

## Data Sheet

### VENTRO ULTRA



#### Breather Membrane

1.5m x 50m  
1m x 50m



#### Features

- Roof underlay for both warm and cold pitched roofs
- UKCA & CE certified quality product
- Provides a barrier to wind driven rain, snow and dust into the roof void
- Excellent waterproofing characteristics
- High water vapour permeability
- Membrane is lightweight, strong and easy to handle and install
- UV stabilised and has an increased flammability resistance
- Suitable for timber frame constructions

#### Minimum Overlaps (Roofing Underlays)

Roof pitch in 0°	Horizontal		Vertical
	Partially Supported	Fully Supported	
12.5 ≤ 22	200mm	200mm	150mm
>22	150mm	150mm	150mm

#### Installation Instructions

Ventro is designed to be installed printed side up and lapped to shed water out and down the slope. Tiling battens and where required counter battens, should be fixed to allow the product to drape between the rafters more than 6mm but less than 15mm (nominal 10mm) to allow any moisture to run off. The membrane should be installed horizontally starting at the eaves. Further rows of membrane should be lapped both vertically and horizontally as specified below.

- General fitting should follow guidance set out in BS5534:2014, 6.2 underlays
- To be read in conjunction with BBA Certification
- Ensure any penetrations such as roof lights, chimneys and service pipes are dressed to a minimum of 100mm to the up stand and sealed with flashing tape
- Valleys and Hips must be covered with a separate 600mm wide strip of membrane
- Ventro should be returned up any abutment by 75mm from below a proprietary lead or alternative flashing
- Ventro must be lapped over the outer walling by at least 75mm at verges. Where there is a constructed overhang the product must be fixed to the outer rafter.
- Where a duo roof is to be covered overlap the membrane by 150mm from one elevation to the other. For mono roof ridges the product should be extended over the ridge by 100mm. The membrane should also be extended to protect to the ends of roof timbers.
- Ventro Breather Membrane should be supported by RHINOVENT EAVES GUARD at the eaves and draped a minimum of 150mm onto the guard. The eaves guard should be extended beyond the outer fascia board so that moisture may drain into the gutter.
- RHINOVENT EAVES GUARD is obtainable from Principal Building Products.
- Before commencing work at height a risk assessment should be in place and method statement prepared. Edge protection, netting, scaffolding and hoisting equipment are necessary to ensure the safe installation of roofing membranes

## Standards and Installation Standards

- The British standard for the installation of underlays in roofs is the British Standard for the control of Condensation in Buildings; BS 5250:2021 This is referenced in relevant sections of the Building Regulations in England and Wales, (Approved Document c), Scotland (standard 3.15) and Northern Ireland (Technical Booklet c). Installation in line with BS5534:2014

## UV Resistance

- Although Ventro has a high UV resistance it is specifically recommended to cover the membrane as soon as possible with permanent roof tiles.

## Warm Roof Applications

- BS 5250:2021 states there must be an adequate flow of air through the batten space when a breather membrane is used in a warm roof application. With most roof tiles and slates these provide enough ventilation but if an airtight tile or slate is used batten space ventilators should be installed. Counter battens will not normally be needed when the membrane is laid unsupported with drapes but counter battens will be required when the membrane is fully supported on insulation.

## Cold Roof Applications

- In order to work effectively it is important that breather membranes are laid so that the space between the membrane and roof covering allows for adequate ventilation. Tiling battens should therefore be at least 25mm thick to ensure an adequate airspace between the membrane and final roof covering to allow water vapour to disperse. Counter battens are not normally required in a non ventilated cold roof as there should be adequate airflow between roof tiles or slates. However if an unusually airtight final roof covering is used then batten space ventilators and counter battens should be used. Ref: BS 5250:2021
- The final roof covering manufacturer's advice should be sought on their products air openness when installed. In non ventilated cold roofs consideration must be given to providing a vapour control layer and vapour check plasterboards to maintain a convection tight ceiling. All penetrations will require sealing including any loft hatches. The building below the roof void should be ventilated in accordance with national building regulations and standards. Extractor fans should be used in rooms with above average humidity and all water tanks should be covered and pipes lagged in the roof void. Advice should always be sought from Local Authority Building Control on the design and installation of ventilation systems with particular regard to cold roofs.

## Wind Loading

Project design wind speeds for the roof in which the products are installed should be determined and wind uplift forces calculated in accordance with BS EN 1991-1-4:2005 and its UK National Annex.

### Unsupported

The products are satisfactory for use in unsupported systems in the geographical Wind Zones given in table 2, where a well-sealed ceiling as defined in clause 3.7 of BS 9250: 2007 is present and the roof has a rafter height of  $\leq 15\text{m}$ , a pitch between  $12.5^\circ$  and  $75^\circ$ , and a site altitude of  $\leq 100\text{m}$ , and where topography is not significant. For all other cases, the required uplift resistance should be determined using BS 5534:2014 and the Certificate holder's declared wind uplift resistances in Table 3.

Table 2 Zones of applicability of Ventro Breathable Membranes according to BS 5534: 2014, clause A.8 with battened laps.

Table 2

Product	$\leq 345$ mm batten gauge with battened laps	$\leq 250$ mm batten gauge with battened laps
Ventro Ultra	Zone 1	Zones 1 to 5
Ventro Extra	Zones 1 to 2	Zones 1 to 5
Ventro Super	Zones 1 to 3	Zones 1 to 5

Table 3 Declared wind uplift resistance (Pa)

Product	$\leq 345$ mm batten gauge with battened laps	$\leq 250$ mm batten gauge with battened laps
Ventro Ultra	902	2061
Ventro Extra	1104	2311
Ventro Super	1196	2501



(1) Mean of test results

(2) Underlays with wind uplift resistance at a 250mm batten gauge that satisfy the minimum design wind pressure of 820 Pa for Zone 1 are deemed to satisfy the requirements for use at 100mm batten gauge in all Wind Zones.

Supported

The products, when fully supported, have adequate resistance to wind uplift forces. The products may be used at a batten gauge in all Wind Zones when laid over nominally airtight timber sheathing, for example OSB, plywood, chipboard and insulation for warm-roof design. They may also be used in applications where slates are nailed directly onto timber sarking.

Timber sarking such as square-edged butt jointed planks, is not considered to be airtight and the underlay is treated as unsupported.

### Timber Frame Applications

- Ventro Breathable membranes for use in timber frame construction must be installed in accordance with NHBC Standards, Chapter 6.2.
- Secure the membrane at regular intervals not exceeding 500mm, with stainless staples or nails to prevent damage by wind action.
- Upper layers should overlap lower layers to shed water away from sheathing. Vertical laps should be staggered wherever possible.
- Laps should be 100mm horizontal & 150mm vertical
- It is important to mark the position of the studs on the face of the breather membrane to highlight locations for fixing wall ties and battens
- It is essential that lower timbers in the wall are protected by the breather membrane



### Technical Data

Characteristic	Ventro Ultra Membrane	
Roll Width* (m)	1.5	1.0
Roll Length* (m)	50	50
Thickness (mm)	0.40	0.40
Mass per unit area* (g·m <sup>-2</sup> )	95	95
Upper side	Printed	Printed
Tensile strength* (N per 50 mm)		
Longitudinal	210	210
Transverse	105	105
Elongation *(%)		
Longitudinal	65	65
Transverse	70	70
Tear resistance* (N)		
Longitudinal	75	75
Transverse	90	90
Watertightness*		
Unaged	W1	W1
Aged	W1	W1
Equivalent air layer thickness * (S <sub>d</sub> ) (m)	0.02	0.02
Resistance to penetration of air (m <sup>3</sup> m <sup>2</sup> .h <sup>-1</sup> .50Pa <sup>-1</sup> )	0.045	0.045

