

Contents

1. Roofing Underlays

1.1 Vapour Permeable Underlays

- 1.1.1 Protect Viking Air LR (Air & Vapour Permeable)
- 1.1.2 Protect VP400 Plus LR
- 1.1.3 Protect Zytec
- 1.1.4 Protect VP300
- 1.1.5 Protect Rica VP Lie

1.2 Vapour Impermeable Underlays

- 1.2.1 Protect A1 T3
- 1.2.2 Protect A1
- 1.2.3 Protect Wunderlay

ROOFING UNDERLAYS

1.1 Vapour Permeable Underlays

1.1.1 Protect Viking Air LR (Air & Vapour Permeable)

Protect Viking Air is a highly air and vapour permeable roof underlay, produced in the UK. A 'Type LR' underlay, it offers low water vapour resistance to exceed BS 5250 requirements as well as providing additional air permeable qualities. Protect Viking Air is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should be of three-ply construction, with a heat stabilised, polymeric composition. This should comprise of a hydrophobic treated vapour and air permeable melt-blown technology core with hydrophobic treated upper spunbond non-woven material laminated together with a lower spunbond nonwoven material. The hydrophobic treated underlay should provide additional water shedding qualities and water penetration resistance. The underlay should be beige on the upper surface and white on the under surface, with a printed grid, appropriate branding and a 150mm overlap guideline printed on the upper surface to aid cutting, identification and fixing on-site (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It can be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and dust ingress, along with tile wind-uplift.

The mass of the underlay should be 159g/m² with a thickness of 0.70mm, in roll sizes of 1m x 50m or 1.5m x 50m. Water vapour transmission resistance to be: 0.04 MNs/g (0.008 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Air permeability to be 78.71 @ 50 Pascals (m³/m²/hr) to BS EN 12114. Resistance to wind uplift: Zones 1-4 in accordance with BS 5534:2018 using a batten gauge of ≤345mm, without the need for additional counter batten or integral tape (the underlay should have a resistance to wind pressure of 1569 Pa). At a batten gauge of ≤310mm or when installed on sarking board, the underlay should provide unrestricted use across the UK and Ireland (Zones 1-5) in accordance with BS EN 5534:2018 (with a resistance to wind pressure of 2121 Pa).

Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The air and vapour permeable underlay can be wrapped over the ridge for ventilation rather than cut short on each side of the ridge, ensuring the roof's water tightness at construction stage. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. The underlay should have a hydrostatic head of water resistance of >1.0m. Nail tear strength should be 235 (MD along roll) and 266 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 270 (MD along roll) and 230 (CD across roll) to BS EN 12311-1 with mods.

In cold roofs, the use of the air and vapour permeable LR underlay can eliminate the need for additional ventilation. The NHBC accepts the use of a water vapour and air permeable underlay such as Protect Viking Air in cold roof construction, without additional roof space ventilation, if the air permeability exceeds the high-level ventilation requirements of 5,000mm²/m. Viking Air's air permeability of 78.71 @ 50 Pascals (m³/m²/hr) exceeds this high level requirement so no additional ventilation is required.

In warm roofs, condensation should be controlled using Type LR underlays with no additional ventilation, in accordance with BS 5250.

If an airtight roof covering is to be installed e.g. fibre cement slates and metal tiles etc., it is necessary to ventilate the batten space. In this case, 25mm counter battens must be used above the underlay and ventilation provided – 25,000mm²/m at eaves or low level and 5,000mm²/m at ridge or high level. For tile fixing, additional tile/slate clips may be required when using air and vapour permeable underlays in accordance with table H.4 BS 5534:2018. Roof tile manufacturer should be consulted for specification.

Glidevale Protect recommends that where possible, a well-sealed ceiling and a separate air and vapour control layer is considered at design stage for both cold and warm roof construction, to reduce any risk of condensation.

A Type LR air and vapour permeable roofing underlay needs to be independently approved by BM TRADA and carry a Q Mark certification.

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STA Assured Gold accredited company and associate members of the Structural Timber Association (STA), Irish Timber Frame Manufacturer's Association (ITFMA) and the Modular and Portable Build Association (MPBA).

Product Reference: Protect Viking Air - Type LR Air & Vapour Permeable Roofing Underlay, with wind uplift use (Zones 1-4) at 345mm batten gauge. Achieves unrestricted use for wind uplift – Zones 1-5 at 310mm batten gauge or when installed on sarking board. No additional ventilation is required to be used with this product for cold or warm roofs, subject to a well-sealed ceiling.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ridge and hip system with the added benefit of ventilation if it is required, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric-based systems. This product can be used with all Protect roofing underlays on a cold roof system to provide ventilation, if it is required at the ridge, delivering a ventilation area equivalent to 5,000mm²/m to ensure ventilation conforms to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.1.2 Protect VP400 Plus LR

Protect VP400 Plus LR is a highly vapour permeable roof underlay, produced in the UK. A 'Type LR' underlay, it offers low vapour resistance to exceed BS 5250 requirements whilst remaining completely airtight. Protect VP400 PLUS LR is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition, comprising of a micro porous polypropylene film with a non-woven layer laminated onto each surface. The underlay should be grey on the upper surface and black on the under surface, with print on the upper surface (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It can be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay should be 170g/m² with a thickness of 0.78mm, in roll sizes of 1m x 50m or 1.5m x 50m. Water vapour transmission resistance to be: 0.08MNs/g (0.016 S_d) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: unrestricted use across the UK and Ireland (Zones 1-5) in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay should have a resistance to wind pressure of 1676 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. The underlay should have a hydrostatic head of water resistance of >7.0m. Nail tear strength should be

248 (MD along roll) and 294 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 325 (MD along roll) and 305 (CD across roll) to BS EN 12311-1 with mods.

In warm roofs, condensation should be controlled using Type LR underlays with no additional ventilation, provided the ceiling is well sealed as defined in BS 5250. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer should also be used on the warm side of the insulation. In cold roofs, condensation in dwelling sized roofs should be controlled by the use of a Type LR roofing underlay and a reduced level of ventilation required when compared to an impermeable underlay. Typically this would be either 3,000mm²/m at eaves or low level, or 5,000mm²/m at ridge or high level.

Type LR roofing underlay needs to be independently approved by BM TRADA and carry a Q Mark certification.

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Product Reference: Protect VP400 Plus LR Type LR Roofing Underlay, with unrestricted wind uplift use (Zones 1-5) at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect VP400 Plus LR as part of a cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.1.3 Protect Zytac

Protect Zytac is a highly vapour permeable roof underlay, produced in the UK. A 'Type LR' underlay, it offers low vapour resistance to exceed BS 5250 requirements whilst remaining completely airtight. Protect Zytac is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition which is UV and heat stabilised, comprising of a microporous core with spunbond non-woven material laminated onto each surface. The

underlay should be grey on the upper surface and white/grey on the under surface, with print on the upper surface (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It can be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay should be 158g/m² with a thickness of 0.72mm, in roll sizes of 1m x 50m or 1.5m x 50m. Water vapour transmission resistance to be: 0.15MNs/g (0.03 Sa) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: Zones 1-4 in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay should have a resistance to wind pressure of 1519 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. The underlay should have a hydrostatic head of water resistance of >2.0m. Nail tear strength should be 270 (MD along roll) and 216 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 273 (MD along roll) and 230 (CD across roll) to BS EN 12311-1 with mods.

In warm roofs, condensation should be controlled using Type LR underlays with no additional ventilation, provided the ceiling is well sealed as defined in BS 5250. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer should also be used on the warm side of the insulation. In cold roofs, condensation in dwelling sized roofs should be controlled by the use of a Type LR roofing underlay and a reduced level of ventilation required when compared to an impermeable underlay. Typically this would be either 3,000mm²/m at eaves or low level, or 5,000mm²/m at ridge or high level.

Type LR roofing underlay needs to be independently approved by BM TRADA and carry a Q Mark certification.

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Product Reference: Protect Zytec Type LR Roofing Underlay, with wind uplift use in Zones 1-4 at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect Zytec as part of a cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.1.4 Protect VP300

Protect VP300 is a highly vapour permeable roof underlay, produced in the UK. A 'Type LR' underlay, it offers low vapour resistance to exceed BS 5250 requirements whilst remaining completely airtight. Protect VP300 is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition, comprising of two layers of spun bond non-woven polypropylene fabric and micro porous film interlayer. The underlay should be grey on the upper surface and white/grey on the under surface, with print on the upper surface (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It should be able to be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay should be 125g/m² with a thickness of 0.60mm, in roll sizes of 1m x 50m or 1.5m x 50m. Water vapour transmission resistance to be: 0.17MNs/g (0.022 Sa) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: Zones 1-3 in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay should have a resistance to wind pressure of 1198 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. The underlay should have a hydrostatic head of water resistance of >2.0m. Nail tear strength should be 140 (MD along roll) and 198 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 225 (MD along roll) and 160 (CD across roll) to BS EN 12311-1 with mods.

In warm roofs, condensation should be controlled using Type LR underlays with no additional ventilation, provided the ceiling is well sealed as defined in BS 5250. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer should also be used on the warm side of the insulation. In cold roofs, condensation in dwelling sized roofs should be controlled by the use of a Type LR roofing underlay and a reduced level of ventilation required when compared to an impermeable underlay. Typically this would be either 3,000mm²/m at eaves or low level, or 5,000mm²/m at ridge or high level.

Type LR roofing underlay needs to be independently approved by BM TRADA and carry a Q Mark certification.

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accredited company and associate members of the Structural Timber Association and the Modular and Portable Build Association.

Product Reference: Protect VP300 Type LR Roofing Underlay, with wind uplift use in Zones 1-3 at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect VP300 as part of a cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.1.5 Protect Rica VP Lite

Protect Rica VP Lite is a highly vapour permeable roof underlay, produced in the UK. A 'Type LR' underlay, it offers low vapour resistance to exceed BS 5250 requirements whilst remaining completely airtight. Protect Rica VP Lite is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition, comprising of two layers of spun bond non-woven polypropylene fabric and micro porous film interlayer. The underlay should be grey on the upper surface and white/grey on the under surface, with print on the upper surface (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It can be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay should be 110g/m² with a thickness of 0.50mm, in roll sizes of 1m x 50m or 1.5m x 50m. Water vapour transmission resistance to be: 0.12MN_s/g (0.01 S_d) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: Zone 1 in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay should have a resistance to wind pressure of 868 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 137 (MD along roll) and 181 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 200 (MD along roll) and 135 (CD across roll) to BS EN 12311-1 with mods.

In warm roofs, condensation should be controlled using Type LR underlays with no additional ventilation, provided the ceiling is well sealed as defined in BS 5250. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer should also be used on the warm side of the insulation. In cold roofs, condensation in dwelling sized roofs should be controlled by the use of a Type LR roofing underlay and a reduced level of ventilation required when compared to an impermeable underlay. Typically this would be either 3,000mm²/m at eaves or low level, or 5,000mm²/m at ridge or high level.

Type LR roofing underlay needs to be independently approved by BM TRADA and carry a Q Mark certification.

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Product Reference: Protect Rica VP Lite Type LR Roofing Underlay, with wind uplift use in Zone 1 at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect Rica VP Lite as part of a cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.2 Vapour Impermeable Underlays

1.2.1 Protect A1 T3

Protect A1 T3 is an impermeable roof underlay, produced in the UK. A 'Type HR' underlay, it offers high vapour resistance and complete airtightness and has been developed to overcome the disadvantages of Type 1F and 5U felts and second generation plastic sheet materials. Protect A1 T3 is CE marked and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition and be of four ply construction with a waterproof core that is laminated and protected between two layers of non-woven spunbond polypropylene and incorporating a reinforcing grid on the upper surface. The underlay should have an embossed dark grey/black upper and lower surface, with print on the upper surface (as installed). The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It should be able to be installed on new or existing buildings, being

flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay is 170g/m² and comes in roll sizes of 1m x 45m or 1.5m x 30m. Water vapour transmission resistance to be: 295MNs/g (59 Sa) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: unrestricted use across UK and Ireland (Zones 1-5) in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay should have a resistance to wind pressure of 2306 Pa. Underlay to be laid in accordance with BS 5534: BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 335 (MD along roll) and 420 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 552 (MD along roll) and 335 (CD across roll) to BS EN 12311-1 with mods.

In warm roof build-ups, additional ventilation must be introduced when using a HR underlay, to conform to BS 5250. In warm-roof applications, 25,000mm²/m of ventilation is required at eaves or low level and 5,000mm²/m at ridge or high level. In cold-roof build-ups, BS 5250 requires 10,000mm²/m of ventilation at eaves or low level and 5,000mm²/m at ridge or high level, with the implementation of a well-sealed ceiling. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer shall also be used on the warm side of the insulation.

If the underlay is to be used with rigid sarking, the counter battens (minimum 12mm deep) shall be located between the sarking and the underlay, with a maximum drape of the underlay limited to 10mm. If the product is laid directly onto the sarking, counter battens and tiling battens shall be used above to prevent trapping of moisture on the top surface of the underlay.

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Product Reference: Protect A1 T3 Type HR Roof Underlay, with unrestricted wind uplift use (Zones 1-5) at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect A1T3 as part of a warm or cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.2.2 Protect A1

Protect A1 is a third generation impermeable roof underlay, produced in the UK. A 'Type HR' underlay, it offers high vapour resistance and complete airtightness and developed to overcome the disadvantages of Type 1F and 5U felts and second generation plastic sheet materials. Protect A1 is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition, comprising of a polypropylene non-woven layer, coated on one surface with a continuous film of polypropylene / polyethylene blend. The underlay should be black on both upper and lower surfaces, with print on the upper surface (as installed).

The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It should be able to be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay is 145g/m² and it has a thickness of 0.6mm, coming in roll sizes of 1m x 45m or 1.5m x 30m. Water vapour transmission resistance: 112MNs/g (22 Sa) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: unrestricted use across UK and Ireland (Zones 1-5) in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay has a resistance to wind pressure of 1732 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 230 (MD along roll) and 234 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 287 (MD along roll) and 274 (CD across roll) to BS EN 12311-1 with mods.

In warm roof build-ups, additional ventilation must be introduced when using a HR underlay, to conform to BS5250. In warm-roof applications, 25,000mm²/m of ventilation is required at eaves or low level and 5,000mm²/m at ridge or high level. In cold-roof build-ups, BS5250 requires 10,000mm²/m of ventilation at eaves or low level and 5,000mm²/m at ridge or high level, with the implementation of a well-sealed ceiling. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer shall also be used on the warm side of the insulation.

If the underlay is to be used with rigid sarking, the counter battens (minimum 12mm deep) shall be located between the sarking and the underlay, with a maximum drape of the underlay limited to 10mm. If the underlay is laid directly onto the sarking, counter battens and tiling battens shall be used above to prevent trapping of moisture on the top surface of the underlay.

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accredited company and associate members of the Structural Timber Association and the Modular and Portable Build Association.

Product Reference: Protect A1 Type HR Roof Underlay, with unrestricted wind uplift use (Zones 1-5) at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect A1 as part of a warm or cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.

1.2.3 Protect Wunderlay

Protect Wunderlay is an impermeable roof underlay, produced in the UK. A 'Type HR' underlay, it offers high vapour resistance and complete airtightness and developed to overcome the disadvantages of Type 1F and 5U felts and second generation plastic sheet materials. Protect Wunderlay is CE marked and independently approved by BM TRADA, with a Q Mark certification and is suitable for use in all pitched roofs.

The roof underlay should have a polymeric composition, comprising of a polypropylene non-woven layer, coated on one surface with a continuous film of polypropylene / polyethylene blend. The underlay should be black on both upper and lower surfaces, with print on the upper surface (as installed).

The membrane should provide a satisfactory underlay in tiled and slated pitched roofs constructed in accordance with BS 5534:2018. It should be able to be installed on new or existing buildings, being flexible at low temperatures with resistance to tearing by nails and to damage from handling on site. The underlay should be used as a secondary weather resistant layer for protection against wind driven rain and snow, tile wind-uplift and dust ingress.

The mass of the underlay is 120g/m² and it has a thickness of 0.49mm, coming in roll sizes of 1m x 45m or 1.5m x 30m. Water vapour transmission resistance: 91.40MNs/g (18.28 S_d) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Resistance to wind uplift: Zones 1-4 in accordance with BS 5534:2018. With a batten gauge of ≤345mm, the underlay has a resistance to wind pressure of 1367 Pa. Underlay to be laid in accordance with BS 5534, BS8000: Part 6 and manufacturer's instructions. The product's resistance to water penetration to BS

EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 189 (MD along roll) and 199 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 233 (MD along roll) and 246 (CD across roll) to BS EN 12311-1 with mods.

In warm roof build-ups, additional ventilation must be introduced when using a HR underlay, to conform to BS5250. In warm-roof applications, 25,000mm²/m of ventilation is required at eaves or low level and 5,000mm²/m at ridge or high level. In cold-roof build-ups, BS5250 requires 10,000mm²/m of ventilation at eaves or low level and 5,000mm²/m at ridge or high level, with the implementation of a well-sealed ceiling. To ensure the integrity of a well-sealed ceiling, a separate vapour control layer shall also be used on the warm side of the insulation.

If the underlay is to be used with rigid sarking, the counter battens (minimum 12mm deep) shall be located between the sarking and the underlay, with a maximum drape of the underlay limited to 10mm. If the underlay is laid directly onto the sarking, counter battens and tiling battens shall be used above to prevent trapping of moisture on the top surface of the underlay.

Manufacturer: Glidevale Protect, a division of Building Product Design, 2 Brooklands Road, Sale, Cheshire, M33 3SS, United Kingdom. Tel: +44 (0)161 905 5700, Fax: +44 (0)161 905 2085. E-mail: info@protectmembranes.com Website: www.protectmembranes.com/wunderlay
STA Assured Gold accredited company and associate members of the Structural Timber Association and the Modular and Portable Build Association.

Product Reference: Protect Wunderlay Type HR Roof Underlay, with unrestricted wind uplift use (Zones 1-4) at 345mm batten gauge.

Accessories

Protect Fulmetal RediRoll ventilated dry ridge/hip roll system:

Protect Fulmetal RediRoll is a universal dry fixed ventilated ridge and hip system, produced in the UK. Manufactured from aluminium, the product overcomes the durability and weathering issues associated with fabric based systems. This product should be used with Protect Wunderlay as part of a warm or cold roof system to provide a ventilation area equivalent to 5,000mm²/m to ensure adequate ventilation to conform to BS 5250.

Protect OFV Eaves Skirt:

The Protect OFV Eaves Skirt replaces both the underlay into the gutter and the traditional tilting fillet. Used to avoid sagging and ponding of the underlay behind the fascia and ensure correct water discharge into the gutter. Manufactured from robust PVC-U construction, this resists impact and UV degradation over time and will not rot in the gutter unlike bitumen derivatives.