



**G**lidevale offers a complete range of protection for ground floors against both damp and gases from the ground. This double function avoids the need for a damp-proof membrane in addition to a gas-tight membrane.

## GROUND FLOOR PROTECTION & DAMP BARRIERS

Purpose-designed accessories make it easy to ensure reliable and continuous protection across wall cavities and at corners, columns, pipe penetrations etc. The range also includes components for ventilation of underfloor spaces where provided.

### Protection against

- Methane
- Radon
- Carbon dioxide
- Hydrocarbons
- Damp

**PROTECT GDB10 PLUS**  
Approved under BS 8485:2015.  
For use on sites affected by methane  
& carbon dioxide. Suitable for  
use in Amber 1 &  
Amber 2 situations.



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## GROUND FLOOR PROTECTION



### The Requirement

Harmful ground gases entering buildings can pose health risks. Damp can similarly cause health problems and also damage the building fabric.

Protective measures are therefore usually required in ground floors and these Requirements are enshrined in Building Regulations (see Technical Requirements section).

Government planning policy requires an increase in the amount of housing on brownfield land. This means that much more housing will need protection from ground gases.

### The Glidevale complete solution

Glidevale ground floor protection products offer a complete solution:

- A continuous impermeable protective barrier against gases from the ground and damp penetration.
- A single barrier avoiding the need for an additional damp-proof membrane.
- Continuity of protection at edges and penetrations by means of purpose-designed accessories.
- Ventilation of underfloor spaces and wall cavities to remove gases and moisture vapour where required.
- Easy and reliable installation using preformed components.
- Can be used for solid ground floor slabs and for suspended concrete floors.
- Can be used to meet the Requirements of Building Regulations in the UK and Ireland (see Technical Requirements section).

### Certification

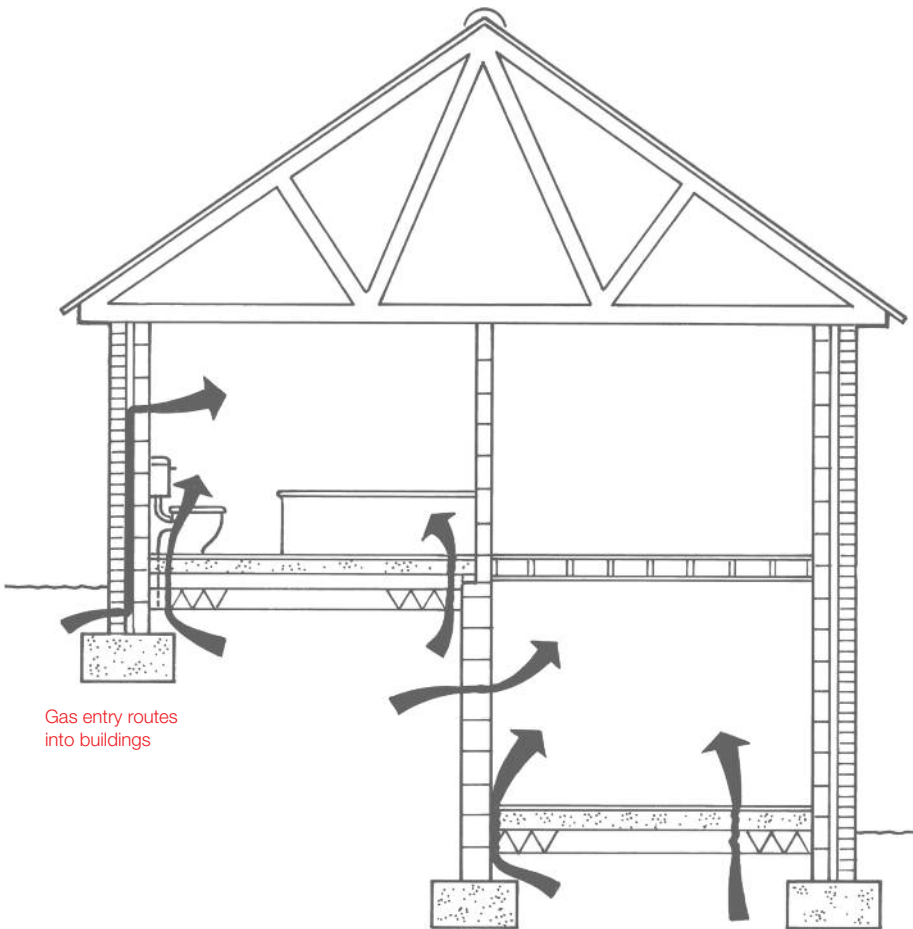
Protect GDB10 PLUS has been tested in accordance with BS 8485:2015. The performance of Protect GDB10 PLUS membrane has also been independently assessed and certified by BM TRADA Certification for use in ground floors of buildings as a barrier against harmful gases (radon, methane and carbon dioxide) and damp penetration. Certificate number CPS-003.



## TECHNICAL REQUIREMENTS

### Harmful soil gases

Harmful soil gases such as methane, carbon dioxide and radon can enter properties by different routes: through cracks in floors and walls, construction joints, wall cavities, and around services pipes.



**Methane** is a colourless, odourless, explosive and asphyxiating gas.

**Carbon dioxide (CO<sub>2</sub>)** is a colourless, odourless, non-flammable, asphyxiating and toxic gas.

Methane and carbon dioxide can arise from landfill sites, mine workings, and organic-rich soils such as peat or river silt.

**Radon** is a naturally-occurring colourless, odourless radioactive gas; some parts of the country have higher levels than elsewhere. Exposure to high levels of radon for long periods increases the risk of developing lung cancer.

### Building Regulations (England and Wales)

Protection against ground contaminants and moisture are specific requirements of the Building Regulations Part C for England and Wales. The relevant requirements are:

#### Approved Document C

#### Site preparation and resistance to contaminants and moisture

**'Preparation of site and resistance to contaminants** C1 (2) Reasonable precautions shall be taken to avoid danger to health and safety caused by contaminants on or in the ground covered, or to be covered by the building and any land associated with the building.'

**'Resistance to moisture** C2 The floors, walls and roof of the building shall adequately protect the building and people who use the building from harmful effects caused by:

- (a) ground moisture
- (c) interstitial and surface condensation.'

#### Gases from the ground

Information on methane and other gases is given in paragraphs 2.25 - 2.35.

Gas control measures are given in 2.36 - 2.38. For dwellings these should consist of a gas resistant barrier across the whole building footprint, above an extraction or ventilation layer from which gases can be dispersed and vented to the atmosphere.

#### Hydrocarbons

Ground contaminated with hydrocarbons such as diesel or motor oils may also generate harmful emissions (not specifically covered by Approved Document C). Testing for these is extremely difficult, therefore Glidevale recommend that in such cases a ventilated sub-floor void is provided in addition to a barrier membrane.

## Building (Scotland) Regulations

### Site preparation

3.1 Every building must be designed and constructed in such a way that there will not be a threat to the building or the health of people in or around the building due to the presence of harmful or dangerous substances.

#### Harmful or dangerous substances

Harmful or dangerous substances include deposits of faecal or animal matter and any substance, or mixture of substances, which is, or could become, corrosive, explosive, flammable, radioactive or toxic or which produces, or could produce, any gas likely to have any such characteristic.

#### 3.1.6 Risk management techniques

There are a range of options for managing the risk of land that is contaminated. This can include removal or treatment of the contaminant source or breaking the pathway by which contaminants can present a risk to receptors:

Sealing means that an impermeable barrier is laid between the contaminant and the building and sealed at the joints, around the edges and at the service entries.

Detailed guidance is given in BRE / Environment Agency Report BR 414 Protective measures for housing on gas-contaminated land.

### Radon protection

All new buildings, extensions and conversions in areas where there may be elevated radon emissions may need to incorporate precautions.

3.2 Every building must be designed and constructed in such a way that there will not be a threat to the health of people in or around the building due to the emission and containment of radon gas.

Radon protective measures should be provided in accordance with the guidance contained in BRE publications BR 211 Radon: guidance on protective measures for new dwellings, and BR 376 Radon: guidance on protective measures for new dwellings in Scotland.

Additional guidance on the installation of Radon protection measures in dwellings is available in two BRE Good Building Guides, GG73, "Radon protection for new domestic extensions and conservatories with solid concrete ground floors", and GG74, "Radon protection for new dwellings".

### Moisture from the ground

3.4 Every building must be designed and constructed in such a way that there will not be a threat to the building or the health of the occupants as a result of moisture penetration from the ground.

#### CIRIA C665 and NHBC Traffic Lights

Protect GDB10 PLUS complies with the NHBC Traffic Lights\* and CIRIA C665, when installed as prescribed in BRE 414. (\*For Amber 2 or worse the membrane should always be fitted by a qualified installer or specialist contractor).

Additional guidance on the installation of Radon protection measures in dwellings is available in two BRE Good Building Guides, GG73, Radon protection for new domestic extensions and conservatories with solid concrete ground floors and GG74, Radon protection for new dwellings.

## Building Regulations (Northern Ireland)

Protection against ground contaminants and moisture are specific Requirements of the Building Regulations Part C for Northern Ireland. The relevant Requirements are:

### 'Preparation of site and resistance to dangerous and harmful substances

C26

(1) The site of a building and the ground adjacent to it shall be prepared and treated, and measures shall be taken, so as to prevent, as far as reasonably practicable, any harmful effect on the building or the health or safety of the occupants caused by:

b) dangerous or harmful substances.

2) Without prejudice to the generality of paragraph (1) measures shall be taken to prevent or limit the ingress of radon from the ground into any dwelling.'

### 'Resistance to ground moisture and

**weather** C28 Every wall, floor and roof shall be constructed so as to prevent any harmful effect on the building or the health of the occupants caused by the passage of moisture to any part of the building from:

a) the ground.'

## Building Regulations Republic of Ireland

Protection against ground contaminants and moisture are specific Requirements of the Building Regulations Part C.

The relevant Requirements are:

'**Dangerous Substances** C3 Reasonable precautions shall be taken to avoid danger to health and safety caused by substances (including contaminants) found on or in the ground to be covered by a building.'

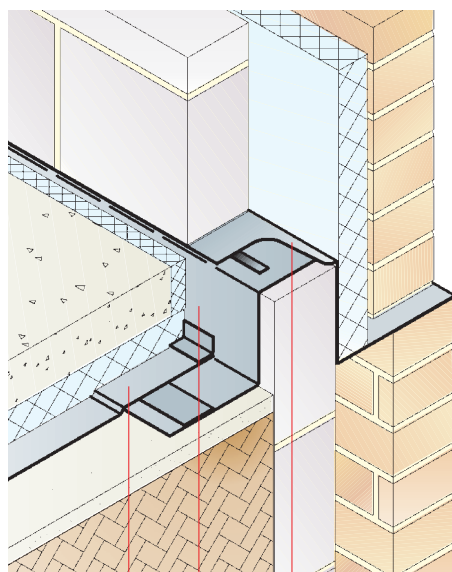
### 'Resistance to weather and ground

**moisture** C4 The floors, walls and roof of a building shall be so designed and constructed as to prevent the passage of moisture to the inside of the building or damage to the fabric of the building.'

## BARRIER MEMBRANES

Three Glidevale barrier membranes are available:

- Protect GDB10 PLUS provides protection against methane, carbon dioxide and radon as well as damp. Suitable for use in Amber 2 areas.
- Protect Radon 1200 is also for use against radon and damp.
- Self-adhesive gas resistant dpc/membrane is used for sealing around columns, concrete slabs etc.



Protect GDB10 PLUS Membrane  
Slab Edge Protection Tray  
Cavity Barrier and combined Cavity Tray

### PROTECT GDB10 PLUS GAS & DAMP BARRIER MEMBRANE

Protect GDB10 PLUS is a universal barrier membrane for protection of new buildings against gas and damp penetration from the ground.

Used as an oversite membrane below floor slabs or suspended floors, in conjunction with the Glidevale Cavity and Slab Edge Protection System, it provides a complete solution when installed in accordance with BRE Report BR 414.

- Complies with BS 8485:2015.
- Excellent resistance to harmful soil gases and damp protection.
- Approved for use in Amber 2 applications.
- Enables Building Regulations Part C to be met by reference to Approved Document C, see Technical Requirements.
- No additional damp-proof membrane required.
- Tough and durable, excellent tensile strength, puncture and tear resistance.
- Easily installed: easy to cut, lightweight and clean to handle.
- Each roll supplied with fixing instructions.
- Full range of accessories and underfloor ventilation products.

#### Composition, sizes

Multi-layered reinforced polyethylene membrane with an integral continuous aluminium foil.

Roll length: 40m.

Roll widths (m): 3, 1, 0.6 and 0.45.

Roll weights (kg): 24.3, 8.1, 4.86 and 3.65.

### PROTECT RADON 1200 DAMP PROOF MEMBRANE

Radon 1200 is satisfactory for use in concrete floors which are not subjected to a hydrostatic pressure, in accordance with the relevant clauses of CP 102: 1973.

The membrane can be installed either as an oversite membrane, situated between a blinded hard core bed and the base concrete, or as a sandwich membrane in base concrete or between the base concrete and the screed.

The membrane meets the requirements for use as a gas control membrane against radon or on gas-contaminated land generally in accordance with the recommendations published by the Building Research Establishment (BRE 211) and the national Building Regulations. The membranes may be used with both unreinforced and reinforced concrete ground supported slabs. The use of reinforced concrete slabs is only necessary where, in the opinion of the designer, there is a risk of settlement and cracking of the slab occurring.

#### Composition, sizes

1200 gauge extruded polyethylene with nominal characteristics of:

Roll weight: 27.6kg

Standard roll length: 25m

Standard roll width: 4m

Performance and test methods: Protect GDB10 PLUS	MD (along roll)	CD (across roll)
Unaged nail tear strength (N) to BS EN 12310-1 modified	246	227
Unaged tensile strength (N/50mm) to BS EN 12311-1 modified	875	825
Elongation (%) to BS EN 12311-1 modified	15	15
CBR puncture resistance (N) to BS EN ISO 12236	1894	
Sheet methane permeability to BS ISO 15105-1	< 0.3ml/m <sup>2</sup> /24hrs@1atm	
Joint methane resistance permeability to BS ISO 15105-1	3.56ml/m <sup>2</sup> /24hrs@1atm	
Carbon dioxide (CO <sub>2</sub> ) permeability to BS EN 374-3	< 1.0 µg/(cm <sup>2</sup> .min)	
Radon permeability	4.2 x 10 <sup>-12</sup> m <sup>2</sup> /s	
Radon transmittance	21 x 10 <sup>-9</sup> m/s	
Basis weight (g/m <sup>2</sup> )	195	
Water penetration resistance to BS EN 1928, Method A modified	Pass Class W1	

**SELF ADHESIVE GAS RESISTANT  
DPC / MEMBRANE**

An adhesive backed gas resistant membrane specifically designed for use with Protect GDB10 PLUS gas and damp barrier for sealing around columns, concrete slabs, etc.

The very high initial adhesion allows easy and instant lamination to a wide variety of substrates including concrete, steel and masonry.

**Features**

- Excellent resistance to harmful soil gases and damp penetration
- High adhesive properties
- Versatile, used to form column cloaks
- Easily shaped to form a gas proof cavity barrier
- Tough and durable
- Excellent tensile strength
- Puncture and tear resistant

**Composition, sizes**

Triple ply construction including a tough polywoven core layer with a bright high purity aluminium foil which is bonded with a 0.8mm pressure sensitive modified acrylic transfer tape with siliconised paper release liner.

Weight: 309g/m<sup>2</sup>

Roll sizes: 20m roll lengths in 150mm, 300mm and 600mm widths.

**Application**

The surface to be bonded must be clean, ie free of dust, release agents, processing oils and grease. The temperature of the application should not be below the dew point of the surrounding air. The warmer the tape the better the immediate adhesion will be. A dedicated primer is also available for fibrous or very porous applications.



Shown above (from top to bottom) 150mm, 300mm and 600mm wide gas resistant membrane.

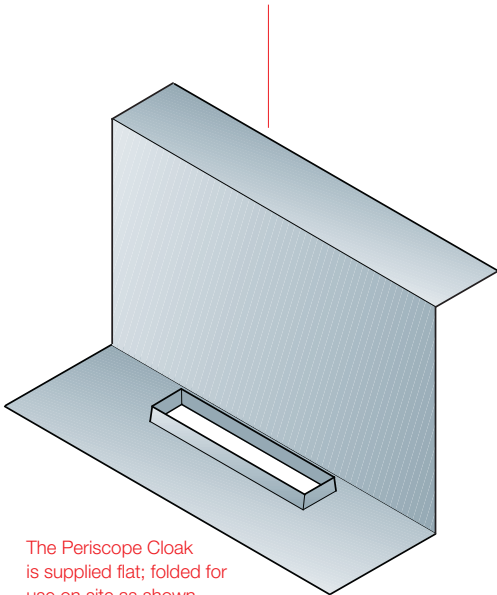
## PREFORMED ACCESSORIES

A comprehensive range of preformed accessories is available for use with membranes to maintain protection at wall cavities, corners, pipe and service entries etc.

Design of components removes the need to form difficult shapes on site, giving a simpler and more reliable installation.

### Self adhesive Periscope Cloak

Maintains continuity by providing a preformed cloak to seal around the vertical section of a periscope vent where such a vent passes through a cavity barrier.



The Periscope Cloak is supplied flat; folded for use on site as shown

### Jointing tape

Gas Jointing Tape and Joint Protection Tape for making joints in membranes and between membranes and other components.

Available in roll widths of 12, 30 and 50mm.

Where extra high adhesion is required, Transfer tape with a pressure-sensitive modified acrylic adhesive is available for use as a general mounting tape.

Bespoke fabrications available to special order.

### Radon Cavity Barrier and combined Cavity Tray

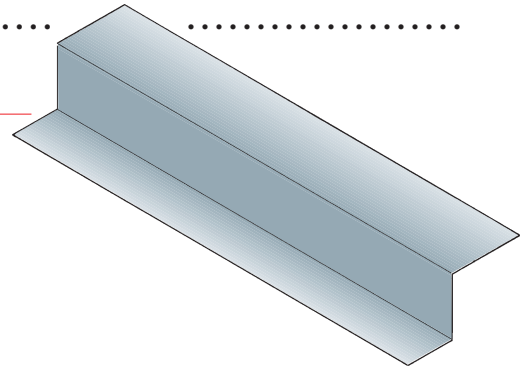
One size fits wall cavities from 50 to 100mm wide.

Also suits 150mm deep suspended floors.

Other sizes available to special order.

Sparked finish surface promotes mortar adhesion and prevents the creation of slip planes in masonry.

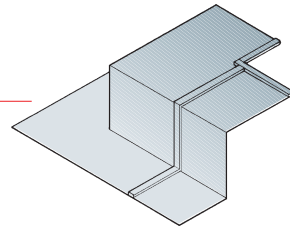
Supplied in 25m or 50m rolls.



### Cavity Barrier Universal Corner

Preformed unit which is reversible for external or internal corners.

150mm deep as standard. Other sizes available to special order.

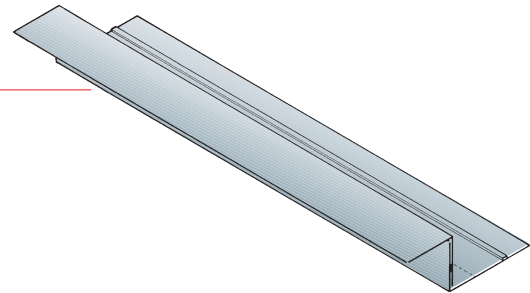


### RSE Radon Slab Edge Protection Tray

Designed to accommodate slab thicknesses of 100 or 150mm.

Supplied in 25m or 50m rolls.

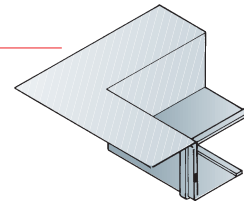
Other sizes available to special order.



### RS22 Slab Edge Universal Corner

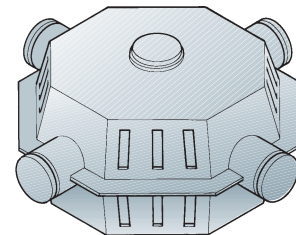
Preformed unit which is reversible for external or internal corners.

For slab thicknesses: RS22/100 for 100mm, RS22/150 for 150mm.



### RS Radon Sump

Installed within fill material in underfloor voids to collect radon gas and vent it by convection through a vertical pipe.



### RPS1 Universal Pipe Seal

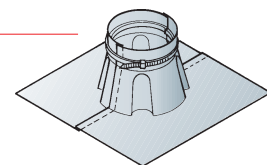
Seals around service pipes which penetrate the membrane.

To fit pipe/sleeve diameters as follows:

RPS1/110: 100 to 120mm.

RPS1/130: 130 to 140mm.

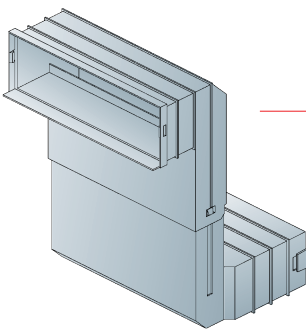
RPS1/160: 150 to 160mm.



## UNDERFLOOR and CAVITY WALL VENTS

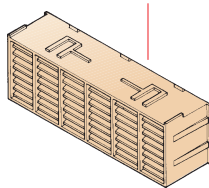
The Glidevale range of underfloor and cavity wall ventilation products enable the regulatory requirements for ventilation to be met.

- Adaptable to a wide range of situations including different floor depths and remote voids.
- Also provides protection against the entry of driving rain, birds, rodents and large insects.



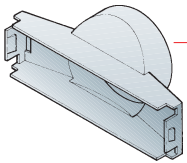
### MV250 Airbrick

Ventilation area 6000mm<sup>2</sup>  
 Standard brick face dimensions.  
 Can be stacked in multiples.  
 Driving rain resistant.  
 Can be used with MV251 Periscope and MV253 Vent Pipe Adaptor.  
 Colours: terracotta, buff, anthracite.



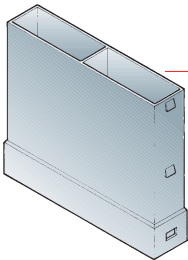
### MV251 Periscope

Provides ventilation beneath suspended floors.  
 Vertical adjustment for 3-4 brick courses.  
 Suitable for cavity widths from 50 to 100mm.  
 Can be used with MV250 Airbrick, MV254 Vertical Sleeve and MV253 Vent Pipe Adaptor.



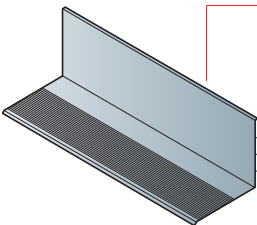
### MV253 Vent Pipe Adaptor

Enables remote voids to be ventilated via connection to 100mm internal diameter pipe.  
 Can be attached to MV250 Airbrick and MV251 Periscope.



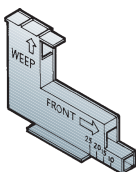
### MV254 Vertical Sleeve

Fits between two halves of MV251 Periscope to increase overall depth adjustment up to 5-6 brick courses.  
 Modular design allows additional units to be added for even greater depths.



### HT2 Airbrick Cavity Tray

Installed above an airbrick to protect the wall cavity against damp penetration in accordance with BS 8215: 1991.  
 Short length for ease of installation whilst providing 100mm extension on each side of airbrick.



### MV650 Weepvent

Cavity wall ventilator and weep unit in one innovative product.  
 Fits into a single perpend joint.  
 Ventilation area 220mm<sup>2</sup>.  
 Driving rain resistant and protects against large insect ingress.  
 Colours: terracotta, buff, grey.  
 Can be used in brickwork, blockwork, timber-framed and rendered walls.

### Installation

#### Underfloor vent spacing

Locate underfloor vents on opposite sides of the building to achieve the most effective mix and distribution of air flow.

Installed at 4.0m centres they will provide 1500mm<sup>2</sup> ventilation area per metre of external wall to comply with Building Regulations Approved Document C.

However we recommend spacing at 2.0m centres to avoid the risk of stagnant air pockets and consequent risk of accumulation of gases.

#### Cavity trays

BS 8215: 1991 recommends use of cavity trays above any point where a wall cavity is bridged. Glidevale HT2 or HTR cavity trays with stopends and weepvents should be used above MV250 Airbricks and MV251 Periscopes.

#### Weepvents

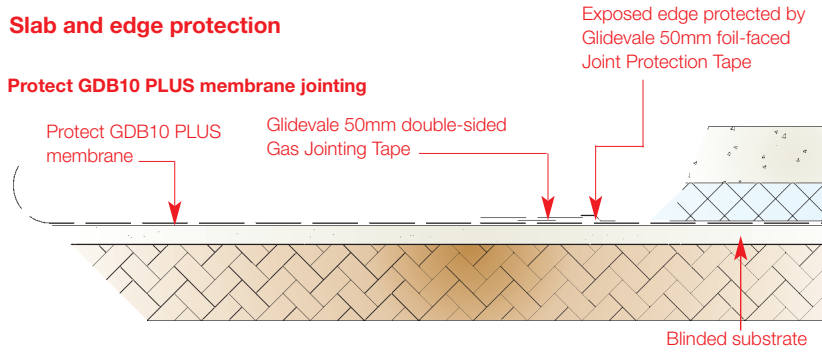
Weepvents should be installed on all cavity trays at 450mm centres.

For timber frame wall cavity ventilation, install at a horizontal spacing of 450mm centres, at low and high level and above and below fire stops in a staggered layout.

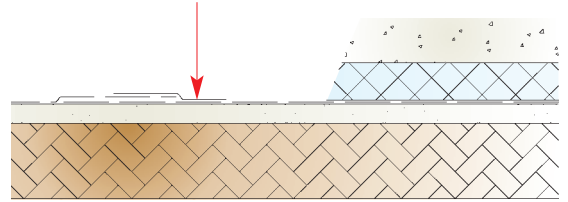
## APPLICATION DETAILS

### Slab and edge protection

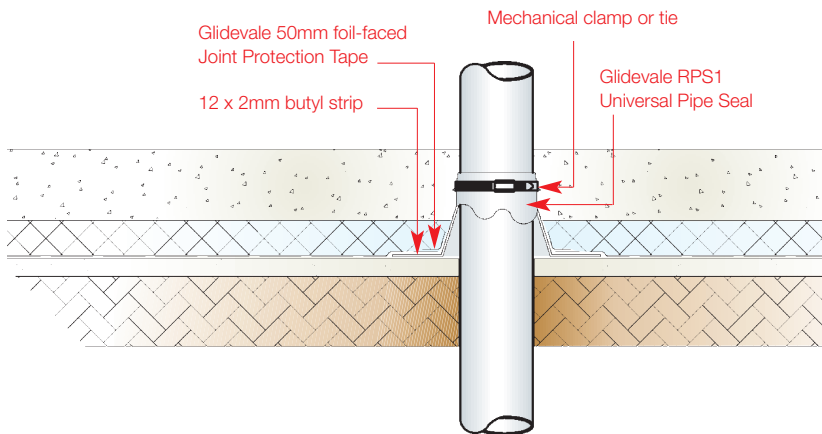
#### Protect GDB10 PLUS membrane jointing



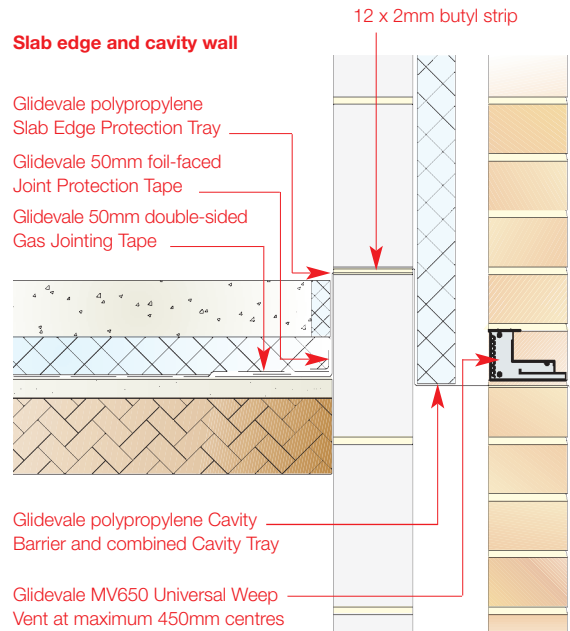
Alternatively the joint can be formed using 150mm gas resistant tape



### Service pipe penetration of membrane

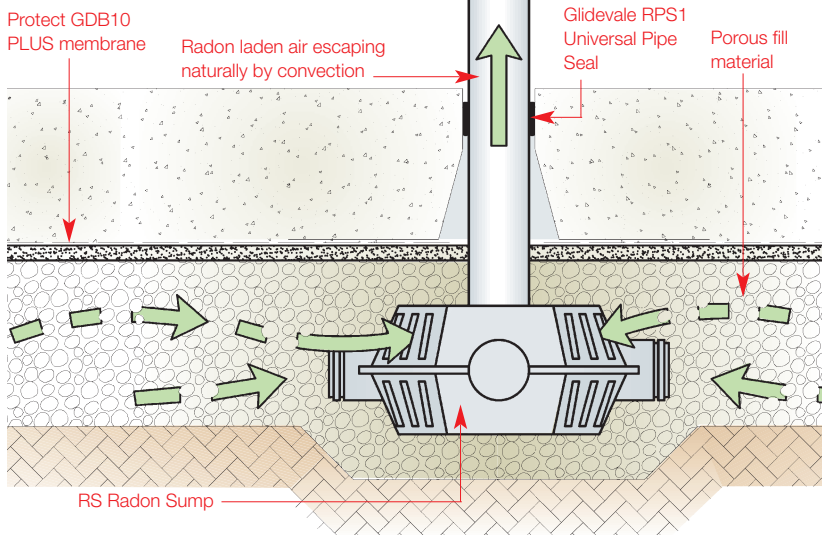


### Slab edge and cavity wall



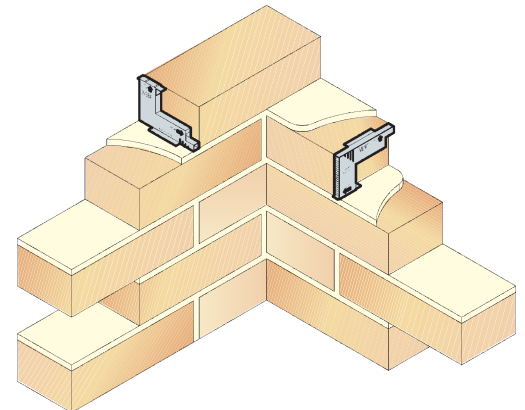
### Radon ventilation

#### Ventilation of underfloor void with porous fill

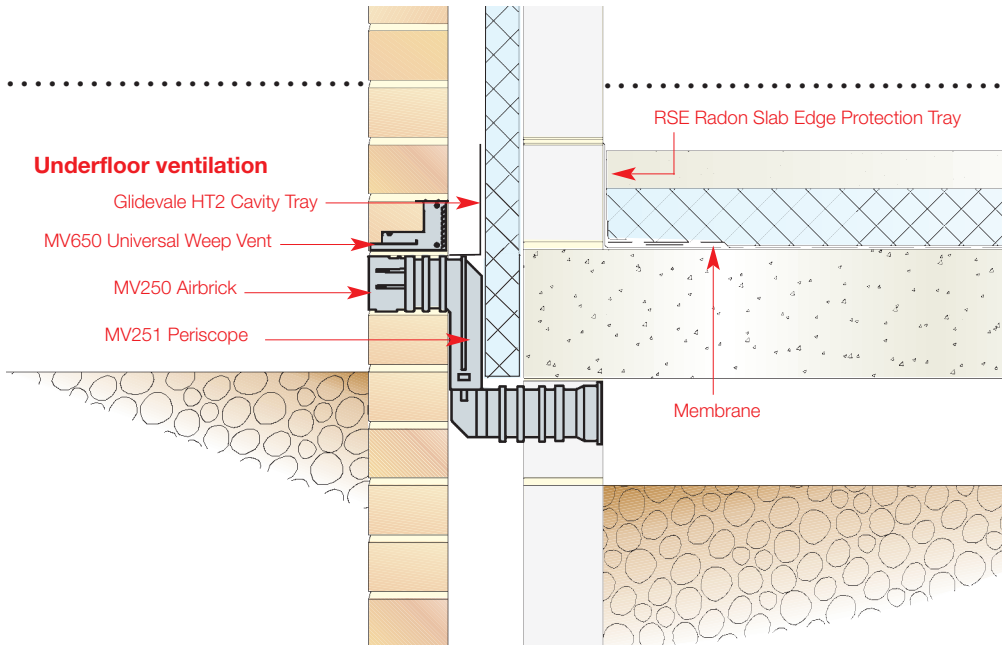


### Wall ventilation

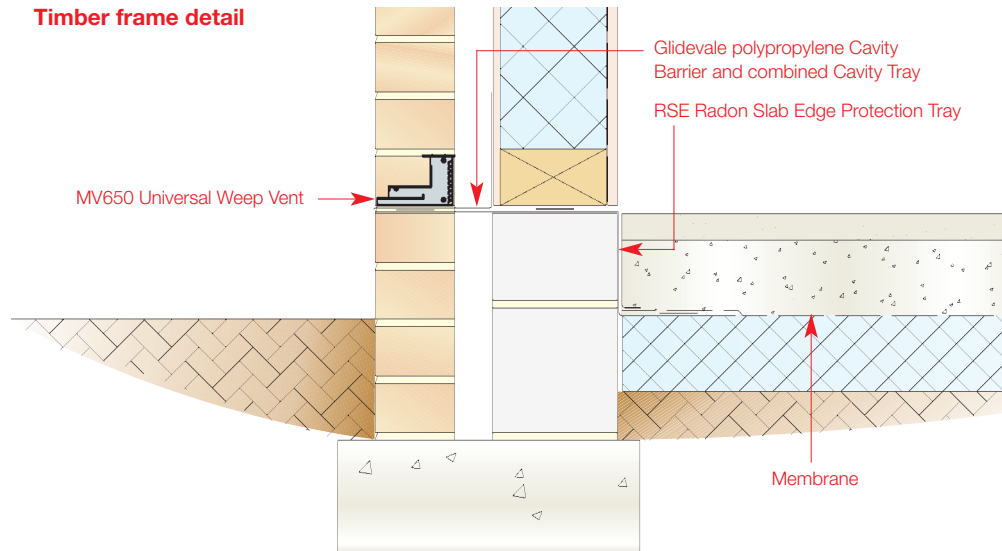
#### MV650 used as weep or ventilator



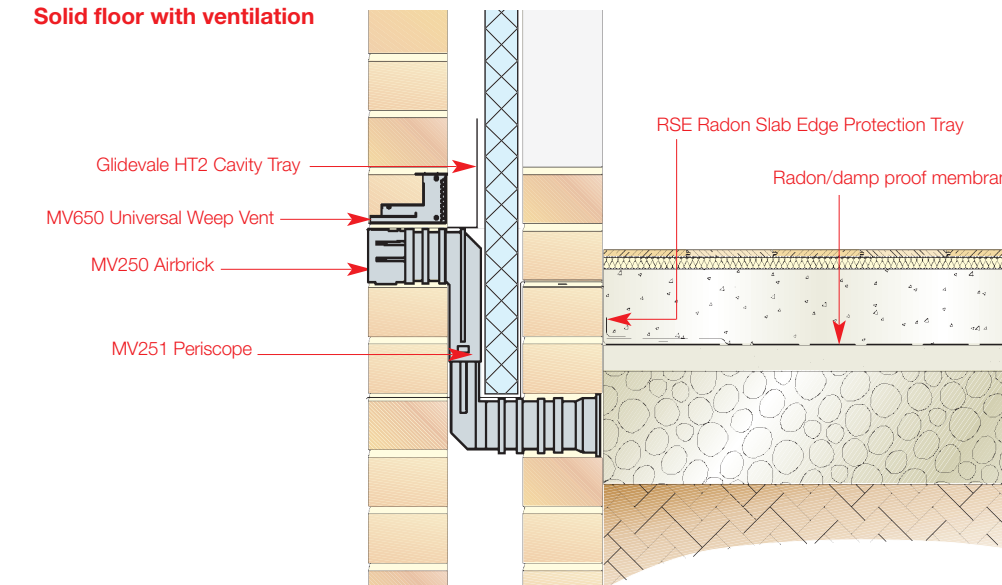
**Underfloor ventilation**



**Timber frame detail**



**Solid floor with ventilation**



**Specification clauses**

**Gas/damp protection**  
Provide combined gas and damp protection to ground floors to comply with Building Regulations Approved Document C by means of:  
Protect GDB10 PLUS membrane (methane, carbon dioxide, radon) / Glidevale Radon Shield membrane (radon only)  
Glidevale Edge and Cavity Protection System  
Glidevale Underfloor and cavity wall vents all supplied by Glidevale, 2 Brooklands Road, Sale, Cheshire, M33 3SS. Tel: 0161-905 5700, Fax: 0161-905 2085, Email: info@glidevale.com.

**Protect GDB10 PLUS membrane / Protect Radon Shield membrane**  
Lay membrane directly on a suitable blinded substrate. Overlap joints by a minimum of 150mm and seal using Glidevale 50mm wide double-sided Gas Jointing Tape. Protect the exposed edge of the joint by taping to the underlying layer using Glidevale 50mm wide foil-faced Joint Protection Tape. Alternatively the joint can be formed using 150mm gas resistant tape.  
Sleeve service pipe penetrations using Glidevale RPS1 pipe seals, lapped and sealed to the membrane as above.

**Glidevale Edge and Cavity Protection System**  
Ensure continuity of gas and damp barrier at all external walls by installing Glidevale Slab Edge Protection Tray sealed to the membrane using Glidevale 50mm wide double-sided Gas Jointing Tape. Alternatively the joint can be formed using 150mm gas resistant tape.

Provide continuous gas and damp protection in the wall cavity by installing Glidevale polypropylene Cavity Barrier and combined Cavity Tray. Seal Glidevale Slab Edge Protection Tray to the top of the Cavity Barrier tray using Glidevale 12mm wide double-sided Gas Jointing Tape. Site Glidevale MV650 universal weep ventilators directly on the Cavity Barrier tray in the external masonry leaf at maximum 450mm centres around the building perimeter.

**Glidevale Underfloor and cavity wall vents**  
Provide ventilation to underfloor voids by means of Glidevale Underfloor and cavity wall vents installed in accordance with manufacturer's instructions.

**Glidevale Radon Sump**  
Install Glidevale Radon Sump within porous underfloor fill material with vertical pipe venting in accordance with manufacturer's recommendations.

**Environment / operational information**

As part of our commitment to minimising our impact on the environment, and to continuously improve in our methods of operation, Glidevale is accredited to ISO14001 Environmental Management, OHSAS 18001 Health and Safety Management and ISO 9001 Quality Management Systems.

**Technical support**

Glidevale offers a full technical advisory and estimating service. Contact our Technical Services Department on 0161 905 5700 for further information or to request a complete schedule and quotation covering all products required.

**Other products from Glidevale**

- Cavity trays and preformed DPCs
- Tile and slate ventilators
- Abutment ventilators
- Eaves and low level ventilation systems
- Loft access traps/ladder
- iPSV® whole-house ventilation system



Stockist's stamp

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



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