

## INNOVATION IS EVERYTHING

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## CONSTRUCTION MEMBRANES

### 1.1 Breather Membranes

#### 1.1.1 Protect TF200 Thermo

Protect TF200 Thermo is a reflective, low emissivity, insulating breather membrane used externally on walls constructed in timber frame, Structural Insulated Panels (SIPS), Cross Laminated Timber (CLT) panels or steel, to ensure significant thermal benefits. Protect TF200 Thermo is CE marked and independently approved by BM TRADA, with a Q mark certification and is produced in the UK.

Breather membrane to be non-woven PP core, of triple ply construction and with a permeable, high purity, solid corrosion resistant aluminium foil layer that is micro perforated. Membrane to ensure low emissivity performance with an aged thermal resistance of 0.77m<sup>2</sup>K/W and unaged thermal resistance of 0.80 m<sup>2</sup>K/W to BS EN ISO 8990 & BS EN15976, achieved when facing into an unventilated airspace to block infra-red radiation and enhance thermal performance of airspace. Aged thermal resistance values to be used, incorporating printed logos. Product to be independently tested by National Physical Laboratories (NPL) in a typical house timber frame wall cavity and verified by BM TRADA. Water vapour transmission resistance to be 0.36MNs/g (0.071 Sd) to BS EN ISO 12572 meeting the permeability requirements recommended by TRADA and NHBC. Emissivity of the surface to BS EN 15976 should be 0.02 (unaged) and 0.03 (aged), independently tested by a European notified laboratory. The product's resistance to water penetration to BS EN 13111 should be Pass, Class W2 no leakage, both before and after ageing. Nail tear strength should be 239 (MD along roll) and 243 CD (across roll) to EN 12310-1 with mods and tensile strength should be 210 (MD along roll) and 205 (CD across roll) to BS EN 12311-1 with mods. The product should have a weight of 150g/m<sup>2</sup> and have a thickness of 0.48mm, coming in roll sizes of; 0.3m, 0.6m, 2.7m, 3.0m x 100m and 1.5m x 50m.

Membrane to be printed in blue ink to ensure low emissivity and to signpost use externally on the wall structure. To be used on the cold side of the insulation in conjunction with vapour control layer Protect VC Foil Ultra on the warm side of the insulation to further enhance the thermal performance of the wall structure, helping to achieve low U-values and meet current Building Regulations Part L in UK and Ireland. On timber frame panel construction, to be used externally, with breather membrane Protect TF InterFoil installed on either cold or warm side of the insulation and vapour control layer Protect VC Foil Ultra used on the warm side of the insulation to deliver thermal efficiency.

Manufacturer to provide U-Value calculations and condensation risk analysis to ensure target specification is achieved using appropriate thermal bridge percentage for timber studs in accordance with BR 443:2006 Conventions for U-values (section 4.5.1 (ii)) and relevant correction level in accordance with Table F1 of BS EN ISO 6946:2017 Building components and building elements – Thermal transmittance – Calculation methods. Breather membrane to be fitted into wall in accordance with TRADA recommendations and manufacturer's instructions.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/tf200thermo](http://www.protectmembranes.com/tf200thermo)

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

Product Reference: Protect TF200 Thermo low emissivity, insulating, external breather membrane, with aged thermal resistance of 0.77m<sup>2</sup>K/W (incorporating printed logos).

### **Accessories**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### 1.1.2 Protect Thermo Extreme

Protect Thermo Extreme is a reflective, low emissivity, insulating breather membrane used externally on walls constructed in timber frame, Structural Insulated Panels (SIPS), Cross Laminated Timber (CLT) panels or steel, to ensure significant thermal benefits. Protect Thermo Extreme is CE marked and produced in the UK. As specified in STA Advice Note 18, this membrane is designed for use on structural timber buildings which are located in very severe, exposed sites, which are known to be open to high winds with driving and persistent rain. This includes high altitude areas and westerly coastal sites in England, Ireland, Wales and Scotland, particularly cliff or sea fronting locations.

Breather membrane to be five ply construction to include a microporous film between two layers of spunbond, with a permeable, high purity, solid corrosion resistant aluminium foil layer on the upper surface that is micro perforated and a white/grey under surface. Membrane to ensure low emissivity performance with an aged thermal resistance of 0.77m<sup>2</sup>K/W to BS EN ISO 8990, achieved when facing into an unventilated airspace to block infra-red radiation and enhance thermal performance of airspace. Thermal resistance to be aged and incorporating printed logos. To be independently tested by National Physical Laboratories (NPL) in a typical house timber frame wall cavity. Water vapour transmission resistance to be 0.47MNs/g (0.093 Sd) to BS EN ISO 12572 meeting the permeability requirements recommended by TRADA and NHBC. Emissivity of the surface unaged to BS EN 15976 should be 0.02 and aged 0.03, independently tested by a European notified laboratory. In order to be suitable for very severe exposure sites as per recommendations in STA Advice Note 18, the product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 177 (MD along roll) and 191 CD (across roll) to EN 12310-1 with mods

and tensile strength should be 245 (MD along roll) and 135 (CD across roll) to BS EN 12311-1 with mods. The product should have a weight of 145g/m<sup>2</sup> coming in a roll size of: 3.0m x 100m.

Membrane to be printed in green ink to ensure low emissivity and to be used externally on the wall structure. To be used on the cold side of the insulation in conjunction with vapour control layer Protect VC Foil Ultra on the warm side of the insulation to further enhance the thermal performance of the wall structure, helping to achieve low U-values and meet current Building Regulations Part L in UK and Ireland. On timber frame panel construction, to be used externally, with breather membrane Protect TF InterFoil and vapour control layer Protect VC Foil Ultra both used on the warm side of the insulation to deliver thermal efficiency. Manufacturer to provide U-Value calculations and condensation risk analysis to ensure target specification is achieved using appropriate thermal bridge percentage for timber studs in accordance with BR 443:2006 Conventions for U-values (section 4.5.1 (ii)) and relevant correction level in accordance with Table F1 of BS EN ISO 6946:2017 Building components and building elements – Thermal transmittance – Calculation methods. Breather membrane to be fitted into wall in accordance with TRADA recommendations and manufacturer's instructions.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/thermoextreme](http://www.protectmembranes.com/thermoextreme)

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

Product Reference: Protect Thermo Extreme low emissivity, insulating, external breather membrane for walls, with aged thermal resistance of 0.77m<sup>2</sup>K/W (incorporating printed logos) and Class W1 water penetration resistance.

#### **Accessories:**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

### 1.1.3 Protect 5000 Façade

Protect 5000 Façade is a non-woven, UV stable, breather membrane specifically designed for external use in open jointed wall cladding applications, achieving Class W1 resistance to water penetration. STA Advice Note 18 recommends that a Class W1 membrane is used on a cavity wall with rainscreen cladding that has gaps to expose the membrane or loose fitting cavity claddings with open joints. Protect 5000 Façade is CE marked and produced in the UK.

Membrane to be a tough non-woven PP spunbond incorporating a unique durable, high purity blackened aluminium protective surface, which is bonded to the substrate and micro perforated, and is to be further protected by a waterproof vapour permeable layer. The black surface should blend unobtrusively with the structure whilst providing the required UV resistance to make it suitable to be used underneath open cladding. Each membrane overlap should be sealed vertically with a reinforced sealing tape for maximum weather tightness with integral sealing tapes on both edges. The product should also have integral tape to ensure horizontal laps are sealed.

The mass of the underlay is 200g/m<sup>2</sup>, coming in roll sizes of 1.5m x 50m. Water vapour transmission resistance: 0.43MNs/g (0.086 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 205 (MD along roll) and 242 (CD across roll) to BS EN 12310-1 with mods. The membrane should have been subjected to 5000 hours of testing to artificial UV ageing in accordance with EN 13859-2 with energy minimum of 812MJ/m<sup>2</sup> and to comply with guidance in STA Advice Note 18. Tensile strength should be 260N/50mm (MD along roll) and 215N/50mm (CD across roll) after 5000 hours of artificial ageing to BS EN 12311-1 with mods.

Membrane to be fitted to cold side of insulation to provide a primary line of protection to the whole of the external wall during the construction process and a secondary line of protection against rainwater penetration during the life of the building after the external masonry is built. The breathable membrane should minimise the risk of condensation within the structure and to allow water vapour to escape into the vented cavity.

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

Product Reference: Protect 5000 Façade Wall Membrane, for open jointed cladding applications.

#### Accessories

##### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

### Protect Reinforced Universal Tape:

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### 1.1.4 Protect TF200

Protect TF200 is a water resistant breather membrane used externally on walls constructed in timber frame, Structural Insulated Panels (SIPS), Cross Laminated Timber (CLT) panels or steel, with a high wet strength and water vapour permeability. Protect TF200 is CE marked and independently approved by BM TRADA, with a Q mark certification and is produced in the UK.

Breather membrane to be manufactured by extruding polypropylene to produce fibres which are spun and bonded together using heat and pressure in a continuous process. The membrane should be suitable for factory or site-applied applications and considered to meet or contribute to meeting the minimum requirements of the Building Regulations in the UK and Ireland.

The mass of the underlay is 100g/m<sup>2</sup> and it has a thickness of 0.45mm, coming in roll sizes of; 0.54m, 1.35m, 2.7m, 3.0m x 100m. Water vapour transmission resistance: 0.030 MNs/g (0.005 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 13111 should be Pass, Class W2 no leakage both before and after ageing. Nail tear strength should be 230 (MD along roll) and 245 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 220 (MD along roll) and 225 (CD across roll) to BS EN 12311-1. Membrane should have an embossed upper and lower surface and be available in anthracite, blue, red or green.

Breather membrane to be fitted into wall, in accordance with TRADA recommendations and manufacturer's instructions to cold side of insulation to provide a primary line of protection to the whole of the external wall during the construction process and a secondary line of protection against rainwater penetration during the life of the building after the external masonry is built. The breathable membrane minimises the risk of condensation within the structure and allows water vapour to escape into the vented cavity.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/tf200](http://www.protectmembranes.com/tf200)

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

Product Reference: Protect TF200 external breather membrane for walls.

### Accessories

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### 1.1.5 Protect TF200 Extreme

Protect TF200 Extreme is a water resistant breather membrane used externally on walls constructed in timber frame, Structural Insulated Panels (SIPS), Cross Laminated Timber (CLT) panels or steel. Protect TF200 Extreme is CE marked and produced in the UK. As specified in STA Advice Note 18, this membrane is designed for use on structural timber buildings which are located in very severe, exposed sites, which are known to be open to high winds with driving and persistent rain. This includes high altitude areas and westerly coastal sites in England, Ireland, Wales and Scotland, particularly cliff or sea fronting locations.

Breather membrane to be three ply construction to include a microporous film between two layers of spunbond, with an anthracite upper surface that is micro perforated and a white/grey under surface.

The membrane should be suitable for factory or site-applied applications and considered to meet or contribute to meeting the minimum requirements of the Building Regulations in the UK and Ireland.

The mass of the underlay is 100g/m<sup>2</sup>, coming in roll sizes of 3.0m x 100m. Water vapour transmission resistance to be: 0.13MNs/g (0.03 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. In order to be suitable for very severe exposure sites as per recommendations in STA Advice Note 18, the product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 104 (MD along roll) and 140 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 210 (MD along roll) and 190 (CD across roll) to BS EN 12311-1 with mods.

Breather membrane to be fitted into wall, in accordance with TRADA recommendations and manufacturer's instructions to cold side of insulation to provide a primary line of protection to the whole of the external wall during the construction process and a secondary line of protection against rainwater penetration during the life of the building after the external masonry is built. The breathable properties of the membrane minimise the risk of condensation within the structure and to allow water vapour to escape into the vented cavity.



**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/protecttf200extreme](http://www.protectmembranes.com/protecttf200extreme)

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

Product Reference: Protect TF200 Extreme external breather membrane for walls, with a Class W1 water penetration resistance.

### **Accessories**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### 1.1.6 Protect TF InterFoil

Protect TF InterFoil is a reflective, low emissivity, insulating breather membrane used internally on cavity walls constructed in timber frame, to ensure significant thermal benefits when used with Protect TF200 Thermo or Thermo Extreme external breather membrane and internal vapour control layer Protect VC Foil Ultra. Protect TF InterFoil is CE marked and produced in the UK.

Breather membrane to be non-woven PP core, of triple ply construction and with a permeable, high purity, solid corrosion resistant aluminium foil layer that is micro perforated. Membrane to ensure low emissivity performance with a thermal resistance aged of 0.77m<sup>2</sup>K/W to BS EN ISO 8990, achieved when facing into an unventilated airspace to block infra-red radiation and enhance thermal performance of airspace. Thermal resistance to be aged and incorporating printed logos. Water vapour transmission resistance to be 0.40MNs/g (0.08 Sd) to BS EN ISO 12572 meeting the permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 13111 should be Class W3. Nail tear strength should be 85 (MD along roll) and 85 CD (across roll) to EN 12310-1 with mods and tensile strength should be 155 (MD along roll) and 105 (CD across roll) to BS EN 12311-1 with mods. The product should have a weight of 95g/m<sup>2</sup>, coming in roll sizes of; 2.4m, 1.2m x 100m.

Membrane to be printed in red ink to ensure low emissivity and to signpost use internally on the wall structure. The membrane should be used on the warm side of the insulation and in timber frame panel construction, to be used in conjunction with vapour control layer Protect VC Foil Ultra and with external breather membrane Protect T200 Thermo or Thermo Extreme to further enhance the thermal performance of the wall structure, helping to achieve low U-values and meet current Building Regulations Part L in UK and Ireland. Manufacturer to provide U-Value calculations and condensation risk analysis to ensure target specification is achieved using appropriate thermal bridge percentage for timber studs in accordance with BR 443:2006 Conventions for U-values (section 4.5.1 (ii)) and relevant correction level in accordance with Table F1 of BS EN ISO 6946:2017 Building components and building elements – Thermal transmittance – Calculation methods. Breather membrane to be fitted into wall in accordance with TRADA recommendations and manufacturer's instructions.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/tfinterfoil](http://www.protectmembranes.com/tfinterfoil)

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

Product Reference: Protect TF InterFoil low emissivity, insulating, internal breather membrane, with aged thermal resistance of 0.77m<sup>2</sup>K/W (incorporating printed logos).

### **Accessories**

#### **Protect Cavit-E Tray:**

Purpose designed, translucent insulation spacer/support tray to create a circa 20mm air cavity within the depth of the wall stud, used in conjunction with Protect TF InterFoil, Protect VC Foil Ultra and mineral wool slab insulants to generate low emissivity performance with the membrane blocking infra-red radiation.

#### **Protect Cavit-E Clip:**

Specifically designed for use with Protect TF InterFoil and Protect VC Foil Ultra. The clips are fixed over studs or rafters holding the reflective membrane in place to create a 25mm airspace and generate low emissivity performance with the membrane blocking infra-red radiation.

#### **Protect VC Foil Ultra:**

Protect VC Foil Ultra is a reflective, low emissivity, insulating air and vapour control layer used internally on timber frame or masonry construction in walls, ceilings or floors to ensure significant thermal benefits.

#### **Protect TF200 Thermo:**

Protect TF200 Thermo is a reflective, low emissivity, insulating breather membrane used externally on timber frame, SIPS and CLT wall panels to ensure significant thermal benefits.

### Protect Thermo Extreme:

Protect Thermo Extreme is a reflective, low emissivity, insulating breather membrane, with a Class W1 water tightness, used externally on timber frame, SIPs and CLT wall panels to ensure significant thermal benefits.

## 1.2 Vapour Control Layers & Airtightness Membranes

### 1.2.1 Protect VC Foil Ultra

Protect VC Foil Ultra is a reflective, low emissivity, insulating air and vapour control layer used internally on timber frame or masonry construction in walls, ceilings or floors to ensure significant thermal benefits. Protect VC Foil Ultra is CE marked and independently approved by BM TRADA, with a Q mark certification and is produced in the UK.

Air and vapour control layer to be non-woven PP core, of triple ply construction and with an impermeable high purity aluminium foil layer, with a product weight of 150 g/m<sup>2</sup>. Membrane to ensure low emissivity performance with an aged thermal resistance (horizontal heatflow) when used in a wall build up with a of 0.78m<sup>2</sup>K/W and unaged thermal resistance of 0.81 m<sup>2</sup>K/W to BS EN ISO 8990 & BS EN 15976, when facing into an unventilated airspace ≥20mm to block infra-red radiation and enhance thermal performance of airspace. When used in a ceiling build-up, facing into an unventilated airspace of ≥13mm, aged thermal resistance (vertical heatflow) to be 0.52 m<sup>2</sup>K/W and unaged thermal resistance of 0.53 m<sup>2</sup>K/W to BS EN ISO 8990 & BS EN 15976. Aged thermal resistance incorporating printed logos and in some cases unaged thermal resistance can be used (Protect Technical department can advise further by request). Product to be independently tested and verified by BM TRADA. Water vapour transmission resistance of 4946 MNs/g (989 Sd) to EN 1931 to deliver vapour control properties and help avoid condensation risk in accordance with BS 5250. Emissivity of the surface unaged to BS EN 15976 should be 0.02 and aged 0.03, independently tested by a European notified laboratory. The product's resistance to water penetration to BS EN 1928 with mods should be Class W1. Nail tear strength should be 239 MD (along roll) and 243 CD (across roll) to EN 12310-1 with mods and tensile strength should be 210 (MD along roll) and 205 (CD across roll) to BS EN 12311-1 with mods. The product should have a weight of 150 g/m<sup>2</sup> and have a thickness of 0.48mm, coming in roll sizes of; 1.35m, 1.5m, 2.7, 3m x 100m and 2.7m x 100m. Membrane to feature integrated tape to seal laps as an optional extra on 1.35m & 1.5m x 50m product.

Membrane to be printed in red ink to ensure low emissivity and to signpost use internally on the wall structure. To be used on the warm side of the insulation in conjunction with external breather membrane Protect TF200 Thermo or Protect Thermo Extreme on the cold side of the insulation to further enhance the thermal performance of the cavity wall structure, helping to achieve low U-values and meet current Building Regulations Part L in UK and Ireland. On timber frame panel construction, to be installed on the warm side of the insulation with Protect TF InterFoil fitted on the warm or cold side, in conjunction with external breather membrane Protect TF200 Thermo or Protect Thermo Extreme to deliver thermal efficiency. Manufacturer to provide U-value calculations and condensation risk analysis to ensure target specification is achieved using appropriate thermal

bridge percentage for timber studs in accordance with BR 443:2006 Conventions for U-values (section 4.5.1 (ii)) and relevant correction level in accordance with Table F1 of BS EN ISO 6946:2017 Building components and building elements – Thermal transmittance – Calculation methods. Air and vapour control layer to be fitted into wall/ceiling/floor in accordance with BS 5250, BS 9250 and manufacturer's instructions.

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

Product Reference: Protect VC Foil Ultra low emissivity insulating air and vapour control layer, with aged thermal resistance of 0.78m<sup>2</sup>K/W (incorporating printed logos).

### **Accessories**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### **Protect VC Foil Tape:**

Single-sided, high-tack, reflective aluminium tape. For sealing simple overlaps of Protect VC Foil Ultra. For internal use only.

#### 1.2.2 [Protect BarriAir](#)

Protect BarriAir is an air leakage barrier with vapour control qualities used internally on timber frame or masonry construction in walls, ceilings or floors to ensure an airtight system. Protect BarriAir is CE marked and produced in the UK.

Air and vapour control layer to be multi-purpose, coated and non-woven membrane of twin ply construction with integrated sealing tapes on opposing edges of the roll to ensure that the membrane overlap is jointed and sealed by applying two layers of adhesive to one another (1.5m width only). Water vapour resistance of 95 MNs/g (19 Sd) to EN 1931 to deliver vapour control qualities and help avoid condensation risk in accordance with BS 5250. The product's resistance to water penetration should be Class W1. Nail tear strength should be 197 MD (along roll) and 208 CD (across roll) with a product weight of 100gsm. The product should be available in roll sizes of; 1.5m and 3m x 100m, with the 1.5m width featuring integrated tape to seal laps. The tensile strength should be 193 MD and 184 CD to EN 1385901 + 2 and should have a resistance to penetration of air of 0.0m<sup>3</sup>/hr/m<sup>2</sup> @50Pa. The product should feature a printed grid to allow simple alignment with timber studs or joists.

Can be used in ceilings, floors or walls. For the latter, to be installed on the warm side of the structure, adjacent to the insulation, in conjunction with external breather membrane Protect TF200 on the cold side of the insulation. Manufacturer to provide U-Value calculations and condensation risk analysis to ensure target specification is achieved using appropriate thermal bridge percentage for timber studs in accordance with BR 443:2006 Conventions for U-values (section 4.5.1 (ii)) and relevant correction level in accordance with Table F1 of BS EN ISO 6946:2017 Building components and building elements – Thermal transmittance – Calculation methods. Air and vapour control layer to be installed with sealed laps and to be fitted into wall/ceiling/floor in accordance with BS 5250, BS 9250 and manufacturer's instructions.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/barriair](http://www.protectmembranes.com/barriair)

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

Product Reference: Protect BarriAir air and vapour control layer, with integrated sealing tape.

#### **Accessories:**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations.

### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers.

#### 1.2.3 Protect FCM 750

Protect FCM750 is an airtight and vapour permeable floor cassette membrane, specifically developed to provide a practical solution for maintaining the integrity of the airtightness system at difficult intermediate floor junctions. Entirely water resistant and airtight through the membrane itself, the product remains highly vapour permeable to minimise condensation formation at the vulnerable edges of the floor cassette. Protect FCM 750 is CE marked and produced in the UK.

Floor cassette membrane to be of triple ply construction with waterproof and vapour permeable core protected between two layers of nonwoven spunbond polypropylene. The membrane has been approved for use as factory or site-applied membranes in suitably designed timber frame walls and are considered to meet or contribute to meeting the minimum requirements of the Building Regulations in the UK and Ireland.

The mass of the membrane should be 125g/m<sup>2</sup>, in roll sizes of; 0.75m, 1.0m x 50m. Water vapour transmission resistance to be: 0.17MNs/g (0.022 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 13111 should be Pass, Class W1. The membrane 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. Membrane should be grey on the upper surface and white/grey on the under surface and be printed with branding for ease of identification. Floor cassette should be airtight sealed by installing the membrane with sealed laps.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/fcm750](http://www.protectmembranes.com/fcm750)

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

Product Reference: Protect FCM750 Floor Cassette Membrane.

### **Accessories**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

### **Protect Reflective Reinforced Tape:**

Single-sided, high-tack, reflective aluminium spun bond reinforced tape. Designed for sealing overlaps of timber frame membranes, air barriers and vapour control layers and for sealing around service penetrations. Can be used for internal or external applications.

### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

#### 1.2.4 Protect PWAB

Protect PWAB is an airtight and vapour permeable air barrier, produced in the UK, specifically developed to overcome the problems of heat loss due to air movement from the party wall cavity, within timber frame construction. Whether site or factory applied, the membrane allows requirements for air sealing to be met whilst still allowing water vapour to escape. The pack includes Protect Reinforced Universal Tape to make the airtight seal on the roll edges. Party walls must now have a fully filled cavity and be effectively edge sealed.

The mass of the membrane should be 125g/m<sup>2</sup>, in roll sizes of: 0.3m x 30m. Water vapour transmission resistance to be: <0.04 Sd to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 13111 should be Pass, Class W1. The membrane should have a hydrostatic head of water resistance of >2.0m. Nail tear strength should be 130 (MD along roll) and 160 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 180 (MD along roll) and 115 (CD across roll) to BS EN 12311-1 with mods. Membrane should be grey on the upper surface and white/grey on the under surface. Membrane to be used to comply with Approved Document L and meet minimum requirements of the Building Regulations in UK and Ireland.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/pwab](http://www.protectmembranes.com/pwab)

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

Product Reference: Protect PWAB party wall air barrier pack.

### **Accessories Included in Pack**

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

## 1.3 Air Tightness

### 1.3.1 Glidevale Loft Hatches

Loft access hatches to be Glidevale complete loft access hatch and frame units obtainable from Glidevale, 2 Brooklands Road, Sale, Cheshire M33 3SS, Tel: 0161 905 5700, Fax: 0161 905 2085, Email: [info@glidevale.com](mailto:info@glidevale.com).

**AH4:** push-up hatch door of injection-moulded polypropylene with insulation infill, twin latch and anti-wind uplift mechanism. Two lockable security bolts\*.

**AH5:** hinge-down hatch door of injection-moulded polypropylene with insulation infill, twin latch. Lockable security bolt\*. Key lock\*.

**AH7 FR Part L:** push-up hatch door having 1/2 hour fire resistance and Class 0 surface flame spread, of 6mm Masterboard with spray-applied vinyl finish, insulation infill, PVC back, pressed metal support brackets, intumescent strip to frame.

Frame for all the above: injection-moulded polypropylene with closed-cell vapour seals.

**AH6:** hinge-down hatch door and frame with 1 hour fire resistance and Class 0 surface flame spread, of 1.0 and 1.2mm Zintec electro-galvanised mild steel finished in polyester powder coating, insulation infill, expanded polyurethane draught strip, concealed lock. High-security lock.\*

**Performance:** (according to model) U-value: 0.35 / 0.66\* W/m<sup>2</sup>K. Surface flame spread rating Class 0 as defined by Building Regulations Approved Document B Appendix A. Fire resistance: 30 / 60\* minutes to BS 476-22. Install in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

#### **Accessories:**

**AHP access pole** for AH4 / AH5\* loft hatch.

**AHL aluminium loft ladder** in two telescoping sections mounted on hinge brackets, with cranked access pole for AH5 loft hatch.

\*Delete as applicable

## 1.4 Flooring Membrane

### 1.4.1 Protect F1

Protect F1 is a floor protection membrane with integrated lap and sealing tapes designed to provide surface protection to a wide range of floor substrates from wet trades and foot traffic during new build construction or refurbishment projects. Protect F1 is CE marked and produced in the UK.



Floor protection membrane to be of two ply construction of non-slip non-woven spunbond with PP/LDPE coating. The membrane should be suitable for factory or site-applied applications and contribute to meeting the minimum requirements of the Building Regulations in the UK and Ireland. The membrane should be supplied as a yellow semi-translucent material with a grid printed across the whole surface to enable simple alignment and installation.

Protection membrane to be 95g/m<sup>2</sup>, coming in a roll size of; 1.5m x 50m. Water vapour transmission resistance to be: 95MNs/g (19 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. The product's resistance to water penetration to BS EN 1928 with mods should be Pass, Class W1. Nail tear strength should be 197 (MD along roll) and 208 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 193 (MD along roll) and 184 (CD across roll) to BS EN 12311-1 with mods.

Health and Safety Executive (HSE) states that a minimum Pendulum Test Value (PTV) of 36 or more must be achieved to avoid personal injury claims and ensure a good floor slip resistance obtained on both dry and wet floors. Membrane to achieve a PTV of 107 dry and 40 wet, achieving a low slip potential.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/f1](http://www.protectmembranes.com/f1)

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

Product Reference: Protect F1 floor protection membrane.

### **Accessories**

Protect range of sealing tapes to help reduce uncontrolled air leakage in all forms of building construction.

#### **Protect Reveal Tape:**

Single-sided, high-tack, durable and woven reinforced reflective tape, for dressing into awkward details without tearing. Performs the airtightness function between internal AVCL and external membrane in and around doors and window reveals.

#### **Protect Reinforced Universal Tape:**

Single-sided, high-tack, UV and heat stabilised spun bond reinforced tape. Designed as general purpose tape for sealing overlaps of timber frame membranes, air barriers and vapour control layers. Can be used for internal or external applications.

## 1.5 Other Construction Membrane

### 1.5.1 Protect RP110

Protect RP110 is a multi-purpose, needlepunch nonwoven and vapour permeable membrane, designed to be a root protection and separation layer in inverted and 'green' flat roofing. Purpose-designed, it will also act as a separation layer on mechanically fixed, single-ply roofs and under domestic driveways. Protect RP110 is CE marked and produced in the UK.

Membrane to be 111g/m<sup>2</sup>, coming in roll sizes of; 1.12m, 1.48m x 50m. Water vapour transmission resistance to be: 0.02MNs/g (0.004 Sd) to BS EN ISO 12572 to meet permeability requirements recommended by TRADA and NHBC. Nail tear strength should be 200 (MD along roll) and 200 (CD across roll) to BS EN 12310-1 with mods and tensile strength should be 400 (MD along roll) and 400 (CD across roll) to BS EN 12311-1 with mods. Membrane to be grey with integral adhesive tapes available on each edge to make up wider widths on site.

Membrane to retain 90% of strength in regards to; weather resistance to EN 12224, resistance to acids and alkalis to EN 14030, oxidation to EN ISO 13438 and resistance to soil burial to EN 12225. Membrane to maintain a stable soil structure by building up a natural filter with permeability maintained. Membrane to be resistant to most alkalis and acids, organic solvents and electrolyte attack with high operational temperatures, not melting before 160°C.

**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](mailto:info@protectmembranes.com) Website: [www.protectmembranes.com/rp110](http://www.protectmembranes.com/rp110)

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

Product Reference: Protect RP110 root protection and separation membrane.

## VENTILATION

### 2.1 Building Ventilation

#### 2.1.1 Glidevale iPSV (Intelligent Passive Stack Ventilation)

Ventilation to be provided by means of a BBA certified whole-house intelligent passive stack ventilation system complying with: Building Regulations (England and Wales) Approved Document F\*. Building (Scotland) Regulations Technical Handbook Domestic Section 3\*, Building Regulations (Northern Ireland Technical Booklet K\*, Building Regulations (Republic of Ireland) Technical Guidance Documents Part F\*.

The ventilation system to be Glidevale iPSV wholehouse system covered by BBA certificate 18/5523, supplied by Glidevale, 2 Brooklands Road, Sale, Cheshire M33 3SS, tel: 0161 905 5700, fax: 0161 905 2085, email: [technical@glidevale.com](mailto:technical@glidevale.com).

Design and layout of the system to be in accordance with the manufacturer's recommendations. Installation to be in accordance with the manufacturer's instructions and any other design recommendations supplied.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

\*Select as appropriate

### 2.1.2 Glidevale Duracowl Wall Cowl

Protection for external wall grilles / tumble dryer outlets.

Provide colour matched Glidevale DuraCowl wall cowl over mechanical fan /tumble dryer external wall outlets.

Glidevale DuraCowl to be red\*/ terracotta\*/ buff\*/ brown\*/ red blend\*/ colour matched\*\*. Surface colour to be chemically bonded polymeric resin. 4mm nesting insect ingress protection to be provided by installing the aluminium grille supplied. Mechanically fix the DuraCowl using the wall plugs and security fixings supplied. Fix in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

\* Delete as appropriate

\*\* New build applications

### 2.1.3 Glidevale Trickle Ventilators

**Ultra Vent and Grille:** Provide background ventilation to meet Building Regulations by means of window ventilators giving a minimum of 4000mm<sup>2</sup> of equivalent free area of ventilation (Glidevale Ultra Vent TVUV4 and Glidevale Ultra Grille TVUG \*25/5).

Ventilators to provide upward directional airflow and to meet worst case requirements of BS 6375-1 for resistance to water penetration.

**Energy Saver, Humidity Sensitive:** Select options required, and insert information where necessary.

Provide background ventilation complying with Building Regulations by means of automatic humidity-controlled internal window ventilators and external grilles giving 3815mm<sup>2</sup> equivalent area of ventilation. Internal vent (Glidevale Energy Saver Vent TVES4) to operate between 47% and 65% relative humidity.

Ventilators to meet or exceed the worst case requirements of BS 6375-1 for resistance to water penetration in conjunction with specified external grille (Glidevale TVUG5).

**Acoustic Energy Saver, Humidity Sensitive:** Select options required, and insert information where necessary.

Provide background ventilation complying with Building Regulations by means of automatic humidity-controlled internal window ventilators and external grilles giving 3815mm<sup>2</sup> equivalent area of ventilation. Internal vent (Glidevale Energy Saver Vent TVES4dB) to operate between 47% and 65% relative humidity. Vent to be acoustically treated providing attenuation up to 39dB Dn,e,w.

Ventilators to meet or exceed the worst case requirements of BS 6375-1 for resistance to water penetration in conjunction with specified external grille (Glidevale TVUG5).

**Acoustic Low Profile:** Select options required, and insert information where necessary.

Provide background ventilation complying with Building Regulations by means of internal window ventilators giving \*1777/1600mm<sup>2</sup> equivalent area of ventilation (Glidevale acoustic low profile vent \*TVAlDb450/800) to achieve up to \*40/42dB Dn,e,w sound reduction. Made of aluminium with ABS end caps. Supplied with dust and insect filter as standard.

Ventilators to meet or exceed the worst case requirements of BS 6375-1 for resistance to water penetration in conjunction with specified external grille (Glidevale TVUG5).

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

\*delete as required

## **DAMP PROOFING**

### 3.1 Cavity Trays

#### 3.1.1 Glidevale Intra Weep AT Abutment Trays

Intra Weep AT Abutment Trays for brickwork. Provide cavity trays at roof/wall abutments to comply with BS 8215. Trays to be Glidevale Intra Weep AT Abutment Trays, preformed, selfsupporting, each tray with integral weep, and pitch marks.

\*Trays without factoryfitted flashing: After mortar has set, remove mortar protector from each tray to leave 25mm deep groove for flashing to comply with Lead Sheet Association recommendations.

\*Trays with factory-fitted flashing: Each tray to have factory-fitted AluFlash or code 4 lead flashing to BS EN 12588 with butyl seal between lead and tray, to suit roof pitch and covering.

Corner Catchment Tray Set for Brickwork. Provide cavity trays at corner abutment junction to comply with BS 8215. Trays to be Glidevale Corner Catchment Tray Set, preformed and selfsupporting with integral bedweep.

\*Tray Set ref: CC RH/LH\* 20-37.5°/40-50°, 55° \* (without factoryfitted flashing).

\*Tray Set ref: CC RH/LH\* pitch L/S\*, with factory-fitted AluFlash or code 4 lead flashing to BS EN 12588, with butyl seal between lead and tray, to suit roof pitch. All trays Install in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

\*delete as appropriate.

### 3.1.2 Glidevale AT Blockwork & Abutment Trays

AT Trays for blockwork (without factory-fitted flashing). Provide cavity trays at roof/wall abutments to comply with BS 8215. Trays to be Glidevale AT Blockwork Abutment Trays, preformed and self-supporting. Install in accordance with manufacturer's instructions. After installation rake out polystyrene strip from each tray to leave 25mm deep groove for flashing to comply with Lead Sheet Association recommendations.

AT Trays for blockwork (with factory-fitted flashing). Provide cavity trays at roof/wall abutments to comply with BS 8215. Trays to be Glidevale AT Blockwork Abutment Trays, preformed and self-supporting, each tray with factory-fitted AluFlash or code 4 lead flashing to BS EN 12588 with butyl seal between lead and tray, to suit roof pitch, roof covering and course height. Install in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.3 Glidevale HT Horizontal Trays

HT Horizontal Trays (without factory-fitted flashing). Provide horizontal cavity trays to comply with BS 8215. Trays to be Glidevale HT Horizontal Trays, preformed and self-supporting. Install in accordance with manufacturer's instructions using Bed Weeps and other HT Tray accessories, with pre-applied butyl seal at each overlap.

HT Horizontal Trays (with factory-fitted flashing). Provide horizontal cavity trays to comply with BS 8215. Trays to be Glidevale HT Horizontal Trays, preformed and self-supporting. AluFlash or code 4 lead flashing to BS EN 12588 factoryfitted to each tray with butyl seal between lead and tray, to suit roof pitch. Install in accordance with manufacturer's instructions using Bed Weeps and other HT Tray accessories, with pre-applied butyl seal at each overlap.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.4 Glidevale HTR Refurbishment Trays

HTR Refurbishment Trays (without factoryfitted flashing). Provide horizontal trays to comply with BS 8215. Trays to be Glidevale HTR Refurbishment Trays, preformed and selfsupporting with integral weep. Install in accordance with manufacturer's instructions using where necessary HTR accessories, with preapplied butyl seal at each overlap.

HTR Refurbishment Trays (with factory-fitted flashing). Provide horizontal trays to comply with BS 8215. Trays to be Glidevale HTR Refurbishment Trays, preformed and selfsupporting with integral weep. AluFlash or code 4 lead flashing to BS EN 12588 factoryfitted to each tray with butyl seal between lead and tray, to suit roof pitch. Install in accordance with manufacturer's instructions using where necessary HTR accessories, with preapplied butyl seal at each overlap.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.5 Glidevale PT Parapet Trays

PT Parapet Trays. Provide parapet trays to comply with BS 8215. Trays to be preformed Glidevale Parapet Trays tied to both inner and outer leaves, preformed and self-supporting. Install in accordance with manufacturer's instructions using Bed Weeps and other PT Tray accessories, with preapplied bitumen butyl seal at each overlap.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.6 Glidevale LT Lintel Trays

LT Lintel Trays. Provide lintel trays at all openings to comply with BS 8215. Trays to be Glidevale LT Lintel Trays, preformed and selfsupporting. Install with Bed Weeps and LTU Lintel Tray Stop Ends with pre-applied bitumen butyl seal, in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.7 Glidevale AR Arch & BE Bullseye Window Trays

AR Arch Trays. Provide dpcs to brick/block arches over openings using preformed purposemade Glidevale AR Arch Trays with Stop Ends and Bed Weeps. Install in accordance with manufacturer's instructions.

BE Bullseye Window Trays. Provide dpcs to brick/block circular (bullseye) windows using preformed purposemade Glidevale BE Bullseye Window Trays with Stop Ends and Bed Weeps. Install in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)

### 3.1.8 Glidevale ASG Abutment Secret Gutter

ASG Abutment Secret Gutter. Provide abutment secret gutters to comply with BS 8000: Part 6. Gutters to be preformed Glidevale ASG Abutment Secret Gutters with AB fire rating to BS 476: Part 3. Install in accordance with manufacturer's instructions.

**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@glidevale.com](mailto:info@glidevale.com) Website: [www.glidevale.com](http://www.glidevale.com)