrane which is both water resistant and vapour permeable.

## YBS Insulation

Yorkshire Building Services (Whitwell) Ltd,  
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[www.ybsinsulation.com](http://www.ybsinsulation.com) | [@ybsinsulation](https://www.instagram.com/ybsinsulation)

- ✓ High thermal resistance of 1.62m<sup>2</sup>K/W
- ✓ UK manufactured
- ✓ Removes condensation
- ✓ 2 in 1 insulating breather membrane
- ✓ NHBC accepted
- ✓ LABC certified
- ✓ Thermally tested in accordance with EN16012
- ✓ Quick and easy to install
- ✓ Minimal waste
- ✓ Flexible and easy to install
- ✓ Building Control compliant
- ✓ Non degradable maintaining thermal performance and integrity
- ✓ Unique, patented kimble design holds layers in place to avoid separation when cutting

PRODUCT DETAILS		
Layers	11	
Thickness (mm)	40	
Weight (g/m <sup>2</sup> )	700	
MECHANICAL PROPERTIES		
Thermal Performance	Value	Standard
Core	1.17m <sup>2</sup> K/W	BS EN 16012
Core + 1 Airspaces	1.62m <sup>2</sup> K/W	BS EN 6946
Flammability	Class E	BS EN 13501-1
Water Vapour Resistance	0.15 MNs/g	BS EN 12572
Emission Coefficients of surfaces	0.05	BS EN 16012
Tensile Strength	132KPA	BS EN 1608
PACKAGING		
Area	12m <sup>2</sup>	
Width (m)	1.2	
Length (m)	10	
Weight (Kg)	8.5	



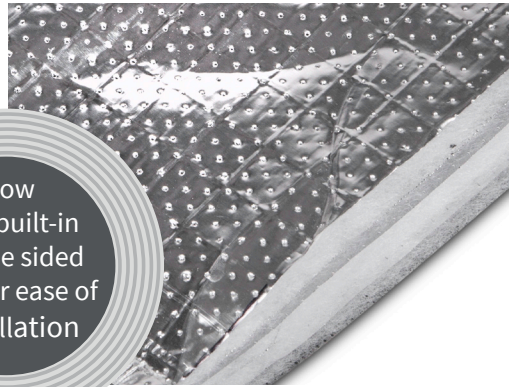
## ROOF APPLICATIONS

- 04. General Fixing Instructions
- 05. Over Rafter Pitched Roof (Draped)
- 06. Over Rafter Pitched Roof (Taught)
- 07. Over Rafter/Under Rafter Pitched Roof (Draped)
- 08. Over Rafter/Under Rafter Pitched Roof (Taught)
- 09. Installation Instructions

**BreatherQuilt** is a flexible, easy to install, breathable high performance insulation designed to replace standard breather membranes while also giving a high level of **thermal performance**. The composition of the product effectively deals with **condensation** and all forms of energy transfer.

# BreatherQuilt

Breathable,  
multi-layer  
insulation for  
pitched  
roofs



Now  
with built-in  
double sided  
tape for ease of  
installation



## No Condensation

Eliminates the risk of condensation allowing moisture to pass through the membrane



## Sustainable

70% of the internal wadding is made from recycled plastic bottles



## Quick & Easy

Flexible and easy to install, saving you time and money by reducing project completion times



## Certified

Agrément Certified, LABC Registered and Building Control Compliant

## INSULATION FOR USE IN ROOFS

**YBS BreatherQuilt is a high performing Agrément Certified insulating multi-foil offering thermal properties, along with a highly effective breathable membrane which is both water resistant and vapour permeable.**

### HOW DOES BREATHERQUILT WORK?

Daily, the average UK household produces enough water vapour equivalent to 24 pints of water. Warm air rises meaning moisture ends up in the roof space. If this moisture cannot escape then condensation becomes a problem and can lead to mould which is damaging to our health.

Moisture and heat escapes through air leakage which means that the building is not energy efficient. BreatherQuilt has been designed as a 2-in-1 insulating, breather membrane to combat this. BreatherQuilt is airtight, waterproof, breathable and reflects radiant heat which increases thermal performance and removes the risk of condensation.

### GENERAL FIXING INSTRUCTIONS

Installation of BreatherQuilt for pitched roof applications and additional insulation products should be in accordance with the manufacturer's certificate, fixing instructions and current good building practice.

Start at the bottom of the roof by rolling BreatherQuilt across the rafters and staple in to place. BreatherQuilt features an easy to use built-in tape feature which will be used to secure the next layer.

Install the next layer of BreatherQuilt over lapping the material by 100mm. Staple as before and ensure the overlap is sealed using the horizontal jointing method. Additional rolls should be butt jointed at the rafters, stapled as before and jointed using the vertical jointing method.

BreatherQuilt can be cut using a craft knife or sharp pair of scissors. Staple at regular intervals (approx. every 300mm). Minimum 14mm stainless steel or galvanised staples are recommended.

No personal protective equipment, clothing or handling required.

### BENEFITS

- **NHBC Acceptance**
- **Meets requirements of L1A and L1B 2010 addition**
- **In accordance with BR443**
- **Fully Agrément certified**
- **Thermally tested in accordance with EN16012**
- **Effective in summer and winter**
- **Includes built-in double sided tape for ease of installation**
- **Lightweight, thin & flexible**
- **Fast and simple installation**
- **High tensile membrane with improved tear resistance**

# Over Rafter Pitched Roof (Draped)

## Fixing Instructions

Installation of BreatherQuilt for pitched roof applications and additional insulation products should be in accordance with the manufacturer's certificate, fixing instructions and current good building practice.

Starting at the bottom edge of the roof and working horizontally across the rafters, staple BreatherQuilt to the first rafter using minimum 14mm staples, BreatherQuilt should hang down between the rafters ensuring once tile battens are installed a clear 10mm drape is formed at the centre of all rafter spaces.

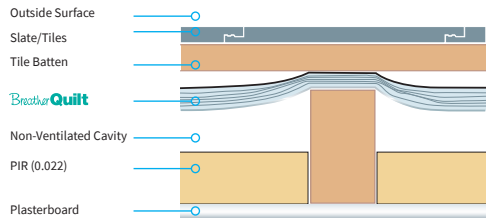
At the eaves BreatherQuilt should extend onto a suitable eaves carrier.

Proceed with tile/slate battens and tile/slates

## Example U-Value

U-Value Combined Method (W/m <sup>2</sup> K)			0.18
	Thickness (mm)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
Outside Surface	-	-	0.100
Slate/Tile	15.00	-	-
Batten Cavity	19.00	-	-
BreatherQuilt (Draped)	40.00	-	1.170
Rafter Cavity	15.00	-	0.450
PIR	100.00	0.022	4.545
Rafter Cavity	10.00	-	0.360
Plasterboard	12.50	0.190	0.066
Inside Surface	-	-	0.100
Total Resistance			6.791

## Example Construction



**U-Value table** New Build (0.13) calculations are based on 47mm wide rafters. Refurb (0.18) based on 50mm wide rafters. All calculations include the effect of cold bridging.

### Description (rafters at 400mm centres)

BreatherQuilt (Draped)	0.55 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 110mm PIR (0.022 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 170mm Mineral Wool (0.035 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 175mm PIR (0.022 W/mK)	0.13 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 150mm Phenolic (0.018 W/mK)	0.13 W/m <sup>2</sup> K

### Description (rafters at 600mm centres)

BreatherQuilt (Draped)	0.55 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 100mm PIR (0.022 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 150mm Mineral Wool (0.035 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 155mm PIR (0.022 W/mK)	0.13 W/m <sup>2</sup> K
BreatherQuilt (Draped) and 135mm Phenolic (0.018 W/mK)	0.13 W/m <sup>2</sup> K

# Over Rafter Pitched Roof (Taught)

## Fixing Instructions

Installation of BreatherQuilt for pitched roof applications and additional insulation products should be in accordance with the manufacturer's certificate, fixing instructions and current good building practice.

Starting at the bottom edge of the roof and working horizontally across the rafters, staple BreatherQuilt to the first rafter using minimum 14mm staples, pull taught and proceed across the roof.

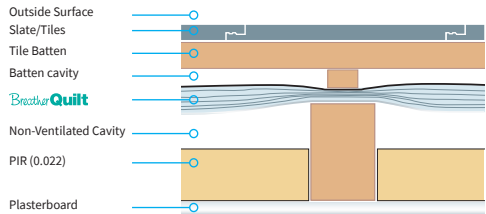
At the eaves BreatherQuilt should extend onto a suitable eaves carrier. Install 25mm battens parallel with the rafters.

Proceed with tile/slate battens and tile/slates.

## Example U-Value

U-Value Combined Method (W/m <sup>2</sup> K)			0.18
	Thickness (mm)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
Outside Surface	-	-	0.100
Slate/Tile	15.00	-	-
Tile & Counter Batten	44.00	-	-
BreatherQuilt (Taught)	14.00	-	1.170
Rafter Cavity	25.00	-	0.450
PIR	100.00	0.022	4.545
Rafter Cavity	10.00	-	0.360
Plasterboard	12.50	0.190	0.066
Inside Surface	-	-	0.100
Total Resistance			6.791

## Example Construction



**U-Value table** New Build (0.13) calculations are based on 47mm wide rafters. Refurb (0.18) based on 50mm wide rafters. All calculations include the effect of cold bridging.

### Description (rafters at 400mm centres)

BreatherQuilt (Taught)	0.58 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 115mm PIR (0.022 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 170mm Mineral Wool (0.035 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 180mm PIR (0.022 W/mK)	0.13 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 155mm Phenolic (0.018 W/mK)	0.13 W/m <sup>2</sup> K

### U-Value

### Description (rafters at 600mm centres)

BreatherQuilt (Taught)	0.58 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 100mm PIR (0.022 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 160mm Mineral Wool (0.035 W/mK)	0.18 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 155mm PIR (0.022 W/mK)	0.13 W/m <sup>2</sup> K
BreatherQuilt (Taught) and 135mm Phenolic (0.018 W/mK)	0.13 W/m <sup>2</sup> K

### U-Value

# Over Rafter & Under Rafter Pitched Roof (Draped)

## Fixing Instructions

Starting at the bottom edge of the roof and working horizontally across the rafters, staple BreatherQuilt to the first rafter using minimum 14mm staples, BreatherQuilt should hang down between the rafters ensuring once tile battens are installed a clear 10mm drape is formed at the centre of all rafter spaces. At the eaves BreatherQuilt should extend onto a suitable eaves carrier. Proceed with tile/slate battens and tile/slates

Installation of SuperQuilt for under rafter applications and additional insulation products should be in accordance with the manufacturers certificate, fixing instructions and current good building practice. SuperQuilt is applied directly from the roll either vertically or horizontally depending on the rafter height, pulled tight and stapled onto the rafters at minimum 300mm centres.

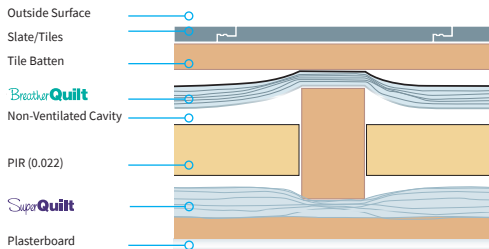
SuperQuilt should be overlapped at each joint by approx. 50mm and stapled onto the rafters, the joints should be sealed using YBS Foil Tape. Additionally, at the eaves SuperQuilt is cut around the rafters and sealed to the Cavity wall insulation or wall plate. Fix 25mm by 38mm battens at right angel to rafters. Battens must always be fixed around the perimeter of windows.

The plasterboard is fixed over the SuperQuilt and onto the battens in the usual manner.

## Example U-Value

U-Value Combined Method (W/m <sup>2</sup> K)			0.18
	Thickness (mm)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
Outside Surface	-	-	0.100
Slate/Tile	15.00	-	-
Batten Cavity	19.00	-	-
BreatherQuilt (Draped)	40.00	-	1.170
Rafter Cavity	15.00	-	0.450
PIR	35.00	0.022	1.591
Rafter Cavity	25.00	-	0.490
SuperQuilt	14.00	-	1.520
Batten Cavity	25.00	-	0.490
Plasterboard	12.50	0.190	0.066
Inside Surface	-	-	0.100
Total Resistance			5.977

## Example Construction



**U-Value table** New Build (0.13) calculations are based on 47mm wide rafters. Refurb (0.18) based on 50mm wide rafters. All calculations include the effect of cold bridging.

### Description (rafters at 400mm centres)

BreatherQuilt (Draped)/40mm PIR (0.022 W/mk)/SuperQuilt	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped)/60mm Mineral Wool (0.035 W/mK)/SuperQuilt	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped)/100mm PIR (0.022 W/mk)/SuperQuilt	0.13 W/m <sup>2</sup> K
BreatherQuilt (Draped)/150mm Mineral Wool (0.035 W/mK)/SuperQuilt	0.13 W/m <sup>2</sup> K

### Description (rafters at 600mm centres)

BreatherQuilt (Draped)/40mm PIR (0.022 W/mk)/SuperQuilt	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped)/60mm Mineral Wool (0.035 W/mK)/SuperQuilt	0.18 W/m <sup>2</sup> K
BreatherQuilt (Draped)/90mm PIR (0.022 W/mk)/SuperQuilt	0.13 W/m <sup>2</sup> K
BreatherQuilt (Draped)/150mm Mineral Wool (0.035 W/mK)/SuperQuilt	0.13 W/m <sup>2</sup> K



# Over Rafter & Under Rafter Pitched Roof (Taught)

## Fixing Instructions

Starting at the bottom edge of the roof and working horizontally across the rafters, staple BreatherQuilt to the first rafter using minimum 14mm staples, pull taught and proceed across the roof.

At the eaves BreatherQuilt should extend onto a suitable eaves carrier. Install 25mm battens parallel with the rafters. Proceed with tile/slate battens and tile/slates.

Installation of SuperQuilt for under rafter applications and additional insulation products should be in accordance with the manufacturers certificate, fixing instructions and current good building practice. SuperQuilt is applied directly from the roll either vertically or horizontally depending on the rafter height, pulled tight and stapled onto the rafters at minimum 300mm centres.

SuperQuilt should be overlapped at each joint by approx. 50mm and stapled onto the rafters, the joints should be sealed using YBS Foil Tape. Additionally, at the eaves SuperQuilt is cut around the rafters and sealed to the Cavity wall insulation or wall plate. Fix 25mm by 38mm battens at right angle to rafters. Battens must always be fixed around the perimeter of windows.

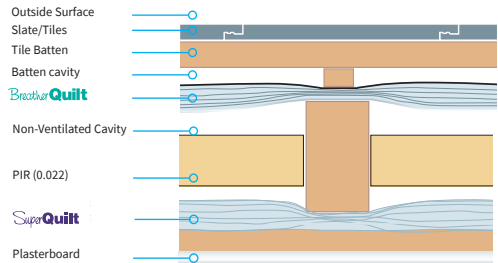
The plasterboard is fixed over the SuperQuilt and onto the battens in the usual manner.

**U-Value table** New Build (0.13) calculations are based on 47mm wide rafters. Refurb (0.18) based on 50mm wide rafters. All calculations include the effect of cold bridging.

## Example U-Value

U-Value Combined Method (W/m <sup>2</sup> K)			0.18
	Thickness (mm)	Conductivity (W/mK)	Resistance (m <sup>2</sup> K/W)
Outside Surface	-	-	0.100
Slate/Tile	15.00	-	-
Tile & Counter Batten	44.00	-	-
BreatherQuilt (Taught)	14.00	-	1.170
Rafter Cavity	15.00	-	0.450
PIR	35.00	0.022	1.591
Rafter Cavity	25.00	-	0.490
SuperQuilt	14.00	-	1.520
Batten Cavity	25.00	-	0.490
Plasterboard	12.50	0.190	0.066
Inside Surface	-	-	0.100
Total Resistance			5.977

## Example Construction



### Description (rafters at 400mm centres)

SuperQuilt (Taught)/40mm PIR (0.022 W/mk)/BreatherQuilt	0.18 W/m <sup>2</sup> K
SuperQuilt (Taught)/60mm Mineral Wool (0.035 W/mK)/BreatherQuilt	0.18 W/m <sup>2</sup> K
SuperQuilt (Taught)/100mm PIR (0.022 W/mk)/BreatherQuilt	0.13 W/m <sup>2</sup> K
SuperQuilt (Taught)/140mm Mineral Wool (0.035 W/mK)/BreatherQuilt	0.13 W/m <sup>2</sup> K

### U-Value

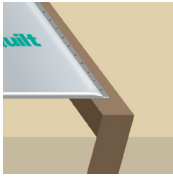
### Description (rafters at 600mm centres)

SuperQuilt (Taught)/35mm PIR (0.022 W/mk)/BreatherQuilt	0.18 W/m <sup>2</sup> K
SuperQuilt (Taught)/50mm Mineral Wool (0.035 W/mK)/BreatherQuilt	0.18 W/m <sup>2</sup> K
SuperQuilt (Taught)/90mm PIR (0.022 W/mk)/BreatherQuilt	0.13 W/m <sup>2</sup> K
SuperQuilt (Taught)/140mm Mineral Wool (0.035 W/mK)/BreatherQuilt	0.13 W/m <sup>2</sup> K

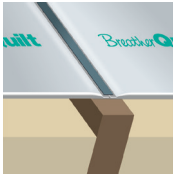
### U-Value

# Installation Instructions

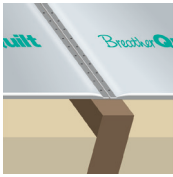
## 1. VERTICAL JOINT



**1.1** Unroll the BreatherQuilt over the top of the rafters. When you reach the end of the roll, cut the product so that it finishes in the middle of the last rafter, and staple in place.

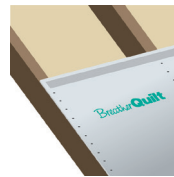


**1.2** Begin the next roll from this rafter, by butt-jointing it to the end of the first roll and staple in place.

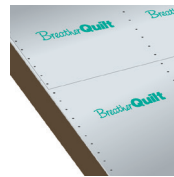


**1.3** Using the YBS BreatherQuilt 75mm Waterproof Tape, tape over the joint and ensure it is fully sealed.

## 2. HORIZONTAL JOINT

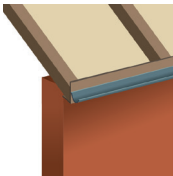


**2.1** Start at the bottom of the roof by rolling BreatherQuilt across the rafters and staple in place. BreatherQuilt features an easy to use built in tape with easy peel backing

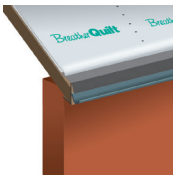


**2.2** Roll the second roll of BreatherQuilt above the first roll, staple in place, maintaining a 100mm overlap (printed guideline). Fold the second roll of BreatherQuilt back (100mm), now remove the easy peel backing from the tape and secure in place by applying pressure.

## 3. EAVES

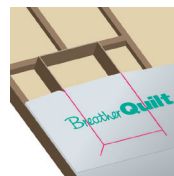


**3.1** Install a suitable eaves carrier over the rafters so that it runs down into the gutter (to manufacturers guidelines)

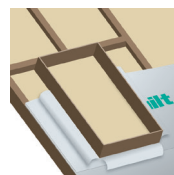


**3.2** Install the BreatherQuilt over the rafters (see with 2.1), allowing the bottom edge to drape over the eaves carrier. Staple the product to the rafters, leaving the section over the eaves loose.

## 4. ROOFLIGHTS & CHIMNEYS



**4.1** Lay the BreatherQuilt over the window and cut out the section within the frame of the window (as detailed in drawing) on the top layer of BreatherQuilt only and fold this back.

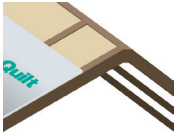


**4.2** Carefully cut and remove the rest of the material around the window's edge.

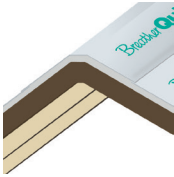


**4.3** Fold the flaps back up to the sides of the window and staple in place. Proceed with the next layer ensuring to follow the horizontal jointing detail.

## 5. RIDGE - OVERLAPPED

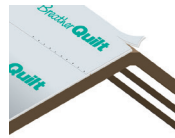


**5.1** Install the BreatherQuilt on both sides of the roof.

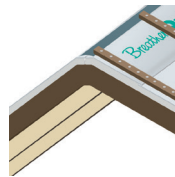


**5.2** Roll out BreatherQuilt over the ridge ensuring that a minimum 100mm overlap is maintained to the BreatherQuilt on both sides. Seal the joints using the horizontal jointing method (see section 2).

## 6. RIDGE - CUT

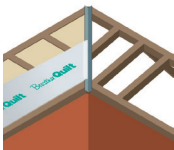


**6.1** Roll out the BreatherQuilt and fix in place using staples. Cut along the centre of the ridge beam and staple to the ridge beam to secure.



**6.2** On the other side of the roof, roll out the BreatherQuilt and butt-joint to the first piece. Using the YBS BreatherQuilt 75mm Waterproof Tape, tape over the joint and ensure it's fully sealed.

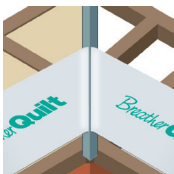
## 7. VALLEY



**7.1** Install the BreatherQuilt over the rafters, allowing the edge to drape over the valley gutter. Staple the product to the rafters, leaving the section over the valley loose.

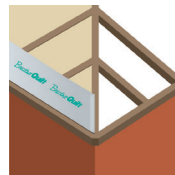


**7.2** Pull back the breather membrane on the product and carefully cut away the rest of the insulation, leaving just the grey membrane in the valley.

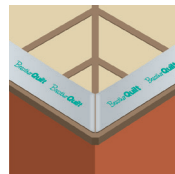


**7.3** Continue installing the product up the valley in the same fashion.

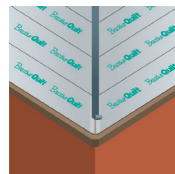
## 8. HIP



**8.1** Install the BreatherQuilt over the rafters, cutting the product to sit on the hip on the roof, and staple in place.



**8.2** On the other side of the roof, roll out the BreatherQuilt and butt-joint to the first piece.



**8.3** Continue installing the product up the hip in the same fashion. Follow vertical joint detail (see section 1) and horizontal joint detail (see section 2), ensuring it is fully sealed.



For custom calculations try our free u-value calculator today at

[www.ybsinsulation.com/u-value-calculator](http://www.ybsinsulation.com/u-value-calculator)

or contact the technical team on

**01909 726 025**

# YBS Insulation

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All calculations shown in the data sheet have been run in line with BDA

