Wykamol GROUP LIMITED

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The Ultimate Waterproofing and Gas Protection Guide

Basement Waterproofing ASSOCIATION

PCA Property Care ASSOCIATION

BBA APPROVAL INSPECTION TESTING CERTIFICATION TECHNICAL APPROVALS FOR CONSTRUCTION

DUAL ACTION VAPOUR AND WATERPROOFING

WYKAMOL WATERPROOFING SOLUTIONS

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WATERPROOFING IS IN OUR HERITAGE

The Wykamol Group has been involved in waterproofing applications for over 40 years and was a founder member of the British Wood Preserving and Damp Proofing Association.

When it comes to waterproofing applications, the Wykamol Group has a huge range of products, from cement-based tanking powders to specialist epoxy coatings. In recent times however and since the changes to BS8102, cavity drain membranes have fast become the choice for most contractors in the UK marketplace.

Easy to use and less problematic than other solutions, these systems can be used in a variety of applications above and below ground.

When specifying waterproofing in today's marketplace care must be taken to look at all implications and issues surrounding the property.

Being able to access systems to repair them if a problem arises is another reason that cavity drain membranes have gained popularity. This use, internally, as a dual system is fast becoming standard practice for professionals within the construction industry.

Cavity drain membranes have also become the number one choice for builders and developers tackling damp issues above ground.

When dealing with salt and damp related issues, allowing the wall to breathe behind a cavity drain membrane has become the approach that most contractors take to such problems today; isolating any dampness issues within the structure.

Issues of dense renders and long drying times have been almost eliminated by the use of cavity drain membranes.

There membranes are also useful in heritage projects. Specifiers may wish to return back to the original structure at a later date. Membranes give the professional that option as well as allowing the walls to breathe in structures where dense renders would cause issues.

We have a team of 11 professional technical experts across the country who can give advice and access problems of dampness in structures whether that is a basement in a flooding situation or a listed building with dampness issues above the ground. Wykamol is there to give advice and design a repair strategy that satisfies the owners requirements.

This brochure covers Type A, B and C Waterproofing Solutions that we currently sell in the UK and European market places.
Please contact for any technical help.

For a free inspection and diagnosis of the waterproofing protection you require, please contact us on 0800 400 6666.

WATERPROOFING A BUILDING

In construction, a building or structure is waterproofed with the use of membranes and coatings to protect contents, and structural integrity.

In buildings, waterproofing is a fundamental aspect of creating a building envelope, which is a controlled environment. The roof covering materials, siding, foundations, and all of the various penetrations through these surfaces must be water-resistant and sometimes waterproof.

Walls are not subjected to standing water, and the water-resistant membranes used are designed to be porous enough to let moisture escape.

Damp proofing is another aspect of waterproofing. Masonry walls are built with a damp-proof course to prevent rising damp, and the concrete in foundations needs to be damp-proofed or waterproofed with a liquid coating, basement waterproofing membrane (even under the concrete slab floor where polyethylene sheeting is commonly used), or an additive to the concrete. Within the waterproofing industry, below-ground waterproofing is generally divided into two areas:

Tanking: This is waterproofing used where the below-ground structure will be sitting in the water table continuously or periodically. This causes hydrostatic pressure on both the membrane and structure and requires full encapsulation of the basement structure with a tanking membrane, under slab and walls.

Damp proofing: This is waterproofing used where the water table is lower than the structure and there is good free-draining fill. The membrane deals with shedding of water and the ingress of water vapour only, with no hydrostatic pressure. Generally, this incorporates a damp-proof membrane (DPM) to the walls with a polythene DPM under slab. With higher grade DPM, some protection from short-term Hydrostatic pressure can be gained by transitioning the higher quality wall DPM to the slab polythene under footing, rather than at the footing face.

WATERPROOFING REGULATIONS

What is BS 8102? Well, if you're dealing with a reputable basement waterproofing specialist, it's a name that you're likely to hear often.

It is essentially a document that outlines best practice when planning a basement waterproofing scheme, advising the designer on the various methods of waterproofing available and the correct way to 'specify' them for contractors, ensuring a successful and long-lasting installation.

Contractors are not legally bound by British Standards such as BS 8102 but, should there be a failure in the system due to shortcomings in the design, this is the 'code of practice' that would probably be referred to in any litigation proceedings.

The document was updated in 2009 from a previous version written in 1990, to reflect the popularity in residential basement conversions, an increase in deep urban constructions, and numerous advances in basement waterproofing technology. It also takes a more detailed look at the risks involved with below-ground spaces and how best to mitigate them in practice.

The purpose of BS 8102

The main goal behind BS 8102 is to guide designers in assessing the potential risk of water ingress to a below-ground structure and identify the most appropriate and adequate ways to safeguard against it. It identifies three types of protection – A, B and C – aimed at achieving different internal environments, suited to different uses of the underground space (for more information on the three types of protection, download the National House Building Council's guide to basements and waterproofing).

Potential defects

There are two main threats to the effectiveness of a basement waterproofing system, namely poor workmanship and/or defects caused by using materials that are inadequate for the job. BS 8102 outlines ways to negate such issues within the design scheme, and incorporate opportunities for simple remedial measures in the unlikely event that a defect still occurs.

Assessing risk

Besides advising designers to carry out an assessment identifying the likely risks of water ingress to an underground structure, BS 8102 also recommends that a desk study is undertaken, observing BS 5930 and BS EN1997, which covers:

- Geology and hydrogeology, including soil permeability, flood risk, radon, methane and other gases and contaminates present in the ground (e.g. chlorides and acids) – speak to our technical team on the risks of radon in basement conversions.
- Topography of the surrounding land (i.e. its geographical features) in relation to the underground structure.
- The highest likely level of the water table and the potential for a perched water table.
- Any missing ground gas/ground water information, to be ascertained by undertaking a site investigation, observing BS 59230 and BS EN1997.
- Analysis of the soil for drainage characteristics, to be determined in accordance with BS 8004.

Prepare for the worst

Taking account of the considerations above, the designer will be in a position to specify the most appropriate basement waterproofing system to achieve the required internal environment type. With any below-ground structure, however, there is always an increased risk of water ingress in exceptional circumstances, such as a burst water main or – increasingly often – a flash flood and, therefore, we would recommend that such 'worst case' scenarios are accounted for in any plans.

Other considerations

Besides the advice described above, BS 8102 also directs designers to design structures to 'full head' in earth retaining situations where:

- No detailed geological or hydrogeological information is available
- Soil investigations are inconclusive with regards to groundwater
- Ground drainage characteristics are unreliable
- Internal and/or external drainage measures are unreliable, unmaintainable and/or infiltration cannot be controlled

Designers should also remember that, even when comprehensive information is available regarding the site, it is their responsibility to specify measures to protect the structure against other sources besides underlying water tables.

These can include:

- The inflow of surface water, ranging from rainwater to wastage from burst water mains
- Water pressures acting on the external retaining wall system
- Water pressures below the slab base
- A successful waterproofing design should result in a system that can withstand a pre-determined head of water, or control the water before it reaches the structure.

Summary

The purpose of BS 8102 is to direct designers in making decisions that will result in successful basement waterproofing systems, capable of withstanding even the worst circumstances of water pressure and presence in the surrounding area. Should anything go wrong down the line, the system should allow for simple remedial measures that make minimal demands on time and money.

It is a code of practice that holds benefits for designers, specifiers, contractors and homeowners and Wykamol, wholeheartedly recommend that customers deal exclusively with companies that uphold its directions.

BS 8485 Mandatory Requirements For Gas Membrane Testing And Verification

In 2015 the British Standard for Good Practice on Gas Membrane Testing and Verification of Protection Systems for Buildings against Hazardous Ground Gases was updated, BS 8485:2015+A1:2019 supersedes all previous guidance.

BS 8485:2015+A1:2019 operating alongside the CIRIA 735 code of practice states Independent Gas Membrane Testing and Verification Programs are as important as the design and installation process.

BS 8485:2015+A1:2019 sets the codes of practice which govern the installation of gas proof membranes. Dependent on the various project risks and criteria Independent Inspection is mandatory.

NHBC Chapter 5.4 : Waterproofing of basements and other below ground structures

Chapter 5.4 moves beyond the point where the BS 8102 finished and recognised areas where there were still risks of failure. One particular area is their requirement for two systems or having two layers of protection. BS 8102:2009 referred to under section 6.2 Waterproof protection that 'one, or a combination, of the (3) types of waterproofing protection should be selected'.

The BS stops short of responsibility by "consideration should be given to the need for combined protection." NHBC took this important aspect further and determined to lessen risk of failure by requiring two forms of water resistance to deliver a robust design and provide surety to homeowners and insurers.

NHBC also recognised shortfalls in installation, notably failure of contractors and ground workers to install otherwise good products correctly. Under the new arrangements technicians are required to undertake training and be able to demonstrate competence.

Conclusion

Driving up of standards and improving outcomes in waterproofing will give confidence to consumers and end-users. They need to be assured they are investing in a building with dry basements which will add value to their property. Consumer confidence in the delivery of reliable underground spaces will result in more sales and opportunity for the industry.

WATERPROOFING DESIGN PHILOSOPHY

Best Codes of Practice

BS8102:2009
Is the main design document used in the waterproofing industry, it is used by designers, manufacturers and specialist waterproofing contractors. This is the code of practice for protection of below ground structures against water from the ground. It is the design standard in our industry for waterproofing, covering design philosophy, site evaluation, water-resisting design, general construction issues, Types of waterproofing, A, B & C, the grades of waterproofing and remedial measures It is a guide for designers assessing potential risk of water ingress to below ground structures. Advises on how best to mitigate risks involved in below ground, also covers gas membranes and risks. It is not legally binding, but would be referred to in any litigation proceedings.

NHBC Chapter 5.4.
NHBC standards for waterproofing of basements and other below ground structures. It covers regulation and compliance, guidance and good practice and information and support for waterproofing.

BS8485:2015 + A1 2019.
This is the code of practice for the design of protective measures for Methane and Carbon Dioxide ground gases for new buildings. This document includes more detailed recommendations on the interpretation of gas monitoring, data and assignment of the gas screening value.

BRE BR211 Radon 2015.
Guidance on protective measures for new buildings, including supplementary advice for extensions, conversions and refurbishment projects. Also includes, what is Radon, National building regulation guidance, protective measures, and level of protection, technical approach, detailed protective measures, and information to be provided to the purchaser.

CL:Aire, BS8007:1987.
This document is a pragmatic approach to ground gas risk assessment. This bulletin also describes an alternative approach to ground gas risk assessment.

CIRIA Report C735.
This document covers good practice on the testing and verification of protection systems for buildings against hazardous ground gases. All standards to be familiar with and integrated into design for waterproofing & ground gas, when working with buildings, refurb and new below-ground structures). Wykamol were part of the new add on document, for failures and remediation of gas membranes when not installed correctly.

BS8007:1987.
This document is the code of practice for design of concrete structures for retaining aqueous liquids. The two main forms of additives are liquid and powder, together with rebar, water stops, shrinkage and cracking.

WHAT IS NEEDED

Waterproofing Protection

One or a combination, of the following types of waterproofing protection should be selected;

1. Type A (Tanked - Barrier Protection)
2. Type B (Structurally Integral Protection)
3. Type C (Drained Protection)

TYPE A (BARRIER) PROTECTION

Type A is a form of waterproofing defined within BS8102 2009 (Protection of below ground structures against water from the ground), as a barrier protection. Barrier-specific properties should also be evaluated, allowing for any predicted cracking from the structure. The waterproofing barrier should be capable of providing the appropriate protection against water and water vapour without disruption or decay. Although some barrier materials accept local strains and can accommodate a crack opening in the supporting structure, it should be noted that others might be damaged by differential movement or cracking.

The waterproofing barrier should, in most instances, be continuous around the structure. In order to maintain the continuity of the barrier, penetrations through walls or floors that are to be protected (e.g. openings for services, pipes, cables) should be avoided, wherever possible. Where it is essential to provide such openings, special treatment around the penetration should be provided and reference should be made to the manufacturer's instructions and specialist advice. Similarly, where fixings through the barrier are necessary, the manufacturer's instructions should be followed.

Movement joints below ground should not be used unless unavoidable; in such cases these should be waterproofed in accordance with the manufacturer's instructions. Where a waterproofing barrier is required for a structure supported on piled foundations, special consideration should be given to the detailing so that structural continuity is not compromised and reference should be made to the manufacturer's instructions.

Cementitious crystallization barriers are blends of Portland cement, treated quartz sands and active chemicals. They are supplied in powder form and are mixed with water to form a slurry, which is then applied directly to the prepared concrete surface.

The active chemicals combine with free lime and moisture present in the capillary tracts to form insoluble crystalline complexes which prevent water ingress. Cementitious crystallization barriers should be applied to either internal or external surfaces of the concrete structure by brush or spray. They are suitable for use on both new and existing structures. Surfaces should be prepared (in accordance with the manufacturer's instructions) so as to have a capillary open structure prior to the application of the barrier.

Cementitious crystallization barriers can be applied as a single coat slurry to hardened concrete or dry sprinkle and trowel-applied to fresh concrete. They can also be applied to concrete blinding immediately prior to the placing of overlaying concrete. The installation of cementitious multi-coat renders, mortars and coatings should, unless otherwise advised by the manufacturer, be left until as much as practicable of the structure's dead load has been applied.

The substrate should be prepared in accordance with the manufacturer's instructions prior to the application of the system. Details on the application method and rate, mixing, number of layers/coats and curing requirements should be sought from the manufacturer. Existing substrates and structural elements should be assessed for suitability to withstand any increase in applied loads from water pressure.

WATERPROOFING DESIGN PHILOSOPHY

Best Codes of Practice (Continued)

TYPE B – STRUCTURALLY INTEGRAL PROTECTION

Structures will generally be reinforced or pre-stressed concrete. Since they are specifically designed to be water-resistant, further waterproofing will be required only where additional control against free water or water vapour is considered necessary. In some instances, the additional protection may be used to safeguard the structure from aggressive chemicals. Any noticeable cracking or defect should be brought to the attention of the designer. A concrete structure, to be constructed as an integral water-resistant shell. To be designed in accordance with BS8007 to waterproof but not vapour proof. If the concrete was poured monolithically there would be no problem at the floor wall junction. Day joints are potential problem areas.

TYPE C – DRAINED PROTECTION

A 'Type C' System is a below ground, internal waterproofing system, comprising of membranes, drainage and, if required, pumping systems with battery backup and ancillary products. With this design, it is accepted that water could enter the building and an internal cavity is provided to depressurise and manage the water, which is why they are sometimes referred to as 'water management systems. Once collected, water can be discharged from the property either via gravity to open elevations or removed by mechanical means. Because the waterproofing is not holding back water pressure, it is regarded by most waterproofing professionals as the safest form of waterproofing available. It is also the form of waterproofing that is the most maintainable and repairable.

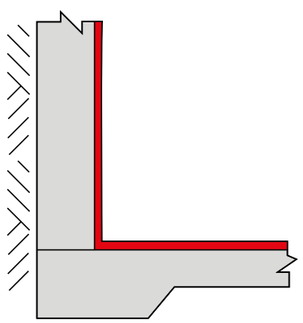
'Type C' cavity drain waterproofing systems are suitable for use with all types of structure and to both new-build and for the refurbishment of existing structures where the waterproofing has failed.

The only risks to this form of waterproofing are where the drainage cavities become blocked, or where too much water is entering the structure for the system to deal with, or where there is no power for the pumping system. (a It is also the Wykamol recommendation (based on BS8102 and NHBC guidance) that a dual system is utilised for dryer grades, and we would generally only recommend for Grade 3 environments the Type A and Type C or Type B and C combinations, with the use of construction joint accessories.

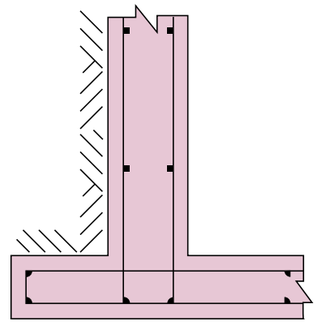
Our reasoning for this is that it is understood that Types A and B are both resisting the hydrostatic pressure and any defect will allow ingress.

When we are designing for habitable space, we will generally require a completely dry internal environment defined as a 'Grade 3' by the BS8102. Whichever combination of waterproofing is chosen to achieve the Grade 3 environment we would always recommend that one of the forms of waterproofing is an internal cavity drain membrane system (Type C). The choice of the other system is largely dictated by the type of structure. It is widely accepted that a well-designed Type C system will depressurise any water which enters the structure as a result of a defect and will manage it accordingly hence most application defects will never be subjected to water pressure if a full and well-designed system is used. The Type C system is acknowledged by most in the industry to be the most effective and trouble-free form of waterproofing as a standalone system and the fail-safe system in waterproofing designs where completely dry internal environments are required to be guaranteed.

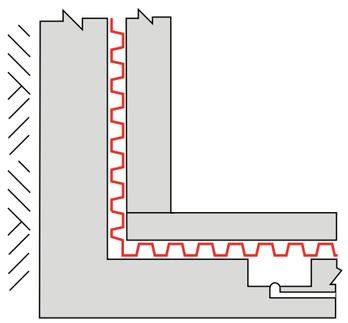
Type A
(Barrier Protection)



Type B
(Structurally Integral Protection)



Type C
(Drained Protection)



CAVITY DRAIN MEMBRANES

TYPE C

Type C construction relies on water being resisted by the structural elements and any water that penetrates the external shell of the structure being collected in a cavity formed between the external wall and an internal lining/wall.

There is permanent reliance on this cavity to collect groundwater seepage and direct it to a suitable discharge point, e.g. drains or a sump for removal by gravity drainage or mechanical pumping.

The amount of free water entering the cavity will depend on the volume of external water and its hydrostatic pressure, and on the resistance of the structure itself to water ingress. Designers need to consider any risk associated with a constant supply of possible contaminated water to the structure.

Such systems typically remove water via a mechanical sump pump system, or occasionally by gravity to low ground or drains externally where properties are formed into sloping sites. However, the need to control ground gases, e.g. radon, may not allow the use of gravity drainage. In all cases, consideration should be given to the point at which water discharges, understanding that the effectiveness of the system is reliant on removal of water, so an appraisal of this factor is required.

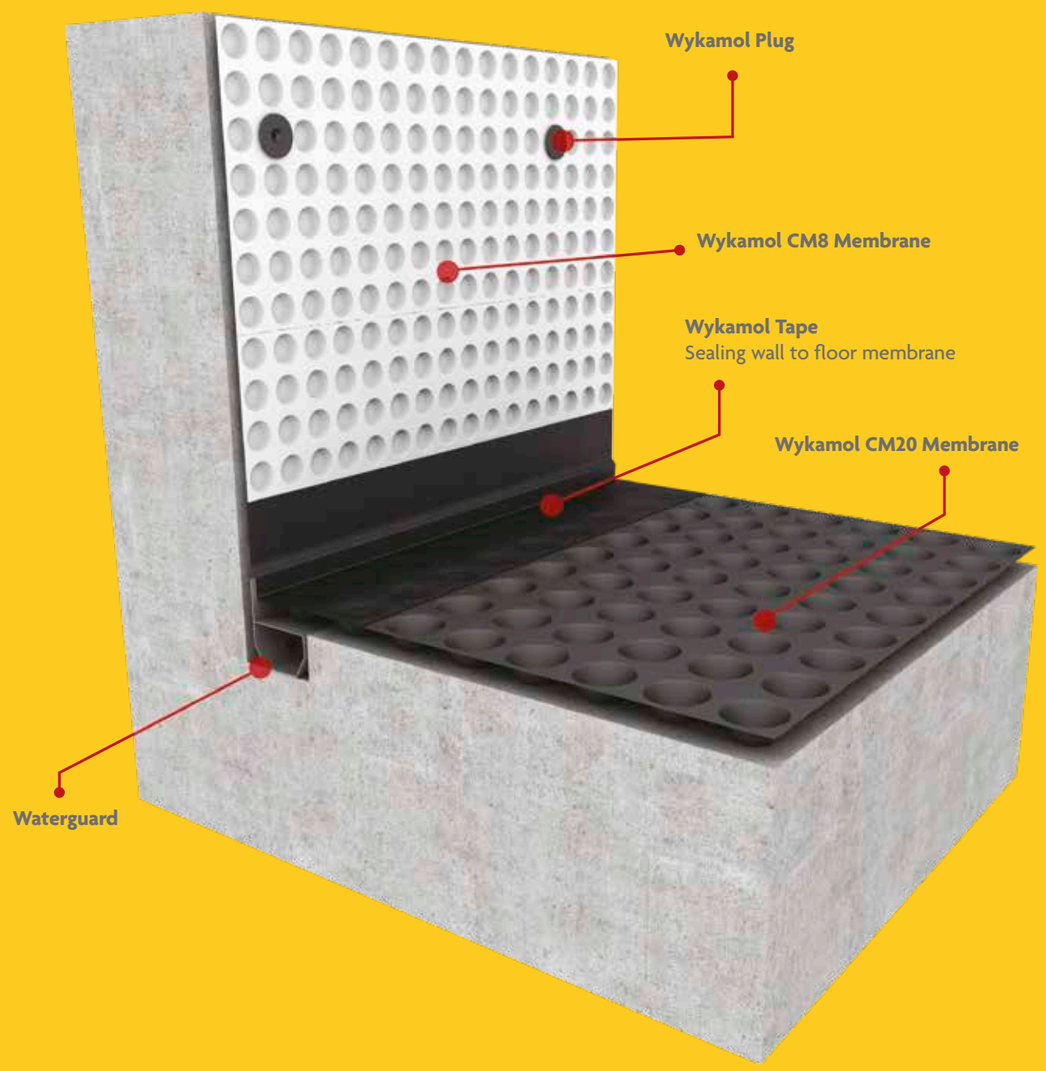
Type C pumped systems should be engineered to cope with worst-case water ingress. If drainage capacity is exceeded, this may result in dampness or flooding. Type C systems are designed to control and manage leakage and seepage into a structure where water ingress is unacceptably high, the water resistance of the structure should be improved by remedial measures prior to the installation of the type C system.

Backup pumps and alarms should in most situations be included, particularly where the consequences of failure are great. It should also be noted that:

- Type C systems require a maintenance schedule, as failure of mechanical pumps could result in flooding;
- Blockage of the cavity by silt or lime or other contaminants could result in flooding. (The design of the system should allow for clearing of silt should blockages occur in the system including discharging drains.)

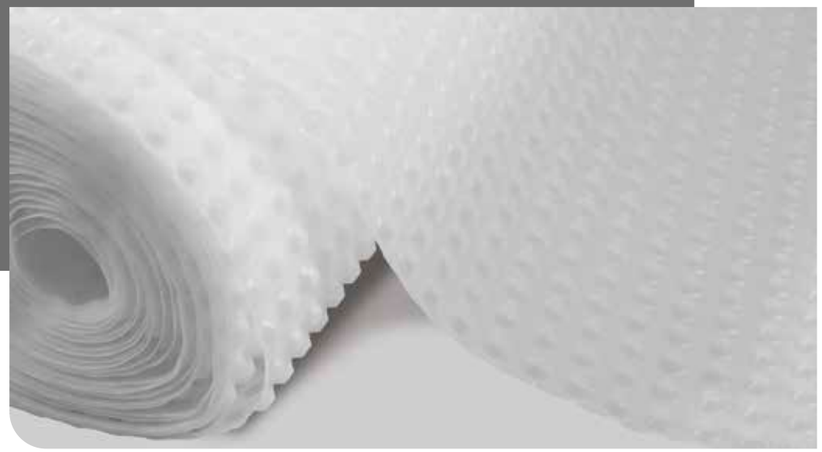
Maintenance should be undertaken by a specialist, making assessment of the requirement to upgrade and replace pumps as necessary.

When combining systems in order to minimise the risks or negate the need for remedial measures, consideration should be given to the compatibility of the combining systems.



CM8

Cavity Drain Membrane



The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

CM8 Cavity Drain Membrane is an 8 mm studded membrane, suitable for Type C waterproofing and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4. CM8 is available in both 500g or 700g densities. We recommend using the CM8 HD700 when a heavier, denser membrane is deemed necessary by the Wykamol Technical Department. Please always take advice from our Technical Experts when making product selections.

Advantages

- Creates a dry, habitable living space in areas previously suffering from damp/ wet conditions.
- Waterproof, salt inhibiting, root and contaminate resistant.
- Quick to install - minimal preparation needed to wall surfaces.
- Easily cut down using a sharp blade.
- No drying out process - redecoration can occur immediately.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.
- Part of a type c cavity drain membrane system in line with BS8102:2009.
- Clear for easy application and fixing of wykamol plugs.

Uses

Walls, Floors, Vaults, Tunnels
Above and below ground level
Waterproofing applications
Damp-proofing applications

Available Sizes

Pack Size: 2m x 20m
2.4m x 20m

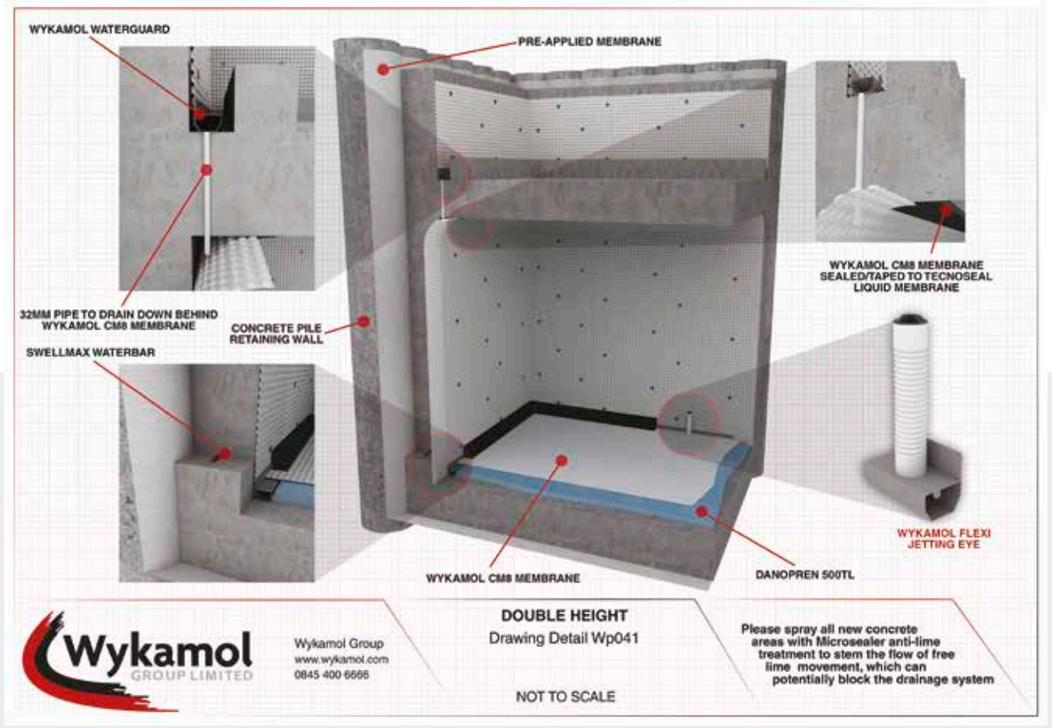
Coverage: 40m²
48m²

BBA BRITISH BOARD OF AGRÉMENT

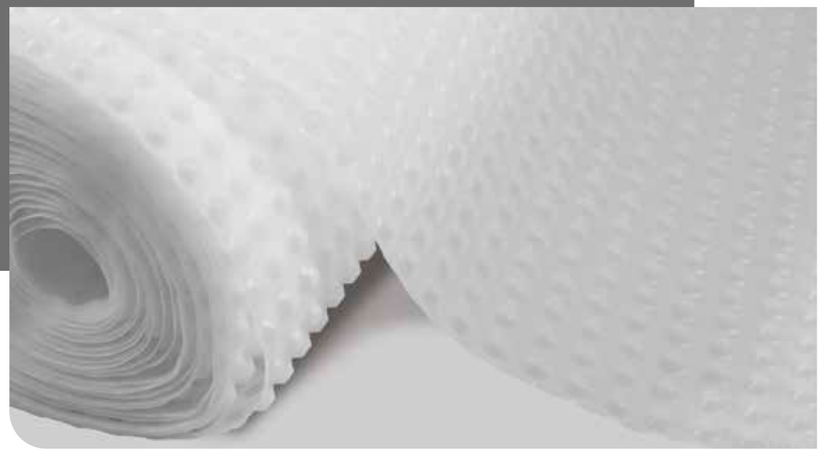
CE

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m²	N/A
Sheet Thickness	0.45 mm	EN 149-2
Stud Height	7 mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength 1	180 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	



CM8
HD700
Cavity Drain Membrane



The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

CM8 HD is an 8mm studded high density membrane suitable for type C waterproofing and delivering a grade 3 environment to BS8102:2009 and NHBC chapter 5.4. We recommend using the HD version on our Danopren insulated spacer and also in commercial areas where a more impact resistant membrane may be needed. CM8 HD is also an excellent Radon barrier and has passed all the relevant tests for resistance to this Gas.

Advantages

- Creates a dry, habitable living space in areas previously suffering from damp/ wet conditions.
- Waterproof, salt inhibiting, root and contaminate resistant.
- Quick to install - minimal preparation needed to wall surfaces.
- Easily cut down using a sharp blade.
- No drying out process - redecoration can occur immediately.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.
- Part of a type C cavity drain membrane system in line with BS8102:2009.
- Clear for easy application and fixing of wykamol plugs.
- Ideal radon barrier membrane
- Heavier duty impact resistance
- High loadings on floors

Uses

Walls, Floors, Vaults, Tunnels
Above and below ground level
Waterproofing applications
Damp-proofing applications
High density variation of CM8

Available Sizes

Pack Size: 2m x 20m
2.4m x 20m

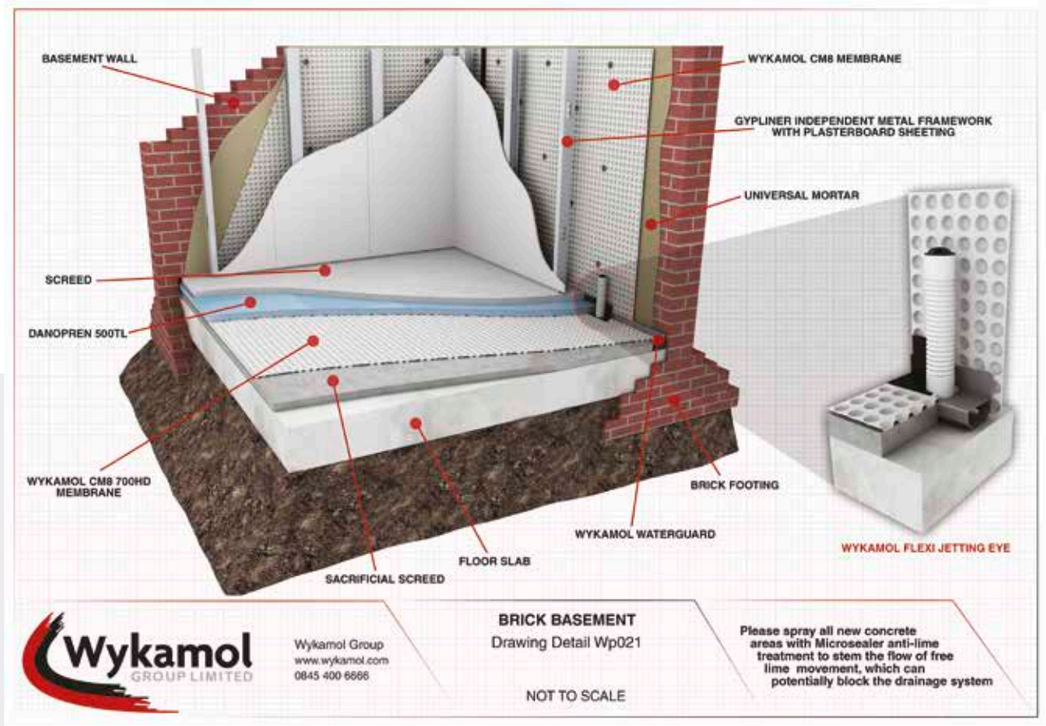
Coverage: 40m²
48m²

BBA BRITISH BOARD OF AGREMENT

CE

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.7 Kg/m²	N/A
Sheet Thickness	0.55 mm	EN 149-2
Stud Height	7 mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength 1	285kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	



CM20 YELLOW
Cavity Drain Membrane

The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

The CM20 High-visibility Yellow Cavity Drain Membrane is a 20mm studded membrane, suitable for Type C waterproofing and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4. CM20 Yellow is the highest drainage capacity membrane in the Wykamol Waterproofing range.

Advantages

- High grade material with good visability for dark basements.
- Easy to see joints avoiding trip hazard.
- Part of a type C cavity drain membrane system in line with BS8102:2009.
- Gives a high water void volume of 14 litres/m².
- Quick to install - easy to roll out along floors.
- Creates a dry, habitable living space in areas previously suffering from damp or wet conditions.
- Easily cut down using a sharp blade.
- Waterproof, salt inhibiting, root and contaminate resistant.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.

Uses

Radon barrier approved

Walls, Floors, Vaults, Tunnels

Above and below ground level Waterproofing applications.

Available Sizes

Pack Size: 2m x 10m
2m x 20m

Coverage: 20 m²
40 m²

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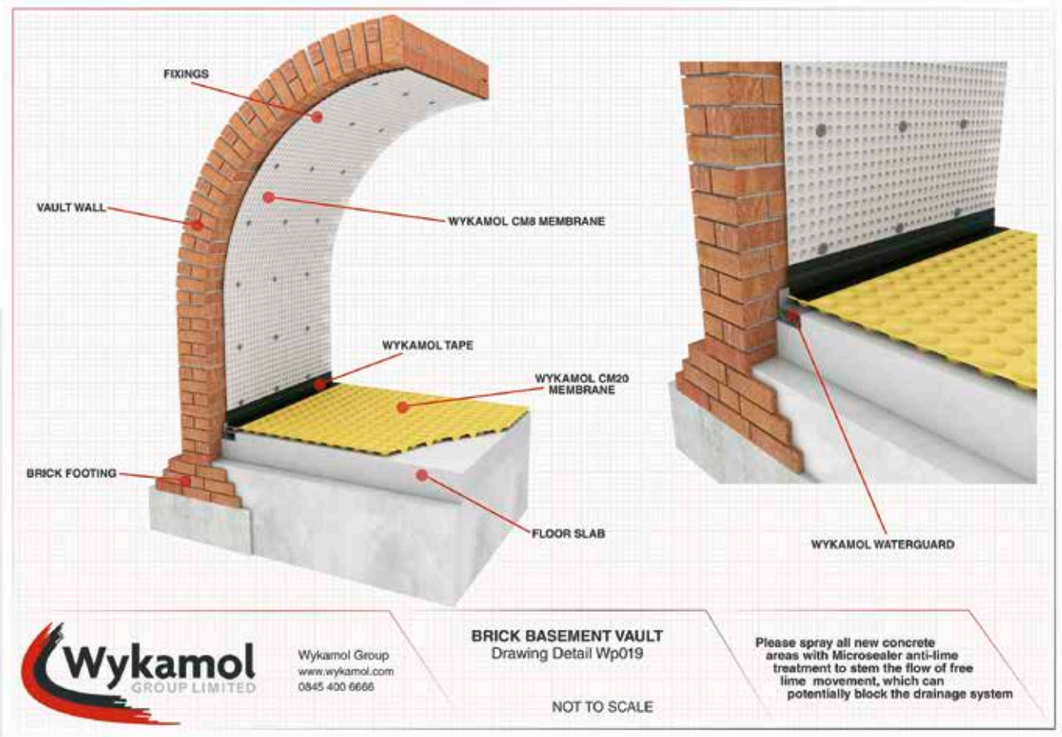
CE

Properties

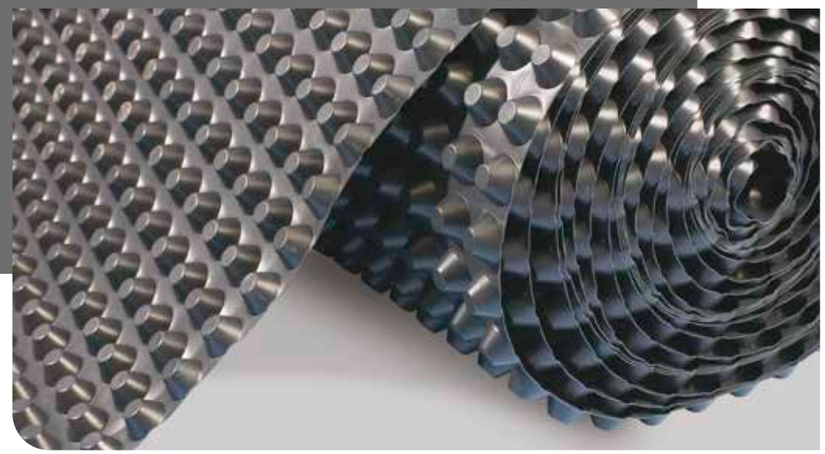
Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	1 Kg/m²	N/A
Sheet Thickness	1 mm	N/A
Stud Height	20 mm	N/A
Colour	Yellow	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	170 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1:2007+A1:2009
Type of Application	Type V	N/A
Life Expectancy		Lifetime of Structure



For further information call our technical support team on **0845 400 6666** or visit www.wykamol.com

CM20

Cavity Drain Membrane



The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities & applications.

The CM20 Cavity Drain Membrane is a 20mm studded membrane, suitable for Type C waterproofing and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4. CM20 is the highest drainage capacity membrane in the Wykamol Waterproofing range.

Advantages

- Part of a type C cavity drain membrane system in line with BS8102:2009.
- Gives a high water void volume of 14 litres/m².
- Quick to install - easy to roll out along floors.
- Creates a dry, habitable living space in areas previously suffering from damp/ wet conditions.
- Easily cut down using a sharp blade.
- Waterproof, salt inhibiting, root and contaminate resistant.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.
- High grade material.
- Available in rolls of 2m x 20m and 2m x 10m* (*only 20 kg in weight)

Uses

Radon barrier approved

Walls, Floors, Vaults, Tunnels
Above and below ground level
Waterproofing applications

Available Sizes

Pack Size: 2m x 10m
2m x 20m

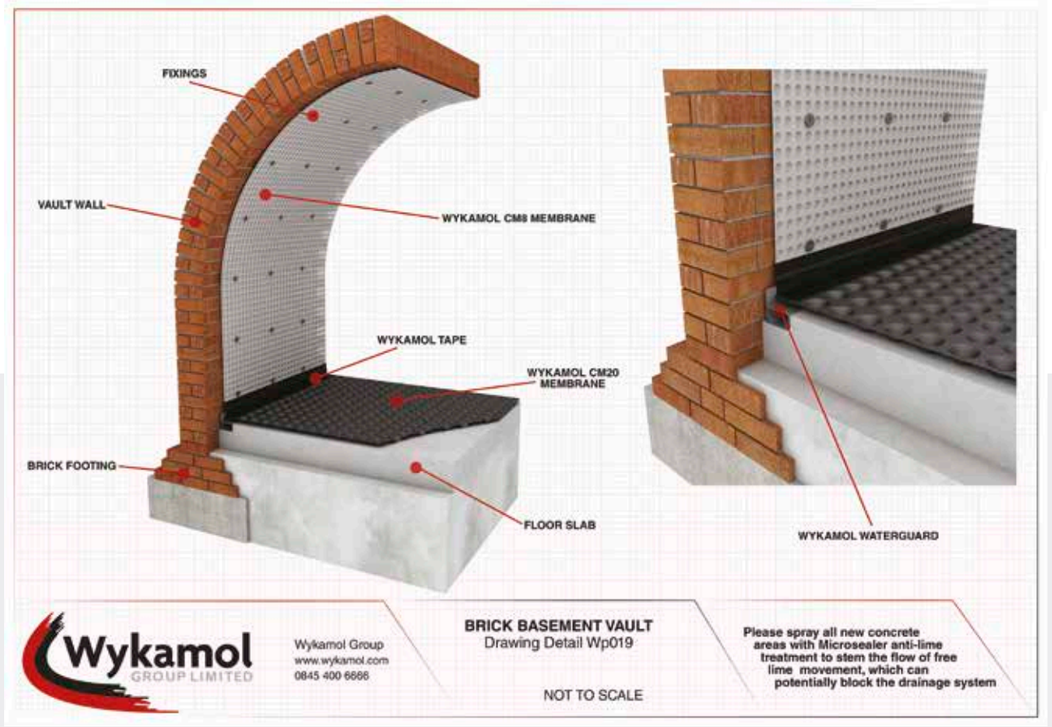
Coverage: 20 m²
40 m²

BBA BRITISH BOARD OF AGREMENT

CE

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	1 Kg/m²	N/A
Sheet Thickness	1 mm	N/A
Stud Height	20 mm	N/A
Colour	Black	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	170 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	



CM8

Geotextile Membrane

The Wykamol CM8 Geotextile membrane is a twin layered cavity drain membrane, designed to manage water to the land drain, relieving pressure from the structure.

The dual layers comprise of the Wykamol 8mm studded HDPE membrane and a non-women geotextile manufactured from UV stabilised, high tencity, virgin polypropylene fibres that have been mechanically entangled to provide high strength, high extensibility, high loft and excellent abrasion characteristics. The geotextiles are also thermally treated to reduce thickness while maintaining excellent mechanical properties.

Advantages

- Ideal Radon Barrier
- Suitable for use with all construction types.
- Drains off water before reaching the waterproof coating.
- Combined drainage and protection board.
- Easy handling and rapid installation.
- Rugged, durable construction with thermal insulation benefits.
- Filtration layers prevents silting-up.
- High compressive strength and drainage capacity.
- Allows back-filling with excavated earth.
- Withstands stress and movement in the background.

Uses

Isolate and protect external structure from surrounding soil

Helps relieve hydrostatic pressure from the face of the structure

Ideal for retaining walls, podium decks, external tanking and green roof applications.

Available Sizes

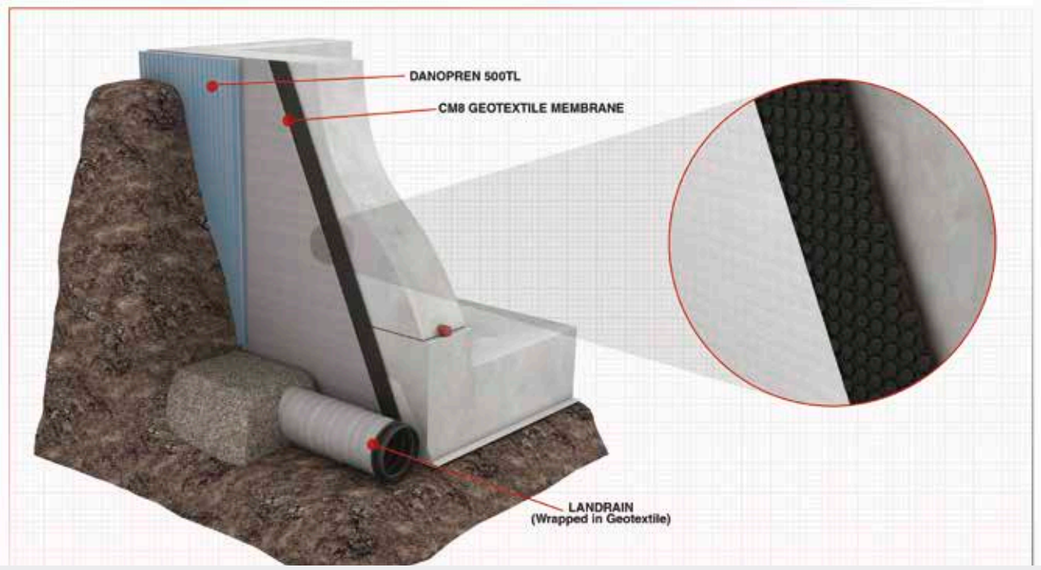
Pack Size: 2m x 20m

Coverage: 40m²

CE

Properties

Technical Data	Result	Test Standards
Material	HDPE and Geotextile fabric	N/A
Total Unit Weight	0.61 Kg/m²	N/A
Total Sheet Thickness	0.97	EN 149-2
Stud Height	7 mm	N/A
Colour	Black	N/A
Water tightness,60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	180 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	
Geotextile Mechanical Properties		
CBR Puncture Resistance	1.27 kN	EN ISO 12236
Tensile Strength (M)	8 kN/m	EN ISO 10319
Tensile Strength (CMD)	8.5 kN/m	EN ISO 10319
Tensile Elongation (MD)	50%	EN ISO 10319
Tensile Elongation (CMD)	60%	EN ISO 10319
Dynamic Perforation	35 mm	EN ISO 13433
Geotextile Hydraulic Properties		
Pore Size (O90)	100 µm	EN ISO 12956
Permeability (H50)	79 l/m²/s	EN ISO 11058
Geotextile Physical Properties		
Mass per unit area	0.11 Kg/m²	EN ISO 9864
Thickness	0.52 mm	EN ISO 9863-1



CM8 MESH
Cavity Drain Mesh Membrane

The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

CM8 Cavity Drain Mesh Membrane is a 8 mm studded membrane incorporating a tough HDPE mesh lathing welded to the front face, allowing the direct application of various plaster finishes, adhesive 'dabs' and plasterboards and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4

Advantages

- High performance bonded mesh Part of a type C cavity drain membrane system in line with BS8102:2009
- Waterproof, salt inhibiting, root and contaminate resistant. creates a dry, habitable living space in areas previously suffering from damp/wet conditions.
- Easily cut down using a sharp blade.
- Easy to fold around windows and doors.
- Quick to install - minimal preparation needed to wall surfaces.
- No drying out process - redecoration can occur immediately.
- Little or no damage to the existing structure.
- Little or no damage to the existing structure.
- Can take a direct plaster or dot and dab

Uses

Walls
Above and below ground level
Waterproofing applications
Damp-proofing applications

This product can take a direct render or dot and dab application

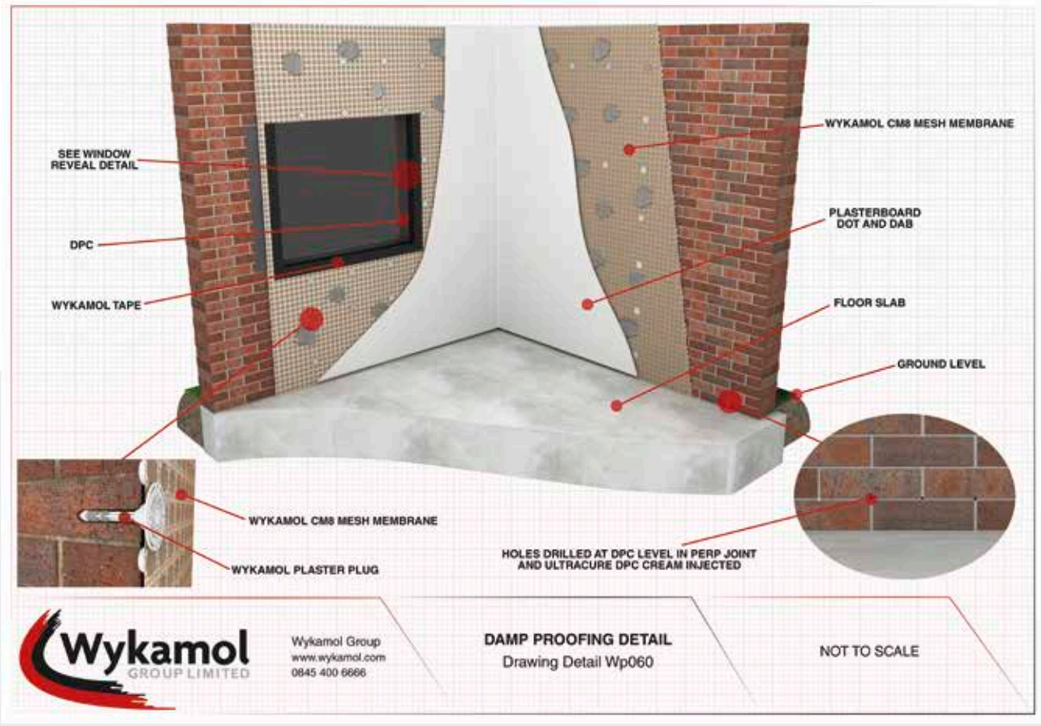
Available Sizes

Pack Size: 2m x 10m, 2m x 20m

Coverage: 20m² 40m²

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.505 Kg/m²	N/A
Sheet Thickness	0.6 mm	EN 149-2
Stud Height	7mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	180 kN BS	EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	



CM3 MESH

Cavity Drain Mesh Membrane

The Wykamol range of cavity drain mesh membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

CM3 Cavity Drain Membrane is an 3mm studded membrane, suitable for Type C waterproofing or damp-proofing, and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4.

Advantages

- Part of a type C cavity drain membrane system in line with BS 8102:2009.
- Quick to install - minimal preparation needed to wall and floor surfaces.
- Easy to fold around windows and doors.
- Easily cut down using a sharp blade.
- No drying out process - redecoration can occur immediately.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.
- Creates a dry, habitable living space in areas previously suffering from damp/ wet conditions.
- Waterproof, salt inhibiting, root and contaminate resistant.
- Thinner diameter stud detail only 3mm
- Now with a 1.2metre version to eliminate salt band issues
- Easy to plaster direct onto membrane or dot and dab

Uses

Walls, Floors, Vaults, Tunnels
Above and below ground level
Waterproofing applications
Damp-proofing applications

Available Sizes

Pack Size: 1m x 10m
1m x 20m
1.2 x 20m
2m x 20m

Coverage: 10m²
20m²
24m²
40m²

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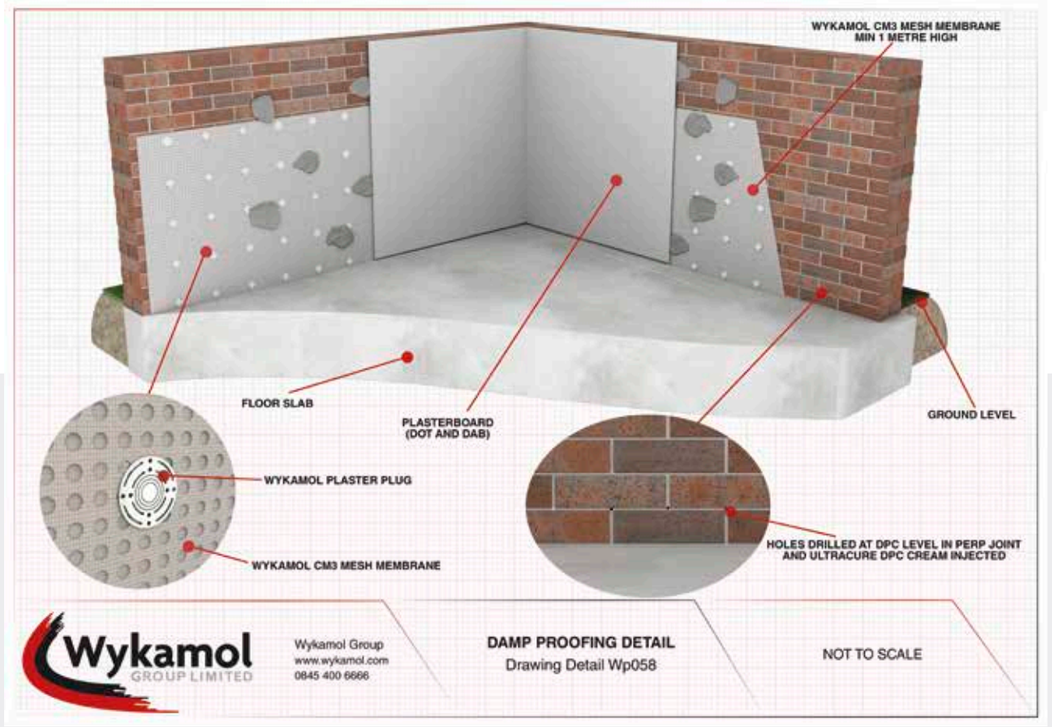
CE

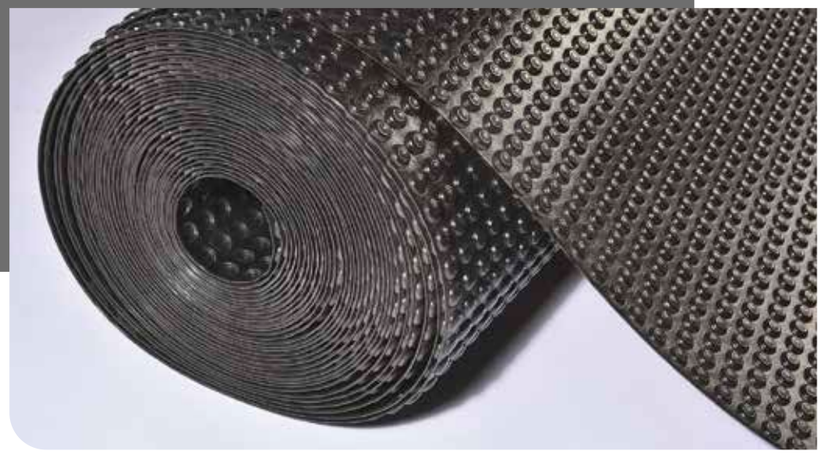
Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.505 Kg/m²	N/A
Sheet Thickness	0.6 mm	N/A
Stud Height	3 mm	N/A
Colour	Clear	N/A
Water tightness 60 kPa; 24h	Pass	EN 1928
Working Temperature	-50°C to	+80°C N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
Compressive Strength	250 kN	BS EN ISO 25619-2
Reaction to Fire	Class F	BS EN 13501-1
Type of Application	Type V	N/A
Life Expectancy	Lifetime of Structure	



CM3

Cavity Drain Membrane



The Wykamol range of cavity drain membranes are high quality, structural waterproofing materials, with a choice of stud height for different drainage capacities and applications.

CM3 Cavity Drain Membrane is a 3mm studded membrane, suitable for Type C waterproofing or damp-proofing, and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4.

Advantages

- Fast track flooring applications (damp barrier)
- Part of a type C cavity drain membrane system in line with BS8102:2009.
- Quick to install - minimal preparation needed to wall and floor surfaces.
- Easy to fold around windows and doors.
- Easily cut down using a sharp blade.
- No drying out process - redecoration can occur immediately.
- Little or no damage to the existing structure.
- Low and high temperature tolerance.
- Creates a dry, habitable living space in areas previously suffering from damp/ wet conditions.
- Waterproof, salt inhibiting, root and contaminate resistant.

Uses

Walls, Floors, Vaults, Tunnels
Above and below ground level
Waterproofing applications
Damp-proofing applications

Available Sizes

Pack Size: 2m x 20m

Coverage: 40m²

BBA BRITISH BOARD OF AGREMENT

CE

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m²	N/A
Sheet Thickness	0.6 mm	N/A
Stud Height	3 mm	N/A
Colour	Black	N/A
Water tightness,60 kPa; 24 h	Pass	EN 1928
Working Temperature	-50°C to +80°C	N/A
Softening Temperature	126°C	N/A
Tensile Strength MD	416 N	BS 12311-2
Tensile Strength CD	488 N	BS 12311-2
Resistance to Static Loading	>20 Kg	BS 12730
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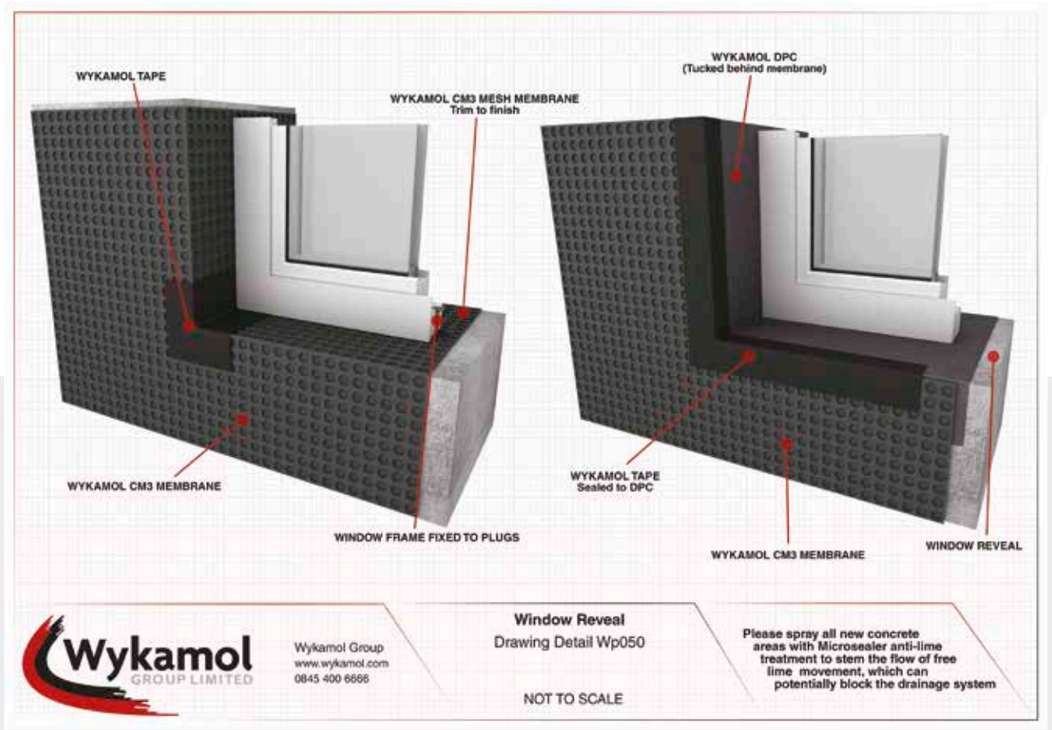
Life Expectancy	Lifetime of Structure	



PLUGS

Membrane Sealing Ancillaries

The Wykamol Membrane Plugs are fixings to apply cavity drain membranes to the walls of both above and below ground structures, ensuring a water tight application of the membrane systems.

Wykamol **CM Plaster Plugs** and **CM Brick plugs** are of a high quality and can be used in a range of applications and on multiple substrate types. The tailor made Thermoplastic Elastomer seal ensures application of the membrane is water tight, if a normal fixing cannot be made then our **COB plugs** are ideal.

Advantages

- A reinforced head to prevent damage when knocking in the plug. 60 mm in length - suitable for both single skin and cavity walls.
- Provides a waterproof seal when used with seals provided (available with or without seals).
- Available with or without seals to cater for multiple application types.
- Large 35mm (brick plugs) or 50mm (Plaster plugs) head provides optimum surface area for finishes.
- Works in conjunction with the wykamol waterproofing solutions CM membrane system
- Serrated head for improved adhesion of finishes.
- Tailor made seal specific to plug.

Uses

CM Brick Plugs can be used:
For cavity drainage membranes such as CM3, CM8 and CM20. On brick, stone, concrete in both damp and waterproofing applications.

Plaster Plugs can be used:
For mesh membrane systems such as CM3 Mesh and CM8 Mesh. Where a plaster application is necessary. Where a dot and dab plaster board application is necessary to secure membranes to walls on systems where a free standing frame is to be used.

Available Sizes

Brick plugs 60mm in length
Bags of 100 and 200 without seals
Bags of 100 and 200 with seals

Plaster plugs 60mm in length
Bags of 200 without seals
Bags of 200 with seals

Cob plugs Box quantity 200
60mm long
90mm long
110mm long
130mm long

CM Plaster Plugs with seals

These Plaster Plugs can be used with our mesh membrane systems. They are available in 60mm lengths and have the advantage of a seal already attached. They have a serrated head which can take plaster or dot and dab. They can also be used to secure membranes to walls in systems where a free standing frame is to be used.

CM Plaster Plugs without seals

These Plaster Plugs can be used with our mesh membrane systems. They are available in 60mm lengths. They have a serrated head which can take plaster or dot and dab. They can also be used to secure membranes to walls in systems where a free standing frame is to be used.

CM Brick Plugs with seals

Wykamol Brick plugs are 10mm fixings to use with membrane systems, with the advantage of a rubber seal already attached. They have a reinforced head for easy use and take a size 10 screw into the head of the plug, for battens or metal framing systems. At 60mm long, these plugs will fit into all substrates.

CM Brick Plugs without seals

Wykamol Brick are 10mm fixings to use with membrane systems. They have a reinforced head for easy use and take a size 10 screw into the head of the plug, for battens or metal framing systems. At 60mm long, these plugs will fit into all substrates.

COB Plugs

These plugs are ideal to use where substrates will not take a normal fixing. They are ideal for cob construction as well as all other masonry types. They have a pin which is driven down the head of the plug to give a secure anchor for membrane systems. Available sizes are 60, 90, 110 and 130mm long.

ANTI-LIME SEALER

Accessory

Wykamol Anti-Lime sealer is applied to concrete and cures to form a water repellent surface which is resistant to lime efflorescence.

Wykamol Anti-Lime Sealer is a highly penetrative solution specially formulated to react with hydrated cement both at the surface and to a depth of up to 15 mm. The Silicate active ingredients form monolithic structures within the concrete which are long-lasting and durable and will improve surface wear characteristics.

Additionally, a silicone resin component cures to form water repellent properties in the concrete thereby improving even further the resistance to surface water absorption and/or lime efflorescence.

New concrete floors may be treated after a period of curing (approx. 14 days). However, power-floated floors are not suitable for treatment. Please note that Anti-Lime Sealer will not prevent excessive laitance from delaminating. Surface preparation to remove excessively weak material by mechanical abrasion is essential. It is also advised that surface weakness in floors with a deficiency in cement content may not be successfully treated by chemical hardening nor is Anti-Lime Sealer suitable as a surface preparation prior to painting

Uses

For concrete walls and floors to inhibit lime build up within the waterproofing system

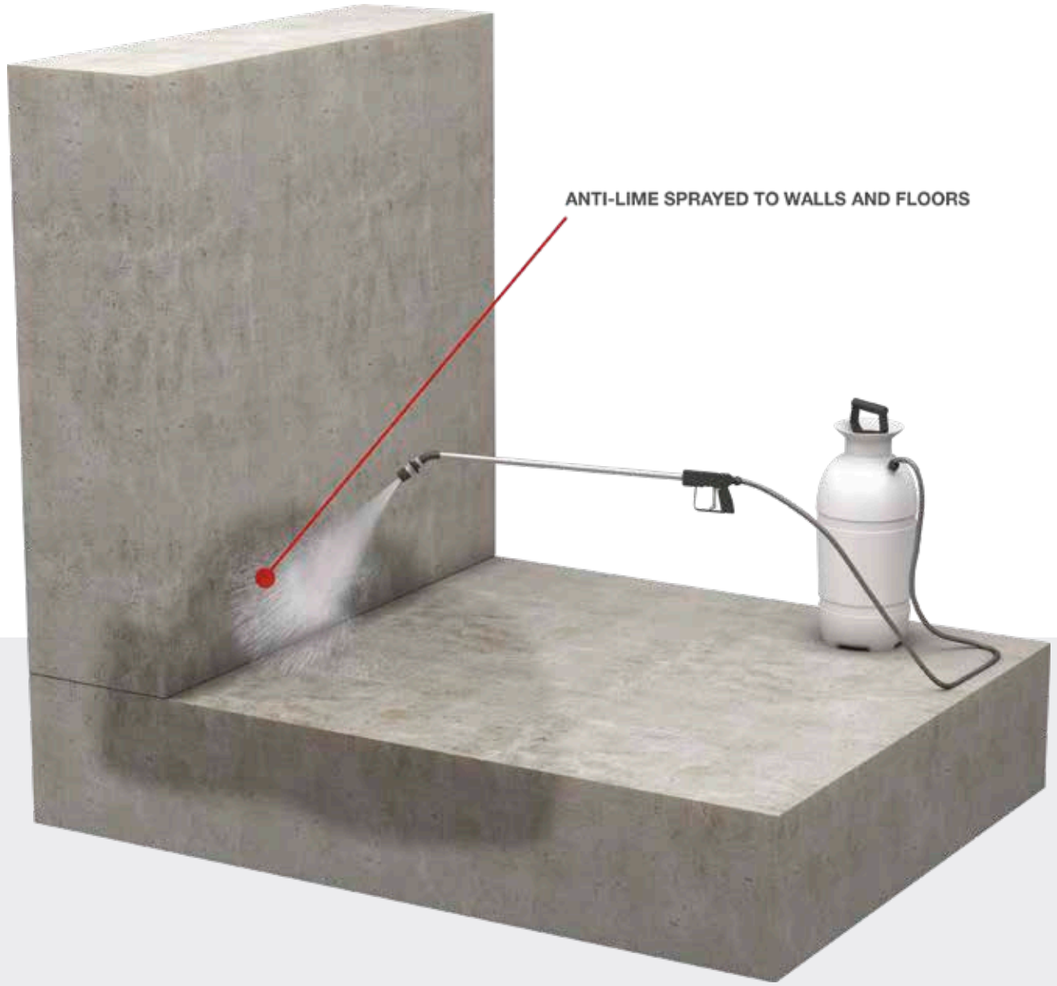
Available Sizes

Size: 1 litre concentrate makes 20 litres when diluted

Typical Coverage:
Coat 1 - 1 Litre per 4m² to 6m²
Coat 2 - 1 Litre per 6m² to 8m²

Special Properties

- Odourless solution
- Reduces dusting of old and new concrete
- Improves surface wear characteristics extending the life of the floor
- Reduces penetration of water and oil
- Prevents lime efflorescence which blocks drainage channels in a Type C waterproofing application
- Easy to apply
- Long lasting active ingredient
- Highly penetrating



HIGH LOAD

Thermal Spacer

Wykamol HIGH LOAD Thermal spacer has been specifically developed to assist in the installation of internal waterproofing systems for basement structures.

This high compressive strength material 500KPa has a very impressive long-term compressive creep property of 225KN/m², meaning that even after 50 years the material will only compress by 2% if it is loaded at 225KN/m².

Advantages

- The **high load** spacer can also be used as a protection board for Wykamol external type A waterproofing systems. Applied externally, the board offers protection, insulation and drainage.
- The Wykamol **high load** thermal insulation boards have been developed to be installed above the concrete basement floor slab and under the floor screed. The boards are 50mm thick so can be installed to create an insulated drainage layer that finishes flush with the internal perimeter drainage gulley.
- The boards are grooved on one surface, 6mm x 6mm at 25mm spacing, to assist with drainage.
- The edges of the boards have a shiplap profile to minimise the risk of screed passing through any gaps between the boards that may exist following installation.

Unique Benefits

Does not absorb water, Breathable, High compression resistance, Lasting performance, Quick and simple installation, 100% Recyclable.

Available Sizes

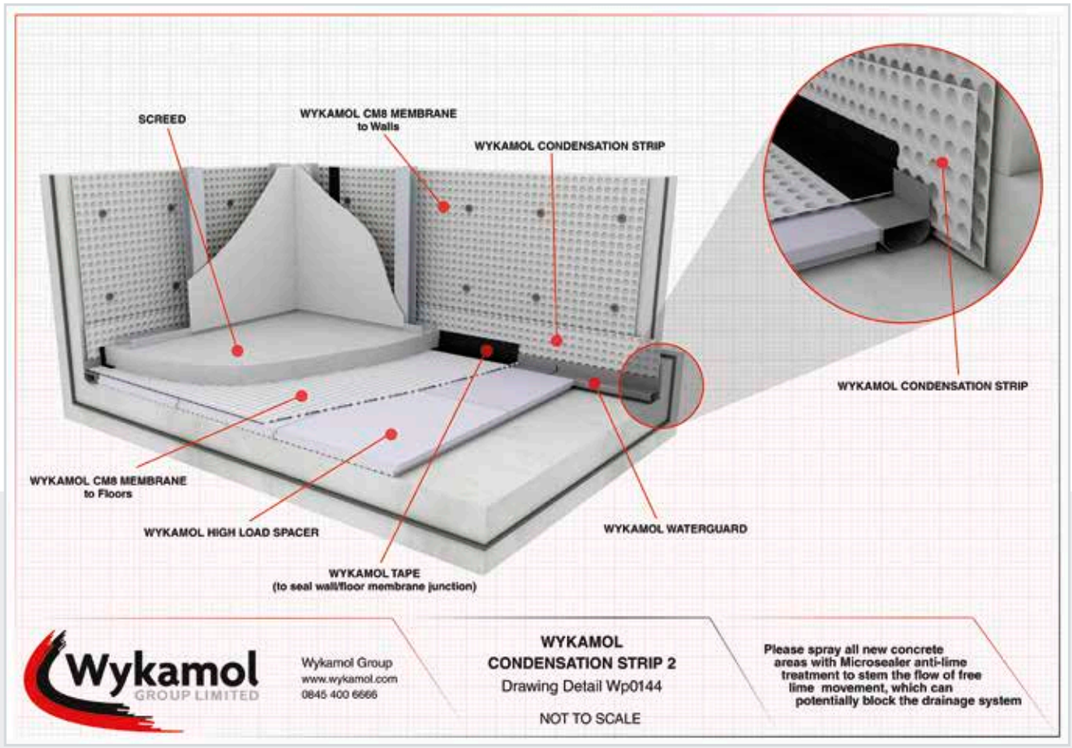
Pack Size: 1200m x 600mm

Pack Qty: 6m² per pack (minimum)

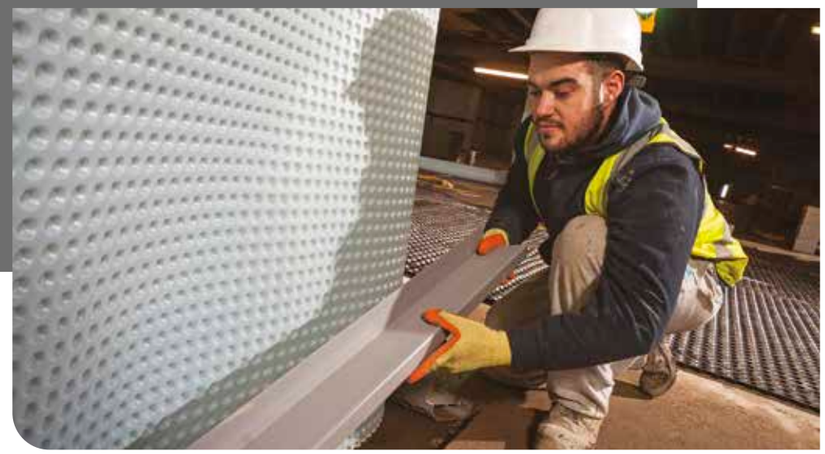
Properties

Thickness (mm)	Nominal Area (mm)	Effective Area (mm)	Edge Treatment
50	1200 x 600	1185 x 585	15mm Shiplap Edge

Property	Standard	Unit	Value
Compressive Stress at 10% deformation	EN826	KN/M²	500
Compressive creep (50 years @ 2% deformation)	EN12087	KN/M²	225
Design Thermal Conductivity	EN10456	W/mK	0.034
Long term Water absorption by total immersion	EN12091	%VOL	<1
Coefficient of Thermal Expansion	-	mm/mK	0.07
Maximum Working Temperature	-	°C	75
Reaction to Fire	EN 13501-1	Euroclass	E

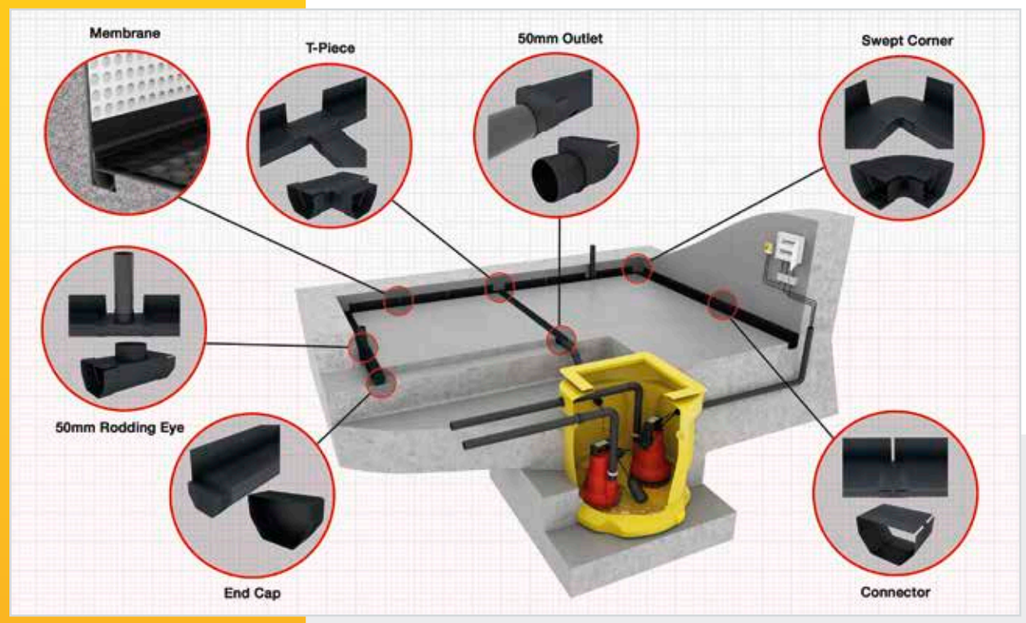


DRAIN SYSTEM
Channelling



As part of the Wykamol cavity drain membrane system, channels are a crucial part of the overall system, and are laid at wall floor junctions to remove any water entering the structure.

These channels are designed with pre-determined water entry points into the rear of the channel. They either come with a flange upstand system or flangeless depending on the type of foundation that you will be working with. Channels come with various accessories to aid the system, some of which are covered in the following pages.



Waterguard

Wykamol Waterguard is a PVC drainage conduit designed for the control of water ingress in below ground situations. Wykamol Waterguard is fitted around the perimeter of the floor at the vulnerable wall/floor junction.

Floor Drain

Wykamol floor drain is a PVC conduit designed for the control of water ingress in below ground situations. Wykamol floor drain can be fitted around the perimeter and also as cross floor drainage as part of a managed water removal system.

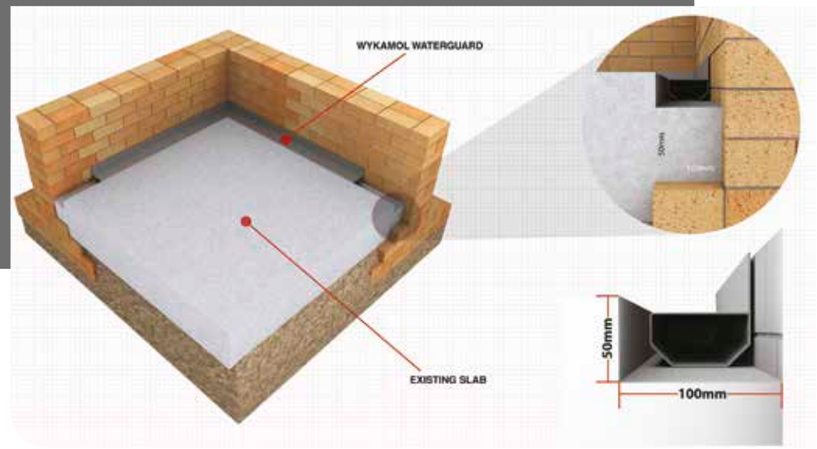
Universal Channel

Newly designed channel outlet to remove water from the channel to the sump. This has the benefit of a 100mm outlet for high water movement or for easier installation into the sump chamber.
It also comes with a jetting eye which can be cut down to suit floor finishes. Can be used with floor drain and waterguard channels.

50mm Outlet

Wykamol 50mm outlet is a multi purpose outlet to take water from the waterguard or floor drain systems into a sump chamber or through a wall on a sloping site to a gully. New snap in solution is easy to install with all channel systems .

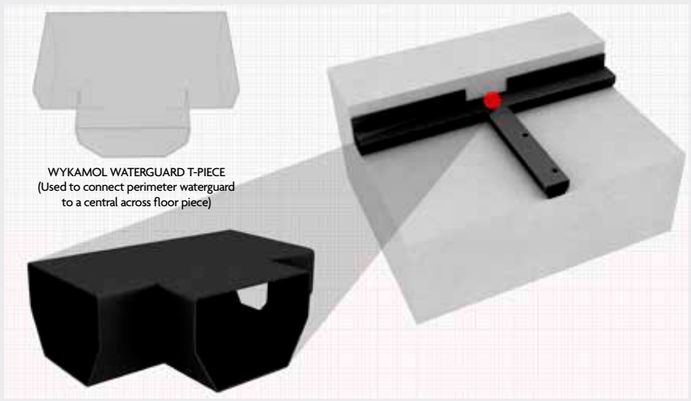
DRAIN SYSTEM
Channelling



As part of the Wykamol cavity drain membrane system, channels are a crucial part of the overall system, and are laid at wall floor junctions to remove any water entering the structure.

T-Piece

The new Wykamol t-piece has been designed to connect waterguard and floor drain sections together. This can be used in cross floor drainage or as a connector to take water into a sump chamber via a floor drain section. Easy unique push fit interlock application to enable a speedy installation. No lips in the t-piece to inhibit lime build up.



Flexi Jetting Eye

The flexible jetting eye has been designed to allow the cleaning of the channel system and also as an inspection chamber. The unique flexible upstand jetting point can be easily bent to allow the channel to be used in a wall port system. It also has the benefit of allowing slabs to be laid whilst still being easily accessible afterwards.

Extended Jetting Eye

The extended jetting eye has been designed to allow cleaning and inspection of the channel system waterguard or floor drain via a push fit interlock
Having a unique 50mm connector allows for pipework to be added to the jetting eye to access the channel system for cleaning and inspecting. It is recommended 1 jetting eye is installed every 10 to 12 metres of channels.

Swept Corner

This corner piece allows a unique push fit to the Wykamol channels to create a 90 degree corner section which allows for easier cleaning and jetting of the system .
No sharp edges also allows for a seamless flow of water and also helps inhibit lime build up within the system itself.

Jointing Section

This push fit joint section allows all channel sections to connect together to form a seamless passage for water to flow and also helps inhibit lime build up. This also helps reduce movement at jointing sections.

JOINTING SYSTEMS

These jointing systems are synthetic rubber based specialist pre formed strip sealants

Good adhesion to a wide range of substrates. Good UV resistance, the softer composition makes this product highly conformable. Easy and accurate to use with little waste & no mess. High tack, remains flexible throughout its service life.

Instructions

Surface preparation: All surfaces should be clean, dry and free from frost, grease and loose materials. When cleaning contaminated substrates, Wykamol recommend that propan-2-ol (IPA) is used and allowed to dry prior to the application of the sealant strip.

Application: Apply direct from the reel onto one surface and press sufficiently along its whole length to achieve good initial adhesion. Remove backing paper and offer other surface to the sealant and push firmly to seal across the joint.

Wykamol Tape

Wykamol Tape is a high quality, butyl, double sided tape, used to attach 2 sheets of membrane together on walls or floors. The high grade HP600 bitumen makes this a long term solution for all membrane applications.

Uses

For use as a water seal for compression joints and seams. For joining polyethylene sheeting in building and construction.

Available Sizes

Rope:	10mm x 5m
Tape:	28mm x 22.5m
Corner tape:	150mm x 20m
Overseal tape:	2mm x 75mm x 22.5 m
Fibre tape:	1mm x 115mm x 25m
Gas tape:	1.5mm x 115mm x 25m

Rope

A 10mm bead of butyl rope. This rope is used to either wrap around the head of plugs in membrane installation, or to form a jointing waterproof seal on walls and floor membrane systems. This is a high quality rope and is covered by our **BBA Certificate**.

Corner

Our biggest selling tape, this 150mm wide tape has many uses, but is mostly used to seal membrane from walls to floors and the channel system. Tacky on one side only, this can also be used to overtape external joints and can also be used on floor oversealing and is covered by our **BBA Certificate**.

Overseal

This is a 75mm oversea! tape used to overseal membrane systems, it can be used on walls and floors and forms an overseal detail to form a vapour barrier and waterproof seal on external taped joints. Covered by our **BBA Certificate**.

Fibre Tape

Wykamol Fibre Tape is used to join plaster membranes together. The unique fibre backing allows for direct plaster or dot-and-dab situations. The fibre also stops any cracking of plaster on these joints. Covered by our **BBA Certificate**.

Wykamol Gas Tape

This 115mm wide tape is used to joint our Wykamol titan bond system and form a waterproof and gas seal within the system .

For further information call our technical support team on **0845 400 6666** or visit www.wykamol.com

ALARMS
AND BATTERY BACKUP SYSTEMS

The Wykamol Alarms and Battery Back-up Systems alert homeowners of high water levels in any ground water pump system and gives power in case of a mains failure.

Powersafe

The PowerSafe range of fully automatic battery back up systems are designed to offer your customer peace of mind for their basement drainage. The system can be used on single or dual pump configurations and is suitable for both groundwater and foul waste. It comes complete with a built in GSM telemetry for complete monitoring of your pumped drainage system (not available on the PowerSafe ECO). The PowerSafe is suitable for installing either at the initial building stage, or retrofitting to existing buildings. The system comprises of a PowerSafe control panel, cable cover, battery holder and batteries (no. of batteries to be specified at time of order).

Uses

The extensive range of alarms and battery back-up systems are designed to help in power failure situations. And to notify homeowners in the event of high water levels within the sump chambers.

Telemetric systems are also available to text or phone in case of power failure or high water.

Models Available

AquaSafe Alarm
Powerflo
Powersafe
UPS 750
UPS 3000

AquaSafe Alarm

The AquaSafe Alarm is a warning system which alerts the end user when there is:

- A power failure to the AquaSafe Alarm
- A high level situation in the chamber/sump
- A high level situation recorded
- A service due

There is a battery incorporated within the panel to power itself in case of mains power failure. The system is designed to activate via a mini or sump float switch, which is located inside the chamber/ sump, it is set to activate higher than the activation point of the primary pump.

UPS 750

The wykamol UPS 750 is a high performance uninterruptible power supply (UPS) floor mounted. It provides protection for electronic equipment from utility power blackouts, brownouts, sags, and surges; small utility fluctuations and large disturbances. The UPS also provides battery backup power until utility power returns to safe levels or the batteries are fully discharged.

This unit is designed to run the 301 pump only and can give a 30 minute capacity

UPS 3000

The wykamol UPS 3000 is a floor mounted and is an on-line double conversion Uninterruptible Power Supply (UPS) offering the highest levels of resilience and protection. This provides power to one submersible pump in case of a loss of mains power allowing for continued pump operation.

The system can last continiously for 30mins (303 pump) or 60mins (301 pump), based on a 3.5m head.

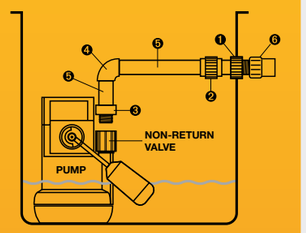
PowerFlo

The battery back-up system is designed especially for where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system comprises of a control panel, 24V back-up pump, 3 no. float switches and a non-return valve .and is wall mounted the advantage of the system is the system is only powering a 24 volt pump and not a mains pump , thus needing less power and an increased capability in terms of pumping capacity

BLACK SUMP

Sumps & Pumps

The BlackSump™ is especially designed for the removal of groundwater from basement membrane systems.



The **Black Sump Kit** system comprises of a polypropylene tank, circular locking access cover (pedestrian duty, not suitable for roadways), pipework and a powerful submersible pump. The black sum chamber can be purchased separately. The system is versatile, enabling the installer to locate inlets to their specifications. It comes with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level within the tank. The alarm is designed to activate via a separate float switch.

Description and Use

When installing Wykamol Cavity Drainage membranes careful attention must be given to provide a suitable drainage solution. Natural drainage is not normally possible or convenient in below ground situations, so mechanical drainage must be used. Wykamol Aqua pump is a ready to use complete water control system principally designed for use in below ground structures to control water ingress. The system consists of a pre-formed polyethylene sump basin, a mains powered 240v submersible pump, a non-return valve assembly and a battery operated high water level alarm, which is linked to an integral float switch. The Wykamol Aqua Pump system can be used to de-water the ground or additionally linked to Wykamol Aqua channel relieving water ingress from retaining walls and in turn pumping out to a suitable drainage point.

Uses

The BlackSump™ is especially designed for the removal of groundwater from basement membrane systems.

Available Sizes

Size: 600mm x 500mm

Installation

1. Select a suitable location for the pumping station. It is extremely important to site the system with permanent access in mind for routine maintenance of the system.

2. In all instances the tank must be positioned on a flat, level, set concrete base of dimensions sufficient to fully support the base of the tank. The thickness of the base should be adequate for the ground conditions and of minimum 150mm thickness. Carefully position the tank onto the base slab ensuring that no loose debris is inadvertently knocked onto the base slab, under the tank during this procedure. Position it such that the inlet and discharge pipework are correctly aligned and the access cover (pedestrian duty) is level with the finished floor level.

3. Once the tank is positioned connect the incoming pipe/s to the tank. To do this you must select the location and drill the appropriate sized inlet suitable for your incoming pipe/s (fitting not supplied, see section '6.0 Accessories' for inlet rubber seals). Please note that there are a number of markings located on the underside of the access cover, these should not be used.

4. Connection of the discharge pipework within the tank is as follows; Fittings kit comes with the following as standard:

No	Qty	Description
1	1	PVC 1¼" Tank Connector
2	1	PVC 1¼" Socket Union
3	1	PVC 1¼" Male Threaded Adaptor
4	1	PVC 1¼" Elbow
5	1	PVC 1¼" Class E Pressure Pipe 0.5 metres
6	1	32mm Female Threaded Adaptor

First select a suitable location for the pump ensuring that the float arm is not obstructed by for example the tank wall, inlets etc, at it's optimum reach. Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipework please check the Non-Return Valve is securely fixed to the pump outlet and ensure that the flap opens in the direction of the flow.

a) Screw the Male Threaded Adaptor (3) into the Non-Return Valve located on the pump outlet.
b) Cut a short length of 1¼" PVC pipe (5) and place into the Male Threaded Adaptor (3) (do not glue into place yet).
c) Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipework will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbow (4) into place yet).
d) Drill a 1¼" Hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
e) Place the Socket Union (2) over the plain end of the Tank Connector (1) (internal within the tank) and position the pump so that there is room for the float switch to activate.
f) Now measure the length of PVC pipe (5) required between the Elbow (4) and the Socket Union (2) and cut to size.
g) Check all the pipework is in place correctly and glue together with plenty of PVC Solvent Cement.

For connection of the external pipework you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

5. It is recommended that an external 1¼" gate valve (see section '6.0 Accessories') be installed on the discharge line should the vertical lift exceed 3 meters and/or the discharge line be connected to a foul water outlet.

6. The electrical cables should be now drawn through a cable duct back to the electrical source via a 50mm rubber fitting (fitting not supplied, see section 6.0 Accessories).

7. In all applications the tank must be backfilled with a mass concrete mix of a minimum 150mm thickness and used in accordance with the ground conditions ensuring that it is as dry as practical to prevent additional floatation pressures being exerted on the tank. The tank MUST be ballasted with water at the same rate as backfilling such that the level difference between the water and the backfill does not exceed 150mm at any time. Please ensure that when pouring the concrete backfill, suitable steps are taken to prevent the concrete entering the tank and any incoming/discharge pipework.

8. Where groundwater is present in the excavation, local de-watering of the ground must be undertaken throughout the installation procedure until the backfill has cured. Please note that the ballast water inside the tank should not be removed until the backfill has fully cured.

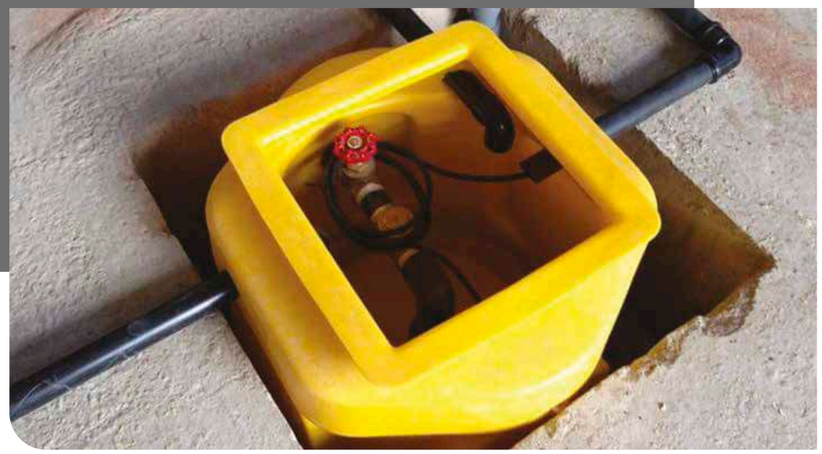
9. It is extremely important that once the tank has been installed and all the inlet connections made, before the pump is switched on, the system is flushed through and all sand, silt, rubble and general debris removed from the tank. **Failure to do this will invalidate the warranty on the pump.**

10. Use the seal tape supplied to install on the inside lip of the tank. Then position the access cover ensuring that the holes in the cover line up with the tank and screw the self-cutting bolts supplied into place.

SUMPFLO TWIN

Sumps & Pumps

The SumpFlo™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems.



The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways) and powerful submersible pump. The system is very versatile, enabling the installer to locate inlets to their specifications. The system comes complete with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level.

Advantages

- New and improved tank design which allows greater versatility for connection to the unit. The addition of a six sided flat panel neck also allows the ability to discharge at any angle for ease of installation.
- Increased tank capacity to allow for a 3-pump installation (dual primary pumps complete with battery back-up pump).
- Stainless steel float bracket to be supplied as standard for ease of installation of float switches for PowerFlo™ and High level alarms.
- Odour tight locking access cover.
- Total volume capacity of 100 litres.
- Integral Non-Return Valve preventing back flow.
- Durable polyethylene tank (6mm thick).
- Pre-moulded flotation points preventing movement below ground.
- Integral step for dual pump set up.

Uses

The SumpFlo™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems.

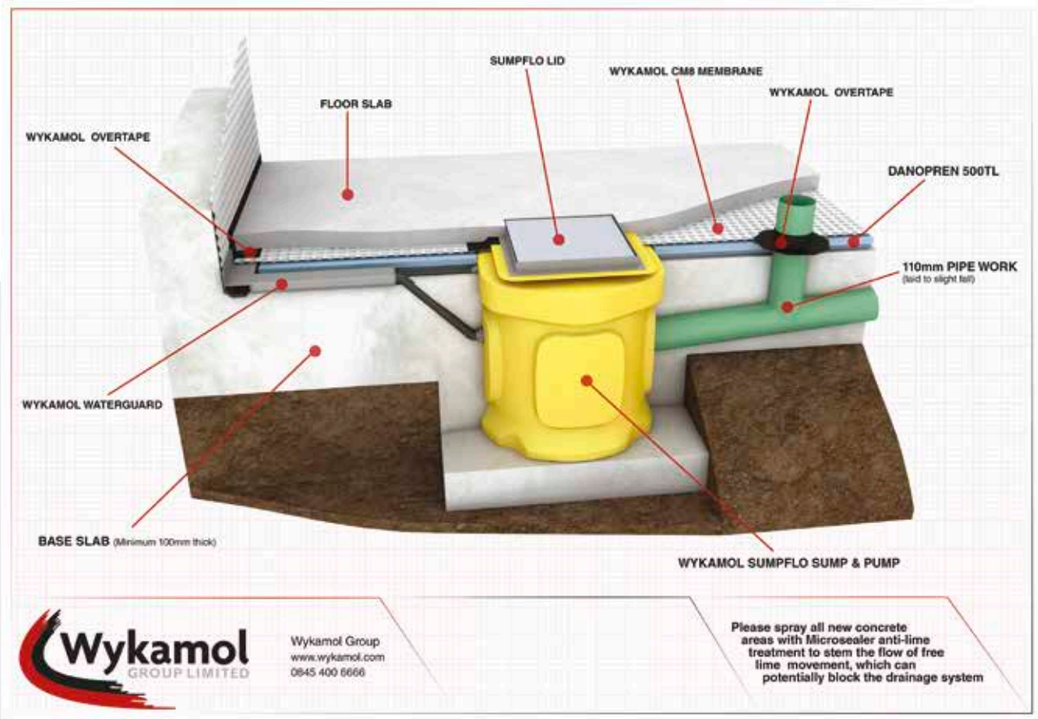
Available Sizes

Size: 600mm x 600mm

Key Features

- Easy to install
- Odour tight locking access cover
- Variable inlet positions
- Integral non-return valve preventing back flow
- Durable polyethylene tank
- Pre-moulded flotation points preventing movement below ground
- Integral step for dual pump setup
- Powerful submersible pump

MODEL	301	303
Power Supply	230V AC	230V AC
Rated Current	1.9A	4.9A
Motor Rating	180W	500W
Frequency	50Hz	50Hz
Revs Per Minute	2720rpm	2800rpm
Max. Vert. Output	7m	12m
Max. Horiz. Output	50m	100m
Max. Flow Rate	168l/m	240l/m
Max. Liquid Temp.	<40°C	<40°C
Discharge Size	32mm	32mm
Cable Length	5m	5m
Weight	14kg	14.5kg
Colour	Yellow	Yellow

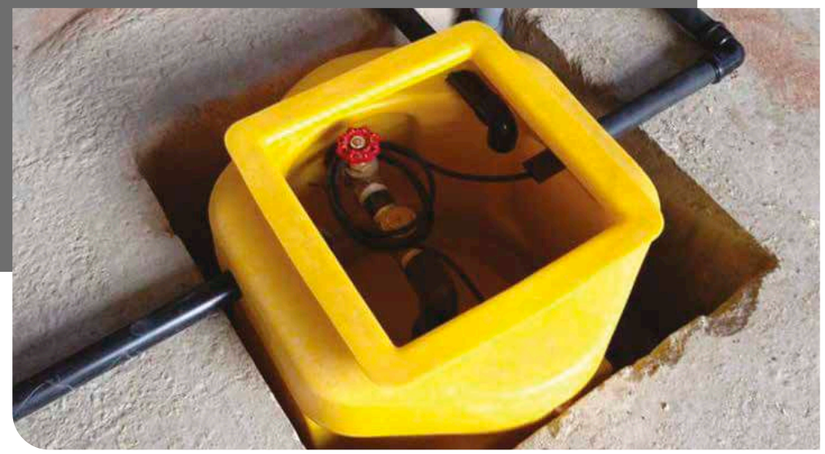


For further information call our technical support team on **0845 400 6666** or visit www.wykamol.com

SUMP FLO

Sumps & Pumps

The SumpFlo™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems.



The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways) and powerful submersible pump. The system is very versatile, enabling the installer to locate inlets to their specifications. The system comes complete with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level.

Advantages

- New and improved tank design which allows greater versatility for connection to the unit. The addition of a six sided flat panel neck also allows the ability to discharge at any angle for ease of installation.
- Increased tank capacity to allow for a 3-pump installation (dual primary pumps complete with battery back-up pump).
- Stainless steel float bracket to be supplied as standard for ease of installation of float switches for PowerFlo™ and High level alarms.
- Odour tight locking access cover.
- Total volume capacity of 100 litres.
- Integral Non-Return Valve preventing back flow.
- Durable polyethylene tank (6mm thick).
- Pre-moulded flotation points preventing movement below ground.
- Integral step for dual pump set up.

Uses

The SumpFlo™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems.

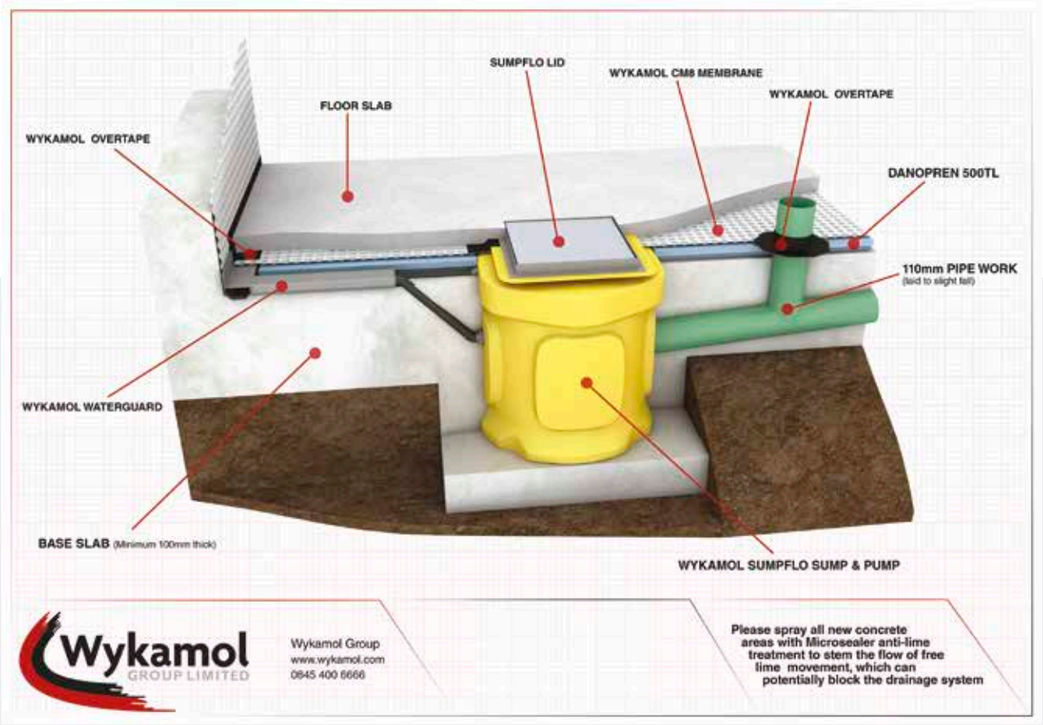
Available Sizes

Size: 600mm x 600mm

Key Features

- Easy to install
- Odour tight locking access cover
- Variable inlet positions
- Integral non-return valve preventing back flow
- Durable polyethylene tank
- Pre-moulded flotation points preventing movement below ground
- Integral step for dual pump setup
- Powerful submersible pump

MODEL	301	303
Power Supply	230V AC	230V AC
Rated Current	1.9A	4.9A
Motor Rating	180W	500W
Frequency	50Hz	50Hz
Revs Per Minute	2720rpm	2800rpm
Max. Vert. Output	7m	12m
Max. Horiz. Output	50m	100m
Max. Flow Rate	168l/m	240l/m
Max. Liquid Temp.	<40°C	<40°C
Discharge Size	32mm	32mm
Cable Length	5m	5m
Weight	14kg	14.5kg
Colour	Yellow	Yellow



For further information call our technical support team on **0845 400 6666** or visit www.wykamol.com

DRAIN FLO

Sumps & Pumps

The drainflo is a fully automatic pumping station specifically designed for pumping both foul and storm water when gravity drainage is not possible or economical to install.

These Drainflo systems are suitable for installing either at the initial building stage or retro fitting to existing buildings and can accept waste from a basement, entire house or similar. The system consists of a tank, locking access cover, internal pipework and fittings, control panel, float switches and a built in submersible pump.

Safety Precautions

- Never work alone. Use a lifting harness, safety line and respirator as required. Do not ignore the risk of drowning.
- Make sure there are no poisonous gases within the work area.
- Check the explosion risk before welding or using electric hand tools.
- Do not ignore health hazards. Observe strict cleanliness.
- Bear in mind the risk of electrical accidents.
- Make sure that the lifting equipment is in good condition.
- Provide a suitable barrier around your work area, e.g. guard rail.
- Make sure you have a clear path of retreat
- Use a safety helmet, safety goggles and protective shoes.
- All personnel who work with sewage systems must be vaccinated against diseases to which they may be exposed.
- A first aid kit must be close to hand.
- Note that special rules apply to installations in an explosive atmosphere.

Uses

Ideal for basement applications to remove foul water when gravity drainage is not possible Ideal also for wet rooms in basements and stops issues with head height problems that saniflo systems cannot resolve

Available Sizes

Drainflo 200 650 x 1000mm
Drainflo 360 800 x 1250mm
Drainflo 900 1000 x 1500mm

INSTALLATION

It is important to note that these instructions are for guidance only and it is the contractor's responsibility to satisfy themselves that the installation procedure is in accordance with the prevailing ground conditions and good building practice, to eliminate any potential damage to the pumping station either during or after installation.
The tank is manufactured from 6mm gauge polyethylene or polypropylene and as such is extremely robust. However, as with any preformed tank they are susceptible to floatation and hydrostatic pressures exerted in high water table conditions. Please read these instructions in full, prior to commencement of installation.
If you are unsure on any point then ask for advice before proceeding. Our technical help desk is available on +44 0845 400 6666 from 8.30am - 5.30pm, Monday to Friday.

1. Select a suitable location for the pumping station. Where possible, installation of a pumping station in a roadway should be avoided due to the need for periodic maintenance of the pump contained therein. If the location is adjacent to a roadway, the installation method should take account of the imposed loads likely to be transmitted to the tank by traffic etc.
2. In all instances the tank MUST be positioned on a flat, level, set concrete base of dimensions sufficient to fully support the base of the tank. The thickness of the base should be adequate for the ground conditions and a minimum of 150mm thickness. Carefully position the tank onto the base slab ensuring that no loose debris is inadvertently knocked onto the base slab, under the tank during this procedure. Position it such that the inlet and outlet pipework is correctly aligned.
3. Once the tank is positioned connect the incoming pipe/s to the tank via the fitting supplied. The discharge pipework can then be connected via the tank connector supplied. We recommend that the discharge pipework should be black MDPE, solvent welded plastic pressure pipe or galvanised screwed pipework.
4. The electrical cables should now be drawn through the fitting supplied back to the electrical source.
5. The vent duct (if applicable) should be vented to atmosphere.
6. In dry stable ground conditions where the water table will never rise above the base slab the tank may be back filled with a dry lean mix concrete of minimum 150mm thickness. In wet unstable ground conditions a mass concrete mix must be used in accordance with the ground conditions and be as dry as practical to prevent additional floatation pressures being exerted on the tank. In both instances the tank MUST be ballasted with water at the same rate as back filling such that the level difference between the water and back fill does not exceed 300mm at any time.
7. Where ground water is present in the excavation, de-watering must be undertaken throughout the installation procedure and until the back fill has completely cured.
8. Similarly, the ballast water inside the tank should not be removed until the back fill has fully cured.
9. The system is supplied as standard with a pedestrian duty access cover fitted onto the top of the access shaft such that the tank should be installed with the cover flush with finished ground level. In a roadway application, the tank should be installed with the top of the access shaft a minimum of 100mm below finished ground level to allow a suitable rated cover and frame to be bedded into a reinforced cover slab (to be specified at time of order), such that it does not bear on undisturbed ground around the excavation and not directly onto the tank, to allow imposed loads to be deflected away from the tank. Design of the cover slab is the responsibility of the contractor/structural engineer.
10. It is extremely important that once the tank has been installed and all the inlet connections made, before the pump is installed, the system is flushed through and all sand, silt, rubble and general debris is removed from the tank. **Failure to do this will invalidate the warranty on the pump.**
11. The control panel housing (if applicable) must be sited adjacent to the tank on a suitably sized concrete plinth complete with cable ducts for the cabling from the tank and the incoming power supply. If the control panel is not to be sited adjacent to the tank we should be advised at time of order so that we can make recommendation as to the cabling required. **A qualified electrician must carry out all electrical connections.**

GAS PROTECTION AND WATERPROOFING COMBINED

TYPE A

Wykamol stock a large range of waterproofing and gas combined membrane systems with full British board of agreement certifications

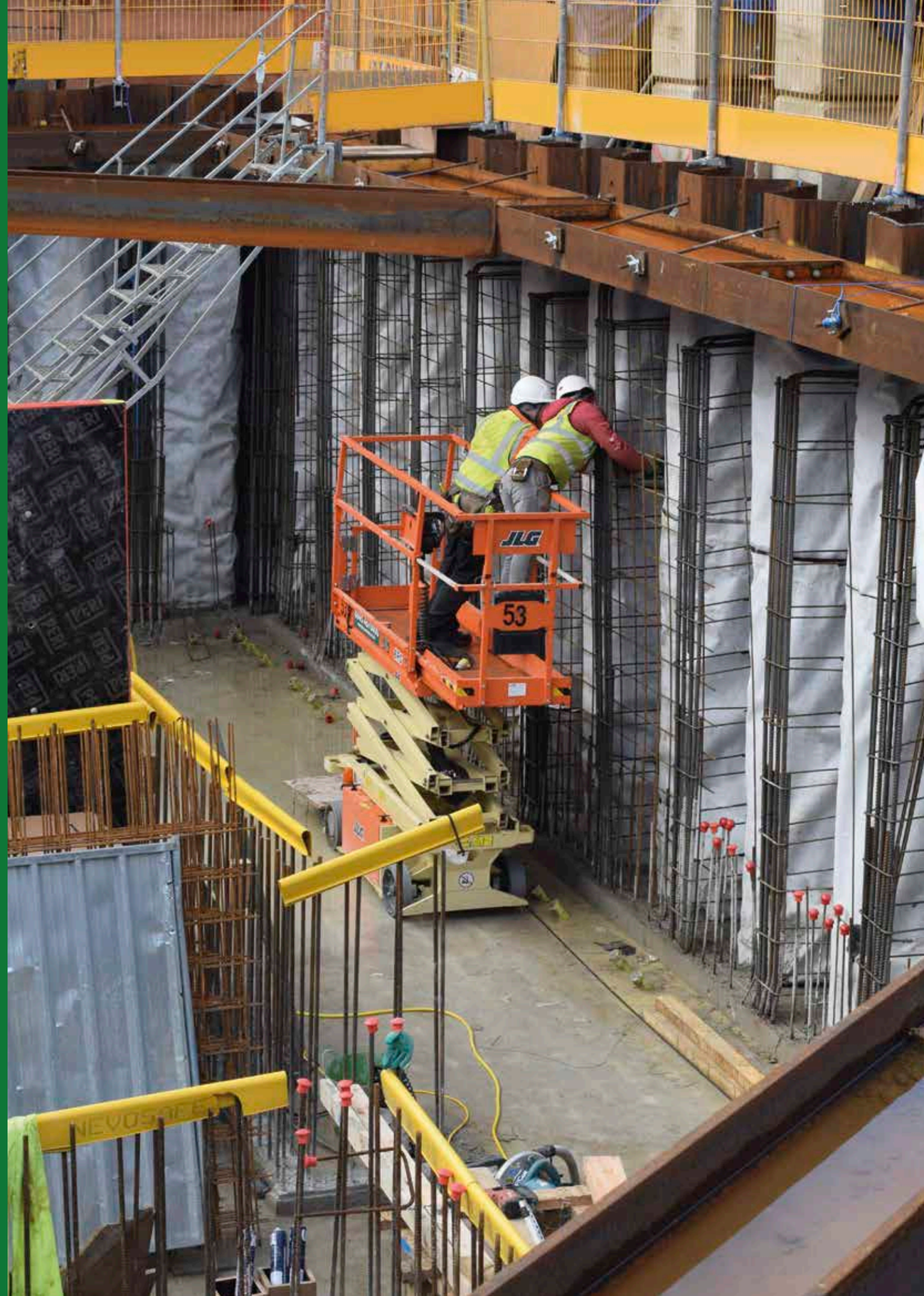
Our products have been developed to enable developers and contractors to protect new buildings against gases contained in contaminated land. They are designed inline with current guidelines BS 8485 2015+A1:2019 in combination with our state of the art manufacturing facility. We offer sustainable and durable barrier systems, designed to protect the structure for the intended lifetime.

For developers of Brownfield and contaminated sites, the family of products – TITANFLEX, TITANTANK and TITANBOND – represent a major step forward in safeguarding projects against gaseous and chemical contamination.

The gas protection membranes were developed in response to a change in Government guidance regarding ground gases and an increasing awareness of the detrimental effects to human health from hazardous chemicals residing in the ground below developments.

Radon is a colourless, odourless, radioactive gas that occurs in rocks and soils, some building materials and water. The ground is the most important source as radon can seep out and build up in houses and indoor workplaces. wykamol are able to offer full Radon protection systems and basic radon protection systems using our range of approved membranes

VOCs (Volatile Organic Compounds) and Hydrocarbons are dangerous to human health and can have long-term health effects. JUTA UK have embarked on extensive testing to arrive at best in class gas protection membranes, which fully conforms to the latest standards.



GP®TITAN BOND

Pre-applied membrane

A pre-applied fully bonded waterproofing membrane incorporating the GP®TITAN membrane and a heavy duty virgin polypropylene geotextile.

The geotextile is laminated to the membrane to provide a dual function; protecting the membrane from damage, and providing an integrated 'bond' to poured concrete, ensuring a fully bonded waterproofing barrier which has exceptionally high resistance to ground gas and VOCs.

GP®TITAN BOND is used for the Gas/waterproofing and tanking of underground structures where harmful ground gases are anticipated.

GP®TITAN membranes are extensively tested and proven to withstand the most aggressive environments and provide confidence to the end user the product is suitable and fit for purpose for the needs of today, and future proofed for the demands of tomorrow. Providing a robust, durable and flexible membrane, **GP®TITAN** is the optimal gas and waterproofing barrier.

When compared to the vast majority of existing TYPE A waterproofing membranes, **GP®TITAN** is on average, TWO THOUSAND times better performing as a ground gas barrier, as well as providing superior durability and longevity over the existing practices and proposals.

Uses

For all aspects of Gas protection and where Grade 1, 2 and 3 (waterproofing) is required as part of a single or dual system recommended in BS8102:2009.

Note: *BS8102:2009 provides guidance on the consideration of gas resistance of waterproofing systems and durability with consideration to the groundwater regime – including contaminants within.*

Available Sizes

Pack Size: 1.9m x 25m
Coverage: 47.5 m²

Associated Products

1 x 25m Titan bond edging strip
Internal & external prefabricated corners Prefabricated Top hat
Titan Tape 100mm x 10m

BBA BRITISH BOARD OF AGRÉMENT

CE

Key Benefits

- Recognised as an accepted system for ground gas and water protection by NHBC.
- VOC & Hydrocarbon barrier – The first (and currently only) membrane available to fully achieve the requirements of C748 for chemical testing as a bonded type A.
- Full surface contact between the membrane and concrete.
- Quick and easy installation.
- Manufactured to meet the most up to date British Standards and guidance.
- Can be installed in all weather conditions.
- Exceptional Chemical Resistance.
- High resistance to Ground Gases.
- Long Term Durability (performance guaranteed for the lifetime of the building).
- Compatible with all building materials.
- Waterproofing barrier (Type A BS8102:2009).
- Gas Barrier (Radon, Methane, Carbon Dioxide - BS8485:2015)
- Hydrocarbon (Liquid & Vapour phase) & VOC barrier (C748)

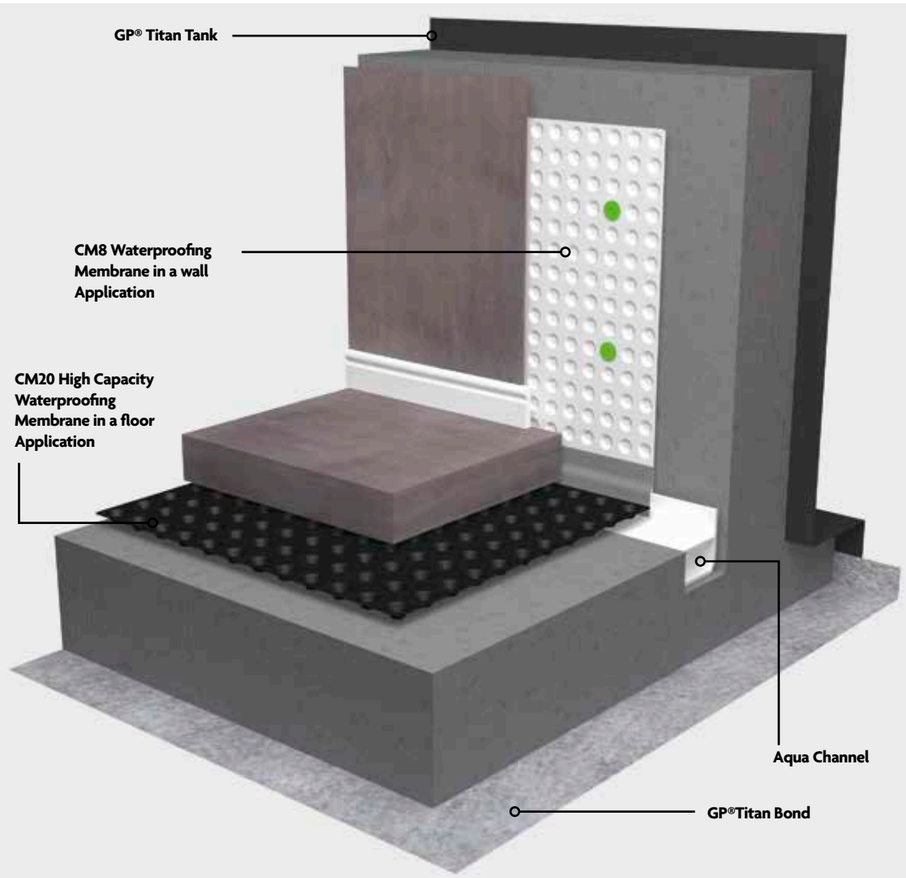


Diagram shows a 'Type A' waterproofing and Gas proofing application along with a 'Type C' maintainable system conforming to NHBC Chapter 5.4 and BS8102

GP®TITAN TANK

Post-applied membrane

GP®TITAN TANK can be used in horizontal or vertical applications and is suitable for all ground floor and basement construction including lift pits, slabs, liner walls, capping beams & service penetrations.

GP®TITAN TANK – Self Adhesive version of the GP®TITAN; composed of self-adhesive SBS polymer modified bitumen with an upper surface finish of GP®TITAN, and a lower surface finish of siliconized polypropylene release film.

GP®TITAN TANK is used for the Gasproofing, waterproofing and tanking of underground structures where harmful ground gases are anticipated, as a post-applied fully bonded membrane. The GP®TITAN gas and waterproof membrane can be installed with the use of either welded or taped joints depending on the specific project requirements.

In applications where a dual system is required, outlined in NHBC Chapter 5.4 **GP®TITAN BOND** and **GP®TITAN TANK** can be used as a fully BONDED TYPE A barrier alongside either an integrated TYPE B structural Barrier, or an internal TYPE C Cavity Drainage Membrane system.

The benefit of the GP®TITAN membrane is that it does not require the TYPE B or TYPE C as part of the gas protective measures, as it is capable of providing sufficient resistance to ground gas alone. In addition, the exceptional durability proven against a range of aggressive yet common contaminants, means that as the primary 'contact barrier' from ground gas and water (when placed externally) the protective elements of the GP®TITAN extend to that of the Structure and Cavity Drainage Membrane, increasing the overall durability of both.

Uses

For all aspects of Gas protection and where Grade 1, 2 and 3 (waterproofing) is required as part of a single or dual system recommended in BS8102:2009.

Note: *BS8102:2009 provides guidance on the consideration of gas resistance of waterproofing systems and durability with consideration to the groundwater regime – including contaminants within.*

Available Sizes

Pack Size: 1m x 20m
Coverage: 20 m²

Associated Products

300mm x 20m Titan EXT Tape
GP Tape 50mm x 15m

BBA BRITISH BOARD OF AGREMENT

CE

Key Benefits

- Recognised as an accepted system for ground gas and water protection by NHBC.
- VOC & Hydrocarbon barrier – The first (and currently only) membrane available to fully achieve the requirements of C748 for chemical testing as a bonded type A.
- Full surface contact between the membrane and concrete.
- Quick and easy installation.
- Manufactured to meet the most up to date British Standards and guidance.
- Can be installed in all weather conditions.
- Exceptional Chemical Resistance.
- High resistance to Ground Gases.
- Long Term Durability (performance guaranteed for the lifetime of the building).
- Compatible with all building materials.
- Waterproofing barrier (Type A BS8102:2009).
- Gas Barrier (Radon, Methane, Carbon Dioxide - BS8485:2015).
- Hydrocarbon (Liquid & Vapour phase) & VOC barrier (C748)

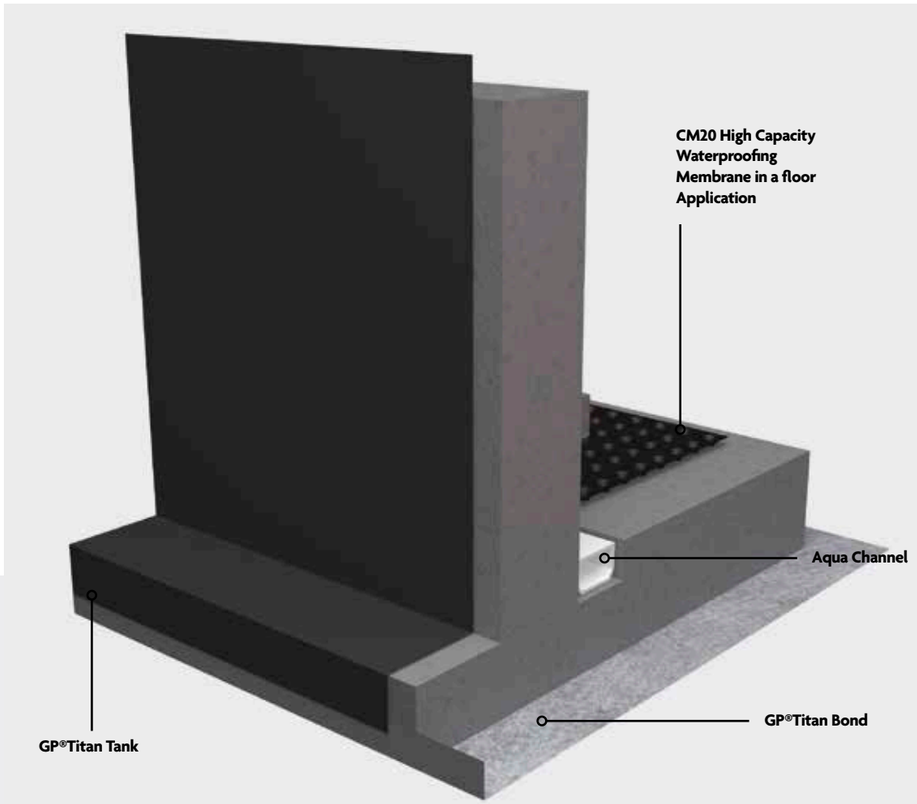


Diagram shows a 'Type A' waterproofing and Gas proofing application along with a 'Type C' maintainable system conforming to NHBC Chapter 5.4 and BS8102

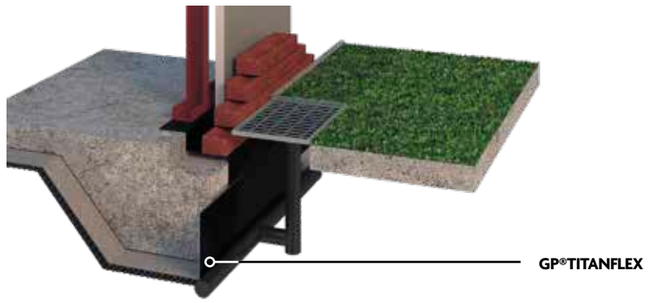
GP®TITAN FLEX

Post-applied membrane

GP® TITANFLEX is specifically designed, manufactured, tested and certified to perform as a methane, carbon dioxide, radon, ground gas, VOC, air & moisture, hydrocarbon protection system.

GP®TITANFLEX – Membranes, a range of multilayer thermoplastic membranes with a core layer that is resistant to ground gases, hydrocarbons and volatile organic compounds (VOCs). The products are for use as damp-proof membranes and to protect the building from the ingress of water vapour, radon, methane and carbon dioxide, hydrocarbons and volatile organic compounds (VOCs).

GP®TITANFLEX complies with the latest codes of practice as published by BRE, CIRIA (C748) and BSI (BS8485:2015). Suitable for use as Ground Gas/ Hydrocarbon protection for NHBC, GREEN, AMBER1, AMBER2 and RED site characterisations.



Uses

GP TITANFLEX Membranes are satisfactory for use as gas-resistant barriers to restrict the ingress of radon, methane, carbon dioxide and VOCs into buildings from landfill and naturally occurring sources. The products are chemically resistant when in contact with hydrocarbons.

Available Sizes

Roll Length: 2m x 50m
Thickness's: 0.50, 0.75 & 1.0mm
Coverage: 100m²

Associated Products

GP Tape 50mm x 15m

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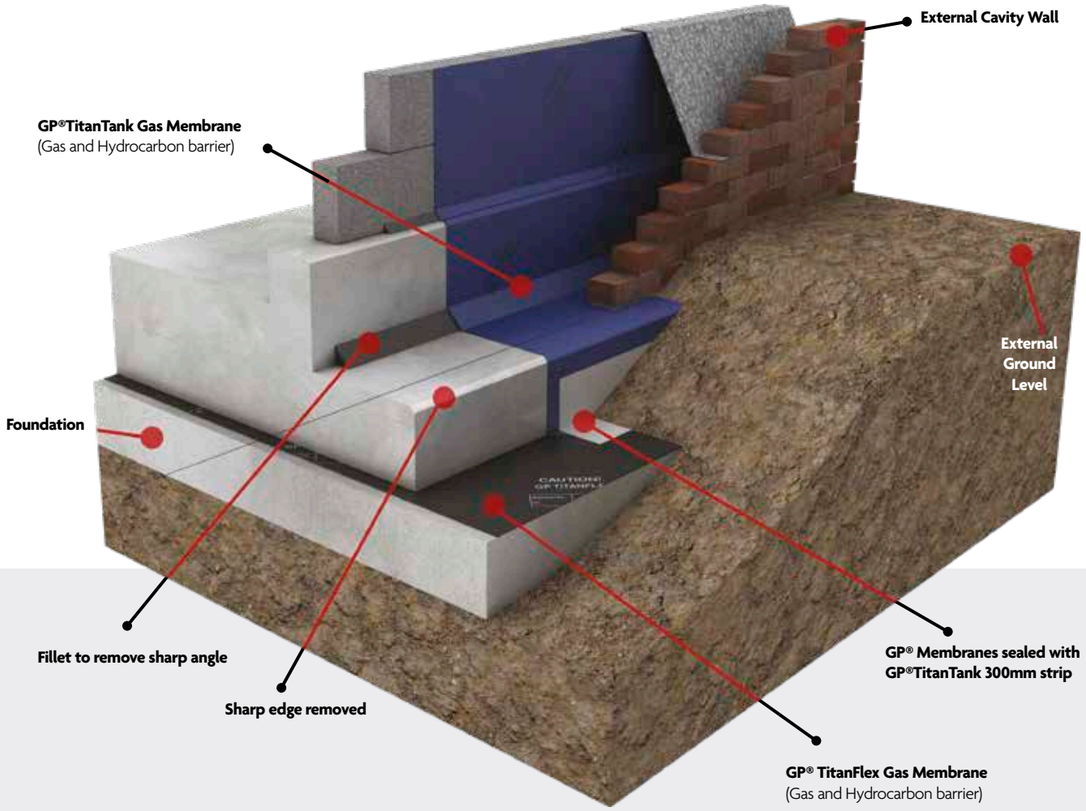
CE

Key Benefits

- **GP® TITANFLEX** – Gas and hydrocarbon barrier is a multi-layer, polyethylene membrane.
- **GP® TITANFLEX** is specifically designed, manufactured, tested and certified to perform as a methane, carbon dioxide, radon, ground gas, VOC, air & moisture and hydrocarbon protection system.
- Conforms with the latest codes of practice as published by BRE, CIRIA and BSI
- Suitable for use as ground gas/hydrocarbon protection for NHBC, GREEN, AMBER 1, AMBER 2 and RED site characterisations



LGM

Liquid Gas Membrane

Styrene butadiene latex based formulated liquid applied membranes offer a simple method for waterproofing, gas proofing, damp proofing and vapour proofing applications.

Wykamol Liquid Gas Membrane (LGM) is a single pack, elastomeric liquid rubber membrane, specifically designed for a range of vertical and horizontal construction surfaces, generally as follows. LGM will cure to form a tough, flexible material acting as an effective barrier to the passage of vapour, damp, water, Radon and Methane gas.

Advantages

- Single pack system
- Water based compounds that can be applied even to damp backgrounds
- Non-toxic, non-hazardous, solvent and plasticiser free
- Quick drying. Typically touch dry in 1 hour
- Good bond to many substrates
- Toughness, high flexibility, extensibility and good crack bridging properties
- Low water vapour permeability
- Alkali resistant. Can be applied to alkaline surfaces
- Resistant to silage acids
- Non staining and stain blocking
- Available colour, Green

Properties

Wykamol Liquid Gas Membrane can be used to protect most building surfaces form the effect of liquid and water vapour. carbonation and as a gas barrier to prevent the ingress of Methane. Carbon Dioxide and Radon. As the product is a barrier to moisture it can be used as a DPM on floors and walls.

Coverage

Wykamol Liquid Gas Membrane may be applied by brush, roller or airless spray. If necessary, the compound can be diluted with up to 10% water, however care should be taken to ensure that the correct dry coat thickness is applied.
The thickness of the dried membrane per coat depends on the method of application.

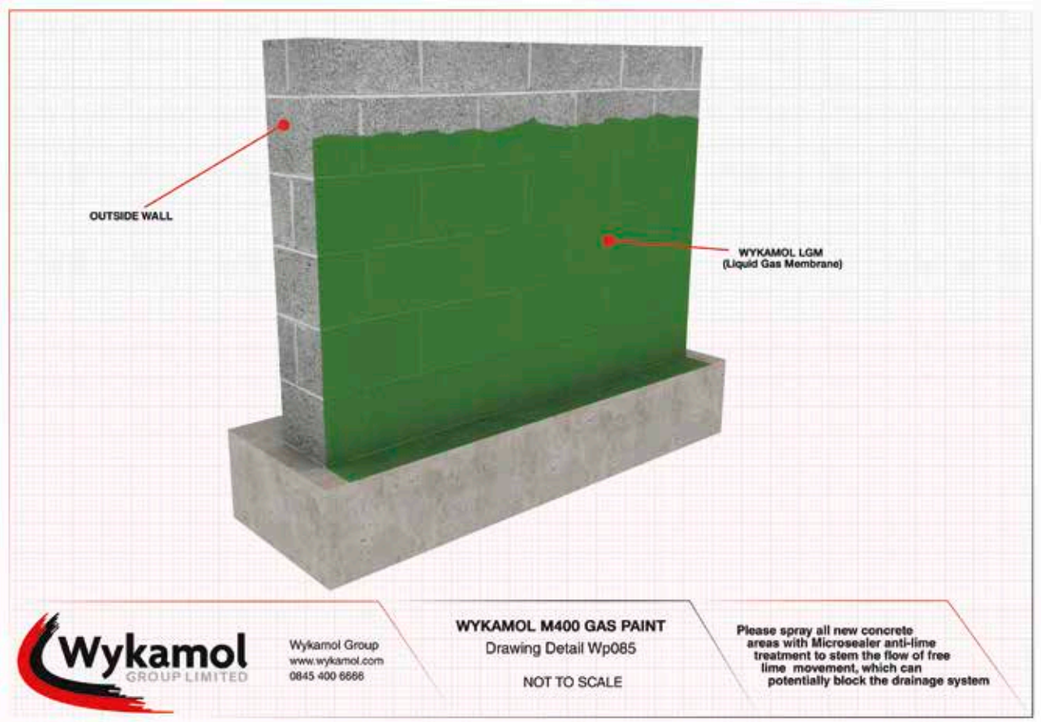
Application

The background surface should be smooth or have a light even texture. Any masonry should be flush pointed and defects in existing surfaces made good.

The surface needs to be clean, sound and free from dust, loose material or free surface water. The membrane should not be applied in wet conditions or where these conditions are likely to occur before the membrane has dried. The membrane should not be applied when the temperature of the background, or the air temperature, is below 7°C.

It is sometimes advantages to pre-wet concrete or masonry backgrounds, so that these are damp but free from any water glistening on the surface, to aid wetting out of the background.

Because of the wide variety of background types and site conditions it is always advisable to **check adhesion to the background by testing on a sample area before starting any job.** The membrane may be applied by brush, roller or airless spray.



BARRIER PROTECTION

TYPE A

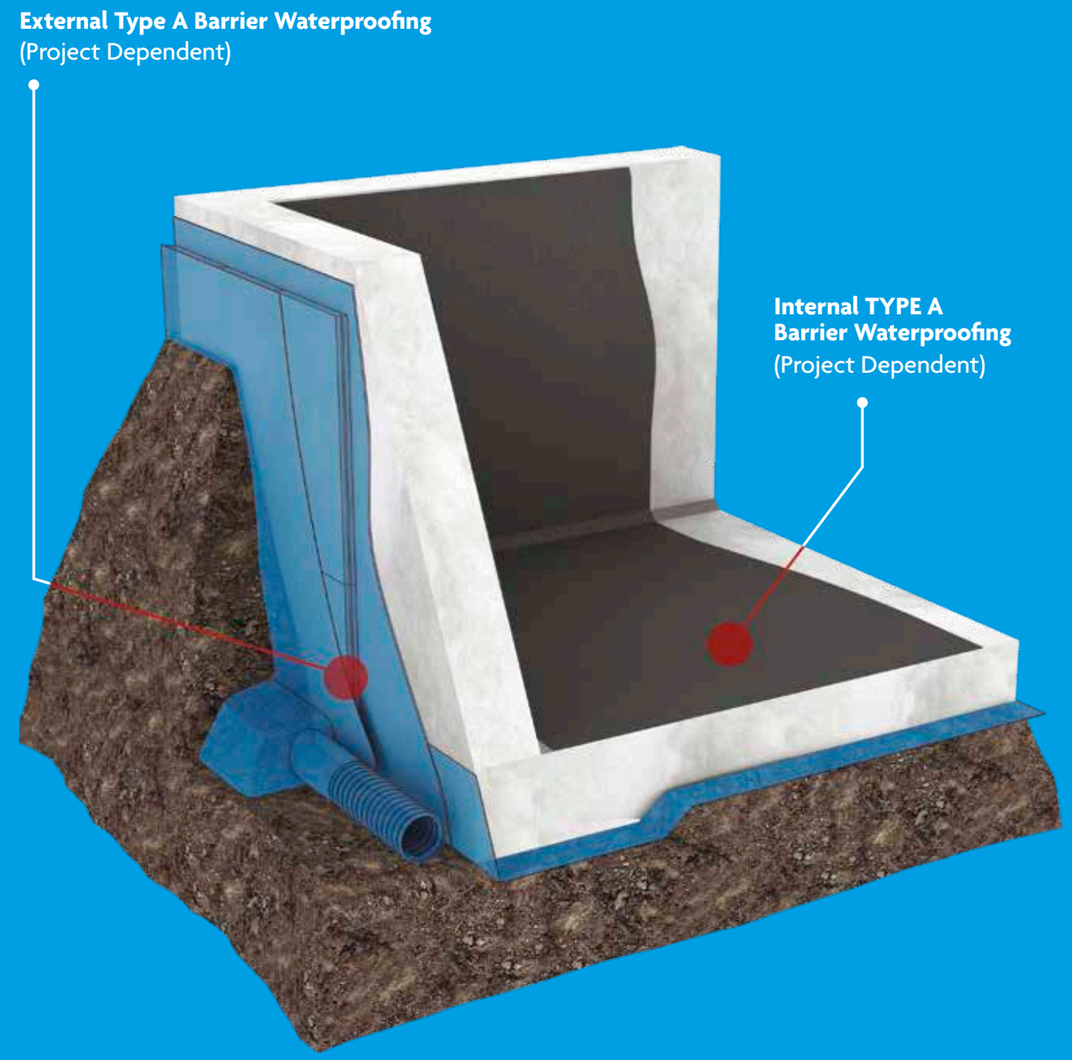
Type A (Tanked/Barrier Protection) Structures will often be of masonry construction; plain or reinforced concrete may be used. The latter may be in-situ or precast.

The structure is regarded as having no integral protection against water ingress and so relies on the applied waterproofing system to provide the necessary control.

Masonry walls may need a cement rendering or flush pointing to produce an acceptable surface for subsequent application of the waterproofing system chosen. The waterproofing system will, depending on its type, tolerate certain construction cracks or minor defects.

Fine hairline cracks up to 0.3mm wide in reinforced construction will generally be acceptable. Any larger or unusual cracks should be brought to the designer's attention to allow for possible remedial action before the waterproofing system is installed.

If applying the waterproofing system that is not relying on an adequate key to the substrate then it will need to be loaded (loading requires an independent wall to be constructed, and pokered concrete be poured to sandwich the waterproofing system onto the substrate.)



SURE PROOF

Waterproofing Membrane & Primer

SureProof is a high performance, cold applied, flexible, waterproof membrane incorporating a cross-laminated HDPE carrier film with a strong adhesive polymer modified bitumen compound.

The adhesive surface is protected by a disposable paper interleaving wider than the membrane for easy release during application. To ensure correct sealing at overlaps there is a double-sided adhesive strip along the edges covered by a separate interleaving strip.

SureProof should be laid in accordance with the provisions of BS 8102:2009. Where **SureProof** is being used as a floor DPM there should be continuity with the wall DPC's and other DPM's used in the structure. If methane presence is suspected, a comprehensive site survey needs to be carried out and Wykamol's technical department contacted to advise on suitability of **SureProof** .

Advantages

- Resistant to ground water, soluble sulphates and chlorides
- Suitable for waterproofing basements grades 2 & 3 as defined in BS 8102:2009, 'protection Of Structures Against Water From The Ground'
- Cross-laminated HDPE film for protection against damage
- Dimensionally stable
- Tough and flexible, ideal for detailing around corners
- Self-adhesive layer system makes installation easy, quick and reliable.
- BBA Certificated

Uses

Isolate and protect external structure from surrounding soil

Helps relieve hydrostatic pressure from the face of the structure

Ideal for retaining walls, podium decks, external tanking and green roof applications.

Available Sizes

Sureproof 1m x 20m (20m2)

Sureproof primer 5 litre (20m2)

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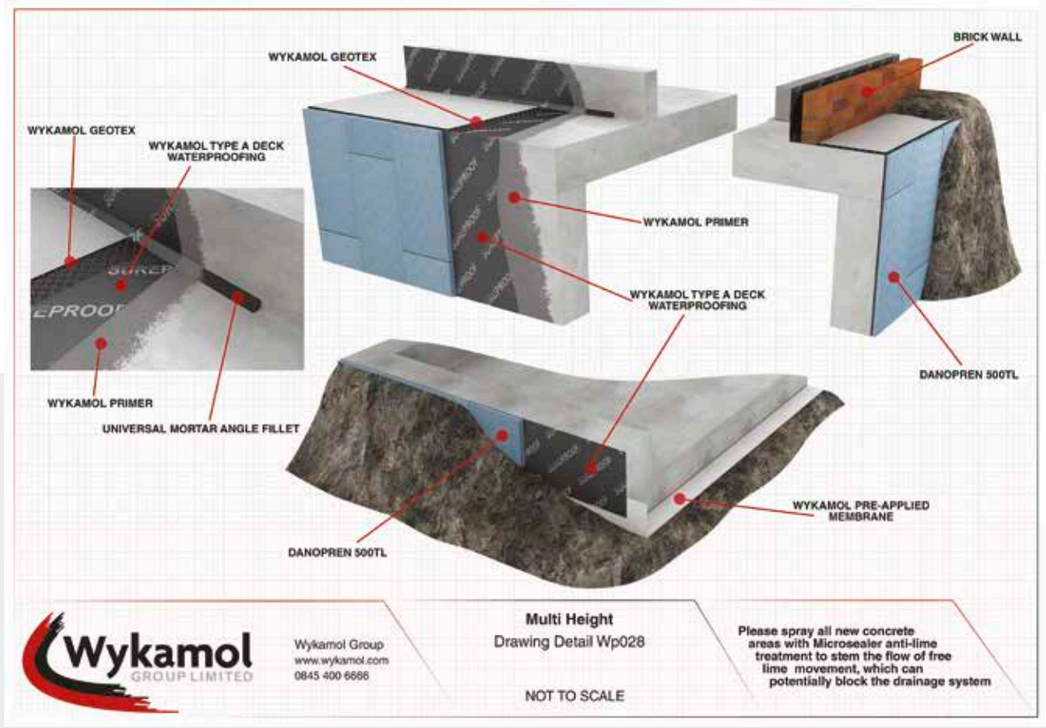
Properties

Property & Test method	Units	Result
Water tightness to liquid water (EN 1928, Method A, 60 KPa)	-	Pass
Resistance to Static Load (EN 12730)	Kg	≥ 20
Tensile properties, Maximum Tensile Stress CD (EN 12311-2)	N/mm	2 ≥ 2.5
Tensile properties, Maximum Tensile Stress MD (EN 12311-2)	N/mm	2 ≥ 2.5
Tensile properties, Elongation at break MD (EN 12311-2)	%	≥ 130
Tensile properties, Elongation at break CD (EN 12311-2)	%	≥ 130
Durability of Water tightness against ageing (EN 1847, Method A, 60 KPa)	-	Pass
Durability of Water tightness against chemicals (EN 1847, Method A, 60 KPa)	-	Pass
Resistance to Impact (EN 12691)	mm	≥ 500
Resistance to tear (Nail Shank) CD (EN 12310-1)	N	≥ 100
Resistance to tear (Nail Shank) MD (EN 12310-1)	N	≥ 100
Reaction to Fire (EN 13501)	Euro Class	Class F
Joint strength (EN 12317-2)	N	≥ 30
Water Vapour Transmission (Density Flow rate) (EN 1931)	g/(day/m2)	0.09
Water Vapour Transmission (Resistance factor, μ) (EN 1931)	μ	220000



HYDRA FLEX

Flexible Tanking Membrane

Premium elastomeric waterproof membrane for brickwork, concrete and stone

HydraFlex is a two-component flexible coating made of a cementitious powder and a high concentration liquid polymer.

It can be applied to mineral substrates, such as concrete and masonry, to provide a protective waterproof barrier which can bridge cracks in the substrate so the coating remains water-tight. With superior crack-bridging ability down to -5°C, as well as thixotropic application properties, HydraFlex is a suitable solution for areas at risk of movement in both internal and external environments.

Advantages

- Permanent waterproofing for concrete and masonry.
- Superior crack-bridging capability, even at sub-zero temperatures, making it ideal for high-risk areas.
- Resists both positive and negative water pressure.
- Recommended for both internal and external use.
- Bag and bottle system ensures accurate and simple mixing.
- Versatile product which can be used in a variety of areas.
- Excellent adhesion to well-prepared mineral substrates, even when damp.
- Exceptional workability, with easy application on vertical and overhead surfaces.

Uses

Waterproofing of areas subject to vibration or minor substrate movement that are constructed of concrete, brickwork, or stone.

- Basements, cellars, foundations, lift pits.
- Water tanks.
- Constructions joints, wall-floor junctions, etc.
- Podium decks, balconies/ terraces, flat roofs.

Available Sizes

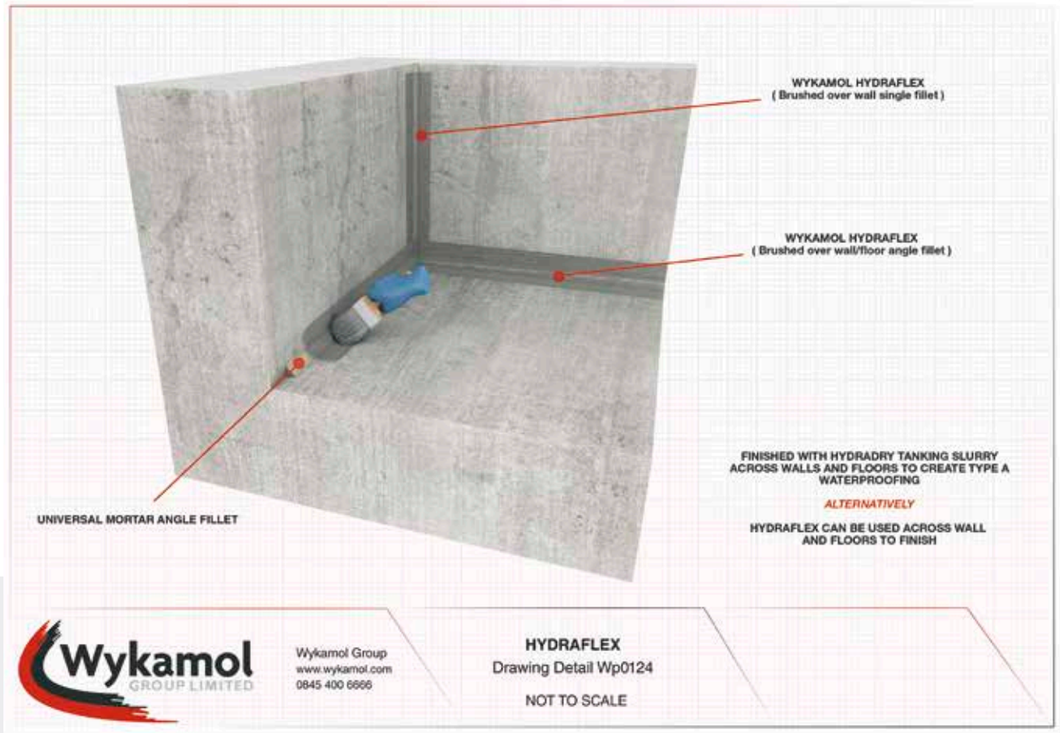
20 kg HYDRAFLEX20 up to 6m²

Supplied as Powder & Polymer, coverage at 2mm thickness

CE

Properties

Properties	Result
Pot life (mins)	45
Resistant to rain (hours)	6
Resistant to foot traffic (hours)	24
Crack bridging ability @ 20°C (mm)	1.5
Crack bridging ability @ -5°C (mm)	1.5
Adhesion strength – Ambient (N/mm2)	0.8
Adhesion strength – Immersed (N/mm2)	0.6
Water resistance pressure (Bar)	7
Reaction to Fire	NPD



HydraFlex is suitable for overcoating once a certain level of curing has been achieved. Plastering should take place using Wykamol's Renovation Plaster, at least 48-72 hours after the final coat of HydraFlex has been applied. Refer to relevant data sheet for application instructions, which is available upon request or can be downloaded from our website.

If HydraFlex has been applied as part of a DPC, breathable paint must be used on top of any finish. If redecoration is to occur 12 months after the DPC installation, non-breathable finishes may be considered. However, the moisture content of the plaster and background must be in line with the recommendations of the supplier of the chosen finish.

Note: HydraFlex must not be punctured by wall fixings, e.g. dry lining work etc.

For further information call our technical support team on 0845 400 6666 or visit www.wykamol.com

HYDRA DRY
Tanking Slurry

When mixed with clean water and applied correctly, this forms a permanent waterproof coating to the concrete and masonry and is easily applied by brush, roller or spray.

HydraDry Tanking Slurry waterproofs against positive and negative hydrostatic heads of water and is suitable for use, internally, externally, above and below ground. HydraDry Tanking slurry is also ideal for use for in damp-proofing applications.

HydraDry Tanking Slurry is a cementitious waterproof system which creates a monolithic bond of the crystalline chemicals when applied to concrete structures.

Advantages

- Permanent waterproofing for concrete and masonry.
- Resists positive and negative water pressure.
- Superior bond strength.
- Resists salt contamination in masonry.
- Suitable for use above and below ground level.
- Suitable for internal and external use.
- Safe to use in contact with potable water.
- Easy to use, brush, roller or spray applied.

Uses

Waterproofing of: basements, cellars, foundations, swimming pools, concrete, renders, brickwork, block work structures and lining water tanks, pools and planters etc.

Internal and external, above and below ground application.

Available Sizes

Pack Size: 20 Kg

Coverage: 7m² per 20kg

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Application

HydraDry Tanking Slurry is a minimum 2 coat application System. Once mixed, HydraDry Tanking Slurry has a 30 minute pot life at 20°C.

Brush applied slurry: HydraDry Tanking Slurry in even layers using a stiff bristled brush or broom on vertical surfaces and a rubber squeegee or stiff bristled brush /broom for horizontal surfaces.

It is essential the first coat is brushed well into the surface to ensure a good bond with the substrate. Allow the first coat to set firm (2-16 hours).
Apply a second coat of HydraDry Tanking Slurry as soon as the first coat has hardened. Apply the second coat at 90° angle to the first coat.

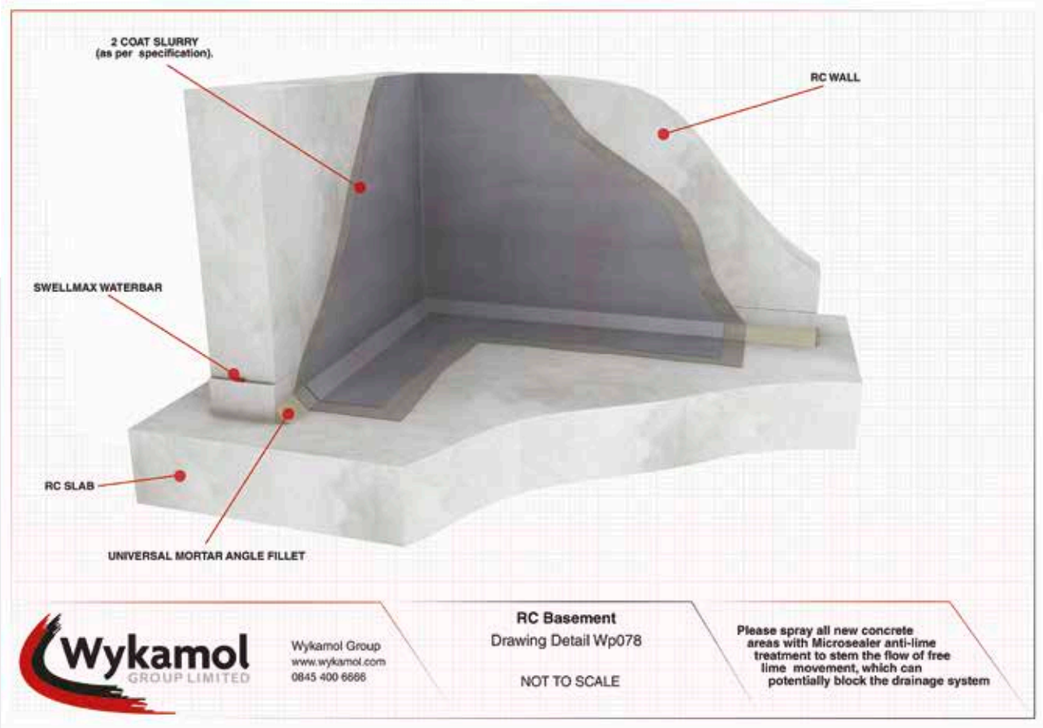
Floors: Special precautions may be necessary to ensure a continuous waterproof barrier at the wall to floor joints and corner joints to avoid sharp changes of angle in the tanking membrane. The joints should be thoroughly raked out, cleaned and wetted prior to application of Wykamol's Universal Mortar.

Ground level: Where basement walls finished above the external ground level, the tanking should link up with an effective damp proof course. If basement ceilings are below ground level, the ceiling should also be coated with HydraDry Tanking Slurry.

Conditions and Limitations

Do not apply HydraDry Tanking Slurry to substrates with temperatures below 5°C or if the ambient temperature is below 5°C or expected to fall below 5°C within 24 hrs.

When applying to environments that will contain aquatic life, such as ponds, always finish with Wykamol Technoseal, avoid application in direct sunlight.



For further information call our technical support team on **0845 400 6666** or visit www.wykamol.com

HYDRADEK

Flexible Tanking Membrane

Premium elastomeric waterproof membrane for brickwork, concrete and stone

HYDRADEK PU is a high elastomeric waterproofing liquid membrane, that is the perfect solution for complicated & flat roofs, as well as walkways and balconies.

The HYDRADEK system includes a pre mixed polyurethane coating, which once catalysed with the fleece forms an homogenous & continuous elastic waterproof membrane without any need for joints or overlapping tapes.

Advantages

- NHBC (National House Building Council) approval, and green roof endorsed.
- BBA approved, with an efficacy period in excess of 25 years.
- Totally seamless, without any laps or joints and suitable for areas of high traffic.
- Cold, brush or roller applied, no need for heat or other accelerators.
- The homogenous system of two coats of PU interleaved with mesh results in a totally waterproofed surface.
- Can be applied to most surfaces, and is ideal for both new and older flat roofs.
- Suitable for use all year round.
- For the waterproofing of most roofs/balconies/podiums/foot traffic areas, on both metal and asbestos roofs.

Uses

- Roofs, terraces, balconies, and overhangs (walkable) (ETE 10/0121 y BBA 16/5340)
- Structural concrete slabs, and concrete walls and foundations
- Metal and asbestos roofs
- Swimming pools, artificial lakes and ponds
- Green roof and walls (ETE 10/0121 y BBA 16/5340.

Available Sizes

METAL TINS 25 KG

SYSTEM COMPONENTS

- Hydradek PU
- Hydradek Primer
- Hydradek Top Coat
- Hydradek Thickener
- Hydradek Fleece

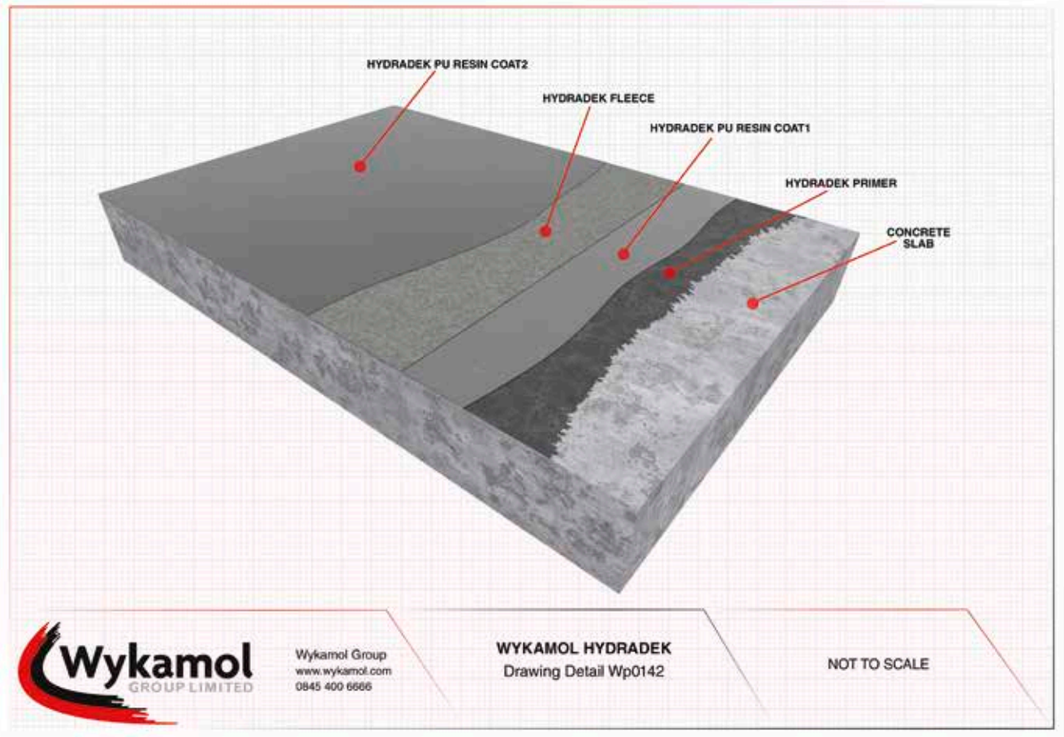
HYDRADEK PU is a single component liquid made up from pure polyurethane, which once catalysed forms a continuous elastic membrane, without any joints/overlapping, and on smaller roofs without any integrated HYDRADEK FLEECE required.

HYDRADEK PRIMER has been specifically designed to increase bonding and improve the surface levelling of substrates such as concrete, mortar, or plywood prior to the application of the HYDRADEK PU

HYDRADEK TOPCOAT is a two component polyurethane resin that provides a hard and durable surface for high traffic zones, as well as offering UV radiation protection on exposed (non covered/shielded) surfaces.

HYDRADEK THICKENER has been specially developed as a liquid additive for the HYDRADEK PU, to use on vertical or sloped surfaces, giving increased thixotropic anti slump properties during the drying/curing process.

HYDRADEK FLEECE is a spun glass fibre, for use with HYDRADEK PU in large roofing/flat surface applications where it is necessary to achieve an homogeneous bond/seal.



UNIVERSAL MORTAR

Mortar and Fillet seal

Universal Mortar is a single component, thixotropic, fibre reinforced, polymer modified cementitious mortar.

The product cures to produce a high performance, Universal Mortar, Multi-purpose, fibre reinforced, fair faced levelling coat, render and profiling mortar, with enhanced waterproofing properties.

Advantages

- Ideal for use with specialist waterproofing systems such as tanking slurry.
- Fibre re-inforced to give improved tensile and impact strength.
- High bond strength which ensures monolithic performance.
- Suitable for horizontal, vertical and overhead applications.
- Wide range of applications from a single product.
- Economic mortar which generally requires no substrate inter-layer priming.
- Dense matrix provides excellent protection from moisture and chlorides.
- Factory batched mortar which provides consistant quality.

Uses

Waterproofing and protection against water and moisture.
Mortar for waterpoofing, levelling and re-profiling
Fillet at wall/floor/ceiling junctions. Foundations, slabs, retaining walls etc.
Drinking water structures when finished with HydraDry Tanking Slurry. High build repair mortar

Available Sizes

Pack Size: 25Kg
Coverage: Up to 1.4m² dependent on substrate at 10mm

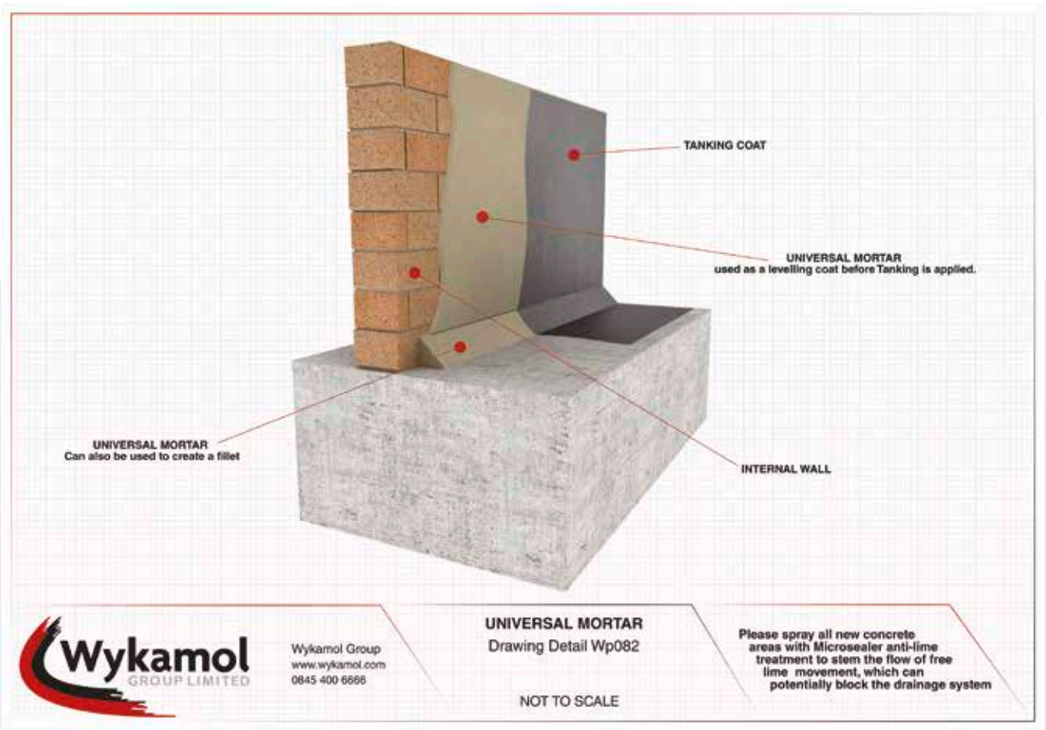
Application

Universal Mortar is best applied by a gloved hand, trowel or suitable spray equipment, when using spray equipment use traditional wet mortar and processes.

Vertical Surfaces: Universal Mortar is to be applied at a minimum of 5 mm up to a maximum of 15 mm layer thickness in one working operation. Apply the product by trowel using a standard rendering technique or spray technique ensuring to remove any trapped air. If more than one coat is required to obtain the desired build, ensure that previous layers are well keyed and stable but not fully set prior to application of the subsequent layers. This is achieved between 3 and 12 hours, when mortar feels hard to the touch. Final profiling to a high quality can be achieved using a steel float after allowing the surface to stabilise. Wooden or plastic floats and damp sponges may also be used to achieve the desired surface texture.

Overhead Applications including soffits: When using Universal Mortar as a levelling coat, apply at a minimum of 5 mm up to a maximum of 10 mm layer thickness in one working operation. Apply the product by trowel using a standard rendering technique or spray technique ensuring to remove any trapped air. If more than one coat is required to obtain the desired build, ensure that previous layers are well keyed and stable but not fully set prior to application of subsequent layers. This is achieved between 3 and 12 hours, when mortar feels hard to the touch. If sagging occurs during application, Universal Mortar should be completely removed and reapplied at a reduced thickness onto a correctly prepared substrate.

Universal Mortar as Fillet Seal: Using bricklaying or pointing trowel, apply a minimum 25 mm fillet at wall / floor, wall / wall and if necessary wall/ceiling junctions. Ensure Universal Mortar is pressed firmly into the chase at the wall/floor and joints at the wall/wall. Whilst still green form a “bottle” cove and feather for 50 mm - 100 mm along the adjacent surfaces. Achieve a smooth finish to the fillet. Where excessive stress concentrations can be expected at the wall/floor joints it is recommended a dilution of SBR Latex at 1:2 with water used as the gauging solution.



TECHNOSEAL DPM

Liquid Damp proofing membrane

Technoseal DPM is a ready-to-use, liquid damp-proofing membrane which provides a seamless, waterproof and radon barrier, ideal to use as part of a below ground-level waterproofing system.

Technoseal acts as a barrier against methane and carbon dioxide gases. It is safe to use in potable water and can be applied to pond lining as a waterproof barrier.

Ideal for areas with constant water contact, such as under tiles in bathrooms, food processing areas and balconies.

Advantages

- Single pack system
- Water based compounds that can be applied even to damp backgrounds
- Non-toxic, non hazardous, solvent and plasticiser free
- Gas barrier for carbon dioxide, methane and radon
- Tough, high flexibility, extensibility & good crack bridging properties
- Low water vapour permeability
- Alkali resistant, can be applied to alkaline surfaces
- Resistant to silage acids
- Non staining and stain blocking
- Quick drying. Typically touch dry in 1 hour

Uses

Multi purpose waterproofing paint system for foundation walls and floor slabs.

Non hazardous Radon and methane barrier paint or roller applied

Available Sizes

Pack Size: 5kg container

Coverage: 5m2 per 5kg

Available in White and Black

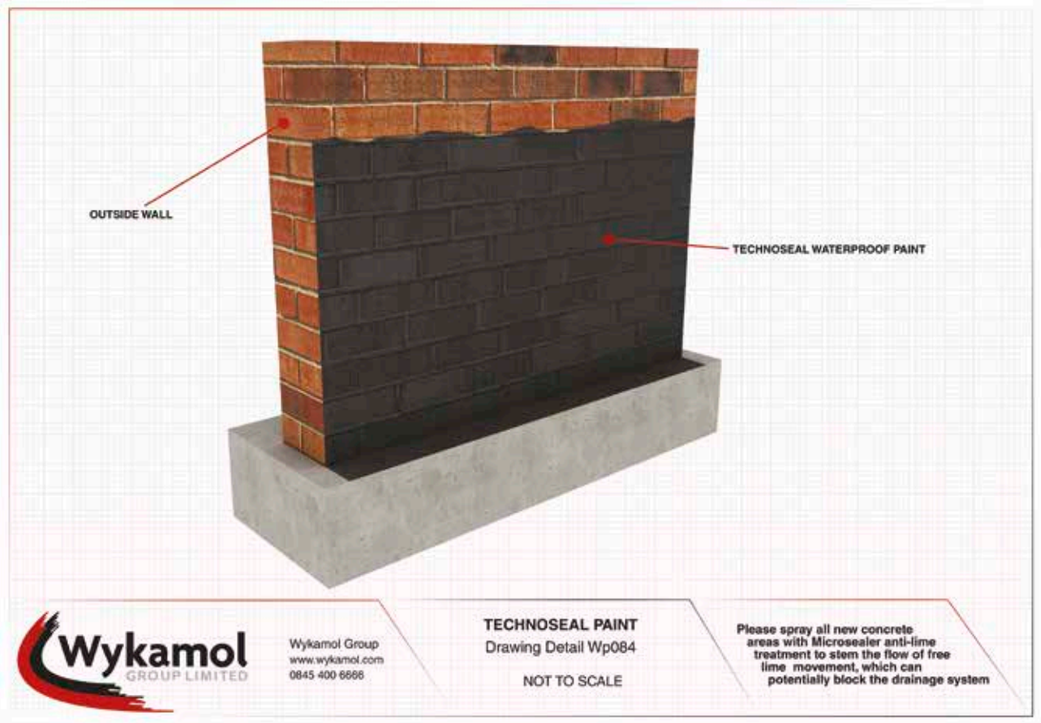
Application

- **Floors:** Under/above screeds to provide a damp proof membrane.
- **Basements:** As part of a waterproofing system beneath ground level.
- **Walls:** Can be used under render or plaster as a water barrier or vapour barrier.
- **Ponds:** Can be used for aquatic life in ponds as a waterproof lining.
- **Tiling:** As secondary protection under tiles in wet areas e.g. bathrooms, food processing areas, balconies, etc.
- **Water Storage:** The membranes perform well in our tests even when continuously immersed in water.
- **Silage Storage:** The membrane protects concrete from silage attack.

Storage
In a sealed container between +5 °C and +35 °C and protected from frost and direct sunlight.

Coverage
A minimum dried coat thickness of 0.6mm is needed to provide a vapour barrier. This should be applied in a minimum of two coats. For the final dried membrane thickness of 0.6mm a coverage rate of 1.20kg/m2 is required (this is the total for all coats). This corresponds to approx 1 litre/m2.

Colour
Available in white or black. The colour of the liquid compound will differ slightly from the colour of the dried membrane. The colour shade may vary batch to batch. The membrane dries to a tough semi-gloss finish.



PROFLEX
EP Adhesive Tape

Premium elastomeric waterproof membrane for brickwork, concrete and stone

High performance joint and crack sealing system for joint and crack sealing for construction joints, expansion (movement) joints and connection joints or cracks.

The system allows variable and high levels of movement in one or more directions, whilst maintaining a high-quality watertight seal.

Wykamol EP Proflex Adhesive

EP Proflex Adhesive is an epoxy resin-based solvent-free, thixotropic, structural two-part building adhesive and repair mortar.

Designed to give excellent moisture tolerance and water resistance, EP Proflex Adhesive is designed for use at temperatures of 50C and 300C. Specifically developed with a lower mixed viscosity for easier workability at low temperatures and excellent adhesion to damp surfaces, which is usually common within the building industry.

EP Proflex Adhesive bonds well to most building materials including concrete, stone, brick, wood, glass and metal. Due to its excellent adhesion, it can also be used for adhering building materials, including brick slips, onto glass reinforced plastic (GRP) bases.

Uses

- Walls
- Floor junctions
- Construction joints
- Movement joints
- Expansion joints
- Structural joints
- Connection joints.

Available Sizes

50m Rolls

Specifications

Colour	:	Grey
Total width / Coating width	:	120 mm /70 mm (additional widths on request)
Total thickness	:	approx. 0,66 mm
Material weight	:	approx. 38 g / mt
Resistance to temperature	:	min. / max. - 30°C / + 90°C
Length per roll	:	50 meters

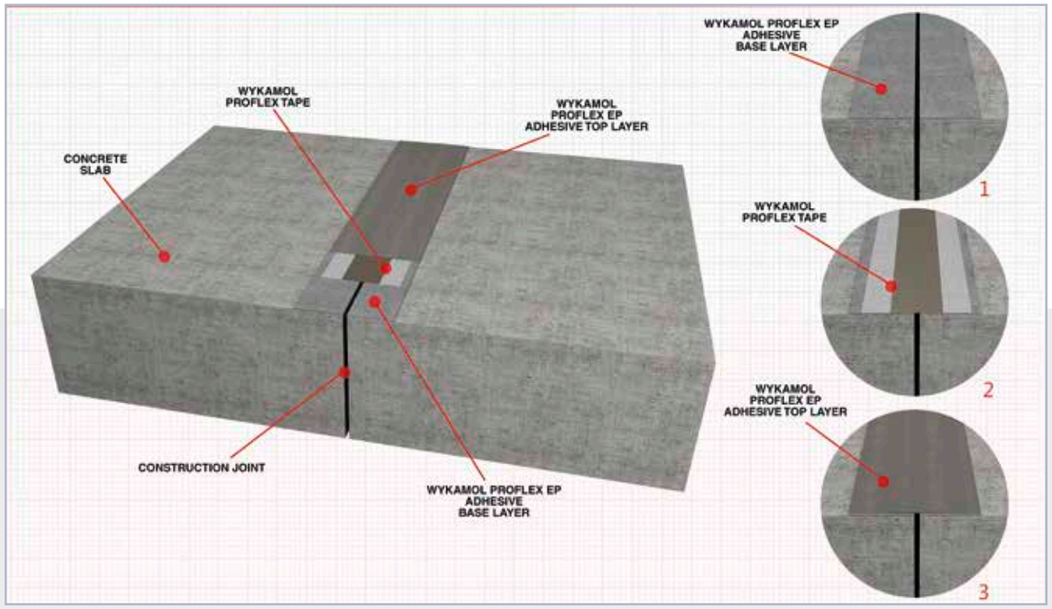
Chemical Properties

Resistance after storage over 7 days by room
+ = resistant, 0 = weakened, - = non resistant
temperature in following chemicals

Hydrochloric acid 3%	Internal	+
Sulphuric acid 35%	Internal	+
Citric Acid 100g/l	Internal	+
Lactic Acid 5%	Internal	+
Potassium Hydroxide 3%/20%	Internal	+ / 0
Sodium Hypochlorite 0.3g/l	Internal	+
Salt Water 20g/l Sea Water Salt	Internal	+

PHYSICAL PROPERTIES (approx.)	DIN	Value
Burst Pressure: max	Internal	3,0 bar
Tensile strength longitudinal	DIN EN ISO 527-3	115 N/20mm
Tensile strength load lateral	DIN EN ISO 527-3	46 N/20mm
Tear Resistance Lateral	EN-ISO 527-2	48 N/mm²
Tear Resistance Longitudinal	EN-ISO 527-3	52 N/mm²
Shore	ISO 868	70 Shore A
Peel Strength	DIN 16860	>20 N/10mm
Service Temperature	SIA V280/3+4	-30°C/+90°C
Density	-	38 gr/mt
Maximum elongation longitudinal	DIN EN ISO 527-3	%29
Maximum elongation lateral	DIN EN ISO 527-3	%139
Resistance to water pressure	DIN EN 1928 (Version B)	>1,5 bar
UV-Resistance: min	DIN EN ISO 4892-2	500 h

ISO 9001	-	Quality Management
ISO 14001	-	Environmental Management
ISO 18001	-	Occupational Health and Safety Management



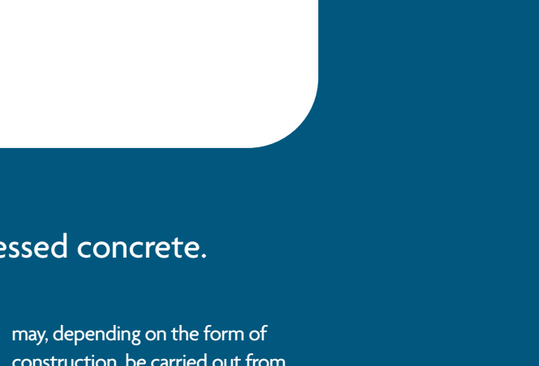
WATER PROOFING

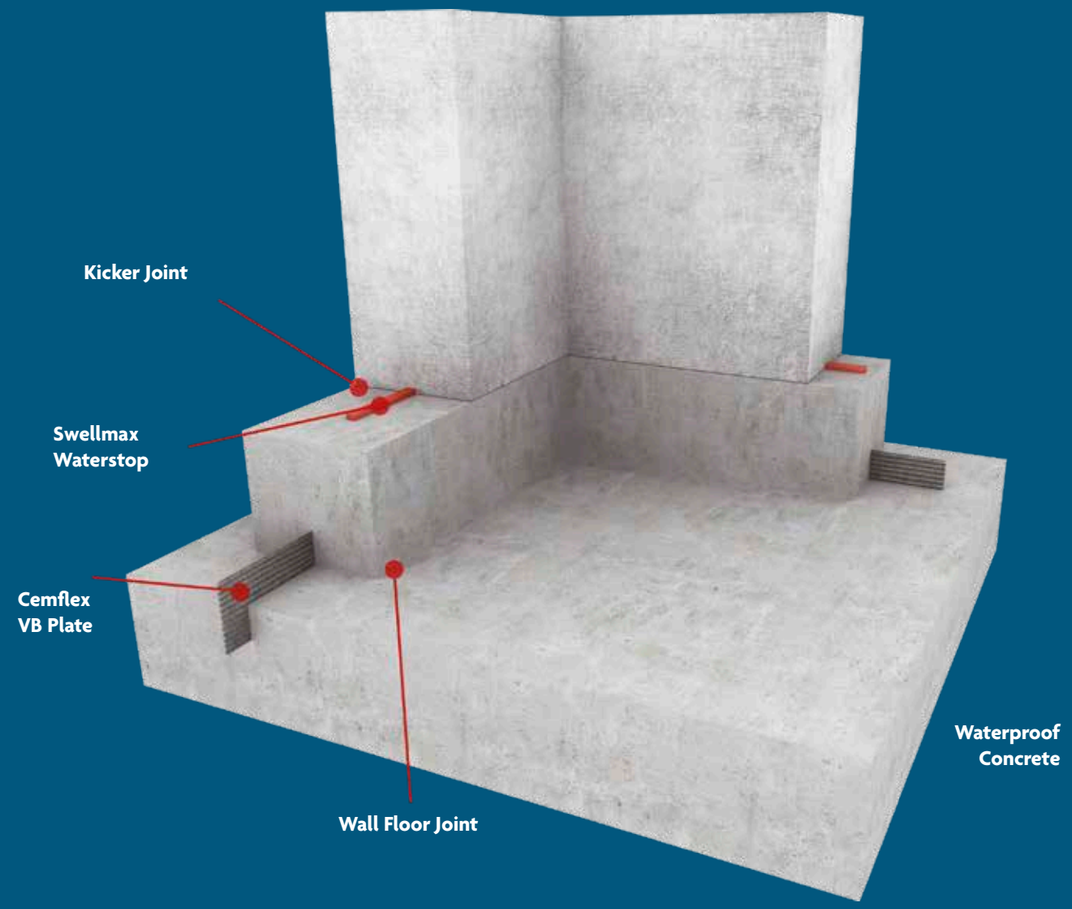
TYPE B

Structures will generally be reinforced or prestressed concrete.

Type B Waterproofing as defined in BS 8102: (2009) Type B (structurally integral) protection as defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) where the structure itself is constructed as an integral water resistant shell. Invariably built of reinforced concrete, the basement structure must be designed within certain strict parameters to ensure it is water resistant. When considering and or specifying a Type B integral system, this should only be carried out where there is knowledge and understanding of waterproofing in relation to BS 8102: (2009) and in the case of concrete structures an understanding and competence in concrete construction. The water tightness of the Type B construction is reliant upon the design and construction of the basement as an integral shell, using a concrete of low permeability, and appropriate joint detailing. Defects can be minimised by correct specification and design and by careful construction.
The most common defects are: · permeable concrete · honeycombing through lack of compaction · contamination of or cold joints · cracks due to thermal contraction and shrinkage · poor and inadequate placement of waterbars, hydrophilic strips and joints.

Construction joints These need particular attention as they are the vulnerable areas that are most commonly associated with leaks. While attention needs to be paid to jointing and positioning of water stops, great care is required in the placing and compaction of the concrete. An alternative method of controlling water ingress at construction joints is to use a crystallisation or hydrophilic system which react in the presence of water to seal the joint. Other systems are also used The construction of a 'kicker' after pouring the floor slab should not be encouraged as it is difficult to construct without defects. Therefore kickers should be cast with the slab using appropriate edge formwork but will require careful construction to obtain full compaction. Modern types of formwork and kicker less construction techniques mean that kickers no longer need be part of the construction process. With a high water table, minor defects in the concrete usually result in only small amounts of water penetrating, and stopping these is usually fairly straightforward. Remedial action may, depending on the form of construction, be carried out from the inside, so avoiding the need for external excavation. Variable water tables present a reduced problem, unless the water table stays high for a long time. In a free-draining site, it is rare for a defect to be so serious that the water comes through by capillary action. The water and water vapour resistance of Type B protection relies on the materials incorporated into the external shell of the structure itself and will be a function of the section thickness. Defects are not always identified during construction stage and only become evident after completion. Type B - Structural integral protection - where the structure itself (waterproof reinforced concrete) is the protection.





INJECTION HOSES

PVC Based Tubing

Wykamol tube system is a PVC based injection hose, which is installed in the joints of a concrete structure at construction stage, allowing the joints to be injected with resins at a later stage, if they are required.

The Wykamol 11 Injection Tube has 5 mm openings spaced every 12 - 14 mm. The injection material is pumped into the tube through the injection pieces that are located in the injection port boxes.

Advantages

- Unique design prevents the fresh concrete paste from entering the system.
- Suitable for above and below ground applications.
- Circular tube - no unwanted twisting.
- Suitable for vertical and horizontal construction joints.
- Smooth surface on the hose to prevent bonding to the concrete.
- Easy to install.

Pack Contents

- A single-wall, smooth tube with slightly cone-shaped openings.
- Plastic injection-port boxes.
- Ventilation Hose.
- Injection Port.
- Injection Nipple.
- Hose Cap.
- Fixing Clips.

Uses

Lift pit construction joint detailing, i.e. at wall-floor junction

Where retrospective waterproofing injections are necessary

Available Sizes

Pack size: 1 kit

Coverage: 10m in length

Application

Substrate Preparation The surface onto which Wykamol 11 Injection Tube is to be placed should be clean and flat.

Installation
Cut the Wykamol 11 Injection tube into lengths that are 10m. A suitable length of red coloured injection hose should be secured to one end of the Wykamol 11 Injection Tube, and a suitable length of the clear ventilation hose should be secured to the opposite end.

Both of these hoses should be of sufficient length to extend into the injection port boxes, which are located in areas easily accessed for future use.

A yellow hose cap is fixed to the end of the hoses, until such time as the injection pieces are to be installed and the injection of materials is to commence. The Wykamol 11 Injection Tube should be secured tightly into position using the fixing clips, placed at 15 cm centres.

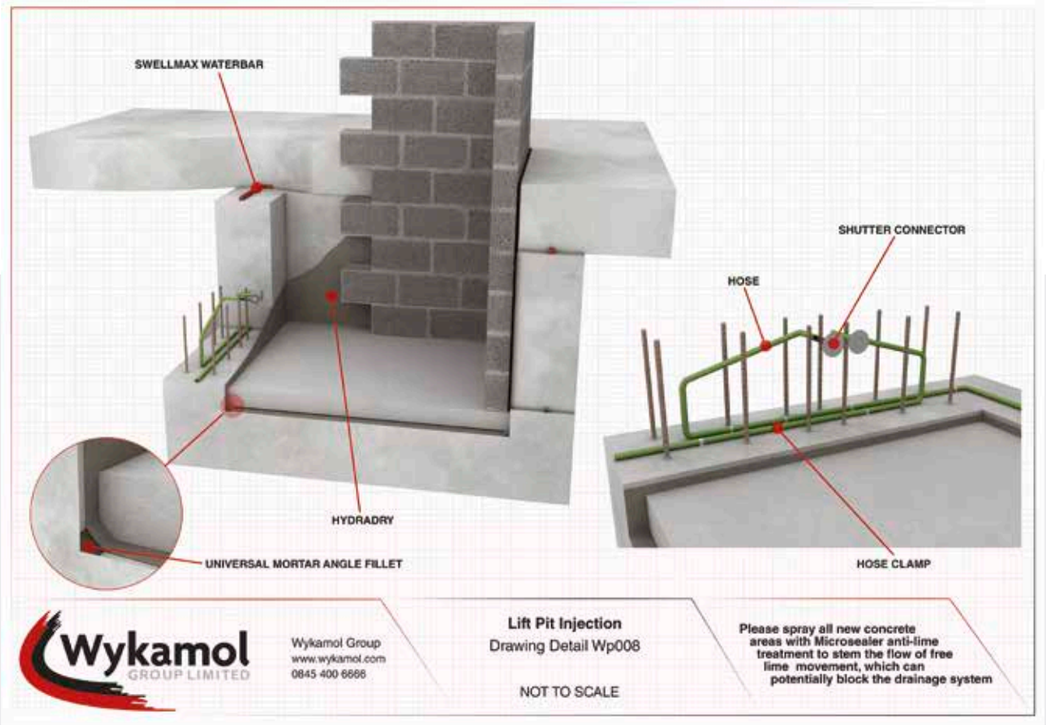
Note: The above method must be closely adhered to and only operatives that are fully trained and familiar with the injection equipment should be installing this product. For help and advice please contact the Wykamol Technical Department.

Properties

Technical Data	
Colour	Blue
Inner Hose Diameter	5 mm
Outside Diameter of Hose	11 mm
Materials that may be injected	PU-EP resins, acrylates, gels (no cements)
Max length for installing tube	10 m*
Perforations/ slots in hose	5 mm perforations-slots every 12 - 14 mm

Storage

Store off the ground in dry conditions in temperatures > 5°C.



RESINS
Crack and Joint Sealing

Whatever the system proposed to ensure a dry sub-structure, it is essential to control high water ingress prior to completing its installation.

While cavity drain systems can manage relatively high levels of water ingress, it is desirable to limit the ingress and minimise the ongoing energy and maintenance costs.

Our products that can be applied to the outer surface on a basement provide a desirable solution as the water pressure works to seal the system on the face of the structure as opposed to trying to de-laminate the system from the internal face. Minova's curtain injection system based around its CarboStop 102 is a simple and a cost-effective solution that requires nominal equipment investment.

Crack Injections

Restoration of Aesthetics
If cracks are only minor defects, they are simply repaired to restore the aesthetics of the building Carbo Crack Seal H Plus may be considered if the cracks will be subject to further movement.

Waterproofing
If moisture penetrates through the cracks, e.g. in basements, those cracks are likely to be detrimental to the structure, causing corrosion to the steel reinforcement as well as at the water ingress damaging the fabric of the structure. If the water ingress is excessive, curtain injection should be undertaken prior to the crack injection. Cracks may expand and contract as a result of further movement of the structure, hence the correct resin should be selected. For example, CarboCrackSeal H Plus or CarboCryl HV Plus should be used depending on the circumstances. CarboStop 102 is generally used for the curtain injection.

Uses

Lift pit construction joint detailing, i.e. at wall-floor junction

Where retrospective waterproofing injections are necessary

Available Sizes

Please speak to the Wykamol technical team for sizes and coverage of these items as applications vary and coverage cannot be calculated as these are job specific.

Application

Structural Repair
Cracks which threaten the stability of the building are often located in supporting construction members. Such repair work requires the use of specific resins, water ingress into the cracks should be stopped (curtain injection) prior to the injection of structural repair resins. CarboEpox, again CarboStop 102 is generally used for the curtain injection

Injection tube system
Concrete will shrink while curing, this will lead to development of small cracks and fissures. Good design and detailing can mitigate cracking and fine cracks of sometimes less than 0.1 mm are inevitable but not necessarily detrimental.

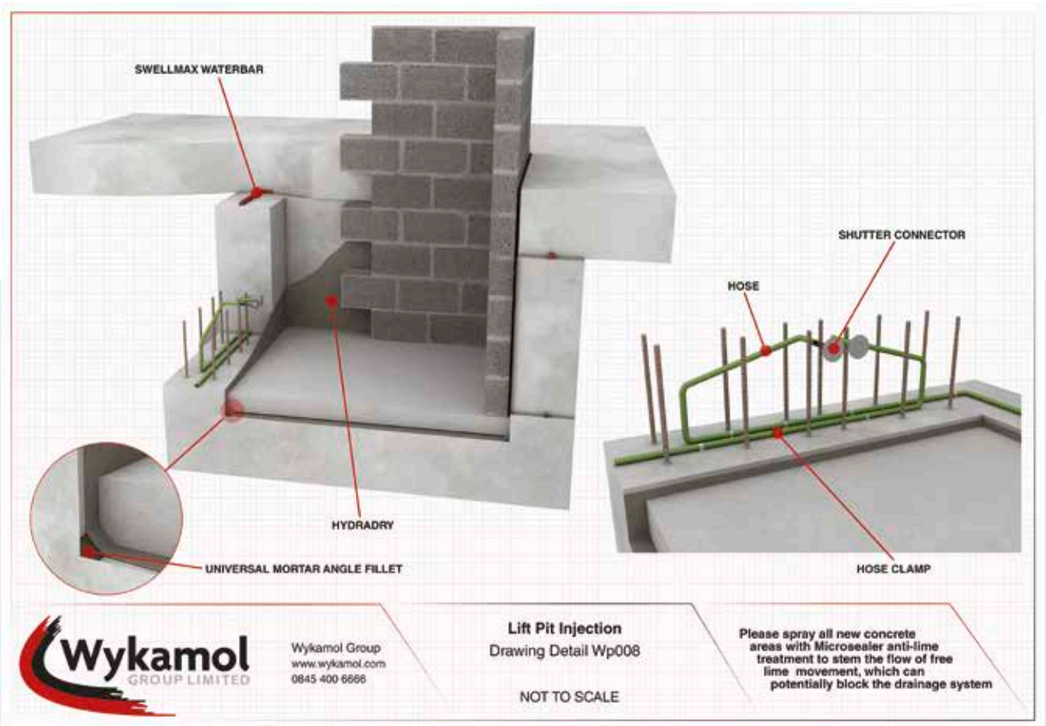
At cold / construction joints, and joins with other materials, for example steel sheet piles, the tendency to form larger cracks cannot be reduced. These cracks regularly lead to water ingress. The Injection Tube System provides a simple and cost-effective way for sealing joints.

A special tube system is installed at the joint where leaks are most likely to occur. The system allows the Minova CarboCryl HV Plus resin to be injected directly into the joint through a protected porous tube after completion of the structure.

The resin penetrates through the perforation of the tube and fills the cracks and voids of the cold joint area thereby sealing the structure. The resin remains elastic during its life and will not dry and crack.

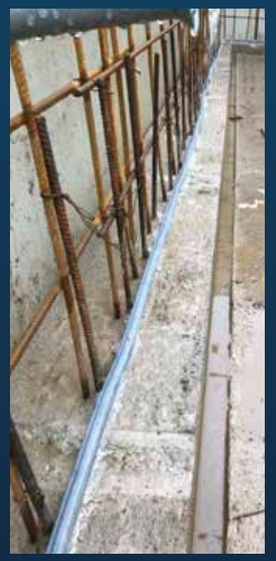
Lift pit sealing
Cavity drain waterproofing systems to mitigate against water into both new and existing lift pits is generally not feasible.
New build: Careful detailing and construction using reinforced concrete, with the use of tube injection systems on construction joints greatly reduces any ingress.

Refurbishment: Curtain and crack injection techniques work well preventing high water ingress, and on completion the internal faces of the pit can be finished with a waterproof render such as Universal Mortar.



WATER BARS
Joint Sealing

Swellmax plus waterstop and Swellseal are both used to seal joints on many poured-in-place and below ground pre-cast concrete applications. SwellSeal



SwellMAX Plus Waterstop

A bentonite based water-stop tape which has a unique protection coating that prevents premature swelling of the tape for up to 3 days. SwellMAX Plus Waterstop is designed to prevent water ingress through non-movement joints in reinforced concrete structures.

SwellSeal

An extruded rubber compound made from butyl rubber, hydrophilic resin, polyethylene, silicone and special admixtures and used to seal joints on many poured-in-place and below ground pre-cast concrete applications. SwellSeal produces a water-tight seal when under conditions of confinement as it moulds itself to the surrounding surfaces. On contact with water it is capable of swelling up to 4 times its own volume, even filling gaps which are uneven in size. This means SwellSeal can be used without the need for any high-compression force.

Uses

Suitable for use in both vertical and horizontal joints in pre-cast concrete wall panel systems

Shield-driven tunnels such as subways, water supply and sewage systems, tunnels, cable lying etc.

Within concrete rafts or slabs Basements and around pipes

Available Sizes

Swell max:
20mm x 25mm x 30m long

Swell max plus:
20mm x 25mm x 20m long

Properties

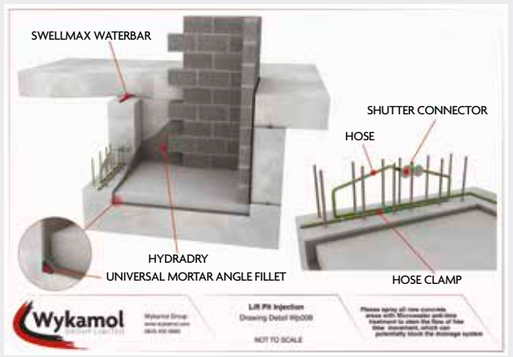
Swellmax Plus Advantages
- Independently tested for use up to 7 bar water pressure
- Suitable for use in all non-movement construction joints in in-situ reinforced concrete
- Special coating prevents premature swelling for up to 3 days
- Suitable for vertical and horizontal overhead applications
- No sticky protection tape to be removed prior to use
- May be installed using adhesive or a fixing rail up to 500% swelling capacity

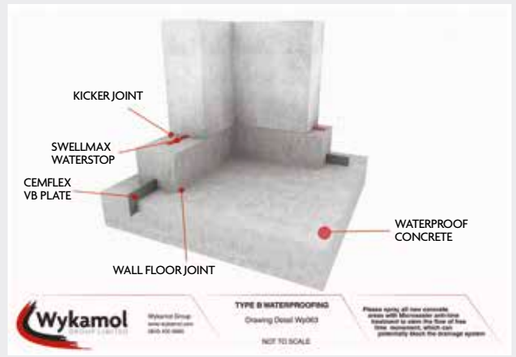
Technical Data	
Colour	Grey
Volume of Swelling	up to 500%
Service Temperature	- 30°C to + 70°C
Resistance	Up to 7 bar water pressure

APPLICATION
SwellMax Plus and SwellSeal can be installed with either a building adhesive, fitting rails or fitting bars.
Note: Only operatives that are fully trained and familiar with this product should complete it's installation.

Swellseal Advantages
- Capable of swelling up to four times in volume.
- Can withstand up to 5 bar of hydrostatic pressure .
- Can be used in conjunction with non-expanding rubber.
- Reversible expansion process.
- Easy to install.
- Suitable for vertical and horizontal overhead applications.
- Resistant to animal manure and salt water.

Technical Data	
Colour	Grey
Shore A	38
Elongation at Break	490/770%
Tensile Strength	1.1 / 2.1 MPa
Specific Weight	1.25g/cm³ = 1.25
Volume of Swelling	Approximately 400%
Service Temperature	- 30°C to + 70°C
Resistance	Up to 5 bar water pressure





WATER STOP

Plugging & Repair Mortar

Water Stop is a fast setting, expanding water stop plugging and repair mortar.

When mixed with clean water and applied correctly it is formulated for the rapid patching and plugging of active water leaks and seepagage in concrete and masonry.

Water Stop is designed to expand as it sets to ensure a permanent water tight seal is acheived and in a cured form displays similar properties to concrete

Advantages

- Instantly stops leaks in concrete and masonry - tanking slurry waterproof system
- Provides a permanent watertight seal
- Fast setting and rapid curing
- Superior bond strength to concrete and masonry resists positive and negative water pressure
- Suitable for internal and external use
- Safe to use in contact with potable water suitable for use above and below ground
- Resists positive and negative water pressure

Uses

Use to stop active water leaks or seepage under pressure through holes, joints and cracks in concrete or masonry walls, swimming pools, water storage facilities, tunnels, fountains, cisterns, water channels, ponds, pipes, basements, foundations and retaining walls.

Available Sizes

Pack Size: 5Kg Containing 2 x 2.5 Kg bags

Application

No priming is required but for dry repair applications, make sure the surface is Surface Saturated Dry (SSD).

To stop surface leaks or seepage not under pressure:

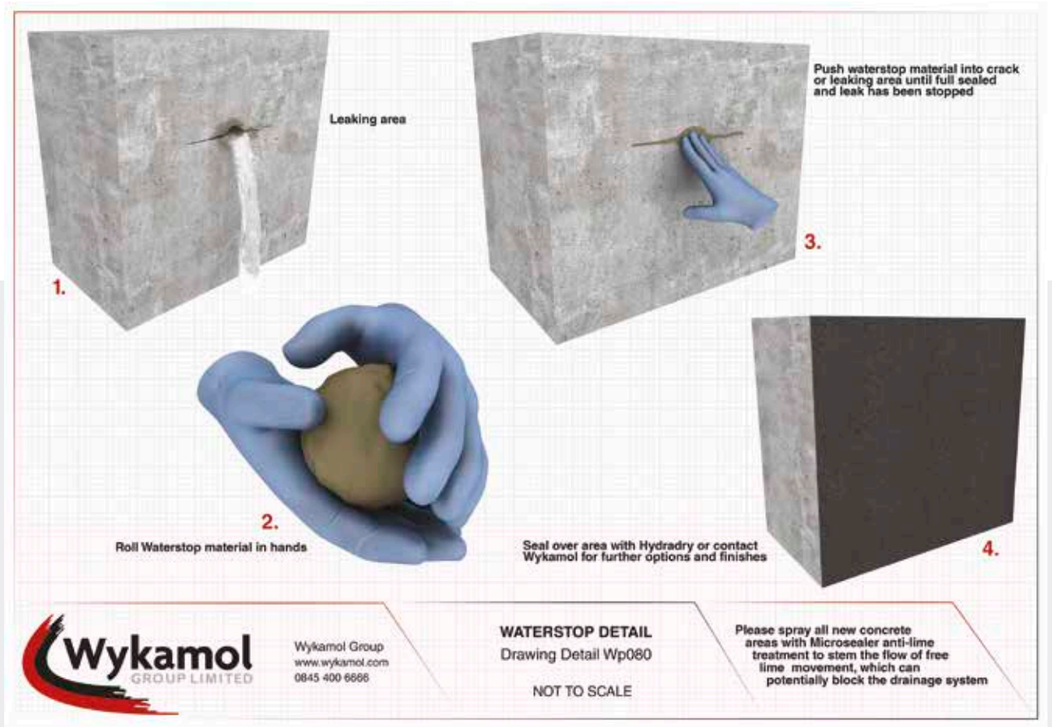
1. Starting at the top of the hole or crack, work your way down. Trowel apply or hand kneed the mixed mortar firmly into place, ensuring maximum contact with the substrate before the material sets.
2. Remove any excess material to form a uniform surface.

To stop leaks under pressure or under water:

1. Starting at the top of the hole or crack, work your way down. Trowel apply or hand kneed the mixed mortar firmly into place, ensuring maximum contact with the substrate before the material sets.
2. Maintain constant pressure on the applied material until final set has been acheived.
3. Remove any excess material to form a uniform surface.

Conditions & Limitations

- Low temperature working: Water Stop can be used in cold conditions down to 1°C.
- It is advised to use warm water, 20°C to accelerate strength development.
- The material should not be applied when substrate and /or ambient air temperature is less than 1°C.
- Set and cure times will be increased at low temperatures.
- Hot temperature working: When using Water Stop in temperatures above 35 °C, the material should be stored in the shade and it is advised to use cooler water, 20°C.
- Set and cure times will be reduced in hot temperatures.



SWELABLE MASTIC
Joint Sealing

CEM 805 “active“ is a one-component, polyurethane based, solvent-free, hydroswelling sealing agent for the sealing of construction joints and around pipe penetrations.

CEM 805 “active” cures and swells in the presence of moisture. Curing time depends on temperature and humidity conditions, i.e. curing time will reduce, if RH and °C are higher. CEM 805 “active” will become firm in 24- 36 hours. Performance is not affected by the curing time.

Application

CEM 805 “active“ is specially designed for the following fields of application:

- Sealing rough and smooth construction joints of insitu cast concrete
- Sealing joints between pre-cast segments (e.g. manholes, box culverts, cable ducts and pipes)
- Sealing around steel H-beams
- Sealing between rough surfaces (e.g. slurry walls) and concrete slabs
- Bonding of waterstop tapes and injection hoses
- Sealing around bolt spacers and void formers

Advantages

- Solvent-free
- CEM 805 “active“ can be applied to concrete, PVC, HDPE, steel, etc
- The excellent filling and adhesion properties of CEM 805 “active” provide a first line filling of cracks and voids, even on lightly humid, smooth or rough surfaces
- In contact with water CEM 805 “active” will expand to about 200 % of its original volume
- CEM 805 “active“ is an extremely flexible system, which adapts to the irregular surface of the substrate
- Easy application with standard caulking gun
- CEM 805 “active“ is durable and will exceed the construction’s life
- Good all-round chemical resistance
- Is resistant to petroleum products, mineral and vegetable oils and greases
- CEM 805 “active“ is approved for contact with potable water

Uses

Lift pit construction joint detailing, i.e. at wall-floor junction

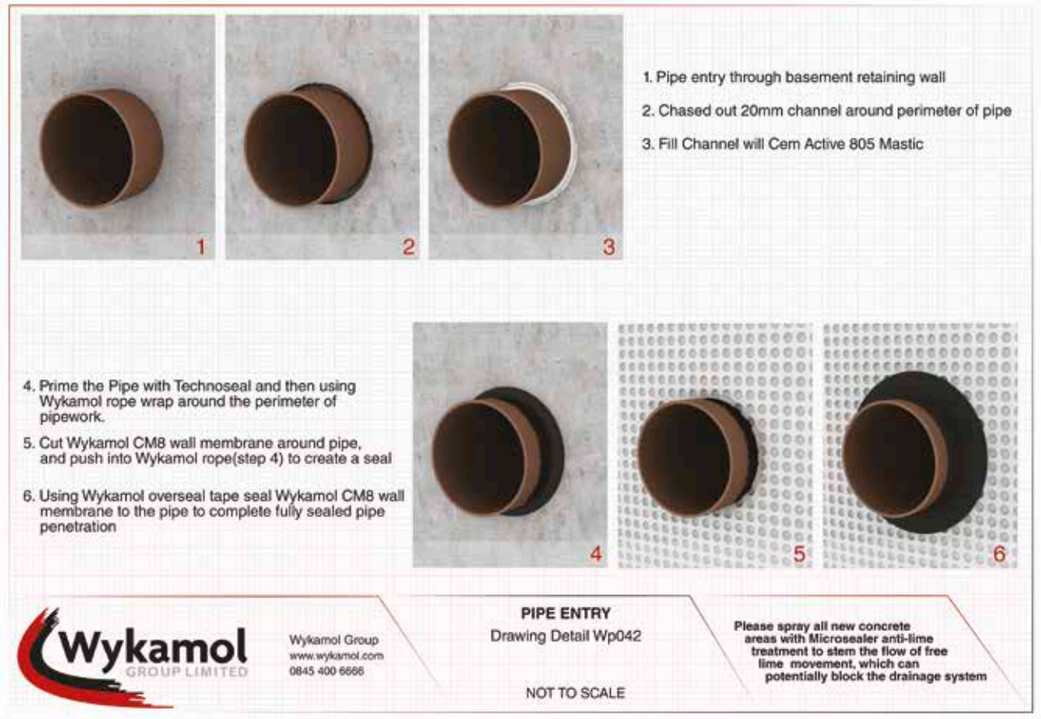
Where retrospective waterproofing injections are necessary

Available Sizes

Pack Size: 310mm Tube

Properties

Property	Value	Norm
Solids	100%	Test CEM
Uncured:		
Consistency	gel/paste	Test CEM
Density (at 20 °C)	approx. 1,45 kg/dm³	DIN 53504
Slump in vertical applications	< 5mm (average 3mm)	Boeing test
Touch-dry (at 20°C and 60 % rel. humidity)	12 h	Test CEM
Flash point	> 130°	C Pensky Martens Method
Cured (7 days at 20 °C and 10 mm thick):		
Elongation at break	approx. 625%	DIN 53504
Tensile strength	approx. 2,2 N/mm²	DIN 53504
Resistance to hydrostatic pressure	up to 150 m of water column	Test CEM
Swelling capacity in contact with water	approx. 200 %	Test CEM



TRAINING

Our know-how guarantees to meet all your needs, for well over 80 years the Wykamol name has been synonymous as market leader in the field of property renovation and repair.

Our product range has evolved and grown to become the broadest range of property repair and renovation solutions under one umbrella anywhere in the UK.

RIBA Approved waterproofing and ground gas control cpd

This RIBA Approved CPD Seminar covers the grades of waterproofing that are required, the waterproofing systems available and the relevant standards and regulations that must be adhered to when designing a waterproofing system. As we offer a free design service, this CPD is useful for architects, surveyors and developers who need to provide waterproofing solutions that comply with the various regulations, and it is essential to be aware of said regulations.

We offer a choice of arranging the seminar at your own premises or at our offices in Burnley, Lancashire. These CPD seminars can be tailored to your exact needs to ensure we cover, in detail, the areas of most interest to your company.

- Requirements of BS8102 : 2009
- Cementitious systems
- Cavity drain membranes
- External membranes
- Why systems fail
- Radon and other gases
- Documents and standards
- Case studies

Structural Waterproofing Contractor's Training Course

This theoretical training course offers an introduction to the Structural Waterproofing Industry, allowing you to begin expanding your knowledge, services and customer base after just one day.

This course is the first step to becoming a Wykamol Structural Waterproofing Registered Installer.

After completing this training your Area Technical Manager will attend site at a mutually convenient time, and conduct any necessary practical demonstrations.

3 completed projects must then be inspected and signed off by your Technical Manager, to ensure the contractor can maintain a consistently high level of installation using our products.

N.B. The Wykamol Group do not guarantee the work of a Registered Installer. Any guarantees issued through the Wykamol Group outline that we take responsibility for the functionality of our products, and any work completed is the sole responsibility of the contractor. For further information please feel free to contact Head Office.

- Make Informed Product Selections for your projects
- Cover a Range of Installation Methods
- British Standard BS8102 : 2009 and NHBC Chapter 5.4
- Waterproofing Types A, B and C
- An Introduction to Basement Waterproofing Design Skills
- Essential CSSW Preparation
- Become a Member of CGS and Issue Insurance Backed Guarantees
- Gain Unlimited Access to Some of the Best Technical Advice in the Country.

For further information call our technical support team on 0845 400 6666 or visit www.wykamol.com

The Ultimate Waterproofing and Gas Protection Guide

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