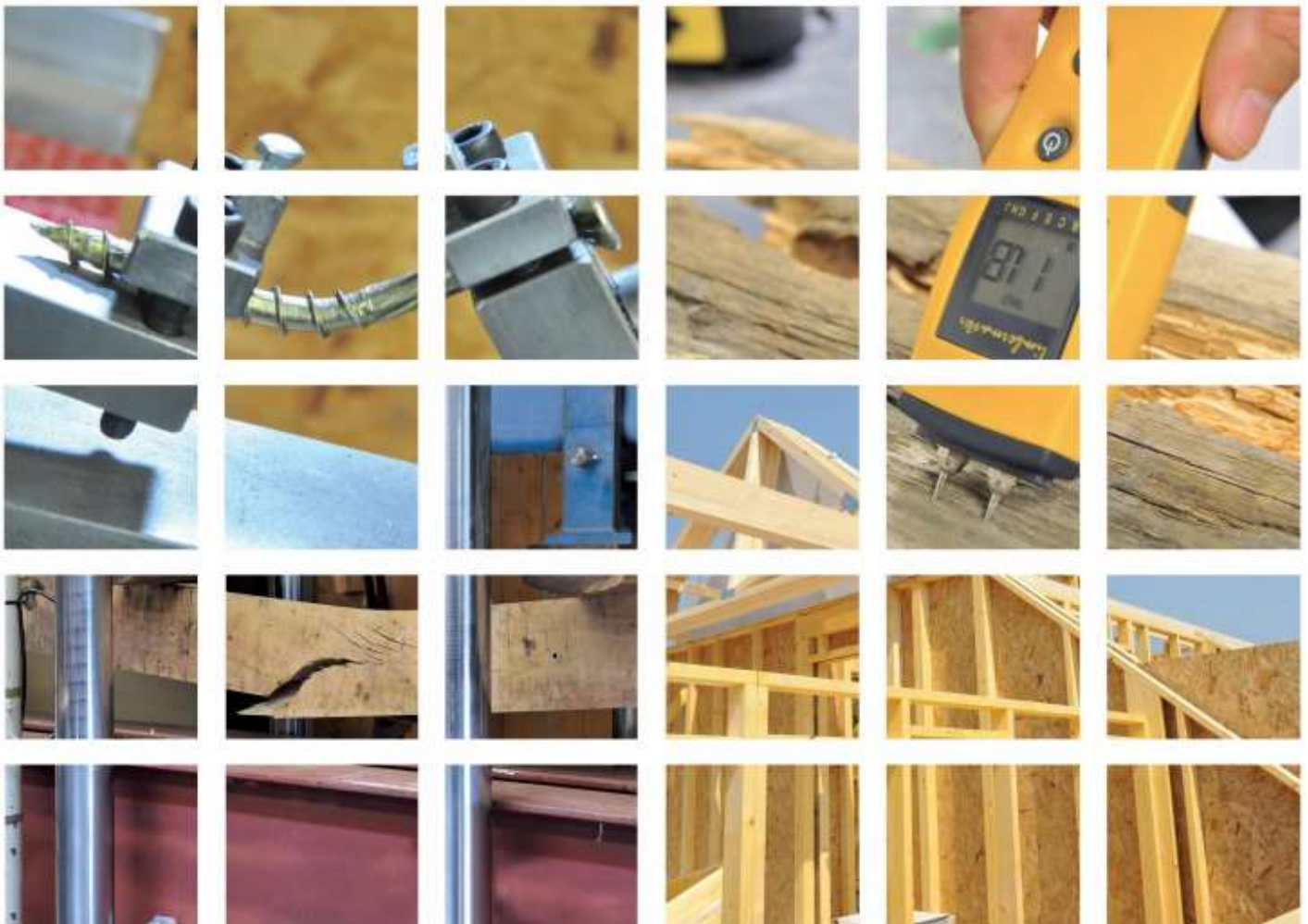


# Q-Mark Registration Schedule

## Gas and Damp Barrier Membrane

### Protect GBD10 Plus

Glidevale  
2 Brooklands Road  
Sale  
Cheshire  
M33 3SS



## Q-Mark Registration Schedule

<b>Holder of Q-Mark</b>	Glidevale	
<b>Product Name</b>	Protect GDB10 Plus	
<b>Type and Use of Product</b>	Gas and Damp Barrier Membrane	
<b>Validity:</b>	<b>From</b>	02/06/2019
	<b>To</b>	01/06/2022
<b>Date of This Issue</b>	02/16/2019	
<b>Issue Number</b>	6	
<b>This Issue Replaces</b>	Revision 20/04/2018	
<b>Relates to Certificate Number</b>	CPS 003	
<b>Manufacturing Address/s</b>	2 Brooklands Road Sale Cheshire M33 3SS	
<b>This Schedule Contains</b>	17 Pages including 3 Annexes	



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## 1 INTRODUCTION

The Q-Mark Scheme is a third-party product certification scheme operated by BM TRADA Certification Ltd.

The Scheme is based on the principles of ISO 9001, EN 17065, EN ISO 17025 and confirms compliance with EN 13967, together with a specific set of performance criteria set by BM TRADA (as defined in Clause 4 of this document) in order to attain a product which performs to a high standard. The relevant standards listed above are to be read in conjunction with this document.

The scheme covers factory production control, documentation and test/assessment evidence, and the resultant certification is specific to clearly defined products and their constituent components.

The objectives of the scheme are:

- To improve the quality and performance of Construction Products
- To provide unambiguous evidence of compliance with the standards or methods listed
- To provide specifiers, regulators and inspection authorities with the appropriate information for them to identify suitable products

## 2 DEFINITIONS & ABBREVIATIONS

The following definitions and abbreviations are used throughout the document. Other definitions are as given in the relevant standards.

Assessment	A considered judgement to determine whether products meet the criteria laid down in the relevant Technical Specification
Audit	Visit by BM TRADA or another Certification Body to examine the Factory Production Control / Quality Management System of a manufacturer or supplier, usually to determine appropriate compliance to ISO 9001, with specific emphasis on the factory production control elements
Member	Company holding membership of the Q-Mark Scheme
QMS	Quality Management System (e.g. one meeting BS EN ISO 9001)
Schedule	The certification schedule, which identifies the scope and range of products covered by the membership certificate
Scheme	The BM TRADA Q-Mark Construction Products Scheme

## 3 SCOPE

The Scheme is applicable to construction products which fall within the scopes of the product standards referenced in Clause 1 of this document, and applies to products as manufactured and supplied, and before being installed into the works.

## 4 PRODUCT DESCRIPTION

Protect GDB10 Plus is a multilayer complex laminate membrane consisting of a high strength HDPE woven substrate bonded to a 20 micron aluminium foil layer further protected by further layers of HPDE and LDPE. The product has been assessed as being a Type 'A' Damp Proof Sheet in accordance with BS EN 13967.

#### 4.1.1 Table 1: Nominal Characteristics

Property	Protect GDB 10 Plus
Thickness (mm)	0.19
Mass/unit area (g/m <sup>2</sup> )	195
Roll length (m)	40
Roll width (m)	3.0
Roll weight (kg)	24.3
Colour	Aluminium upper with red printing. White under.

#### 4.2 Intended Use

Under the scope of this certification, Protect GDB10 Plus has been approved for use as a gas (radon, methane, and carbon dioxide) and damp barrier in the ground floor of buildings where the risk of contamination to the buildings internal environment is imminent. Protect GDB10 Plus is intended to be covered by either a concrete slab or thermal insulation with a screed topping of minimum thickness 100mm. Where insulation is to be incorporated in a ground bearing floor construction, reference/guidance shall be sought from appropriate literature.

Protect GDB10 Plus is intended for use in conjunction with the ancillary products listed in Table 2, so as to enable a complete seal over the footprint of the building. The ancillary components which are not covered under the scope of this certification are marked with an asterisk.

#### 4.2.1 Table 2: Ancillary Components

Item	Component
A	150mm wide GDB10 Plus Gas Resistant Jointing Tape
B	Polypropylene Slab Edge Protection Tray*
C	Polypropylene Cavity Barrier and Combined Cavity Tray*
D	Universal Pipe Seal*
E	Preformed Proprietary 2 Part 'Boot' Units*
F	Internal and External Universal Corners*

## 5 BUILDING REGULATIONS

Protect GDB10 Plus is certified under the BM TRADA Q-Mark Construction Products Scheme. It is the opinion of BM TRADA that if used in accordance with the requirements of this scheme and in accordance with the installation manual, then the product will satisfy, or contribute to satisfying the relevant requirements of the following Regulations:

- The Building Regulations 2010 (England and Wales)
- The Building (Scotland) Regulations 2004
- The Building Regulations (Northern Ireland) 2012
- The Building Regulations (Ireland) 1997

## 6 SCHEME REQUIREMENTS

BM TRADA has determined that the Member conforms with the requirements within these clauses by auditing and/or other forms of verification where appropriate.

## **6.1 Quality Management System (QMS)**

- The manufacture of the products is conducted under the control of an appropriate QMS.
- The QMS is subject to periodic audit (not less than once per year)
- All new Members are subject to an initial inspection.

## **6.2 Documentation**

The following documents are controlled under the requirements of this Scheme:

- Manufacturing documentation (e.g. Quality Manual, procedures)
- Product specification/range documentation and Assessment
- Installation instructions
- Test reports and Sampling
- Q-Mark certificate and schedule(s)

### **6.2.1 Manufacturing Documentation**

The Member has supplied details of his manufacturing documentation to BM TRADA for review. This comprised of the Quality Manual, procedures, works instructions and test data.

## **7 MINIMUM QMS REQUIREMENTS**

### **7.1 Factory Production Control**

As part of the documented process control procedures the company has:

- Demonstrated that the products are being fabricated in accordance with documented manufacturing procedures from purchase of raw material to the production of the finished product.
- These procedures control all critical aspects of the production.
- Target limits are defined at each one of these areas.
- All performance characteristics claimed are controlled in order to remain consistent by including appropriate checks or testing in the QMS to ensure a consistent and similar product is produced.

### **7.2 Management Responsibility**

The management of the company carries out regular reviews of the system, which includes production records and any complaints that have been received. Notes are kept of any topics discussed and decisions made.

### **7.3 Company Representative**

A member of the management team is responsible for the QMS.

### **7.4 Internal Audits**

Routine internal audits are carried out to ensure compliance with the requirements of the Scheme.

### **7.5 Documentation**

Inspection and test records are kept in a format that is acceptable to BM TRADA Certification for a minimum of 5 years.

## **7.6 Work Instructions**

Work instructions and target values are placed at the critical production points throughout the manufacturing process.

## **7.7 Procedures for Non-conforming Product**

Where factory production control/target values are out of specification there is a procedure for identifying and correcting these deficiencies. The factory production control system has been assessed and found to be able to detect non-conforming product quickly enough so that affected product can be quarantined.

## **7.8 Traceability**

There are procedures, which enable appropriate traceability of production runs through to dispatch.

## **7.9 Training**

The company maintains records to show that staff have been satisfactorily trained to undertake the manufacturing and inspection tasks that they have been assigned. Records are kept of this training and the personnel's job description shall be clearly defined.

## **7.10 Complaints**

The company maintains a register of all complaints received on the quality of their product, which shows the steps they have taken to deal with the problem and their analysis of the causes. These records are kept for a minimum of 5 years.

## **7.11 Document Control**

There are procedures in place for effectively controlling the quality of documentation issued to the relevant personnel, so that they have up-to-date procedures.

## **7.12 Machinery Maintenance and Calibration**

All machinery and measuring / testing equipment that could affect the quality of the product is properly maintained and calibrated so that a consistent product can be produced and tested. There is a maintenance and calibration schedule. A record is kept of the maintenance and calibration carried out.

# **8 OTHER REQUIREMENTS OF THE SCHEME**

## **8.1 Product Specification/Range Documentation and Assessment**

The member has supplied BM TRADA with product details for review. These included material specifications, dimensions, tolerances and components. This product specification forms part of the manufacturing procedure.

Should the product specification of the certified product/s change, the member shall inform BM TRADA of the changes. A decision on the way forward shall be made to ensure continuation of certification.



## **9 TRANSPORT STORAGE AND INSTALLATION INSTRUCTIONS**

### **9.1 General**

The member shall ensure that adequate installation, storage and transport instructions are supplied with each pack or consignment of product. Any alterations to the instructions shall only be made following consultation with BM TRADA.

### **9.2 Identification**

The products shall be supplied in rolls wrapped in polyethylene on pallets. Each roll shall bear a label indicating the manufacturers name, the product name, nominal dimensions and the BM TRADA Q-Mark logo and Certificate Number. Installation instructions shall also be supplied with each roll/consignment.

### **9.3 Storage and Handling**

- Rolls shall be stored on their ends and protected from sunlight and accidental damage. The ancillary components listed in Table 2 should be protected from the weather in their packaging until ready to use.
- Care shall be taken when handling the product on site in order to avoid accidental perforation. Any damage after installation shall be repaired in accordance with the manufacturer's instructions.

### **9.4 Installation**

#### **9.4.1 General**

- The installation and fixing shall be in accordance with the supplier's instructions and the requirements of this certificate, as the performance of the product is dependant on correct installation.
- Installation shall be specific to each site and in accordance with the requirements of this certificate and BS 8000-4: '*Workmanship on building sites. Code of practice for waterproofing*', and BS 8485: '*Code of Practice for the design of protective measures for Methane and Carbon Dioxide ground gasses for new Buildings*'.
- The quality of installation achieved on site is not covered by this certificate. BM TRADA recommends that the quality of installation and workmanship be subject to checks by a competent person/s.

#### **9.4.2 Actual**

**9.4.2.1** Actual installation shall be carried out over prepared ground or sub-floor finished to prevent any damage to the membrane. Concrete slabs or masonry surfaces shall be free of any projections or indentations.

**9.4.2.2** The product shall be installed in dry site conditions and where surface condensation does not occur. Any condensation formation will prevent adherence of the sealing tapes. Sealing tapes shall be stored above 10<sup>0</sup>C until immediately prior to use for installations at temperatures between 5<sup>0</sup>C and 10<sup>0</sup>C.

**9.4.2.3** For installations to be covered by a concrete slab, the product shall be loosely laid to accommodate any small movements that may occur.

**9.4.2.4** To ensure that the product integrity is not compromised, when used for ground bearing or floating slab applications, provisions shall be made for any anticipated slab movement during the life of the building.

- 9.4.2.5** All surfaces shall be dry and clean, i.e. free of any mortar droppings, loose matter, grease or other deleterious substances to ensure adequate adhesion prior to application of any tape when joining adjacent membrane pieces or components of the system.
- 9.4.2.6** To form a joint, the Protect GDB10 Plus is overlapped onto the next layer by 150mm. The protective paper from under the surface of the 150mm wide gas resistant jointing tape (A) is removed, centered on the joint and used to seal the edge of the overlap. The joint is then consolidated with an appropriate tool, e.g. wall paper roller. Refer to Annex 1, Figure 1).
- 9.4.2.7** Corners shall be such that the continuity of the Protect GDB10 Plus installation is ensured at all positions. Universal Internal and External Corners (F) are available and come with an integral butyl sealing tape. All gaps shall be properly sealed. Polypropylene Slab Edge Protection Trays (B), Cavity Barriers and Combined Cavity Trays (C), are available to ensure the continuity of the gas protection to the outside of the wall construction. (Refer to Annex 1, Figure 3). Protect GDB10 Plus shall be laid sufficiently loose to prevent stretching or tearing and bridging shall not be allowed to occur at internal corners where concreting is to be carried out.
- 9.4.2.8** Gas protection shall be made continuous through the external walls of the building traversing any cavities. To achieve this, the Protect GDB10 Plus shall overlap the Slab Edge Protection Trays (B) and be sealed to it. To bridge the wall cavity and single skin external masonry wall, the Cavity Barrier and Combined Cavity Trays (C) shall be sealed to the Slab Protection Trays (B) using 150mm wide gas resistant jointing tape (A). (Refer to Annex 1, Figure 3).
- 9.4.2.9** Universal Pipe Seals (D) shall be used for sealing around pipe entries to ensure the continuity of Protect GDB10 Plus. The perimeter shall be joined to Protect GDB10 Plus using 150mm wide gas resistant jointing tape (A). (Refer to Annex 1, Figure 2). Service entry points shall not coincide with lapped joints in Protect GDB10 Plus.
- 9.4.2.10** Preformed Proprietary 2 Part 'boot' (E) shall be used to fit around features such as steel or concrete structural columns to achieve airtight sealing.
- 9.4.2.11** Protect GDB10 Plus shall be loosely folded back on itself when it is to be laid over a slab movement joint.
- 9.4.2.12** If a permanent covering is not installed immediately after installation of Protect GDB10 Plus, temporary protection shall be provided. Before the permanent covering is placed, the installation shall be inspected by a competent person to ensure no damage has occurred.

## **10 TEST AND VERIFICATION REQUIREMENTS**

### **10.1 Test Reports and Sampling**

BM TRADA has assessed the results of testing and sampling, and/or calculation that has been carried out in accordance with the scheme rules.

### **10.2 Initial Type Testing**

#### **10.2.1 Mechanical Resistance and Stability**

Testing of the product has been carried out to determine the following properties and performance characteristics:

- Tensile Strength

- Resistance to nail tearing (nail shank)
- Water-tightness (Resistance to Water Penetration)
- CBR Puncture Resistance
- Radon Transmittance and Permeability
- Methane Permeation
- Carbon dioxide Permeation

Test results are summarised in the Tables below.

**10.2.1.1 Table 3: Tensile Strength (Unaged) (N/50mm) to BS EN 12311-1 as modified by EN 13859-1**

Direction	Tensile Strength (N/50mm)	Elongation (%)
Machine	875	15
Cross	825	15

**10.2.1.2 Table 4: Resistance to Nail Tear (N) to BS EN 12310-1 as modified by EN 13859-1**

Direction	Resistance to Nail Tearing (N)
Machine	246
Cross	227

**10.2.1.3 Table 5: Resistance to Water Penetration (W) to EN 1928 as modified by EN 13859-1**

	Protect GDB10 Plus	
	Before Ageing	After Ageing
Class	W1	W1

**10.2.1.4 Table 6: CBR Puncture Resistance (N) to BS EN ISO 12236**

	Protect GDB10 Plus
CBR Puncture Resistance (N)	1894
Plunger displacement (mm)	31

**10.2.1.5 Table 7: Shear Resistance of Joints (N) to BS EN ISO 12317-2**

	Protect GDB10 Plus Jointed Specimen using GDB10 Plus 150mm Wide Tape
Shear Strength of Joint (N)	350.82

## 10.2.2 Safety in Case of Fire

The fire performance of the products has not been determined. Fire performance shall be determined for the structure as a whole.

### 10.2.2.1 Reaction to Fire

Not relevant.

### 10.2.2.2 Resistance to Fire

Not relevant.

### 10.2.3 Hygiene, Health and Environment

#### 10.2.3.1 Table 7: Radon Transmittance and Permeability

	Protect GDB10 Plus	
	Transmittance (m/s)	Permeability (m <sup>2</sup> /s)
Value	21 x 10 <sup>-9</sup>	4.2 x 10 <sup>-12</sup>

*Note: Testing carried out to Swedish National Testing & Research Institute*

#### 10.2.3.2 Table 8: Methane Permeability to BS 15105-1

	Protect GDB10 Plus	
Value/s	Sheet Membrane	<0.3 ml/m <sup>2</sup> /Day @ 1 atm
	150mm Joints between Membrane using 150mm wide gas Resistant Joining Tape	3.56 ml/m <sup>2</sup> /Day @ 1 atm

**Note:**

*BS 8485, Table 7 requires that average methane gas transmission rate for sheet and joints should be < 40ml/day/m<sup>2</sup> @ 1atm when tested to BS ISO 15105-1 manometric method.*

#### 10.2.3.3 Table 9: Carbon Dioxide (CO<sub>2</sub>) Permeability to EN 374-3

Protect GDB10 Plus	
Value	Class
<1 µg/(min.cm <sup>2</sup> )	6

#### 10.2.4 Safety in Use

Not relevant

#### 10.2.5 Protection against Noise

Not Relevant

#### 10.2.6 Energy Economy and Heat Retention

Not Relevant

### 10.3 Aspects of Durability

Protect GDB10 Plus will provide and remain an effective barrier to gas (radon, methane and carbon dioxide) and moisture ingress into a building during the lifetime of the screed or concrete under which it is installed, provided it has been installed in accordance with the supplier's installation instructions and the provisions of this certificate.

## 11 IDENTIFICATION AND USE OF THE BM TRADA AND Q-MARK LOGOS

Correct identification of approved construction products is vital in order that purchasers and controlling authorities clearly understand the status of products presented to them. It is therefore a requirement that all products or at least the packaging of the products, covered under the scheme are identified as "BM TRADA Q-Mark Certified" or with other similar wording, and/or display the Q-Mark badges. This will assist subsequent

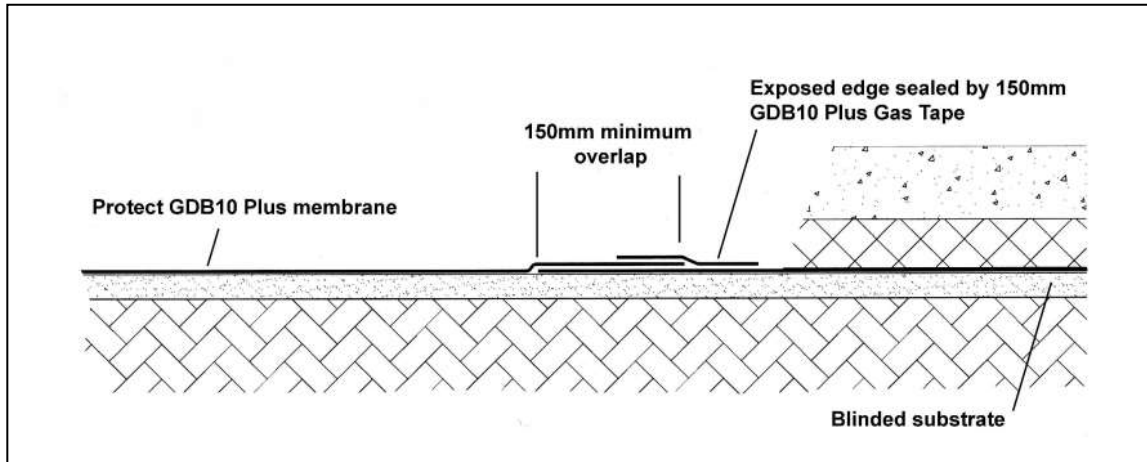
inspection authorities to recognise acceptable products. For similar reasons, Members are encouraged to make use of the Marks on marketing and Technical documentation.

## **12 GUARANTEES**

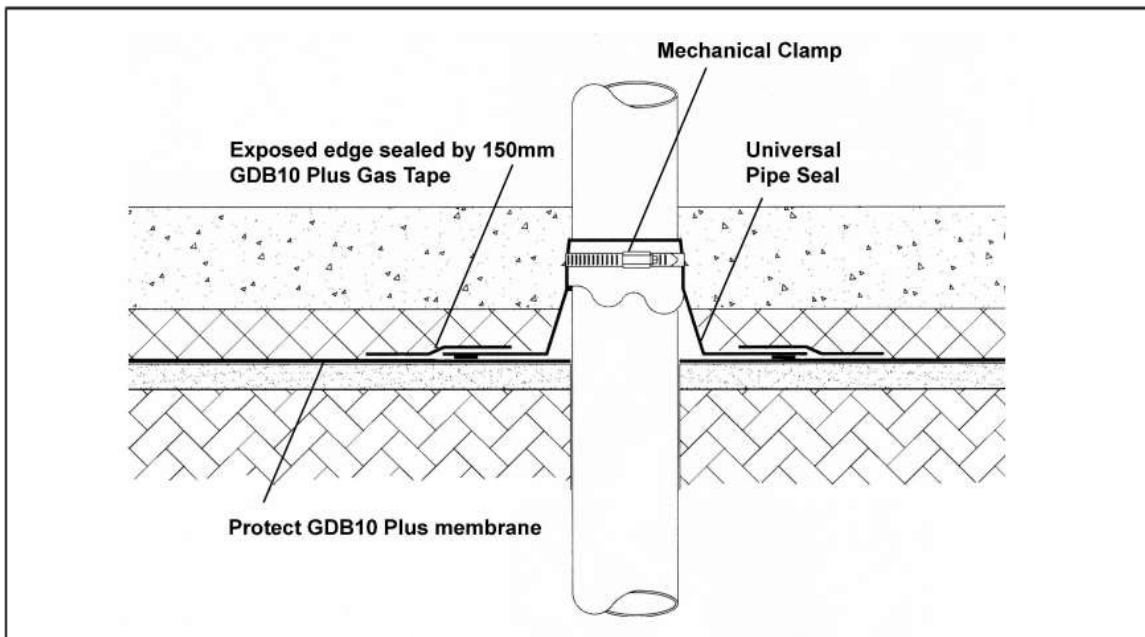
The Scheme makes no requirement on its Members to give a minimum guarantee. This is entirely up to the discretion of the Member.

## 13 ANNEX 1: INSTALLATION DIAGRAMS

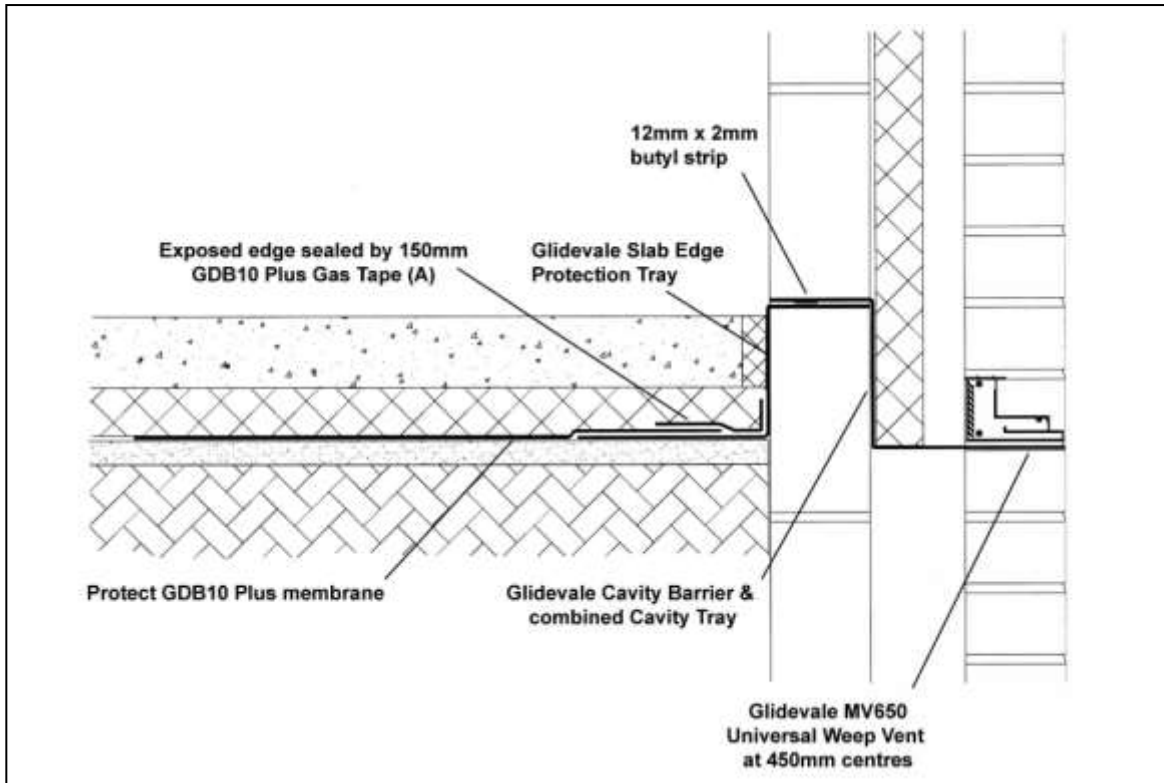
### 13.1 Figure 1: Membrane Jointing



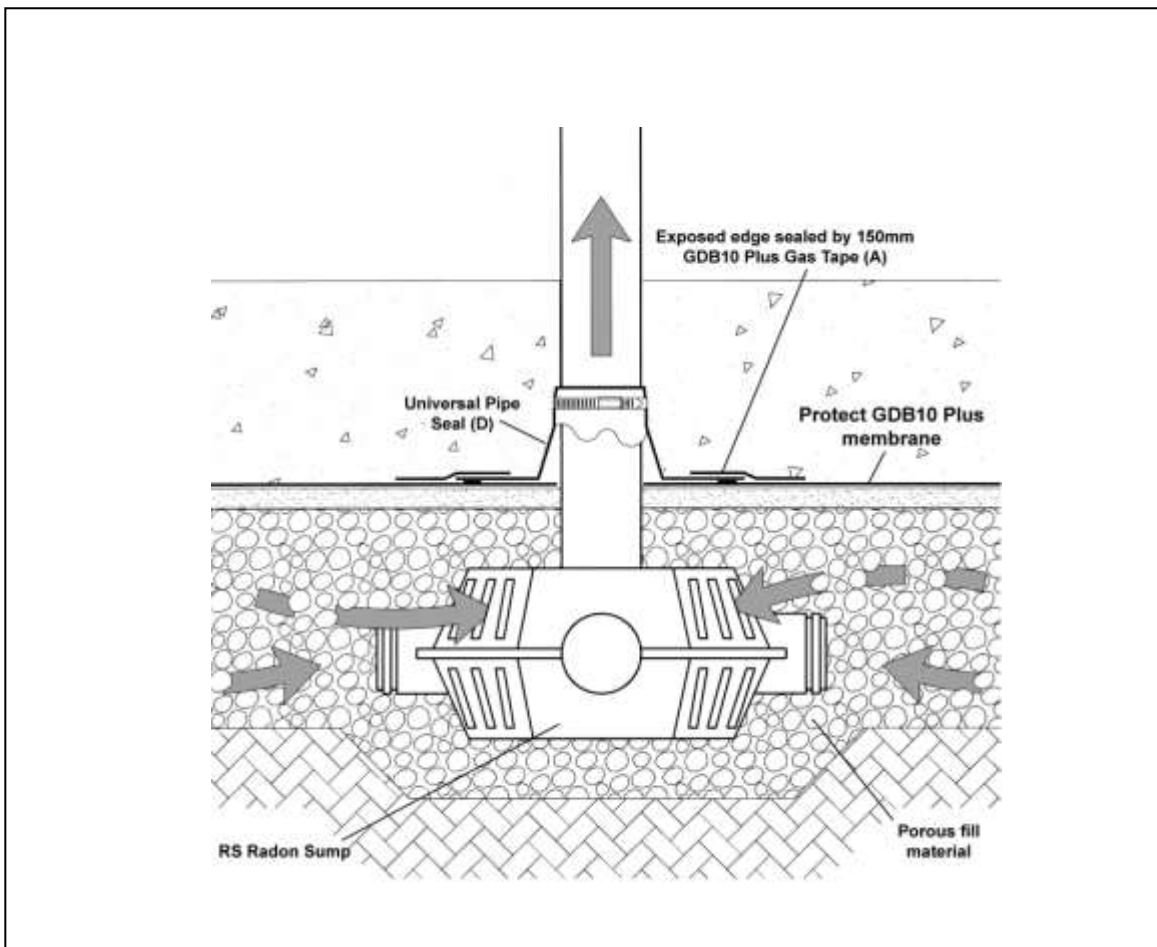
### 13.2 Figure 2: Service Pipe Penetration



13.3 Figure 3: Edge and Cavity Protection



13.4 Figure 4: Radon Sump (For Radon affected areas)



## **14 ANNEX 2: EVIDENCE/DOCUMENTS USED IN THIS ASSESSMENT**

1. BTTG High Performance Materials: Test Report, 10/23127A/RM, 28 March 2018
2. SP: Test Report, P602769, 15 August 2006
3. PERMLAB: Test Reports 14 September & 24th November 2017



## 15 ANNEX 3: NORMATIVE REFERENCES

- |     |                    |  |
|-----|--------------------|--|
| 1.  | BS 8000-4          | Workmanship on building sites. Code of practice for waterproofing.   |
| 2.  | BS 8485            | Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings   |
| 3.  | BS 8215            | Code and Practice for design an installation of damp proof courses in masonry construction.  |
| 4.  | BS EN 374-3        | Protective gloves against chemicals and micro-organisms – Part 3: Determination of resistance to permeation by chemicals.  |
| 5.  | BS ISO 15105-1     | Plastics – Film and Sheeting – determination of Gas-transmission Rate – Part 1: Differential Pressure Methods  |
| 6.  | BS EN 1109         | Flexible Sheets for Waterproofing.<br>- Bitumen sheets for roof waterproofing<br>- Determination of flexibility at low temperature                               |
| 7.  | BS EN 1848: Part 2 | Flexible Sheets for Waterproofing.<br>- Determination of thickness and mass per unit area – Part 2: Plastic and rubber sheets for roof waterproofing             |
| 8.  | BS EN 1928         | Flexible Sheets for Waterproofing.<br>Bitumen, plastic and rubber sheets for roof waterproofing – determination of water-tightness                               |
| 9.  | BS EN 1931         | Flexible Sheets for Waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing – determination of water vapour transmission properties            |
| 10. | BS EN 12310-1      | Flexible sheets for waterproofing. Determination of resistance to tearing. Part 1: Bitumen sheets for waterproofing.   |
| 11. | BS EN 12311-1      | Flexible sheets for waterproofing. Determination of tensile properties. Part 1: Bitumen sheets for roof waterproofing.   |
| 12. | BS EN ISO 13967    | Flexible sheets for waterproofing – Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheets – Definitions and Characteristics. |
| 13. | ISO 9001           | Quality Management Systems. Requirements   |