

BAF-18-057-P-A-UK
BDA Agrément®
Visqueen Pre-Applied Membrane
for waterproofing, tanking and
damp proofing applications

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SCOPE OF AGRÉMENT

This Agrément relates to Visqueen Pre-Applied Membrane (hereinafter the 'Product'), a waterproof and damp proof membrane (hereinafter 'DPM'). The Product is for use when pre-applied below ground-supported concrete floors or to the outside of earth-retaining concrete walls in existing and new, domestic and non-domestic buildings.

The Product acts as a DPM in accordance with BS EN 13967; can be used for tanking below-ground structures (with vertical permanent shuttering and temporary formwork) in accordance with BS 8102, and can be used to prevent the ingress of ground water vapour and liquid groundwater when subject to hydrostatic pressure up to 60 kPa.

PRODUCT DESCRIPTION

The Product is a 1 mm thick flexible, chemical-resistant, coextruded co-polymer thermoplastic membrane sheet, manufactured in accordance with BS EN 13967. The top surface is grey and has a textured finish; the underside is black and has a smooth finish. The Product is supplied in a large, single-wound roll to minimise jointing and for ease of installation.

Where required, Product sheets are overlapped by 150 mm and joints are bonded using Visqueen Ultimate Double Sided Jointing Tape; loose laps are sealed with Visqueen Ultimate Gas Resistant (GR) Lap Tape.

PRODUCT ILLUSTRATION



THIRD-PARTY ACCEPTANCE

See Section 3.3 (Third Party acceptance).

STATEMENT

It is the opinion of Kiwa Ltd. that the Product is fit for its intended use, provided it is specified, installed and used in accordance with this Agrément.

Craig Devine
Operations Manager, Building Products



Alpheo Mlotha CEng FIMMM MBA
Business Unit Manager, Building Products



SUMMARY OF AGRÉMENT

This document provides independent information to specifiers, building control personnel, contractors, installers and other construction industry professionals considering the fitness for the intended use of the Product. This Agrément covers the following:

- Conditions of use;
- Factory Production Control, Quality Management System and the Annual Verification procedure;
- Points of attention for the Specifier and examples of details;
- Installation;
- Independently assessed Product characteristics and other information;
- Compliance with national Building Regulations, other regulatory requirements and Third-Party Acceptance, as appropriate;
- Sources, including codes of practice, test and calculation reports.

MAJOR POINTS OF ASSESSMENT

Moisture control - subject to correct detailing, the Product provides an effective barrier to (see section 2.1.10):

- the passage of liquid groundwater when subject to hydrostatic pressure up to 60 kPa;
- water vapour transmission.

Strength - the Product has adequate damage resistance to puncture, impact, static loading, tensile strength of lap joints, tensile strength and resistance to tearing (see section 2.1.11).

Durability - during its service life, the Product will remain effective against the ingress of liquid groundwater and groundwater vapour. The Product will have a service life equivalent to that of the structure into which it is incorporated (see section 2.1.8).

CE marking - the Agrément holder has taken responsibility for CE marking the Product in accordance with all relevant harmonised European Product Standards. An asterisk (*) appearing in this Agrément indicates that data shown is given in the Product manufacturer's Declaration of Performance (DoP).

CONTENTS

Chapter 1 - General considerations

- 1.1 - Conditions of use
- 1.2 - Factory Production Control (FPC) and Quality Management System (QMS)
- 1.3 - Annual verification procedure - continuous surveillance

Chapter 2 - Technical assessment

- 2.1 - Points of attention to the Specifier
- 2.2 - Examples of details
- 2.3 - Installation
- 2.4 - Independently assessed Product characteristics
- 2.5 - Product components and ancillary items

Chapter 3 - CDM, national Building Regulations and Third-Party Acceptance

- 3.1 - The Construction (Design and Management) Regulations 2015 and The Construction (Design and Management) Regulations (Northern Ireland) 2016
- 3.2 - National Building Regulations
- 3.3 - Third-Party Acceptance

Chapter 4 - Sources

Chapter 5 - Amendment history

CHAPTER 1 - GENERAL CONSIDERATIONS

1.1 - CONDITIONS OF USE

1.1.1 Design considerations

See section 2.1.

1.1.2 Application

The assessment of the Product relates to its use in accordance with this Agrément and the Agrément holder's requirements.

1.1.3 Assessment

Kiwa Ltd. has assessed the Product in combination with its relevant DoPs, test reports, technical literature and factory and site visits. Factory Production Control has been assessed.

1.1.4 Installation supervision

The quality of installation and workmanship shall be controlled by a competent person who shall be an employee of the installation company.

The Product shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

1.1.5 Geographical scope

The validity of this document is limited to England, Wales, Scotland and Northern Ireland, with due regard to chapter 3 of this Agrément (CDM, national Building Regulations and Third-Party Acceptance).

1.1.6 Validity

The purpose of this BDA Agrément® is to provide for well-founded confidence to apply the Product within the Scope described. The validity of this Agrément is three years after the issue date, and as published on www.kiwa.co.uk/bda.

1.2 - FACTORY PRODUCTION CONTROL (FPC) AND QUALITY MANAGEMENT SYSTEM (QMS)

Kiwa Ltd. has determined that the Agrément holder fulfils all obligations in relation to this Agrément in respect of the Product.

The initial FPC audit demonstrated that the Agrément holder has a satisfactory Quality Management System (QMS) and is committed to continuously improving their FPC operations.

Document control and record keeping procedures were deemed satisfactory.

A detailed Production Quality Specification (PQS) has been compiled to ensure traceability and compliance under the terms of this Agrément.

1.3 - ANNUAL VERIFICATION PROCEDURE - CONTINUOUS SURVEILLANCE

To demonstrate that the FPC is in conformity with the requirements of the technical specification described in this Agrément, the continuous surveillance, assessment and approval of the FPC will be done at a frequency of not less than once per year by Kiwa Ltd.

This Agrément does not constitute a design guide for the Product. It is intended as an assessment of fitness for purpose only.

2.1 - POINTS OF ATTENTION TO THE SPECIFIER**2.1.1 Design responsibility**

A Specifier may undertake a project-specific design, in which case it is recommended that the Specifier co-operates closely with the Agrément holder. The Specifier or installing contractor is responsible for the final as-built design.

2.1.2 Applied building physics (heat, air, moisture)

The physical behaviour of the building incorporating the Product shall be verified as suitable by a competent specialist, who can be either a qualified employee of the Agrément holder or a qualified consultant. The Specialist will check the physical behaviour of the building design and, if necessary, can offer advice in respect of improvements to achieve the final specification. It is recommended that the Specialist co-operates closely with the Agrément holder.

2.1.3 General design considerations

The project-specific design shall achieve complete integrity across the entire building footprint.

The application of the Product shall take account of possible differential movement due to ground settlement.

A waterproofing design shall be in accordance with BS 8102.

The Product can act as a fully bonded Type A membrane, in accordance with BS 8102, providing Grade 1 and 2 waterproofing protection; it can provide Grade 3 protection when part of a combined waterproofing solution.

A project-specific design shall be undertaken by a Certificated Surveyor in Structural Waterproofing (CSSW), in accordance with BS 8102.

On sites where third-party requirements apply, additional waterproofing measures may be required as detailed in their individual technical requirements.

2.1.4 Project-specific design considerations

A desktop study is required to allow determination of the project-specific design. This study shall include an assessment of ground conditions and the groundwater table, in accordance with BS 8102.

2.1.5 Permitted applications

Only applications designed according to the specifications as given in this Agrément are allowed under this Agrément; in each case the Specifier will have to co-operate closely with the Agrément holder/installer.

2.1.6 Installer competence level

The Product shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

Installation can be undertaken by competent persons experienced in this sort of work.

2.1.7 Delivery, storage and site handling

The Product is delivered to site in large, single-wound rolls wrapped in polythene film, bearing the Product name, the Agrément holder's name and the BDA Agrément® logo incorporating the number of this Agrément. Each roll has a leaflet enclosed describing the Product and installation instructions.

Store the Product in accordance with the Agrément holder's requirements. Care shall be taken to:

- avoid exposure to direct sunlight and high or low temperatures for long periods of time;
- store in a well-ventilated covered area to protect from rain, frost and humidity;
- store away from possible ignition sources;
- store rolls of the Product stacked horizontally on a flat surface.

Care should be taken to avoid accidental damage to the Product when handling on-site.

2.1.8 Durability

The Product has adequate durability in respect of:

- watertightness after immersion in liquid alkali, in accordance with BS EN 1847 and BS EN 1928;
- watertightness after long-term heat ageing, in accordance with BS EN 1928 and BS EN 1296.

The Product:

- is chemically inert and is not affected by acids and alkalis under normal service conditions;
- is not compatible with products containing pitch;
- will remain effective against the ingress of water vapour and liquid water from the ground, during the lifetime of a structure;
- will have a service life durability equivalent to that of a structure into which it is incorporated;
- has adequate resistance to liquid chemicals normally found in the ground.

2.1.9 Maintenance and repair

Once installed, and depending on the application, the Product shall be covered by concrete or backfill and does not require maintenance.

Punctures shall be repaired prior to the placement of concrete or backfill. Simple punctures are repaired using a patch of the Product, lapped and taped at least 150 mm beyond the puncture. Other repairs/patching of the Product can be done using Visqueen Pro Detailing Strip. For advice in respect of repair, consult the Agrément holder.

Performance factors in relation to the Major Points of Assessment

2.1.10 Moisture control

Including when under hydrostatic pressure up to 60 kPa, the Product (subject to correct detailing) has adequate watertightness to provide a barrier to the passage of water from the ground into the internal environment, in accordance with BS EN 1928.

The Product has adequate water vapour resistance to prevent water vapour transmission from the ground into a building, in accordance with BS EN 1931.

2.1.11 Strength

The grey textured top surface aids adhesion to concrete.

On a smooth or blinded surface, the Product will not be damaged by normal on-site foot traffic or activities associated with the placement of concrete. No protection of the Product is required in this situation.

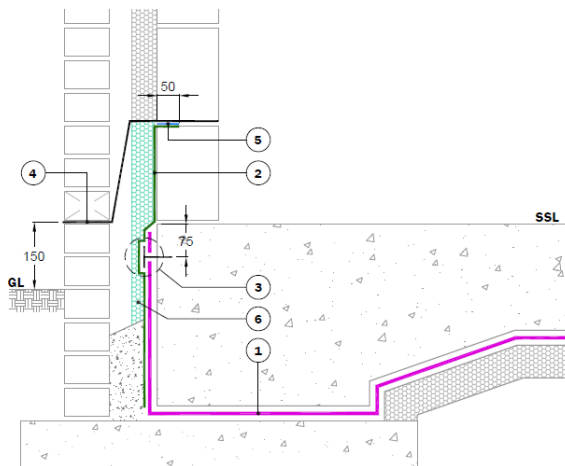
In a vertical permanent shuttering and temporary formwork application and depending on the backfill material to be used, the Product may need protection with TreadGUARD 1500 or Visqueen Protect & Drain against backfilling.

The Product has adequate:

- tensile strength of lap joints, in accordance with BS EN 12317-2;
- tensile strength and elongation properties, in accordance with BS EN 12311-2; the Product can stretch sufficiently underneath a cast in-situ concrete floor, to accommodate typical settlement movement of a structure;
- tear resistance, in accordance with BS ISO 34-1;
- resistance to tearing (nail shank), in accordance with BS EN 12310-1;
- static puncture resistance, in accordance with BS EN ISO 12236;
- impact resistance, in accordance with BS EN 12691;
- resistance to static loading, in accordance with BS EN 12730.

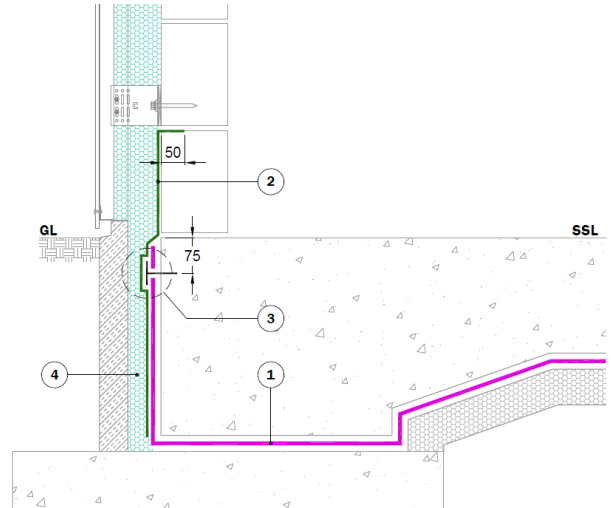
2.2 - EXAMPLES OF DETAILS

Diagram 1 - Typical concrete ground floor edge detail (masonry)



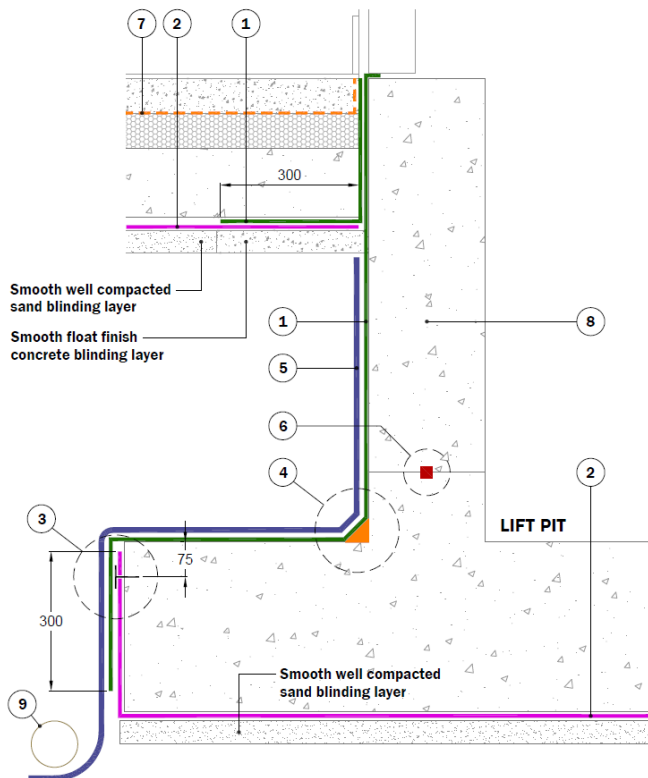
- 1 Visqueen Pre-Applied Membrane
- 2 Visqueen SAM and Visqueen High Performance (HP) Tanking Primer
- 3 Visqueen Retaining Discs @ 400 mm centres
- 4 Visqueen Zedex CPT DPC
- 5 Visqueen Double Sided Tape
- 6 Moisture resistant insulation (by others)

Diagram 2 - Typical concrete ground floor edge detail (rainscreen)



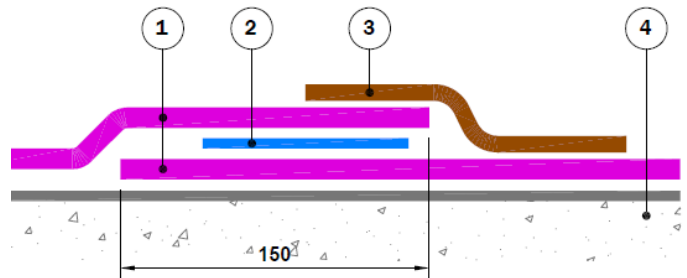
- 1 Visqueen Pre-Applied Membrane
- 2 Visqueen SAM and Visqueen High Performance (HP) Tanking Primer
- 3 Visqueen Retaining Discs @ 400 mm centres
- 4 Moisture resistant insulation (by others)

Diagram 3 - Typical lift pit detail



- 1 Visqueen SAM and Visqueen High Performance (HP) Tanking Primer
- 2 Visqueen Pre-Applied Membrane
- 3 Visqueen Retaining Discs @ 400 mm centres
- 4 Visqueen Axiom UniSeal Angle Fillet (35 mm x 35 mm)
- 5 Visqueen Protect & Drain (12 mm)
- 6 Visqueen VX25 Waterstops at construction joints
- 7 Visqueen Vapour Barrier or HP Vapour Barrier
- 8 Waterproof concrete system (by specialist)
- 9 Maintainable land drain (100 mm minimum diameter)

Diagram 4 - Taped joint detail



- 1 Visqueen Pre-Applied Membrane
- 2 Visqueen Ultimate Double Sided Jointing Tape
- 3 Visqueen Ultimate Gas Resistant (GR) Lap Tape
- 4 smooth slab or blinding layer

The Product shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

2.3.1 Installer competence level

See section 2.1.6.

2.3.2 Delivery, storage and site handling

See section 2.1.7.

2.3.3 Project-specific installation considerations

A desktop study has been undertaken to allow determination of the project-specific design.

The Product shall be installed in accordance with the Agrément holder's recommendations, BS 8000-0 and BS 8102, as appropriate.

The Product installation shall achieve complete continuity and integrity across the entire building footprint. The Product shall be sealed at joints, at the perimeter of the area to be protected and around service pipe penetrations.

When the lap joints are taped, the air temperature should not be below 5°C or falling to prevent the risk of surface condensation affecting the tape adhesion.

Rolls of Visqueen Ultimate Double Sided Jointing Tape and Visqueen Ultimate Gas Resistant (GR) Lap Tape should be kept in a warm, dry place, to ensure the tape is workable and can be more easily applied.

The surface of the Product to be taped shall be dry and free from dirt.

2.3.4 Preparation

The following works may be required prior to installation of the Product:

- in horizontal applications, blind the surface over which the Product is to be applied with compacted soft sand or similar material to fill voids in a hardcore base;
- external drainage shall be installed as appropriate.

2.3.5 Outline installation procedure

The key considerations for different applications are:

- all applications:
 - the Product shall be rolled out with the grey, textured surface laid to receive the concrete when poured, ensuring that the sheet edges are aligned allowing adequate overlap for jointing;
 - all lap joints should be a minimum of 150 mm and bonded using Visqueen Ultimate Double Sided Jointing Tape; the lap joints shall be firmly compressed using a hand roller during taping to ensure an adequate bond is achieved for complete adhesion and continuity; secure and seal taped lap joints using Visqueen Ultimate Gas Resistant (GR) Lap Tape.
- tanking and waterproofing applications:
 - when using the Product in an external waterproofing application, hydrostatic pressure can be relieved by using Visqueen Protect & Drain;
 - a suitable drainage system should be incorporated, in accordance with the requirements of BS 8102.
- vertical permanent shuttering and temporary form-work applications:
 - the Product should be applied with the black, smooth surface facing the permanent shuttering, temporary formwork or an adjoining structure, with Visqueen Ultimate Retaining Discs to secure the leading edge of the Product;
 - a suitable power tool and 6 mm drill bit should be used to create a pilot hole in the Product;
 - Visqueen Ultimate Retaining Discs should be mechanically fixed using oval nails at maximum 400 mm centres;
 - the top edge of the Product should be kept to approximately 20 mm below the top edge of the planned concrete level;
 - once the concrete has set, the oval nails should be removed from the exposed face if temporary formwork is used;
 - when temporary formwork is removed, the Visqueen Ultimate Retaining Discs should be visible on the black, smooth surface of the Product, prior to sealing over with Visqueen Pro Detailing Strip;
 - ensure continuity of the Product with a DPC by using Visqueen Self Adhesive Membrane (SAM).
- penetrations, corners and perimeter details:
 - all service pipe penetrations shall be properly detailed in accordance with the Agrément holder's instructions;
 - external and internal corners should be bonded using Visqueen Ultimate Double Sided Jointing Tape, reinforced using Visqueen Pro Detailing Strip, and sealed using Visqueen Ultimate Gas Resistant (GR) Lap Tape; where this is not possible, and the three-dimensional shape corners required are complex, it is recommended that Visqueen Pre-formed Units are bonded to the Product using Visqueen Ultimate Double Sided Jointing Tape and are sealed using Visqueen Ultimate Gas Resistant (GR) Lap Tape.

2.3.6 Finishing

The following finishing is required upon completion of the installation:

- for horizontal applications, concrete shall be placed over the Product as soon as possible after installation of the Product; care shall be taken to ensure that the Product is not punctured, stretched or displaced when placing concrete.

When ambient temperatures are above 25 °C or rising, the Product should be covered immediately after installation.

In vertical shuttering/formwork applications, the Product may require protection with Visqueen TreadGUARD 1500 or Visqueen Protect & Drain before backfilling operations commence.

2.4 - INDEPENDENTLY ASSESSED PRODUCT CHARACTERISTICS

2.4.1 Moisture control

Test	Result
Watertightness, in accordance with BS EN 1928 method B at 60 kPa for 24 hours - membrane without joints	pass, dry
Watertightness, in accordance with BS EN 1928 method A at 60 kPa for 24 hours - membrane with taped joints	pass, dry
Density of moisture flow rate of membrane without joints, in accordance with BS EN 1931 method B	$7.31 \times 10^{-10} \text{ kg/(m}^2\text{s)}$
Moisture resistance factor (μ) of membrane without joints, in accordance with BS EN 1931 method B	4.33×10^5
Water vapour permeability of membrane without joints, in accordance with BS EN 1931 method B	$0.063 \text{ g/m}^2\text{day}$
Water vapour resistance of membrane without joints, in accordance with BS EN 1931 method B	2142 MNs/g

2.4.2 Strength

Test	Result
Tensile strength of membrane lap joints, in accordance with BS EN 12317-2, at grip separation speed of 100 mm per minute	598 N
Tensile strength and elongation, in accordance with BS EN 12311-2 method B	Longitudinal direction
	Tensile stress
	Elongation at max. force
	Elongation at break
	Transverse direction
	Tensile stress
Tear strength resistance, in accordance with BS ISO 34-1 method A	Machine direction
	Cross direction
Tear strength resistance, in accordance with BS ISO 34-1 method B	Machine direction
	Cross direction
Resistance to tearing (nail shank), in accordance with BS EN 12310-1	Longitudinal direction
	Transverse direction
Static puncture resistance, in accordance with BS EN ISO 12236	Puncture strength
	Puncture displacement
Impact resistance hard support, in accordance with BS EN 12691 method A	no punctures at mean drop height 700 mm
Impact resistance soft support, in accordance with BS EN 12691 method B	no punctures at mean drop height > 2000 mm
Resistance to static loading, in accordance with BS EN 12730 method B on hard concrete support	pass at 20 kg applied load

2.4.3 Durability

Test	Result
Watertightness - water penetration resistance after artificial heat ageing by 12 weeks at 70 °C, in accordance with BS EN 1296, then exposure to 60 kPa water pressure for 24 hours, in accordance with BS EN 1928 method B	pass, dry
Watertightness - after alkali immersion in a saturated solution of Ca(OH)_2 for 28 days, in accordance with BS EN 1847, then exposure to 60 kPa water pressure for 24 hours, in accordance with BS EN 1928 method B	pass, dry

2.5.1 Components included within the scope of this Agrément

The following components are integral to use of the Product:

- Visqueen Pre-Applied Membrane - 41 m long by 2.44 m wide roll, 1.0 mm thick, roll coverage 100 m²;
- Visqueen Ultimate Double Sided Jointing Tape - 100 mm by 15 m double-sided self-adhesive blue butyl strip tape for bonding the membrane laps;
- Visqueen Ultimate Gas Resistant (GR) Lap Tape - 150 mm by 10 m single-sided self-adhesive tape with an integral foil for sealing the membrane laps.

2.5.2 Ancillary items falling outside the scope of this Agrément

Ancillary items detailed in this section may be used in conjunction with the Product but fall outside the scope of this Agrément:

- Visqueen Ultimate Double Sided Tape - 10 m long by 50 mm wide double-sided adhesive tape for surface fixing;
- Visqueen TreadGUARD 1500 - a heavy-duty protection board used to prevent damage to the Product;
- Visqueen Zedex CPT DPC - a high-performance, flexible DPC and cavity tray;
- Visqueen Vapour Barrier - single-wound polyethylene sheeting with vapour resistance > 530 MNs/g which reduces the risk of cracks in screed, to omit the risk of interstitial condensation within a structure, as well as improving the general airtightness of the building;
- Visqueen Ultimate Retaining Discs - a plastic disc head 35 mm diameter with a 50 mm long shaft supplied in boxes of 500; secures Visqueen PAM to vertical applications such as permanent shuttering, temporary formwork or adjoining structures;
- Visqueen Protect & Drain - available in 12 mm and 25 mm thicknesses; used to protect the Product during back-filling operations and to promote the drainage of water away from a structure;
- Visqueen Cavity Drain Membrane System - V20 Cavity Drain Membrane, V8 Wall Membrane and Cavity Drain Components (range of drainage channels, pumps, sumps and alarms); the components provide mechanical drainage solutions for all below-ground structures where a cavity drain system is being installed and is designed to be fully maintainable, in accordance with BS 8102;
- Visqueen Self Adhesive Membrane (Visqueen SAM) - self-adhesive bitumen membrane;
- Visqueen High Performance (HP) Tanking Primer - a black elastomeric bituminous priming solution; suitable for green concrete and damp surfaces;
- Visqueen Top Hat Units - preformed top hat unit for sealing around service entry pipe penetrations;
- Visqueen Pro Detailing Strip - self-adhesive strip used for sealing at complex junctions, terminations and stanchions, around column penetrations and for repairs/patching of Product damaged during installation;
- Visqueen Pre-formed Units - used at corners, doorways and thresholds;
- rigid polystyrene insulation - floor insulation;
- Visqueen High Performance DPM - a damp proof membrane;
- Visqueen Axiom UniSeal - a high-performance liquid tanking membrane specifically formulated for detailing and for fillet reinforcement at floor/wall junctions;
- Visqueen VX25 Waterstops - sodium bentonite hydrophilic waterstops designed to prevent the ingress of water through cast in-situ concrete construction joints.

CHAPTER 3 - CDM, NATIONAL BUILDING REGULATIONS AND THIRD-PARTY ACCEPTANCE

3.1 - THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015 AND THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS (NORTHERN IRELAND) 2016

Information in this Agrément may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

3.2 - NATIONAL BUILDING REGULATIONS

In the opinion of Kiwa Ltd., the Product, if installed and used in accordance with Chapter 2 of this Agrément, can satisfy or contribute to satisfying the relevant requirements of the following national Building Regulations.

3.2.1 - ENGLAND THE BUILDING REGULATIONS 2010 AND SUBSEQUENT AMENDMENTS

- C2(a) Resistance to moisture - floors/basements incorporating the Product can contribute to protecting a building from ground moisture
- Regulation 7(1) Materials and workmanship - the Product is manufactured from suitably safe and durable materials for the application and can be installed to give a satisfactory performance

3.2.2 - WALES THE BUILDING REGULATIONS 2010 AND SUBSEQUENT AMENDMENTS

- C2(a) Resistance to moisture - floors/basements incorporating the Product can contribute to protecting a building from ground moisture
- Regulation 7(1) Materials and workmanship - the Product is manufactured from suitably safe and durable materials for the application and can be installed to give a satisfactory performance

3.2.3 - SCOTLAND THE BUILDING (SCOTLAND) REGULATIONS 2004 AND SUBSEQUENT AMENDMENTS

3.2.3.1 Regulation 8(1) Durability, workmanship and fitness of materials

- The Product is durable and fit for its intended purpose

3.2.3.2 Regulation 9 Building standards - Construction

- 3.4 Moisture from the ground - floors/basements incorporating the Product can contribute to protecting a building from moisture penetration from the ground
- 7.1(a)(b) Statement of sustainability - the Product can contribute to satisfying the relevant Requirements of Regulation 9, Sections 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard; in addition, the System can contribute to a construction meeting a higher level of sustainability as defined in this Standard

3.2.3.3 Regulation 12 Building standards - Conversions

- All comments given under Regulation 9 also apply to this Regulation, with reference to Schedule 6 of The Building (Scotland) Regulations 2004 and subsequent amendments, clause 0.12 of the Technical Handbook (Domestic) and clause 0.12 of the Technical Handbook (Non-Domestic)

3.2.4 - NORTHERN IRELAND THE BUILDING REGULATIONS (NORTHERN IRELAND) 2012 AND SUBSEQUENT AMENDMENTS

- 23(1)(a)(b) Fitness of materials and workmanship - floors/basements incorporating the Product are suitable and can be adequately prepared and applied
- Regulation 28(a)(b) Resistance to moisture and weather - floors/basements incorporating the Product can contribute to protecting a building from the passage of moisture from the ground

3.3 - THIRD-PARTY ACCEPTANCE

In the opinion of Kiwa Ltd. if installed, used, and maintained in accordance with this Agrément, this Product can satisfy the appropriate structural, fire, moisture, thermal, acoustic and durability requirements of a Structural Warranty provider. Please contact the relevant Structural Warranty provider to ascertain their project specific design requirements and to confirm their acceptance on a case-by-case basis.

CHAPTER 4 - SOURCES

- BS EN ISO 9001:2015 Quality management systems - Requirements
- BS EN ISO 12236:2006 Geosynthetics. Static puncture test (CBR test)
- BS EN 1296:2001 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roofing. Method of artificial ageing by long term exposure to elevated temperature
- BS EN 1847:2009 Flexible sheets for waterproofing. Plastics and rubber sheets for roof waterproofing. Methods for exposure to liquid chemicals, including water
- BS EN 1928:2000 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of watertightness
- BS EN 1931:2000 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of water vapour transmission properties
- BS EN 12310-1:2000 Flexible sheets for waterproofing. Determination of resistance to tearing (nail shank). Bitumen sheets for roof waterproofing
- BS EN 12311-2:2013 Flexible sheets for waterproofing. Determination of tensile properties. Plastic and rubber sheets for roof waterproofing
- BS EN 12317-2:2010 Flexible sheets for waterproofing. Determination of shear resistance of joints. Plastic and rubber sheets for roof waterproofing
- BS EN 12691:2018 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to impact
- BS EN 12730:2015 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to static loading
- 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 34-1:2015 Rubber, vulcanized or thermoplastic. Determination of tear strength. Trouser, angle and crescent test pieces
- BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles
- BS 8102:2009 Code of practice for protection of below ground structures against water from the ground

Remark: apart from these sources, technical information and confidential reports have been assessed; any relevant documents are in the possession of Kiwa Ltd. and kept in the Technical Assessment File of this Agrément. The Installation Manual for the Product may be subject to change, the Agrément holder should be contacted for clarification of revision.

CHAPTER 5 - AMENDMENT HISTORY

Revision	Amendment Description	Amended By	Approved By	Date
-	First Issue	C Devine	C Vurley	February 2021
A	Updates to third-party acceptance; Re-issue following successful 3 Year Renewal	A Chapman	C Devine	November 2024