

HIGH-PERFORMANCE ROOFING UNDERLAYS
AND BUILDING MEMBRANES



HIGH-PERFORMANCE ROOFING UNDERLAYS



Roof underlays are required in virtually all modern tile and slate pitched roof constructions for various reasons:

- As a secondary line of defence against wind driven rain and snow
- To reduce wind uplift
- As a temporary roof covering

When detailing roof construction it is important that the roof is properly designed and built to last the life of the building and can accommodate changes of use and occupancy levels during that time. It is always necessary to follow the recommendations of BS 5250 2002: Control of condensation. It allows for different roof constructions to combat the risk of condensation in the roof space.

Wind Uplift

Many pitched roof underlays have batten gauge restrictions when fixed in exposed locations and this information is contained within independent certification such as BRE or BBA approvals. Certified products generally have their resistance to wind uplift performance quoted in terms of an acceptable uplift for a specified batten gauge. For typical concrete interlocking tiles the batten gauge would range between 320-345mm, while for double lap plain tiles it would typically be 90-100mm. An independent report on wind load calculations shows that a resistance of at least 2.5kPa is required at maximum batten gauge to ensure that an underlay can be safely used at more than 95% of all locations in the UK. All Protect roofing underlays have a wind uplift performance of 2.5kPa at 343mm batten spacing enabling unrestricted use in all exposure conditions in the UK and Ireland. BS5534: 2003 code of practice for slating and tiling clearly states in clause 4.10.1; *Roofing underlay should provide a barrier to minimise the wind uplift load acting on the slates or tiles*

In clause 5.5.2.7 it also states; *With stretching of the underlay and reverse drape under wind load, the underlay should not be able to touch the underside of the tiles and slates. Measures should be taken to ensure that the design load carried by the underlay is not transferred to the slates and tiles and their fixings.*

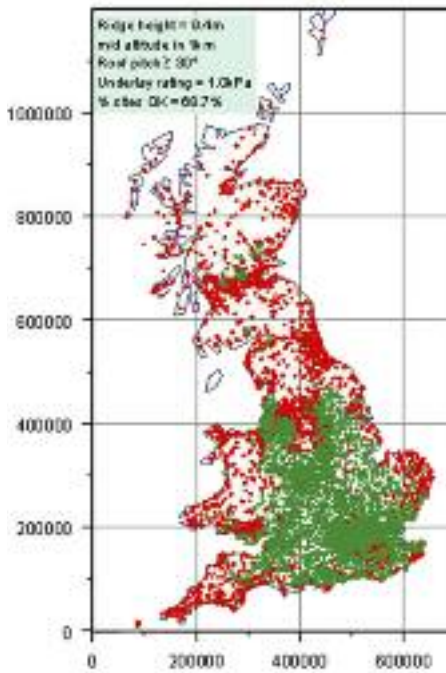


Fig. 1
Ridge height 9.4m
Mid altitude
Roof pitch 30°
Underlay rating 1.0kPa

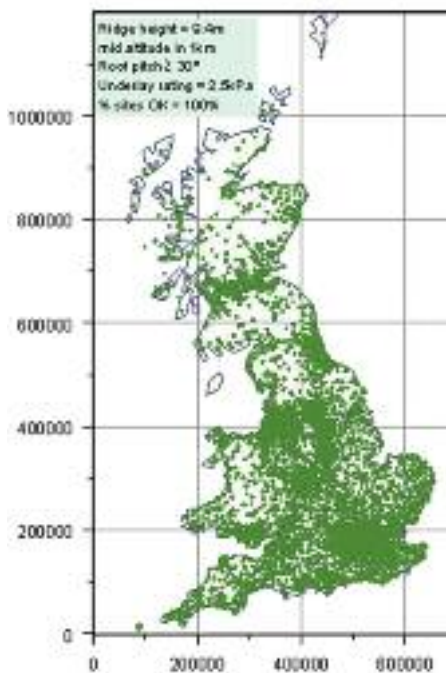


Fig. 2
Ridge height 9.4m
Mid altitude
Roof pitch 30°
Underlay rating 2.5kPa

- restricted use
- unrestricted use

Maps selected from Anemos Associates report 'Wind Uplift on Roofing Underlays'. Full copy of report available on request.

PROTECT VP400

Vapour Permeable Roof Underlay

Protect VP400 is a high performance vapour permeable (type LR) roofing underlay for use in warm or cold pitched roof constructions. Highly vapour permeable, Protect VP400 helps to avoid condensation risk in the roofspace.

Appearance

Embossed blue upper and lower surface, printed with product branding for ease of identification.

Triple-ply construction, with a waterproof and vapour permeable core laminated and protected between two layers of non-woven spun-bonded polypropylene.

Benefits

- Now even tougher offering enhanced performance
- Independently certified for use in both warm and cold roof constructions, on any roof shape and building type
- Highly vapour permeable, but membrane is entirely watertight and wind tight
- Maintains water tightness even after exposure to water based preservatives
- Helps to avoid condensation risk in the roofspace in accordance with BS 5250: 2002
- Easy to cut and lightweight to handle
- Unrestricted use for wind uplift in all exposure conditions in the UK and Ireland
- Can be used as a temporary roof covering for up to three months



Roll Sizes and Weights

- 1.5m x 50m (75m²) 15.0kg
- 1.0m x 50m (50m²) 10.0kg

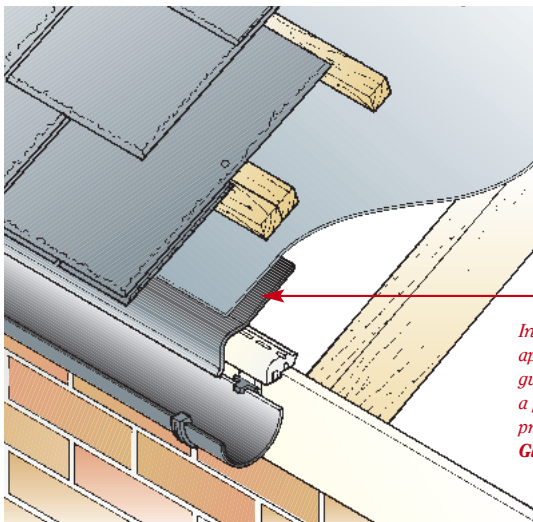
Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	160	160
Tensile strength (N/50mm) to EN 12311-1 with mods	350	310

UV & heat stability

after 336 hours uv ageing and 90 days heat ageing	310	273
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Water vapour resistance (MNs/g)	0.11
Watertightness	W1 Pass >2.0m
Wind uplift resistance	2.5kPa at 343mm batten gauge and 600mm rafter centres
Weight (g/m ²)	180



*In Protect roofing applications at the gutter detail, always use a proprietary underlay protector such as the **Glidevale Eaves Skirt**.*



Certificate No. 080/01

PROTECT ZYTEC

Vapour Permeable Roof Underlay

Protect Zytec is a high performance vapour permeable (type LR) roofing underlay for use in warm or cold pitched roof constructions. Highly permeable Protect Zytec helps to avoid condensation risk in the roofspace.

Appearance

Embossed light blue upper surface and white/grey lower surface, printed with product branding for ease of identification. Triple-ply construction, with a waterproof and vapour permeable core laminated and protected between two layers of non-woven spun-bonded polypropylene.

Benefits

- Highly vapour permeable, but membrane is entirely watertight and wind tight
- Maintains water tightness even after exposure to water based preservatives
- Helps to avoid condensation risk in the roofspace in accordance with BS 5250
- UV and heat-resistant, tough and durable
- Unrestricted use for wind uplift in all exposure conditions in the UK and Ireland
- Easy to cut and lightweight to handle
- Does not generate nuisance noise under wind loading
- Can be used as a temporary roof covering for up to three months

Roll Sizes and Weights

1.5m x 50m (75m²) 12.0kg
 1.0m x 50m (50m²) 8.0kg



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	200	200
Tensile strength (N/50) to EN 12311-1 with mods	290	250
Water vapour resistance (MNs/g) to EN ISO 12572	0.15	
Watertightness	W1 Pass>2.0m	
Wind uplift resistance	2.5kPa at 343mm batten gauge and 600mm rafter centres	
Weight (g/m ²)	150	



Certificate No. ABP/009

PROTECT A1



Non-Permeable Roofing Underlay

Protect A1 is a 'third-generation' roofing underlay (type HR) developed specifically to overcome the disadvantages of traditional Type 1F felts and second-generation plastic sheet materials. It can be used for all pitched roof constructions (tiled and slated), whether insulation is at ceiling joist level or rafter level.

Appearance

Dark grey upper surface reduces glare and takes a chalk line marking. Surface printed with product branding for ease of identification. Twin-ply construction of polypropylene non-woven spunbond layer with UV stable PP film.

Benefits

- Now even tougher offering enhanced performance
- Completely waterproof and wind tight
- Maintains water tightness even after exposure to water based preservatives
- Can be used as a temporary roof covering for up to three months before the roof covering is laid.
- Excellent nail tear and tensile strength
- Easy to cut, clean and light to handle
- Unaffected by temperature changes
- Proven time saving over 1F Felt
- Unrestricted use for wind uplift in all exposure conditions in the UK and Ireland

Roll Sizes and Weights

- 1.5m x 30m (45m²) 7.5kg
- 1.0m x 45m (45m²) 7.5kg
- 1.0m x 15m (15m²) 3.0kg



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	180	200
Tensile strength (N/50mm) to EN 12311-1 with mods	265	250

UV & heat stability

after 336 hours uv ageing and 90 days heat ageing	270	223
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Watertightness	W1 Pass >2.0m
Wind uplift resistance	2.5kPa at 343mm batten gauge and 600mm rafter centres
Weight (g/m ²)	145



Certificate No. 072/00

PROTECT WUNDERLAY

Protect Wunderlay is a modern lightweight (type HR) alternative to traditional 1F felts and second generation plastic materials with a number of important advantages. It can be used for all pitched roof constructions (tiled and slated), whether insulation is at ceiling or rafter level.

Appearance

Dark grey upper surface reduces glare and takes a chalk line marking. Surface printed with product branding for ease of identification. Twin-ply construction of polypropylene non-woven spunbond layer with UV stable PP film.

Benefits

- Clean and light to handle
- Easy to cut
- Proven time savings over traditional 1F felt
- Unrestricted use for wind uplift in all exposure conditions in the UK and Ireland
- Completely waterproof and wind tight
- Maintains water tightness even after exposure to water based preservatives
- Can be used as a temporary roof covering for up to three months
- Excellent nail tear and tensile strength
- UV and heat stable

Roll Sizes and Weights

- 1.5m x 30m (45m²) 6.0kg
- 1.0m x 45m (45m²) 6.0kg
- 1.0m x 15m (15m²) 2.6kg



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	170	170
Tensile strength (N/50mm) to EN 12311-1 with mods	230	220

UV & heat stability

after 336 hours uv ageing and 90 days heat ageing	227	189
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Watertightness	W1 Pass >2.0m
Wind uplift resistance	2.5kPa at 343mm batten gauge and 600mm rafter centres
Weight (g/m ²)	120



Certificate No. 113/05

PROTECT TF200



Vapour permeable membrane for timber construction

Protect TF200 is a high-performance breather membrane with high wet strength, water resistance and vapour permeability. It is used in timber framed panel construction to provide a second line of protection against rainwater penetration during the life of the building and allows water vapour to escape from the structure.

Appearance

Range of colours with non-reflective embossed and textured surface to minimise surface glare.

Benefits

- Resists the passage of water, wind-blown snow and dust into the interior of the building
- Good water penetration resistance
- More than four times the vapour permeability recommended by BRE and TRADA for a vapour permeable membrane in timber frame construction
- Good nail tear resistance
- High burst strength and can withstand loads associated with installation in timber frame
- On-site or factory applied

Roll Sizes and Weights

- 1.35m x 100m (135m²) 14.0kg
- 2.7m x 100m (270m²) 28.0kg
- 3.0m x 100m (300m²) 32.0kg

Colours

Anthracite, Blue, Green, Red



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	90	105
Tensile strength (N/50mm) to EN 12311-1 with mods	175	140
Hydrostatic head (mm) to BS EN 20811	250	
Water vapour resistance (MNs/g) to BS EN ISO 12572	0.11	
Watertightness	W2	
Weight (g/m ²)	100	



PROTECT TF200 THERMO

Reflective vapour permeable membrane for timber frame construction

Protect TF200 Thermo is a high performance breather 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, with the addition of a highly reflective surface enhancing the thermal performance of the final wall construction.

Appearance

Non-woven PP core with a durable bright high purity permeable aluminium layer, bonded to the substrate. Printed with product branding for ease of identification.

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
- Corrosion and damage resistant reflective surface
- UV and heat stabilised
- High burst strength, tough and durable
- Meets the permeability requirements recommended by TRADA and NHBC
- Good nail tear resistance compared with alternative membranes
- Further thermal performance can be obtained by using Protect TF200 Thermo in conjunction with Protect VC Foil, see overleaf
- Independently certified

Roll Sizes and Weights

- 2.7m x 100m (270m²) 43.0kg
- 3.0m x 100m (300m²) 48.0kg



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	160	160
Tensile strength (N/50mm) to EN 12311-1 with mods	229	226
Water vapour resistance (MNs/g) to BS EN ISO 12572	0.55	
Thermal resistance W/m ² K	0.77*	
Watertightness	W2	
Weight (g/m ²)	140	

**Independently tested by National Physical Laboratories (NPL) in a typical UK house timber frame wall construction*

PROTECT VC FOIL



Protect VC Foil is a robust highly reflective low emissivity vapour control layer which has been developed to enhance the thermal performance of walls, ceilings and floors. It provides significant thermal, strength and performance enhancements over conventional vapour control layer materials with the added benefit of providing a service cavity.

Appearance

Highly reflective high purity aluminium foil. Surface printed with product branding for ease of identification. Triple-ply construction including a tough polywoven core layer with a bright high purity aluminium foil, pressure bonded with a further polypropylene interlayer.

Benefits

- Excellent vapour resistance
- Helps to avoid condensation risk in accordance with BS5250: 2002
- Reduces air leakage when used in conjunction with Protect VC Foil sealing tape as required by Building Regulations
- Low emissivity reflective surface enhances the thermal performance of walls, ceilings or floors
- Corrosion and damage resistant reflective surface
- Excellent nail tear resistance
- High burst strength, tough and durable
- Easy to cut and lightweight to handle
- Foil faced moisture resistant tape to ensure correct sealing and air tightness

Roll Sizes and Weights

1.5m x 50m (75m²) 10.0kg
 3.0m x 50m (150m²) 20.0kg
 Tape: 50mm x 50m



Performance

	MD	CD
Nail tear strength (N) to EN 12310-1 with mods	500	500
Tensile strength (N/50mm) to EN 12311-1 with mods	550	550

Water vapour resistance (MNs/g) to EN 1931	>589
Thermal resistance W/m ² K	0.78*†
Surface emissivity to SABS 1381-4:1985	0.05
Watertightness	W1
Weight (g/m ²)	106

*Independently tested by National Physical Laboratories (NPL) in a typical UK house timber frame wall construction

†Heat flow horizontal with VC Foil facing >20mm airgap



Certificate No. 128/07

OTHER PRODUCTS

QUALITY ASSURANCE

Glidevale Protect Roofing Underlays and Membranes have been designed, developed and manufactured under a BS EN ISO 9001 Quality Management System. Independent auditing provides the user with assurance that the products will fulfil their intended purpose.

OPERATIONAL COMMITMENT

As part of our commitment to minimising our impact on the environment, and to continuous improvement in our methods of operation, Glidevale is accredited to ISO 14001 Environmental Management, OHSAS 18001 Health and Safety Management, and ISO 9001 Quality Management Systems.

SERVICES

For further information and advice on the selection and use of Protect Roofing Underlays and Membranes please consult Glidevale Technical Services.

OTHER PRODUCTS

Glidevale also market a wide range of other building products including:

- Roof ventilation and accessory products
- Sunscoop tubular and Metro modular rooflights
- Loft Access Traps
- Underfloor and Cavity Wall Vents

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



A member of the Building Product Design Group

