protect

CI/SfB (47)
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September 2019

VB200 ADHESIVE BACKED AIR & VAPOUR CONTROL LAYER

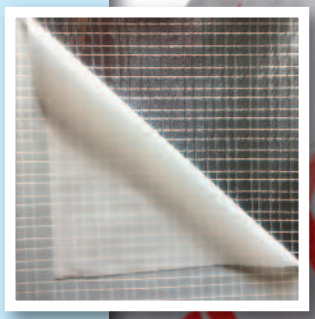
Protect VB200 is a multi-purpose, robust, adhesive backed double reflective air and vapour control layer (AVCL) for a wide range of applications, including flat warm roof constructions, walls, floors and ceilings when an adhesive bonding of the material to the substrate would be beneficial. When used with an unventilated airspace such as in profiled metal decking, thermal enhancement can be achieved from the reflective rear of the membrane. An additional thermal performance benefit can also be gained from the reflective front of the membrane if an unventilated airspace is utilised in front of it.

The vapour barrier is a five layer polymer based, glass reinforced composite aluminium foil construction, featuring an environmentally friendly and high tack acrylic based adhesive backing for a solid bond and simple installation. Cold applied, Protect VB200 can be installed in many applications where a primer is not necessary, thus providing time saving benefits and no additional curing time.

Free of any bitumen content, a roll of VB200 weighs just 14.7kg, some 50% of a bitumen based equivalent, and provides greater coverage per roll.

BENEFITS

- Delivers an airtight system when installed, for energy saving performance.
- Integral adhesive backing which self-seals and is cold applied.
- Less labour intensive installation than bitumen based alternatives.
- Excellent air and vapour resistance.
- Helps avoid condensation risk in accordance with BS 5250.
- Primer is not required in many applications.
- Tough and durable with high tear and puncture resistance.
- High tensile strength, yet easy to cut and lightweight.
- Can be walked upon straight after installation, once surface is free from debris.
- Low emissivity reflective surface enhances thermal performance of structure when used with still airspace.
- Suitable for high humidity areas with high vapour loads such as swimming pools, kitchens and bathrooms.
- 1.5m wide roll reduces overlaps and improves speed of installation.
- Separate Protect VB200 200mm wide sealing tape and accessories including pipe seal, corners and multi-crease roll available for perimeters and junctions.



PROTECT VB200 TECHNICAL PERFORMANCE

Performance	
Overall thickness to BS EN 1849-2	0.2mm
Mass per unit area to BS EN 1849-2	190gsm
Roll length and width to BS EN 1848-2	50m x 1.5m
Tensile strength (N/50mm) to BS EN 12311-1 with mods	500 (MD) 480 (CD)
Tearing resistance (N) to BS EN 12310-1 with mods	244 (MD) 218 (CD)
Resistance to water penetration to BS EN 1928 unaged and aged	Class W1 Pass
Reaction to fire to BS EN 13501-1	Class E
Water vapour resistance (Sdm) to BS EN 1931	>254
Water vapour resistance (MNs/g) to BS EN 1931	>1270
Shear resistance of joints (N/50mm) to BS EN 12317-2	430
Impact resistance to BS EN 12691 (Method A)	>100mm

MD = machine direction (along roll), CD = cross direction (across roll).
Ageing conditions: 12 weeks at 70°C.

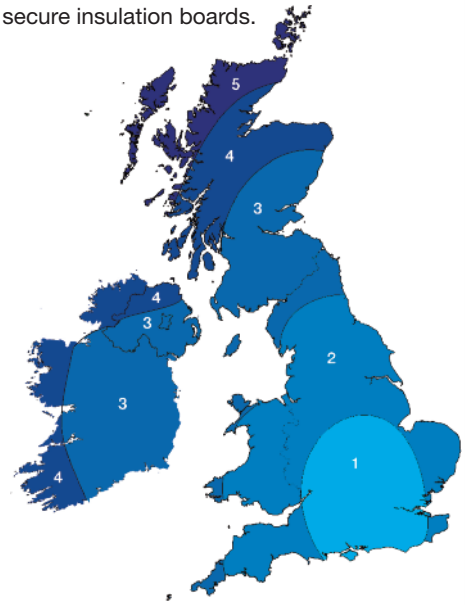
Protect VB200 - emissivity of surfaces to BS EN 15976

		Thermal resistance (m^2K/W)		
		Facing a minimum 13mm airspace in a roof	Facing a minimum 20mm airspace in a wall	Facing a minimum 50mm airspace in a floor
Emissivity (ε) of protected front face	0.10	0.40	0.57	0.99
		Trapezoid sheet voids on flat roofs		
Emissivity (ε) of rear face including adhesive	0.05	0.45		

Note: Both surfaces are protected from any corrosion so are suitable for use in high humidity environments without loss of emissivity performance.

Wind uplift

Wind uplift suction figures are based solely on the bond strength performance of Protect VB200 being self-adhered to the substrate and exposed to the elements, without any additional mechanical insulation fixings or any proprietary adhesives applied to the top surface of the membrane to secure insulation boards.



Zone 5	$v_{b,map} \geq 28$ m/s
Zone 4	28 m/s < $v_{b,map} \leq 26$ m/s
Zone 3	26 m/s < $v_{b,map} \leq 24$ m/s
Zone 2	24 m/s < $v_{b,map} \leq 22$ m/s
Zone 1	$v_{b,map} < 22$ m/s

Maximum uplift suctions (Pa) on windward corner edges of sharp-eaved, flat roofed buildings, covering all sites in each zone in the UK where topography is insignificant (BS EN 1991-1-4:2005)

Galvanised Trapezoidal Sheet (assume 50% trapezoid bond area) and WBP Plywood

Building height (m)	Zone 5 Site Altitude (m)		Zone 4 Site Altitude (m)		Zone 3 Site Altitude (m)		Zone 2 Site Altitude (m)		Zone 1 Site Altitude (m)	
	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250
15	5789	7358	4784	6081	4123	5240	3515	4468	2954	3754
10	5338	6891	4412	5696	3804	4911	3243	4186	2724	3517
5	4563	5891	3799	4904	3275	4228	2792	3604	2333	3012

Exterior Grade OSB

Building height (m)	Zone 5 Site Altitude (m)		Zone 4 Site Altitude (m)		Zone 3 Site Altitude (m)		Zone 2 Site Altitude (m)		Zone 1 Site Altitude (m)	
	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250
15	5789	7358	4784	6081	4123	5240	3515	4468	2954	3754
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Smooth Concrete (exposed aggregate must be avoided)

Building height (m)	Zone 5 Site Altitude (m)		Zone 4 Site Altitude (m)		Zone 3 Site Altitude (m)		Zone 2 Site Altitude (m)		Zone 1 Site Altitude (m)	
	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250	≤ 100	≤ 250
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VB200 can be directly applied
VB200 applied after PVA waterproof primer (1:4 dilution)
Load factor of 1.35 applied (Load factor = $\gamma_Q * K_{FI}$ where $\gamma_Q = 1.5$ and $K_{FI} = 0.9$, BS EN 1990:2002

FLAT ROOFING APPLICATIONS

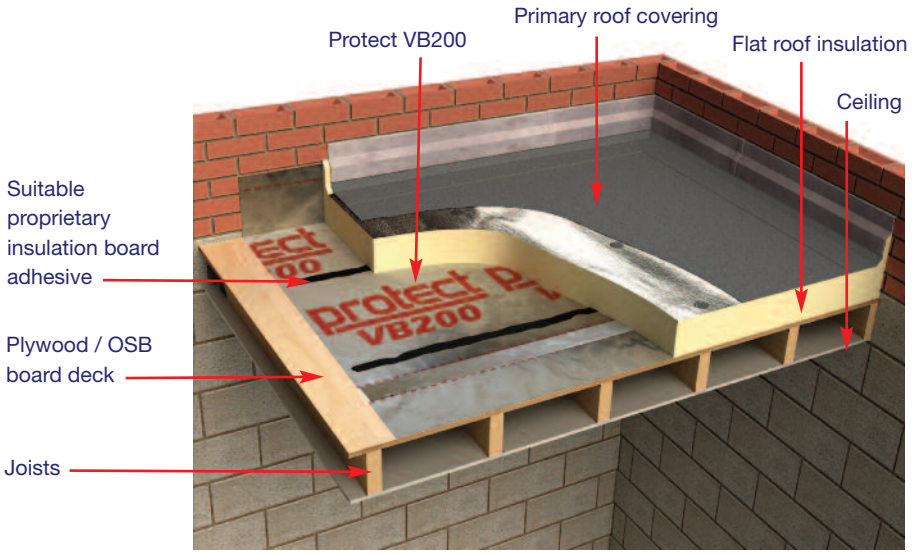
Is primer required?

When Protect VB200 is installed into a typical warm flat roof application, key considerations are the wind zone area in conformance with BS 5534, the typical uplift suctions (Pa) experienced in each zone and the altitude of the installation. This is an important aspect as the vapour barrier will be exposed for a short period prior to being covered by insulation and the remainder of the warm roof build up. With unrestricted use in all wind zones throughout the UK and Ireland, a primer is not required in many instances for adhering Protect VB200 to typical flat roofing substrates e.g. trapezoid sheet and WBP plywood. When the product is applied directly onto smooth concrete however, a PVA waterproof primer is required to achieve a strong bond – see Table on page 2 as a guide, segmented by wind zone, altitude and building height.

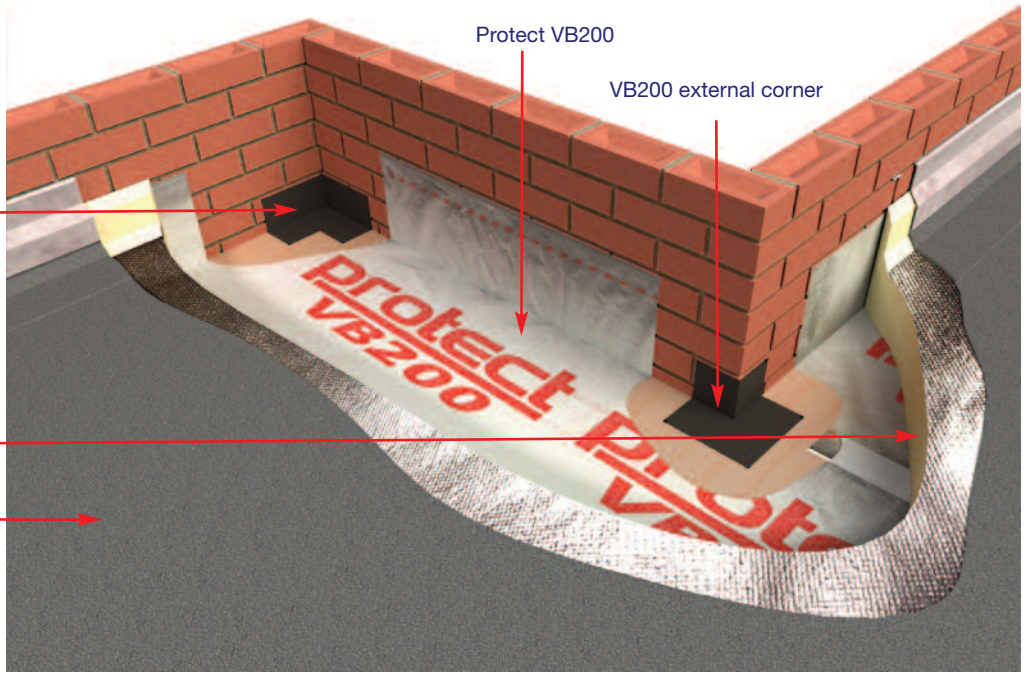
Installation requirements

All surfaces should be dry, sound and flat, being free from dust and grease. Where a primer is advised, use a suitable waterproof PVA at 1:4 dilution. For trapezoid metal decking with less than 50% bond areas, please consult our Technical Team at technical@protectmembranes.com for revised figures.

Warm flat deck build up with trapezoid sheet structure.



Warm flat deck build up with timber structure.

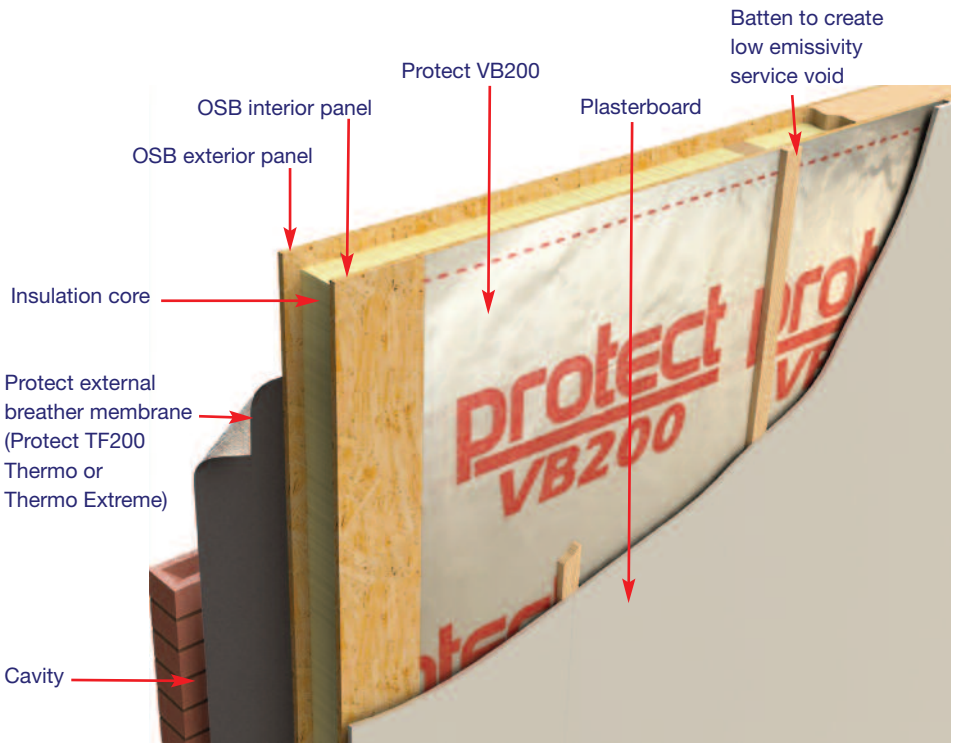


Warm flat deck cutaway showing internal and external corner detail.

WALL & FLOOR APPLICATIONS

When an air and vapour control layer is required for wall, floor or ceiling applications, Protect VB200's integral adhesive backing is self-sealing, therefore ideally suited to modern methods of construction and the offsite route of manufacture. This includes volumetric and Structural Insulated Panels (SIPs) where speed of installation is a key objective and when an internal board substrate has been specified, which the membrane can be adhered to. Protect VB200's high bond strength can ensure ease of factory fitting and a high quality, airtight finish.

Whether used as a standard air and vapour control layer or installed with the foil facing into a 20mm unventilated cavity for improved thermal performance, Protect VB200 can save time and increase manufacturing efficiency, delivering a consistent sealed finish that helps minimise air and vapour leakage, thereby controlling moisture and managing condensation risk.



SIPs panel build up using Protect VB200 as the vapour control layer.

For full fixing instructions, please contact Protect's Technical Team on 0161 905 5700 or by email at technical@protectmembranes.com

More information on Protect VB200 can be found at www.protectmembranes.com/vb200

Specification clause

Self adhesive air and vapour control layer to be Protect VB200 supplied by Protect Membranes, 2 Brooklands Road, Sale, Cheshire M33 3SS. Tel: 0161 905 5700, Fax: 0161 905 2085. Email: info@protectmembranes.com

Self adhesive air and vapour control layer to be of 5 ply construction with acrylic based adhesive backing and a vapour resistance of at least 1270MNs/g.
Self adhesive air and vapour control layer to be fitted into flat roof construction/wall/ceiling/floor* in accordance with BS 5250, BS 9250 and manufacturer's instructions.
* delete as required.

Stockist's stamp

STRUCTURAL TIMBER ASSOCIATION Member

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