

14.9 The membrane installation should be subject to third-party independent validation, in accordance with BS 8485 : 2015.

15 Repair

Any damage to the membrane must be repaired using a patch of the membrane, and laps welded or sealed with double sided tape and secured with the butyl tape. All patched areas must extend a minimum of 100 mm from the damaged area. If required by the local authority, repair work should be confirmed by an independent validation report, as all gas membrane installations should be subject to third-party validation in accordance with BS 8485 : 2015.

Technical Investigations

16 Tests

16.1 An assessment was made of data to BS EN 13967 : 2012 in relation to:

- tensile strength and elongation
- nail tear resistance
- watertightness
- resistance to static loading.

16.2 Tests were carried out to determine:

- thickness, width, density and mass per unit area
- dimensional stability, low temperature flexibility and water vapour permeability
- tensile strength and elongation (control, heat aged , and UV exposed)
- watertightness (control and heat aged)
- nail tear strength (control and heat aged)
- resistance of joints to air pressure
- tensile strength of joints (control and heat aged)

to assess:

- membrane characteristics
- durability of the membrane and joints.

17 Investigations

17.1 An evaluation was made of the results of the test data regarding permeability of radon, methane and carbon dioxide.

17.2 A site visit was conducted to assess practicability of installation.

17.3 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

Bibliography

BRE Report BR 211 : 2015 *Radon : Guidance on protective measures for new buildings*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8485 : 2015 + A1 : 2019 *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*

BS EN 13967 : 2012 + A1 : 2017 *Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet — Definitions and characteristics*

BS ISO 15105-1 : 2007 *Plastics. Film and sheeting — Determination of gas-transmission rate — Differential-pressure methods*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

K124/02-95 *Radon diffusion coefficient by Czech Technical University to test number 124-11 — Measurement of radon coefficient*

18 Conditions

18.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

18.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

18.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

18.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

18.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.



CE n55Plus

CI/SfB

Tn6

L14143

November 2014

RIW GAS SEAL BLACK

Gas Seal Black is a four-layer, low density polyethylene membrane reinforcing grid with an integral aluminium foil.

BENEFITS

- └ Manufactured from virgin material, not recycled waste
- └ Separate damp proof membrane not required
- └ Robust jointing and sealing system
- └ Welded joints possible
- └ Single wound membrane with zero creases
- └ Two colour membrane for on-site quality control
- └ Suitable for use where radon, carbon dioxide, methane and hydrocarbon vapours are present
- └ Complies with latest codes of practice as published by CIRIA and BRE

APPLICATIONS

- └ Combined ground floor damp proof membrane and gas barrier

APPLIED TO

- └ Sand blinding
- └ Suspended floors
- └ Ground bearing slabs

REMEMBER IT'S

waterproof RIW

RIW GAS SEAL BLACK

TYPICAL USES

Gas Seal Black is typically used as a low density, polyethylene gas barrier and damp proof membrane in concrete floors above and below the slab.

The installed product protects the structure against moisture, radon, methane, carbon dioxide and hydrocarbon vapours from the ground.

The product is suitable for use on ground bearing reinforced concrete slabs, suspended beam and block floors or precast concrete slabs.

When used for hydrocarbons, the product must be applied on top of the slab, with the ground below vented.

DURABILITY

Subject to normal conditions of use Gas Seal Black will remain effective against the ingress of water and water vapour, and will restrict the ingress of radon, methane, carbon dioxide and hydrocarbon vapours during the lifetime of the building.

SPECIFICATION

J40 Flexible sheet waterproofing / damp proofing

Clause 140 Loose laid polyethylene gas retardant damp proofing.

Please consult RIW for further information.

INDEPENDENT AUTHORITY

Gas Seal Black has been awarded a BBA Certificate No. 14/5156 covering its use as a low density, polyethylene gas barrier and damp proof membrane in concrete ground floors, above and below the slab not subject to hydrostatic pressure, to protect the building against moisture, radon, methane and carbon dioxide from the ground.



RIW Limited
Arc House, Terrace Road South, Binfield,
Bracknell, Berkshire, RG42 4PZ, England
13
0799-CPR-256

EN 13967:2004 & A1: 2006 High performance loose laid gas & damp proofing barrier.

Reaction to fire:	Class E
Watertightness	Conforming
Maximal tensile force MD/CMD	>500/>380 N/50mm
Joint strength MD/CMD	npd
Resistance to tearing:	>270/>330 N
Resistance to static loading:	>20 kg
Determination of resistance to impact:	450 mm
Durability (artificial ageing)	
- Resistance at elevated temperature:	Conforming
- Resistance to liquid chemicals:	Conforming

PERFORMANCE & COMPOSITION

Form	loose laid composite sheet
Colour	black/white
Overall thickness	0.6mm
Roll size	2m wide x 50m long*
Weight	350g/m ² = 35kg/roll
Laps	150mm
Tensile strength MD EN 12311-1	600N/50mm 480N/50mm
Elongation EN12311-1	20%
Nail tear resistance MD EN 12311 -1	330N 400N
Radon permeability (m ² s ⁻¹ Pa ⁻¹)	8.00 x 10 ⁻¹⁵
Methane gas permeability (m ² s ⁻¹ Pa ⁻¹)	1.56 x 10 ⁻¹⁹
Carbon dioxide permeability (m ² s ⁻¹ Pa ⁻¹)	2.58 x 10 ⁻¹⁹

The above performance figures are typical values and should not be considered a product specification. *Other roll sizes available.

ANCILLARY PRODUCTS

RIW produce a range of ancillary products for use with Gas Seal Black which include:

Gas Seal Tape - double-sided self-adhesive butyl tape for sealing between overlaps in the membrane.

Lap Tape - single-sided self-adhesive PVC tape for sealing edges of lapped product.

Lap Tape RB - reinforced single-sided self-adhesive bitumen tape for sealing edges of lapped product and repairs to membrane.

Preformed pipe collars - flexible collar for sealing around pipe penetrations.

Sheetseal GR - self-adhesive sheet membrane for gas resistant waterproofing applications.

Gas Seal GR DPC - gas resistant damp proof course/ cavity tray for building into masonry.

Geo-vent - cusped HDPE venting geo-composite incorporating geotextile to one side.

T connectors - geo-vent end connector incorporating 25mm slot for geo-vent.

Peri-vent sets - periscopic vent complete with airbrick and geo-vent adaptor.

Pro-fleece - textile fleece for protection of applied gas membranes.

Gas cloaks - standard or bespoke cloak units to facilitate membrane application.

CONSTRUCTION

GENERAL

All construction should conform with the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed.

PREPARATION

The membrane should be laid on a smooth surface, free from voids, hollows and objects which may damage the membrane. If used below a ground bearing slab, the product may be laid on a sand blinding.

APPLICATION

The completed gas proofing system must cover the entire footprint of the building.

Gas Seal Black should be unrolled onto the prepared surface, and be smoothed out as necessary. The product must be installed with the black side uppermost.

Subsequent rolls should then be lapped onto the previous roll by 150mm, and be sealed using Gas Seal Tape placed centrally in the lap. Lap Tape should then be laid over the edge of the upper sheet, by 50mm, and be adhered down onto the lower sheet.

Pipe penetrations should be sealed using Preformed Pipe Collars; sealed to the membrane, and pipe using Gas Seal Tape and Lap Tape; see Pipe Penetration Detail.

Gas Seal GR DPC should be used to provide continuity through the walls, with Gas Seal Black lapped and sealed onto it using Gas Seal Tape and Lap Tape as before.

Damaged areas should be patch repaired as necessary, using similar lapping/sealing details.

Gas Seal Black will achieve 2 Points in accordance with BS8485 when installed by qualified specialists and independently validated. Where additional points are required, our Passive Venting System may need to be incorporated.

SPECIFIC USES

Gas Seal Black should be installed with the ancillary products required, in accordance with current guidance for gas protection systems; including BRE211 / 414, CIRIA C665 & BS 8485.

SAFETY

Full health and safety instructions are contained on the product material safety data sheets, and these must be referred to before use.

SUPPLY

AVAILABILITY

All products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices.

PACKAGING

Gas Seal Black 2m wide x 50m long rolls

STORAGE

The rolls must be stacked on a flat surface, kept under cover and protected from sunlight and mechanical damage.

TECHNICAL SERVICES

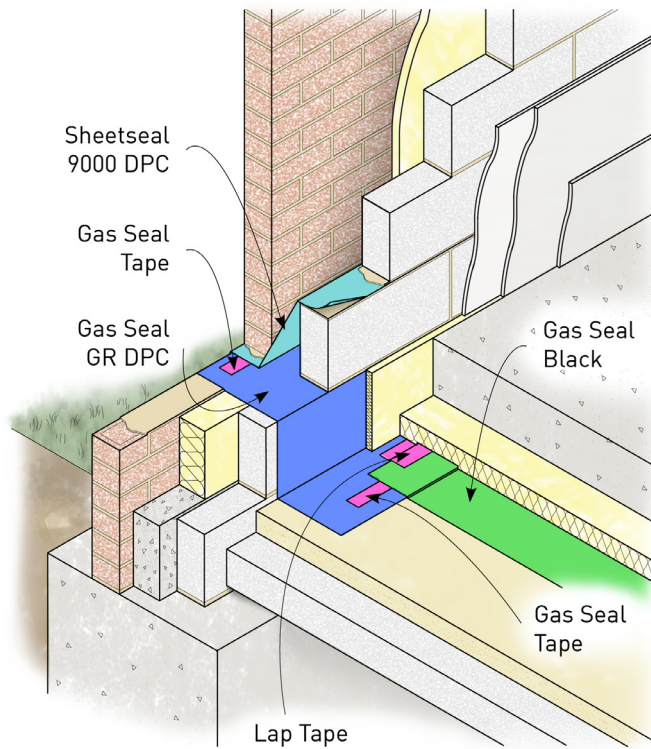
The Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings. We can also offer design guidance to satisfy the requirements of BS8485 and CIRIA C735.

A list of experienced applicators of our materials is available from RIW's offices, along with a list of independent consultants providing validation and integrity testing services.

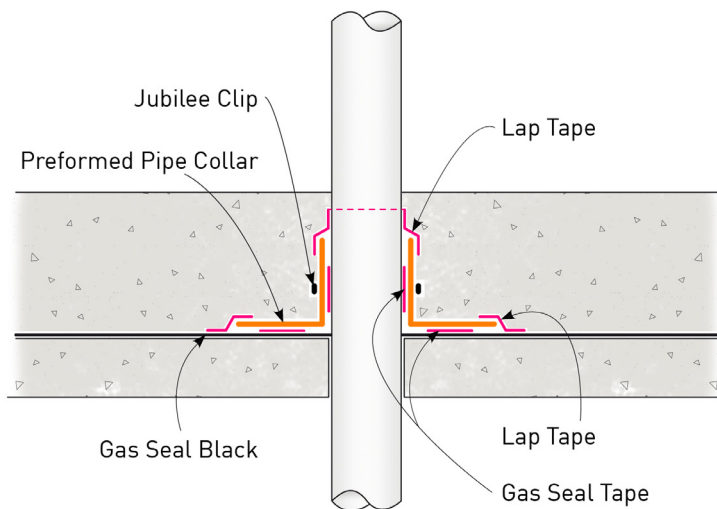
COMPATIBILITY TABLE

	BRE 211 Radon	CIRIA 665 Characteristic Situation 2	BS8485 Characteristic Situation 2	CIRIA 665 Characteristic Situation 3-6	BS8485 Characteristic Situation 3-6	NHBC Amber 1	NHBC Amber 2 & Red
Radon	YES	n/a	n/a	n/a	n/a	n/a	n/a
Carbon Dioxide	n/a	YES	YES	YES	YES	YES	YES
Methane	n/a	YES	YES	YES	YES	YES	YES
Hydrocarbon Vapours	n/a	YES*	YES*	YES*	YES*	YES*	YES*

* Suitable in some applications. Contact RIW Technical.



Typical Ground Bearing Slab



Pipe Penetration Detail

The information in this literature was correct at the time of going to press. However, we are committed to continually improving our products and reserve the right to change product specifications.

For the latest information, please consult RIW. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.

RIW

Arc House, Terrace Road South, Binfield,
Bracknell, Berkshire, RG42 4PZ

Technical enquires tel: **01344 397777**

Commercial enquires tel: **01344 397788**

www.riw.co.uk

REMEMBER IT'S
waterproof **RIW**

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e-mail: technical@riw.co.uk

website: www.riw.co.uk

**Agrément Certificate****13/5046**

Product Sheet 1

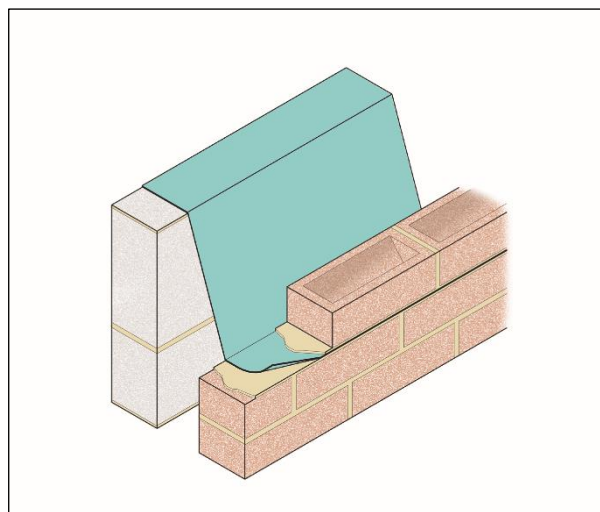
RIW HIGH PERFORMANCE DAMP-PROOFING SYSTEM**RIW SHEETSEAL 9000 DPC**

This Agrément Certificate Product Sheet⁽¹⁾ relates to RIW Sheetseal 9000 DPC, a flexible sheet material manufactured from a mixture of thermoplastic polymers and additives, used to provide a horizontal, vertical or stepped damp-proof course (dpc) in either solid or cavity masonry walls.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

**KEY FACTORS ASSESSED**

Behaviour under load — the product will not extrude under load up to the point of failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression (see section 6).

Resistance to water and water vapour — the product will provide an effective barrier against moisture (see section 7).

Resistance to radon — the product can contribute to restricting the ingress of radon into the building (see section 8).

Compatibility with other materials — within normal construction, the product is compatible with all materials with which it will be in contact (see section 9).

Durability — when properly specified and installed, the product, in normal circumstances, will remain effective during the lifetime of the building (see section 11).



The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 8 March 2019

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 14 October 2013

Certificate amended on 20 January 2021 to update company details.

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbaceres.co.uk
Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon..

British Board of Agrément

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Watford
Herts WD25 9BA

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www.bbaceres.co.uk

Regulations

In the opinion of the BBA, RIW Sheetseal 9000 DPC, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	A1	Loading
Comment:		The product will not extrude under load up to the point of failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads. See section 6.1 of this Certificate.
Requirement:	C1(2)	Site preparation and resistance to contaminants
Comment:		The product can contribute to satisfying this Requirement. See section 8.1 of this Certificate.
Requirement:	C2(a)(b)	Resistance to moisture
Comment:		Properly installed in a correctly designed structure, the product forms an effective barrier to the movement of water within the wall, enabling compliance with this Requirement. See section 7 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The use of the product satisfies the requirements of this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1(a)(b)	Structure
Comment:		The product will not extrude under load up to the point of failure of the wall and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads, with reference to clauses 1.1.1 ⁽¹⁾⁽²⁾ and 3.10.1 ⁽¹⁾⁽²⁾ of this Standard. See section 6.1 of this Certificate.
Standard:	3.1	Site preparation – harmful and dangerous substances
Standard:	3.2	Site preparation – protection from radon gas
Comment:		The product can contribute to satisfying the requirements of these Standards, with reference to clauses 3.1.6 ⁽¹⁾⁽²⁾ , 3.2.0 ⁽¹⁾⁽²⁾ , 3.2.1 ⁽²⁾ and 3.2.2 ⁽¹⁾ . See section 8.1 of this Certificate.
Standard:	3.4	Moisture from the ground
Comment:		Properly installed in a correctly designed structure, the product will form an effective barrier to the movement of water within the wall, enabling compliance with this Standard, with reference to clause 3.4.1 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation:	12	Building standards applicable to conversions
Comment:		Comments in relation to the product under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).
		
The Building Regulations (Northern Ireland) 2012 (as amended)		
Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	26	Site preparation and resistance to contaminants
Comment:		When properly installed in a correctly designed structure, the product forms an effective barrier to radon, enabling compliance with this Requirement. See section 8.1 of this Certificate.
Regulation:	28(a)(b)	Resistance to moisture and weather
Comment:		Properly installed in a correctly designed structure, the product forms an effective barrier to the movement of water within the wall, enabling compliance with this Regulation. See section 7 of this Certificate.
Regulation:	30	Stability
Comment:		The product will not extrude under load up to the point of failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads. See section 6.1 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 1 *Description* (1.2) of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, RIW Sheetseal 9000 DPC, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard BS EN 14909 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 RIW Sheetseal 9000 DPC is a flexible sheet comprising a mixture of thermoplastic polymers and other additives, extruded into sheet form, reeled into rolls and cut to width.

1.2 The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Value
Thickness (mm)	0.8
Mass (g·m ⁻²)	750
Roll length (m)	20
Roll width (mm) ⁽¹⁾	100 to 1400
Watertightness (2 kPa)	Pass
Durability (artificial ageing)	Pass
Durability (alkali)	Pass
Resistance to low temperature (°C)	-40
Resistance to impact (mm)	350
Resistance to static loading (kg)	20
Colour	black

2 Manufacture

2.1 The product is manufactured from a blend of thermoplastic polymers and extruded into sheet form.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The product is delivered to site in rolls secured with a wrapper bearing the manufacturer's name and the BBA logo incorporating the number of this Certificate.

3.2 Rolls must be stored on end and under cover.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on RIW Sheetseal 9000 DPC.

Design Considerations

4 Use

4.1 RIW Sheetseal 9000 DPC, when correctly specified and installed in accordance with this Certificate, is satisfactory for use as a horizontal, vertical, or stepped dpc (including cavity trays) in either solid or cavity walls of brick, block, stone or concrete.

4.2 General standards of good design practice are given in BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their UK National Annexes, and PD 6697 : 2010.

4.3 The product may be used in conjunction with beam and block flooring.

4.4 The product must be used in conjunction with a gas-resistant membrane to restrict the ingress of radon into buildings. Buildings in areas of risk should be constructed in accordance with the recommendations of BRE Report BR 211 : 2015 and following the guidance set out in BS 8485 : 2015.

5 Practicability of installation

The product should be installed by bricklayers experienced with this type of product.

6 Behaviour under load



6.1 The product will not extrude under load up to the point of compressive failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression load.

6.2 The stability of a wall in respect of lateral loads must be checked by a suitably experienced and competent individual in relation to the stresses permitted between the dpc and the mortar. A wall incorporating the product must be designed and built in accordance with BS EN 1996-1-1 : 2005.

6.3 The product will withstand movement of the wall and is unlikely to be impaired by normally occurring movements up to the point where the wall itself is deemed to have failed.

6.4 The presence of a dpc can reduce the shear and tensile (and therefore, bending) strengths of a wall at that point; the design of the structure should take account of this. Shear tests carried out to BS EN 1052-4 : 2000 at a pre-compression load of 0.2, 0.6 and 1 N·mm⁻² gave a characteristic shear strength as detailed in Table 2. The characteristic flexural strength as tested to DD 86-1 : 1983 is 0.17 N·mm⁻².

Table 2 Characteristic shear strength of the RIW Sheerseal 9000 DPC

Pre-compression (N·mm ⁻²)	Characteristic shear strength (N·mm ⁻²)
0.2	0.25
0.6	0.37
1	0.48

7 Resistance to water and water vapour



When correctly specified and installed, the product will provide an effective barrier against liquid water and water vapour either from a source external to the structure or from one part of the structure to another.

8 Resistance to radon



8.1 The product will contribute to restricting the ingress of radon into buildings from naturally occurring sources.

8.2 Measured gas permeability/diffusion values on an unjointed membrane are given in Table 3.

Table 3 Gas permeability/diffusion values

Gas	Method	Result
Radon	SP Method No. 3873	8.3 x 10 ⁻¹² m ² ·s ⁻¹

9 Compatibility with other materials

The product is compatible with most materials with which it is likely to come into contact within normal construction, including timber preservatives of water-based solutions of salts.

10 Maintenance

As the product is confined within the wall cavity and has suitable durability (see section 11), maintenance is not required.

11 Durability



When properly specified and installed, the product, in normal circumstances, will remain effective for the lifetime of the building.

Installation

12 General

12.1 Installation of the RIW Sheetseal 9000 DPC must be in accordance with the Certificate holder's instructions, the relevant clauses of PD 6697 : 2010, BS 8000-3 : 2001, BS 8215 : 1991, BRE Digest 380 and BRE Report BR 211 : 2015.

12.2 As with all flexible dpcs, care should be taken to avoid impact damage from sharp objects (eg chisels) during installation.

12.3 The product is handled in the same manner as that for conventional flexible dpcs, and is cut with a sharp knife. It will remain sufficiently flexible for installation in low temperatures and will not become tacky in warm conditions.

12.4 The continuity of the gas protection must extend over the footprint of the building and the dpc must be sealed to a gas membrane.

13 Procedure

13.1 The product must be laid on a wet, even bed of mortar and extend through the full thickness of the wall or wall leaf, including pointing, applied rendering or other facing material.

13.2 Perforations in adjacent courses of brickwork must be completely filled with mortar.

13.3 All lap joints in the dpc must have a minimum 100 mm overlap, be completely sealed and be supported by a suitable joint system in accordance with the Certificate holder's instructions.

13.4 When using the product with boot lintels or similar constructions, it is installed to follow the lintel profile wherever possible.

13.5 As with other similar materials, care must be taken to avoid damaging the dpc during cleaning of mortar droppings. Recommendations for avoiding damage occurring are:

- use of cavity battens to prevent mortar droppings from reaching the dpc
- removal of mortar droppings before they harden
- avoidance of the use of implements such as steel rods for cleaning the cavity
- inspection of cavity trays for damage as work proceeds.

Beam and block flooring

13.6 When used with beam and block flooring, the dpc may be laid dry on a brick or block wall provided that:

- minimum bearing⁽¹⁾ of the beam is achieved
- dead and applied loads upon the dpc via the beam do not exceed $2.5 \text{ N}\cdot\text{mm}^{-2}$
- the surface of the wall onto which the dpc and beam are to be installed is clean, smooth and free from projections or perforations. If this cannot be achieved, the dpc should be laid in an even bed of mortar
- loose aggregate is swept from the wall prior to installation of the dpc, and from the dpc prior to installation of the beams.

(1) As recommended by the flooring manufacturer.

14 Repair

Damaged areas of the product can be repaired prior to installation, by cutting and/or replacing the damaged section, ensuring that joints are made in accordance with section 13.3. Once covered, the product cannot be repaired.

Technical Investigations

15 Tests

Tests were carried out and the results assessed to determine:

- weight
- water vapour permeability
- water vapour resistance
- water absorption
- resistance to water pressure
- resistance to impact
- tensile strength and elongation
- low temperature flexibility
- trouser tear
- nail tear
- dimensional stability
- heat ageing followed by tensile strength, elongation and low temperature flexibility
- water soak followed by tensile strength, elongation and low temperature flexibility.

16 Investigations

16.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

16.2 An assessment was made of reports of shear and flexure tests.

16.3 An assessment was made of the compatibility of the product with chemicals with which it is likely to come in contact.

Bibliography

BRE Digest 380 *Damp-proof courses*

BRE Report BR 211: 2015 *Radon : protective measures for buildings*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

BS 8485 : 2015 *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*

BS EN 1052-4 : 2000 *Methods of tests for masonry — Determination of shear strength including damp proof course*

BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

NA to BS EN 1996-1-1 : 2005 + A1 : 2012 UK National Annex to *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

BS EN 1996-2 : 2006 *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*

NA to BS EN 1996-2 : 2006 UK National Annex to *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*

BS EN 1996-3 : 2006 *Eurocode 6 — Design of masonry structures — Simplified calculation methods for unreinforced masonry structure*

NA + A1 : 2014 to BS EN 1996-3 : 2006 UK National Annex to *Eurocode 6 — Design of masonry structures — Simplified calculation methods for unreinforced masonry structures*

BS EN 14909 : 2012 *Flexible sheets for waterproofing — Plastic and rubber damp proof courses — Definitions and characteristics*

DD 86-1 : 1983 *Damp-proof courses — Methods of test for flexural bond strength and short term shear strength*

PD 6697 : 2010 *Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2*

17 Conditions

17.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

17.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

17.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

17.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

17.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

17.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.



CE n55Plus

CI/SfB

In6

L6813

March 2021

RIW SHEETSEAL 9000 DPC

Sheetseal 9000 DPC is a high performance polymeric material, available in widths from 100mm to 1000mm wide, supplied in rolls 20m long.

BENEFITS

- | Fully recyclable
- | Does not contain pitch, tar or bitumen
- | Tough, durable and puncture resistant
- | Flexible and easy to handle
- | Excellent mortar bond strength
- | Unaffected by extremes of temperature

REMEMBER IT'S

waterproof RIW

RIW SHEETSEAL 9000 DPC

TYPICAL USES

Within masonry walls to prevent the passage of moisture from the ground, up into the fabric of the building, and/or at all levels as a cavity tray to prevent downward movement of water.

Sheetseal 9000 DPC can be used in heavy loading situations, such as in multi storey buildings.

The product, however, should not be used beneath coping stones or other lightly loaded areas.

DURABILITY

Subject to normal conditions of use Sheetseal 9000 DPC will remain effective for the lifetime of the building. The product will not extrude under loads, up to the compressive failure of the wall, and will not exude or 'bleed' under high temperatures.

SPECIFICATION

F30 – Accessories/Sundry items for brick/block/stone walling in accordance with NBS clauses.
Please consult RIW for further information.

INDEPENDENT AUTHORITY

CE Marked to BS EN 13967. For Declaration of Performance see:

<http://www.riw.co.uk/technical-downloads/ce-marking>

ANCILLARY PRODUCTS

RIW produce a range of ancillary products for use with Sheetseal 9000 DPC, which include:

Pre-formed corners units – for use where a cavity tray must turn the corner of a building.

Pre-formed change in level units – for use where a cavity tray steps up or down along its length

Pre-formed stop end units – for sealing off the ends of a cavity tray, at its start and finish points

Jointing tape – for sealing lapped joints in the dpc and/or for sealing a cavity tray onto the accessories.

Standard cavity tray, and special tailor made accessories are available to order.

PERFORMANCE & COMPOSITION

SHEETSEAL 9000 DPC

Form	Sheet material
Colour	Black
Thickness	0.8mm
Roll sizes (various widths)	20m long
Weight	750g/m ²
Water vapour transmission	
EN 1931 – Resistance	372 MNs/g
– Permeability	0.4g/m ² per 24 hours

The above performance figures are typical values and should not be considered a product specification.

See also BBA Certificate for further/more detailed test data.

CONSTRUCTION

GENERAL

All construction should conform with the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed.

PREPARATION

Sheetseal 9000 DPC can be installed in all weather conditions which permit normal building work to be carried out.

APPLICATION

DPC's should always be bedded onto fresh mortar, never dry bedded. The masonry laid over the dpc should also be bedded onto fresh mortar so that the dpc is approximately halfway through the thickness of the mortar joint.

Ground floor level dpc's in external walls should be laid a minimum of 150mm above the adjacent ground level. The dpc must be at least as wide as the thickness of the wall. If the dpc is narrower, full protection cannot be achieved and moisture may track up the wall and past the dpc.

If joints are required within the material, they must be lapped by a minimum of 100mm, including onto any accessories, and all laps sealed using Jointing Tape.

SUPPLY

AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices.

All accessories are made to order, please contact our Commercial Department for more information.

PACKAGING

RIW Sheetseal 9000 DPC:

Length: 20m long rolls

Widths (various available): 100, 150, 225, 300, 375, 450, 600 & 1000mm.

Other sizes are available on request.

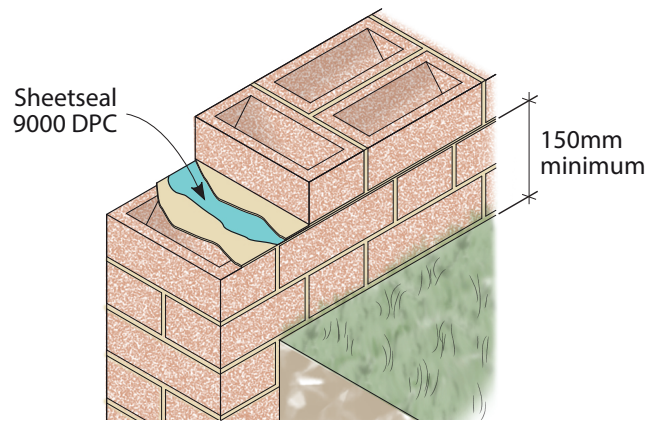
RIW Jointing Tape: 15m long roll x 100mm wide

STORAGE

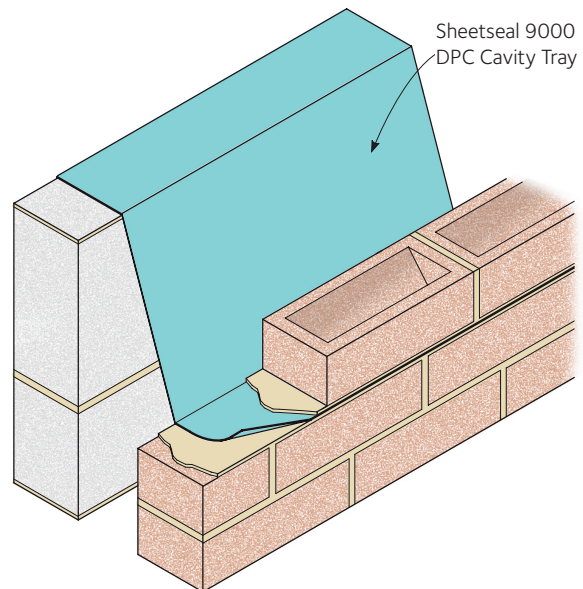
No special conditions for storage or handling.

TECHNICAL SERVICES

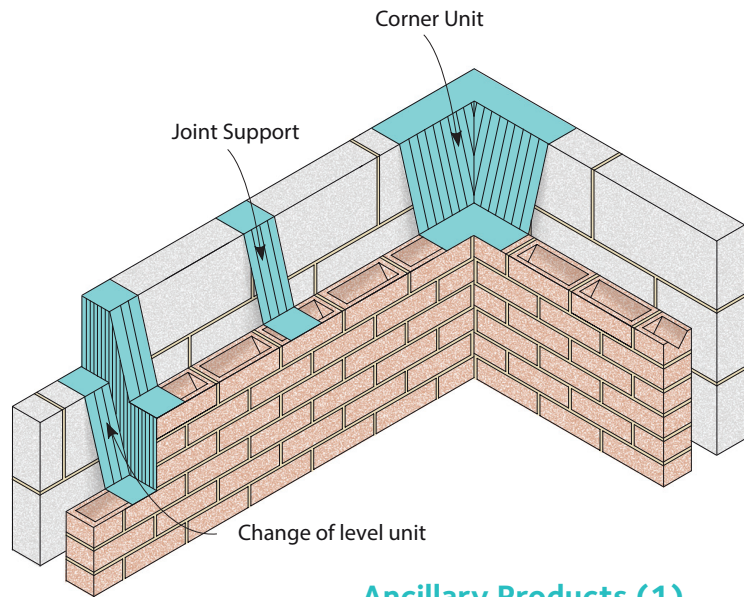
The RIW Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings.



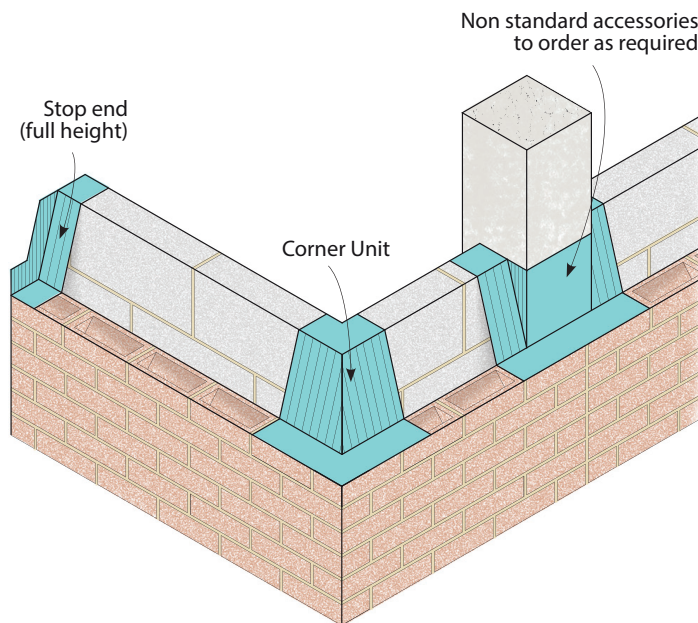
Detail 1 - Typical DPC



Detail 2- Typical Cavity Tray



Ancillary Products (1)



Ancillary Products (2)

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For the latest information, please consult RIW. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.

RIW Limited

487-488 Ipswich Road, Slough, SL1 4EP

Technical enquires tel: **01753 944200**

Commercial enquires tel: **01753 944210**

www.riw.co.uk

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RIW DOUBLE DRAIN

Double Drain is a cold applied combination of impermeable high density polyethylene sheet and permeable geotextile filter fabric.

BENEFITS

- | Prevents ground water reaching structure
- | Isolates structure from surrounding earth
- | Eliminates necessity for granular backfill
- | High drainage capacity
- | High impact resistance, providing protection to the primary membrane

APPLICATIONS

- | Basement and Sub-structures
- | Retaining walls
- | Reservoirs
- | Podiums

APPLIED TO

- | Concrete
- | Masonry
- | Primary membrane

RIW DOUBLE DRAIN

TYPICAL USES

Double Drain is typically used to isolate the structure from the surrounding soil and relieve hydrostatic pressure by promoting the flow of ground water away from the face of the structure (see Detail 1).

Double Drain will not only provide excellent protection to the primary membrane against backfilling and root penetration, but can also increase the structures thermal insulation. Typical installations include external tanking, retaining walls, reservoirs and podium deck/terrace areas.

DURABILITY

Subject to normal conditions of use, Double Drain provides effective protection to the primary membrane against backfilling, and will promote drainage of water away from the building for the life of the structure.

Sub-soil drainage systems must be maintainable and able to discharge water away from the structure.

SPECIFICATION

J40 - Flexible Sheet tanking/Damp Proofing in accordance with NBS Clauses.

Double Drain may also be specified in R12 or R16 if preferred.

Please consult RIW for further information.

INDEPENDENT AUTHORITY



RIW Limited
580-581 Ipswich Road,
Slough, Berks, SL1 4EQ, GB
13
0799-CPD-13

EN 13252:2016 Geotextile and Geotextile related product - required characteristics for use in vertical and horizontal drainage systems, intended uses D + F

Tensile strength:

MD 11,9 kN/m
CMD 12,3 kN/m

Water flow capacity (EN ISO 12958, gradient = 1,0):

20 kPa $1,6 \cdot 10^{-3} \text{ m}^2/\text{s}$ (-0,0002)
50 kPa $1,2 \cdot 10^{-3} \text{ m}^2/\text{s}$ (-0,0001)
70 kPa $0,9 \cdot 10^{-3} \text{ m}^2/\text{s}$ (-0,00005)

Resistance to oxidation (EN ISO 13438):

Predicted to be durable in natural soils with $4 \leq \text{pH} \leq 9$ and soil temperature $\leq 25^\circ \text{C}$ for a minimum of 25 years

Durability: to be covered within 2 weeks after installation

PERFORMANCE & COMPOSITION

Form	0.5mm thick high density profiled polyethylene sheet
Colour	Brown
Filter material	Polypropylene fabric
Overall thickness	8 mm
Roll size	2m x 20m long rolls
Weight	0.58 kg/m ²
Laps:	70mm
Water vapour resistance of polyethylene sheet	1800 m ² .s. GPa/kg
Permeability of filter fabric	130mm/s
Tensile strength	6 kN/mm ²
Elongation at break	>10%
Maximum drainage capacity	2.25 litres/sec/m length
Working temperature	-30°C to 80°C
Maximum compressive strength	150 kN/m ²
Deformation under long term loading	25% maximum (at 50 kN/m ²)

The above performance figures are typical values and should not be considered a product specification.

ANCILLARY PRODUCTS

RIW supply a range of ancillary products for use with Double Drain which include:

Adhesive Tape - a 150mm double sided tape for adhering the Double Drain to the primary membrane or prepared substrate.

Top Edging Strip - a medium density profiled polyethylene sheet which protects the top edge of the Double Drain and prevents clogging.

Brick Plugs - a fixing aid for locating and mechanically securing the system to the substrate.

CONSTRUCTION

GENERAL

All construction should conform with the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS8102:2009.

PREPARATION

All surfaces: Should be clean, dry and free from contaminants before applying the Double Drain.

APPLICATION

General: Double Drain should be applied to the outer face of the structure, with the geotextile filter fabric facing outwards. The product may be applied vertically or horizontally, as preferred.

Walls: Apply horizontal bands of the Adhesive Tape to the structure at the proposed top edge of the Double Drain (normally 50mm below ground level) and at 2 metre centres below. Unroll a few metres of the Double Drain horizontally, hold straight, and draw tight to avoid wrinkling. Apply pressure to the product along the wall, to seal to the Adhesive Tape. See also Fixings below.

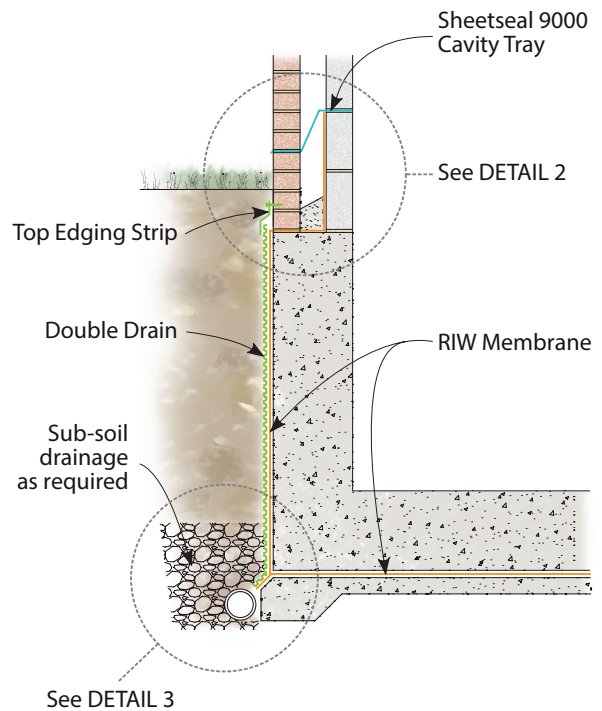
Horizontal surfaces: Roll out the product, to cover the required area, and overlap as below.

Upper edge: Top Edging Strip is used to protect the top edge of the membrane, and is fixed to the structure using nails. Obviously, these must not be allowed to puncture the primary membrane (see Detail 2). Sheetseal 226 may be used to 'seal' the edges if required, please consult Technical Department for further information.

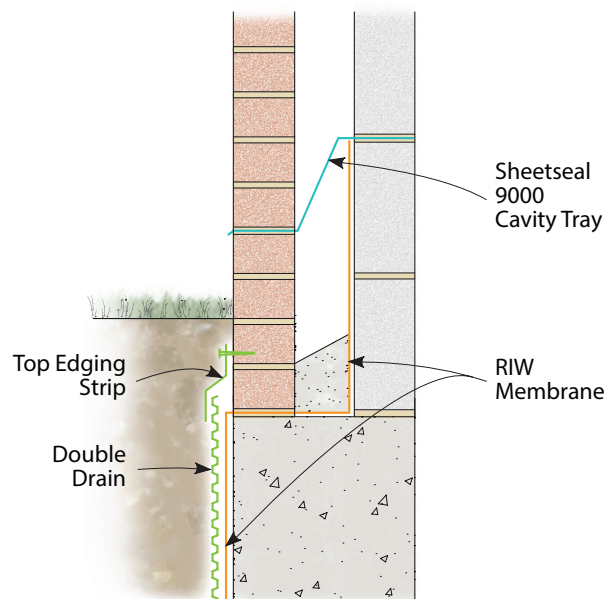
Lower edge: A perforated land drain should be installed, as part of a sub-soil drainage system, up against the lower edge of the Double Drain. Peel back the filter fabric as necessary, wrap it over the land drain, and hold in place with granular fill prior to backfilling (see Detail 3).

Service entries: A secure link between the Double Drain and the primary membrane can be achieved by using Cavity Drain Sealing Rope.

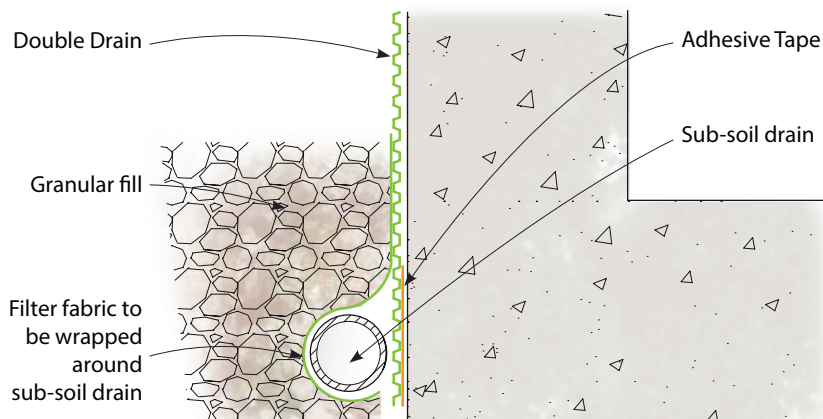
Fixings: Provided there is not a primary membrane on the surface, then Double Drain can be fixed using RIW Plug and nails at 250mm centres along the top edge only (nails not supplied), or self-adhesive pins.



Detail 1 - External Drainage



Detail 2 - Top of Wall



Detail 3 - Bottom of Wall

SPECIFIC USES

Double Drain can normally be used as an alternative to Protection Board. Not only will the Double Drain provide protection, it will also deflect the majority of ground water away from the primary membrane. It will isolate the structure from the surrounding earth and relieve hydrostatic pressure, all of which will enhance the performance of the primary membrane.

SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

SUPPLY

AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices.

PACKAGING

Double Drain	2m wide x 20m long rolls
Adhesive Tape	150mm wide x 15m long rolls
Top Edging Strip	2m lengths
RIW Plugs	Boxes of 100

STORAGE

There are no special requirements but rolls should be kept upright, under cover and protected from extremes of temperature.

TECHNICAL SERVICES

The Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW's offices.

The information in this literature was correct at the time of going to press. However, we are committed to continually improving our products and reserve the right to change product specifications.

For the latest information, please consult RIW. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.

DOUBLE DRAIN ANCILLARIES

RIW Plugs

Or self adhesive pins

ADHESIVE TAPE

DESCRIPTION

Adhesive Tape is a double-sided bitumen/rubber self-adhesive tape with a removable silicone release paper one side and a thin polyethylene removable sheet on the other.

Adhesive Tape is used to temporarily adhere Double Drain to the primary vertical membrane, prior to backfilling. It is also used in patches to re-adhere the filter fabric in place at overlaps.

APPLICATION

Remove release papers, and place between primary membrane and Double Drain. The product can be easily cut with a craft knife or similar.

PACKAGING

150mm wide x 15 metre long rolls

TOP EDGING STRIP

DESCRIPTION

Top Edging Strip is manufactured from brown medium density polyethylene.

Top Edging strip covers the air gap at the top edge of Double Drain, preventing earth from entering the air gap. It also resists water penetration, but is not defined as waterproof.

It also provides a good edge for render on the wall above, if required.

APPLICATION

Top Edging Strip is tough but pliable, even in low temperatures. It is predrilled with 3 mm diameter holes at 200mm centres, and can be easily cut with a craft knife or scissors.

PERFORMANCE & COMPOSITION

Profile	L-shaped 10 x 110mm
Thickness	2.5mm
Weight	350g/m
Colour	Brown

PACKAGING

2 metre length

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RIW Limited

487-488 Ipswich Road, Slough, SL1 4EP

Technical enquires tel: **01753 944200**

Commercial enquires tel: **01753 944210**

www.riw.co.uk

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DECLARATION OF PERFORMANCE – Double Drain

1. Identification code: **Geotextile related product for drainage (D) in drainage systems.**
Intended use: D
2. Serial number: **Double Drain**
3. Intended use: **Typically used to isolate the structure from the surrounding soil and relieve hydrostatic pressure by promoting the flow of ground water away from the face of the structure.**
4. Manufacturer: **RIW Limited, ARC House, Terrace Road South, Binfield, RG42 4PZ**
5. Authorised representative: **Not applicable**
6. Assessment and verification of constancy of performance: **System 2+**
7. Relevant harmonised standard: **EN 13252 : 2000**
Factory Production Control Certificate Number 1071-CPR-1215
8. European Technical Assessment: **Not applicable**
9. Declared performance

Essential Characteristics	Nominal Performance	Tolerance	Harmonised Standard
Tensile strength properties (minimum)			EN 13252 : 2000
MD	9.0KN/m	-15%	
CMD	7.0KN/m	-15%	
Compression creep (EN ISO 25619-1)	1.2mm	+10%	
Water flow capacity (EN ISO 12958, rigid soft)	1.3 l/sm	-10%	
Resistance to oxidation (ENV ISO 13438)	100% residual		
Durability: Cover within 4 months of installation			
Predicted to be durable for a minimum of 25 years in natural soil with 4<pH<9 and soil temperature <25°C			

Specific Technical Documentation: **Not applicable**

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Martin Radford (Business Manager)



RIW CEMENTFILL HB

Cementfill HB is a thixotropic, polymer modified, cement based, waterproof, rapid hardening, high build repair mortar.

BENEFITS

- | Totally waterproof
- | Resists up to 100m head of positive and negative water pressure
- | Applied to damp surfaces
- | 5-80mm build up in horizontal, vertical and overhead applications
- | Excellent low sag properties
- | Environmentally friendly
- | High bond strength

APPLICATIONS

- | High build structural repair mortar
- | Rendering and profiling vertical, horizontal and overhead applications
- | Fillets at internal corners

APPLIED TO

- | Concrete
- | Masonry

RIW CEMENTFILL HB

TYPICAL USES

Cementfill HB is used for the structural repair, rendering and profiling of vertical, horizontal and overhead surfaces. The material is also used to provide fillets at internal corners prior to application of other RIW membranes.

The product is a single component system which incorporates the most advanced microsilica, polymer and fibre technology. ready for on-site mixing and use, requiring only the addition of clean water.

This results in a rapid hardening, low density, high strength mortar with enhanced polymer properties. The thixotropic, shrinkage compensated nature of the product enables easy high build trowel applications.

DURABILITY

Subject to normal conditions of use, Cementfill HB will provide an effective barrier to the transmission of liquid water for the life of the structure.

SPECIFICATION

C42 – Repairing/Renovating/Conserving concrete in accordance with NBS Clauses.

Please consult RIW for further information.

INDEPENDENT AUTHORITY



RIW Limited
Arc House, Terrace Road South, Binfield,
Bracknell, Berkshire, RG42 4PZ, England
13
0086-CPR-597751

EN 1504-2: Concrete repair product for structural repair
PCC mortar (based on hydraulic cement polymer modified)

Compressive strength:	R3 ≥ 25 MPa
Adhesive Bond:	R4 ≥ 2.0 MPa
Chloride Ion Content:	≤ 0.05%
Carbonation Resistance:	Passes
Elastic Modulus:	R3 ≥ 15 GPa
Thermal Compatibility:	R4 ≥ 2.0 MPa
Capillary Absorption:	≤ 0.5 kg m ⁻² h ^{-0.5}
Dangerous Substances:	Complies
Reaction to Fire:	Euroclass A2-s1, d ₀

PERFORMANCE & COMPOSITION

TECHNICAL DATA

Mixed Colour	Concrete grey
Mixed Density	1725 kg/m ³ at 0.14 water powder ratio
Application thickness	5–80mm per layer
Application temperature	5 – 35°C
Working life	60 minutes @ 20°C

MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C	
1 day	23.5 N/mm ²
7 days	41.0 N/mm ²
28 days	48.0 N/mm ²
Flexural Strength: BS 4551 Tested at 20°C, 65% RH	
28 days	8.0 N/mm ²
Water Permeability Coefficient:	
Taywood Test by Penetration	9.65 x 10 ⁻¹⁵ m/sec.
5.7mm of Cementfill HB = 1000mm of concrete.	
Oxygen Diffusion Coefficient:	
Taywood Test	DO ₂ = 2.72 x 10 ⁻⁴ cm ² /s
Normal concrete: DO ₂ = 2.12 x 10 ⁻³ cm ² /s ⁻¹	
Electrical Resistivity:	
4-Point Wenner probe	10,000 ohm-cm
Suitable for use in conjunction with CP systems	

The above performance figures are typical values and should not be considered a product specification.

CONSTRUCTION

GENERAL

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed.

PREPARATION

All surfaces: The areas to be treated must be free from all loose and unsound material ie: dust, oil, grease, corrosion by-products and organic growth.

The prepared substrate should be thoroughly soaked with clean water, until uniformly saturated, without standing water.

Existing surfaces: All existing finishes must be completely removed back to the structure.

The entire substrate should be pressure washed. This method is also the best way to 'saturate' the surfaces, and remove soil, dust and any other loose debris from the existing wall.

If rendering, defective mortar joints should be raked out.

Masonry surfaces: Mortar joints should be checked to ensure they provide a sound substrate, onto which the product can be applied.

Concrete surfaces: The strength of the concrete sub base must be a minimum of 20N/mm².

All surface laitance should be removed, preferably using wet grit, power washing techniques or other equivalent approved methods.

PRIMING

Cementfill HB is highly polymer modified and as a result concrete surfaces do not generally require a primer. Highly porous substrates should be primed with Cementseal Primer; see separate data sheet.

MIXING

Cementfill HB should be mechanically mixed in the tub supplied using a slow speed drill and paddle or a forced action pan mixer. A normal concrete mixer is not suitable. For normal application, use from 2.6 – 3.0 litres of clean water per 20 kg, depending upon desired consistency. For part mixes, this equates to approximately five to six volumes of powder to one volume of water. Typically, for high build applications, use 2.8 litres of clean water per 20kg, which gives a water: powder ratio of 0.14. Normal mixing time depends upon the type of mixer that is used; 2 minutes is average. Mix so as to entrain as little air as possible, and use without delay.

PLACING

Cementfill HB can be applied by float or trowel as a render, resulting in application thicknesses of 80mm, even in soffit situations.

If necessary, support with shuttering to allow for compaction when working to reveals, etc. The application thickness achievable is dependent upon the substrate, and care must be taken to ensure that an initial 5 – 10mm thickness of mortar is well placed and adhered before building up to larger depths. For repairs which require multi-layer applications, it is important to ensure that previous layers are well keyed and stable but not fully set prior to the application of subsequent layers. No inter-layer priming is required. Final profiling of a high quality is easily achieved with a steel float.

CLEANING

All tools should be cleaned with water immediately after use.

CURING

Normal concreting procedures should be strictly adhered to. It is important that the surface of the mortar is protected from strong sunlight and drying winds with Cementseal Primer, polythene sheeting, damp hessian or similar.

SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

SUPPLY

AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices.

PACKAGING

Pack size	20 kg bag in plastic tub
Yield	13.2 litres / 20 kg powder
Coverage	20 kg pack covers 2.64m ² at 5 mm thickness or 42 lm of 25 x 25mm fillet.

STORAGE

Store the containers in dry, frost free, conditions. Shelf life in unopened containers at 20°C is 12 months.

TECHNICAL SERVICES

The Technical Department is available to advise on individual projects and to prepare and assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW's offices.

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