



The Ultimate Waterproofing and Gas Protection Guide





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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.



WATERPROOFING A BUILDING

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.

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 DESIGN PHILOSOPHY

BS8102:2009 Code of Practice



- BSI British Standards BS8102:2009 “Code of practice for protection of below ground structures against water from the ground” is the standard that the industry is governed by.
- It is essential for the success of any project involving below ground structures that strategies for dealing with groundwater, soil gases and contaminants are considered from early stages of the planning and design.
- Early Risk assessment in the way of a geotechnical specialist is sought to advice on geology, and hydrogeology and external drainage options, and the depth

of the water table, and the soil type (clay, chalk, sand) from this information a proper risk assessment can be made of the site in question.

- Defects and remedial measures, the designer must consider the possibility of defects occurring, and have contingency planning for dealing with localised defects or system failure that arise and should be included as part of the overall water-resisting design for the structure. The issue of reparability should be taken into account and the feasibility of remedial measures assessed.
- Groundwater, waterproofing

measures should be designed on the basis of water coming to bear on the structure to full height of the retained ground, at some time in the future.

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

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 poked concrete be poured to sandwich the waterproofing system onto the substrate.)

Type B

Structurally Integral Protection.

Structures will generally be reinforced or prestressed 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.

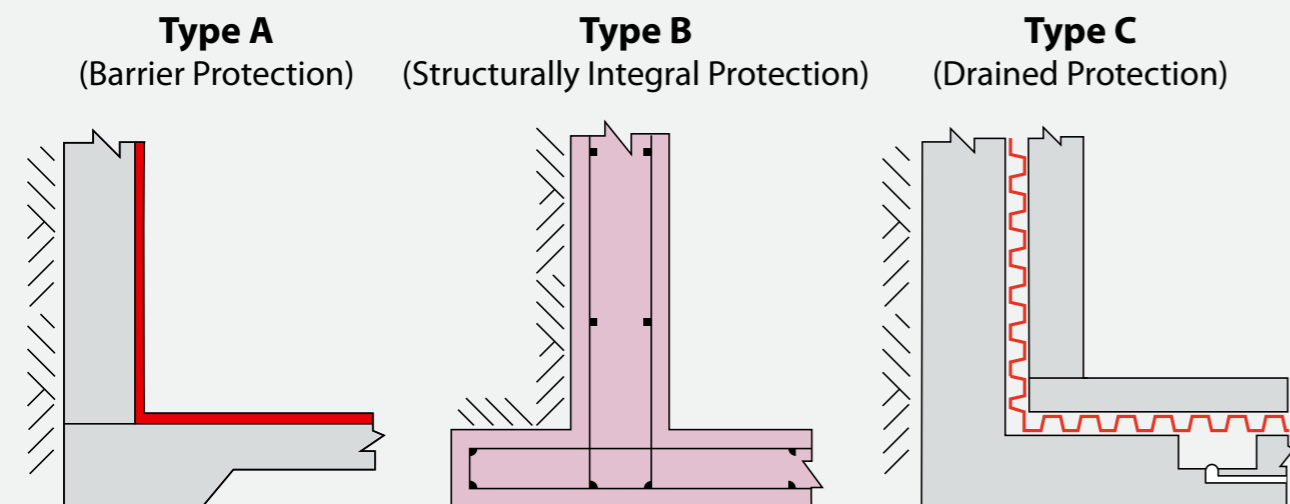
A concrete structure, to be constructed as an integral water-resistant shell. To be designed in accordance with BS8007 to waterproof but not vapour proof. If the concrete was poured monolithically there would be no problem at the floor wall junction. Day joints are potential problem areas.

Type C

Drained Protection.

Type C waterproofing protection manages water that penetrates the external shell of a structure, by collecting it 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.

New construction generally incorporates a cavity drain membrane, however the use of other products and techniques, such as drained voids constructed in masonry, can also be considered. Traditionally, the cavity in floor construction has been formed by the use of either no-fines concrete or ceramic tile systems. These are rarely used in new construction, but might be encountered when refurbishing existing structures



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.

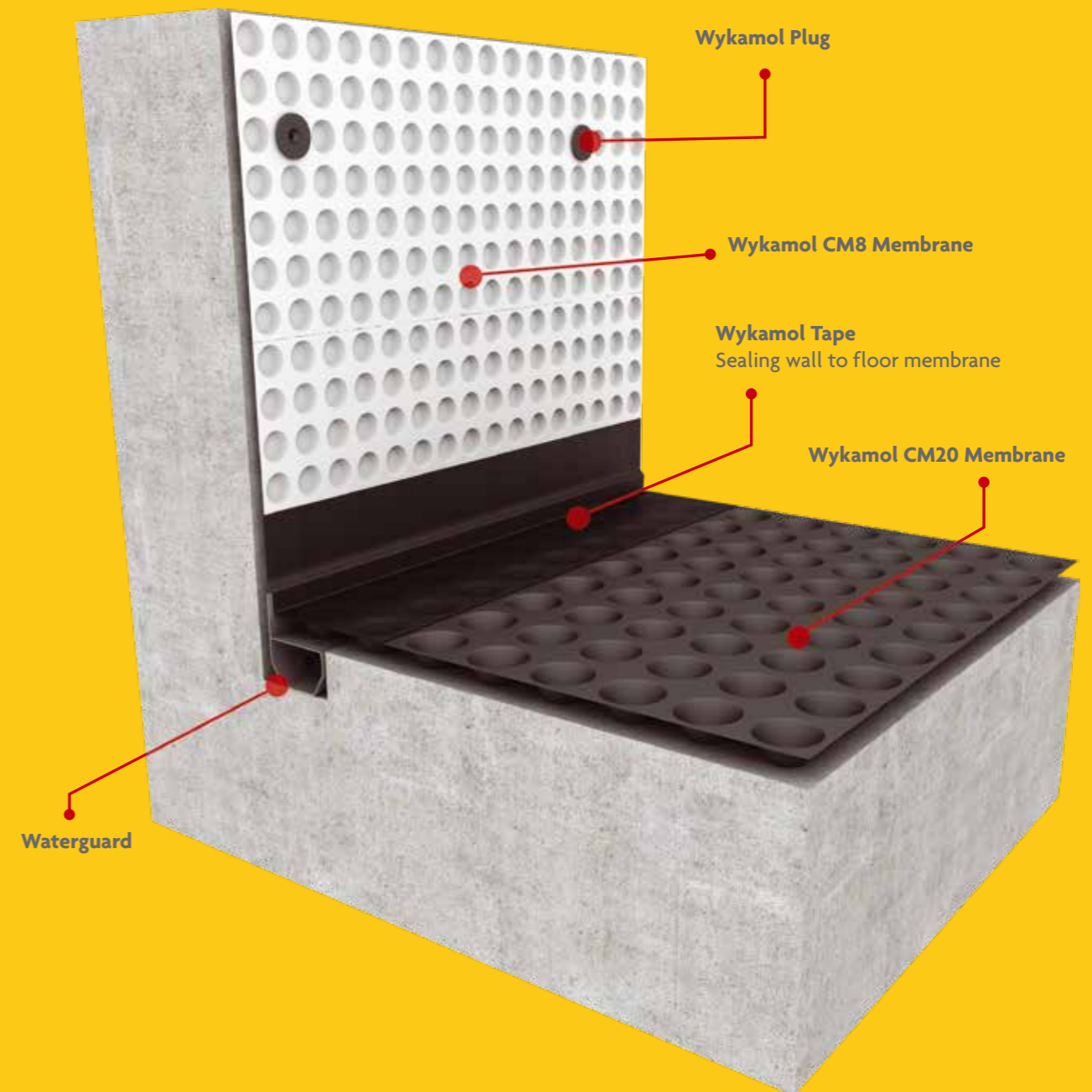
Type C pumped systems should be engineered to cope with worst-case water ingress. If drainage capacity is exceeded, this may result in dampness or flooding. Type C systems are designed to control and manage leakage and seepage into a structure where water ingress is unacceptably high, the water resistance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

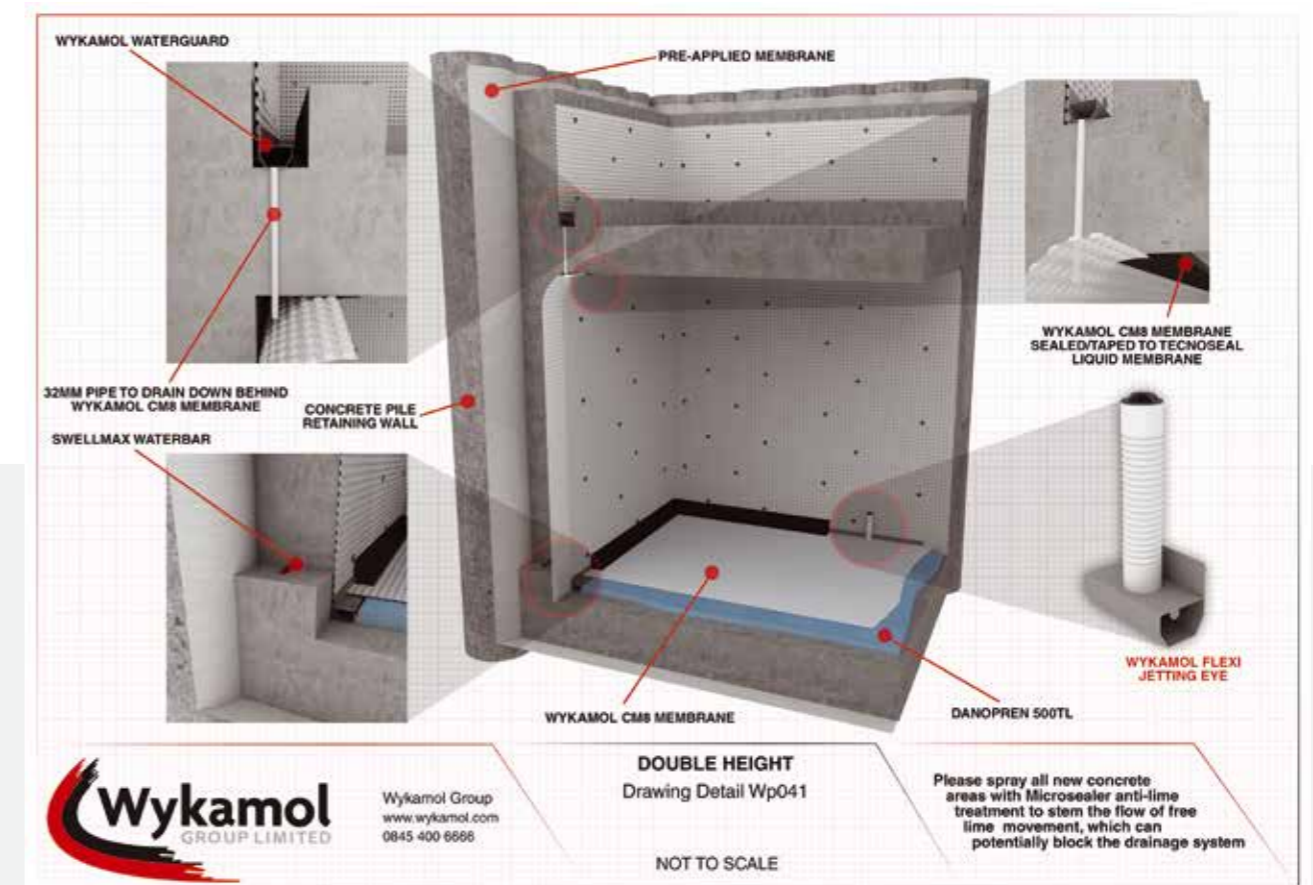
Pack Size: 2m x 20m
2.4m x 20m

Coverage: 40m²
48m²



Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m ²	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 I	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.

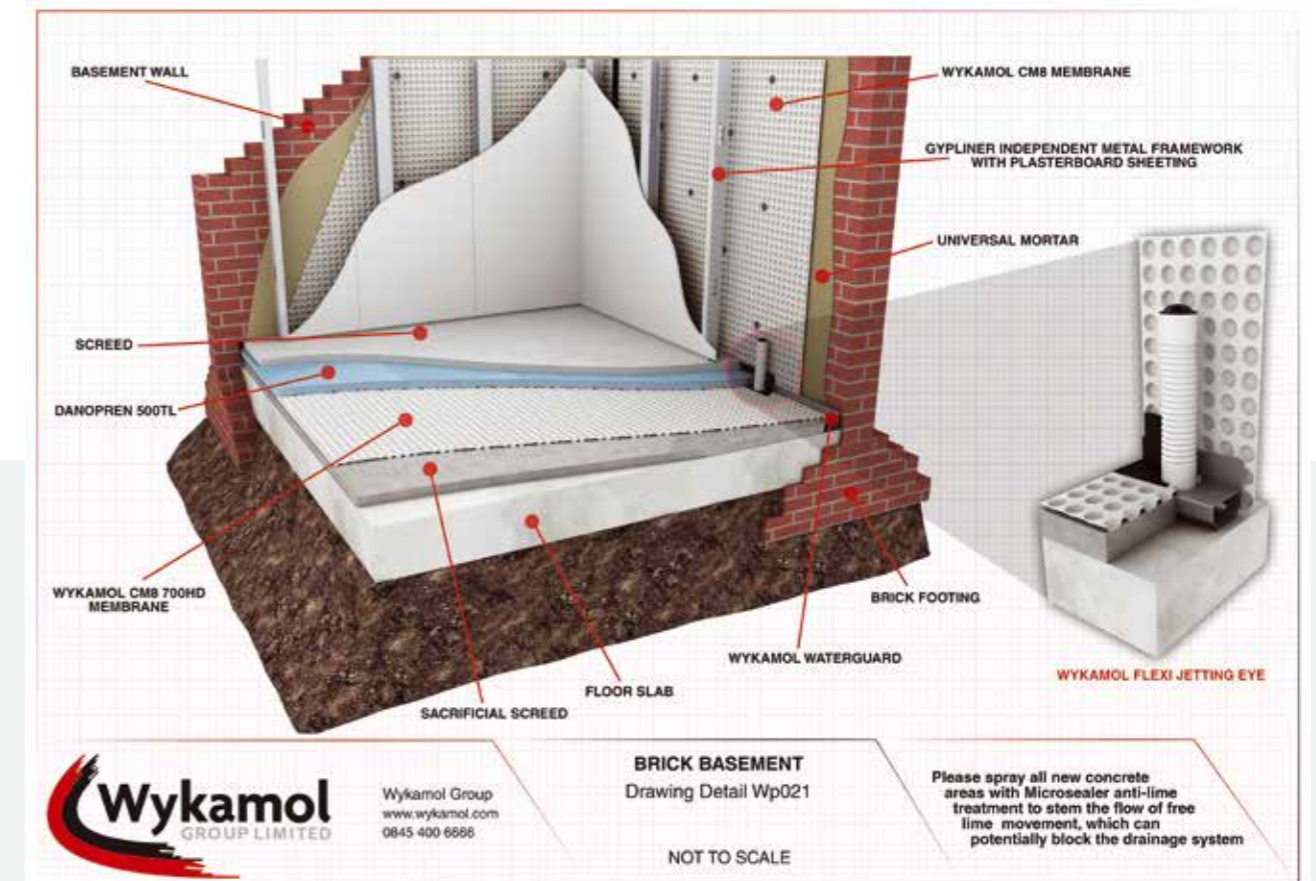
CM8 HD is an 8mm studded high density membrane suitable for type C waterproofing and delivering a grade 3 environment to BS8102:2009 and NHBC chapter 5.4. We recommend using the HD version on our Danopren insulated spacer and also in commercial areas where a more impact resistant membrane may be needed.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

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.7 Kg/m ²	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 I	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



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

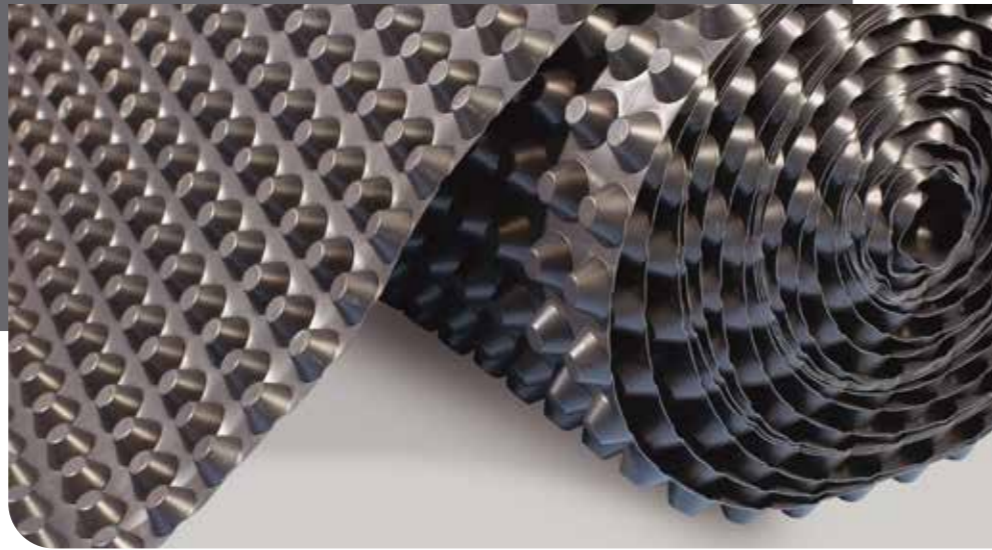
Coverage: 40m²
48m²



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)

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	1 Kg/m ²	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

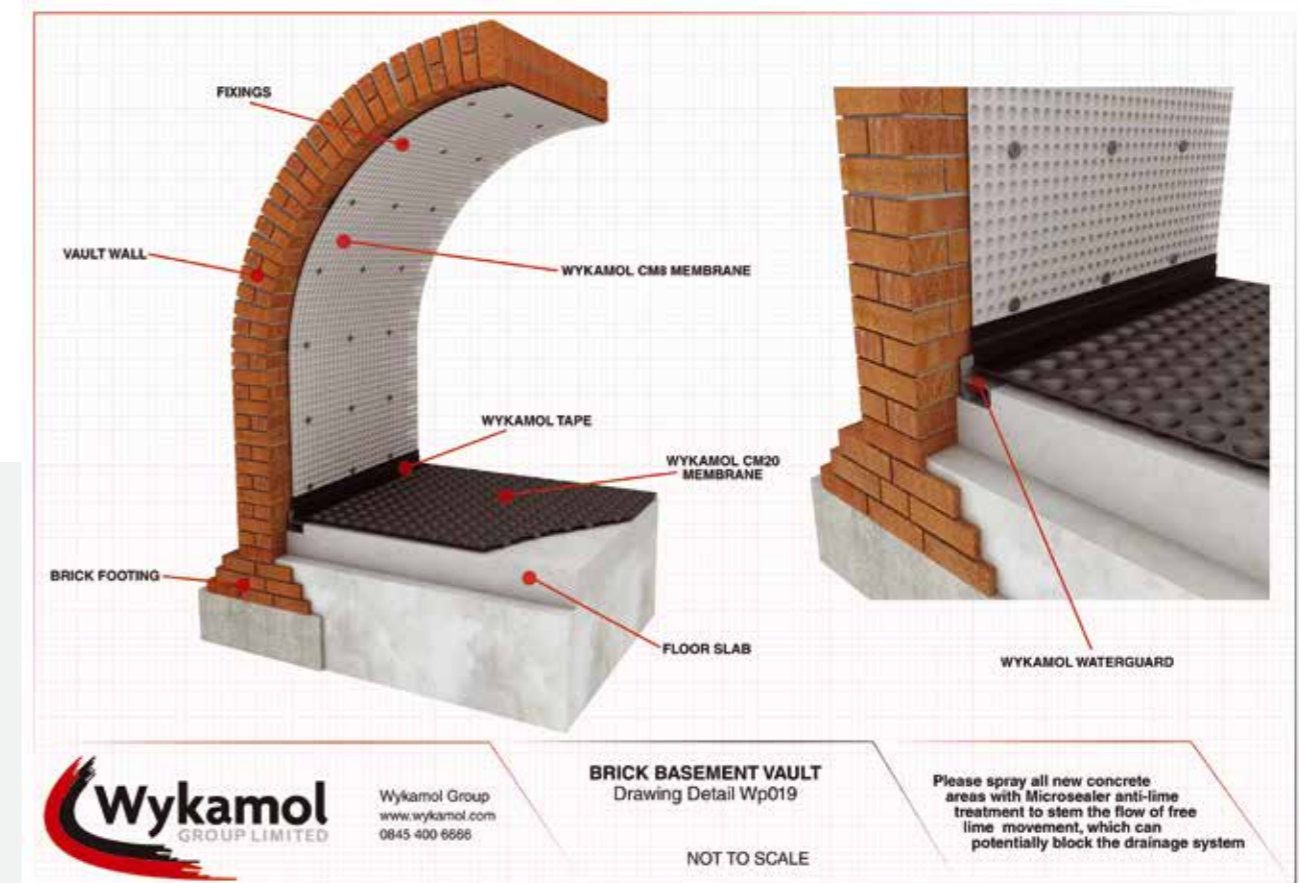


Uses

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



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-woven geotextile manufactured from UV stabilised, high tenacity, 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



Properties

Technical Data	Result	Test Standards
Material	HDPE and Geotextile fabric	N/A
Total Unit Weight	0.61 Kg/m ²	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

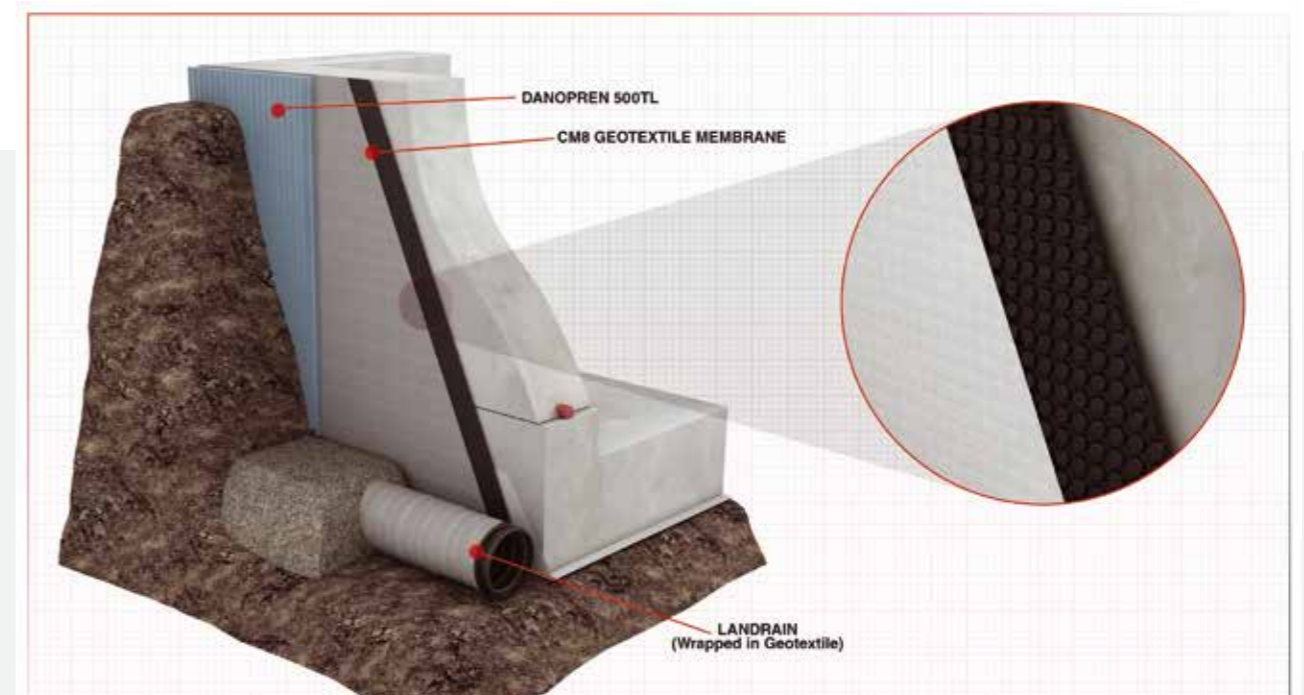
CBR Puncture Resistance	1.27 kN	EN ISO 12236
Tensile Strength (M)	8 kN/m	EN ISO 10319
Tensile Strength (CMD)	8.5 kN/m	EN ISO 10319
Tensile Elongation (MD)	50%	EN ISO 10319
Tensile Elongation (CMD)	60%	EN ISO 10319
Dynamic Perforation	35 mm	EN ISO 13433

Geotextile Hydraulic Properties

Pore Size (O90)	100 µm	EN ISO 12956
Permeability (H50)	79 l/m ² /s	EN ISO 11058

Geotextile Physical Properties

Mass per unit area	0.11 Kg/m ²	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.
- 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

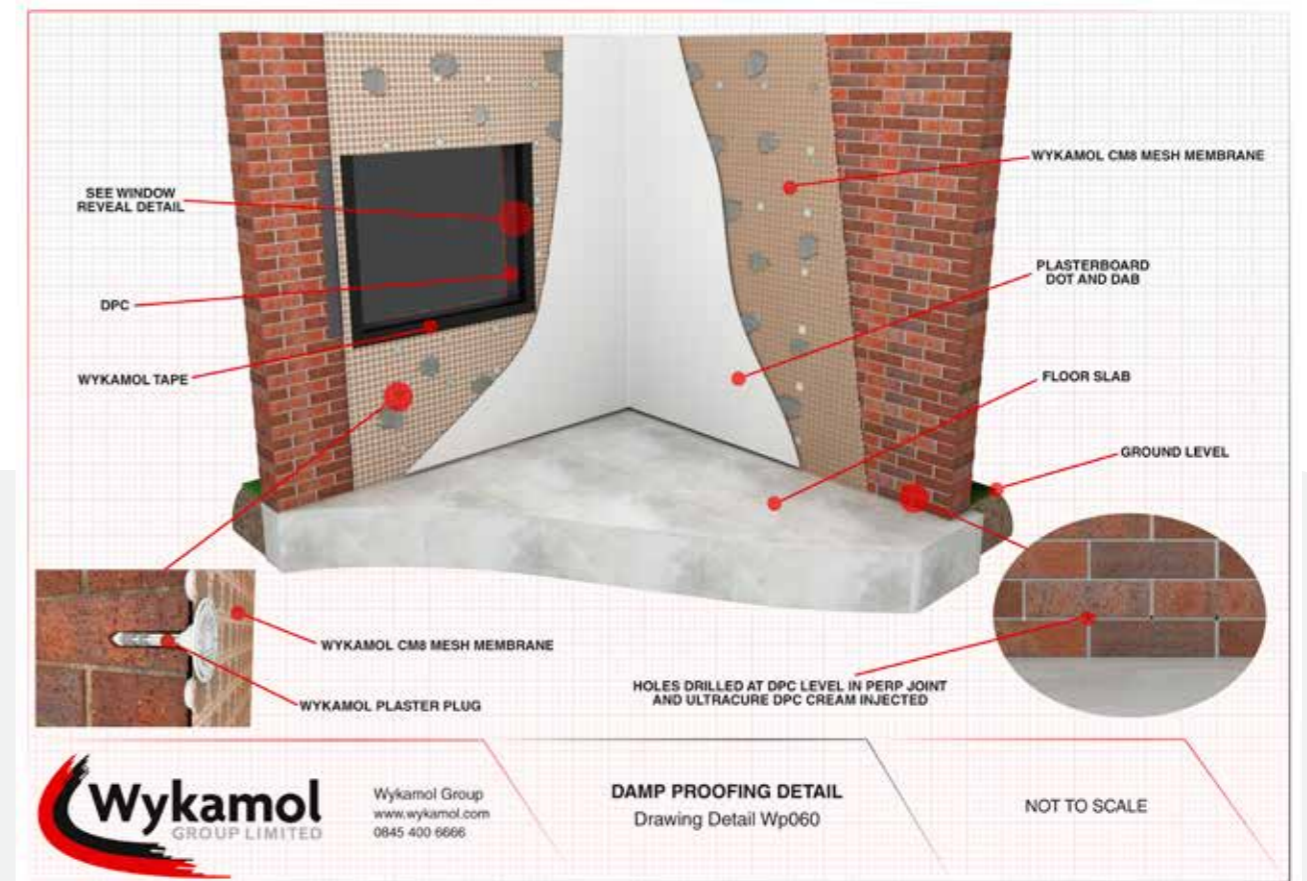
Pack Size: 2m x 10m,
2m x 20m

Coverage: 20m²
40m²



Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.505 Kg/m ²	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



DAMP PROOFING DETAIL
Drawing Detail Wp060

NOT TO SCALE

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

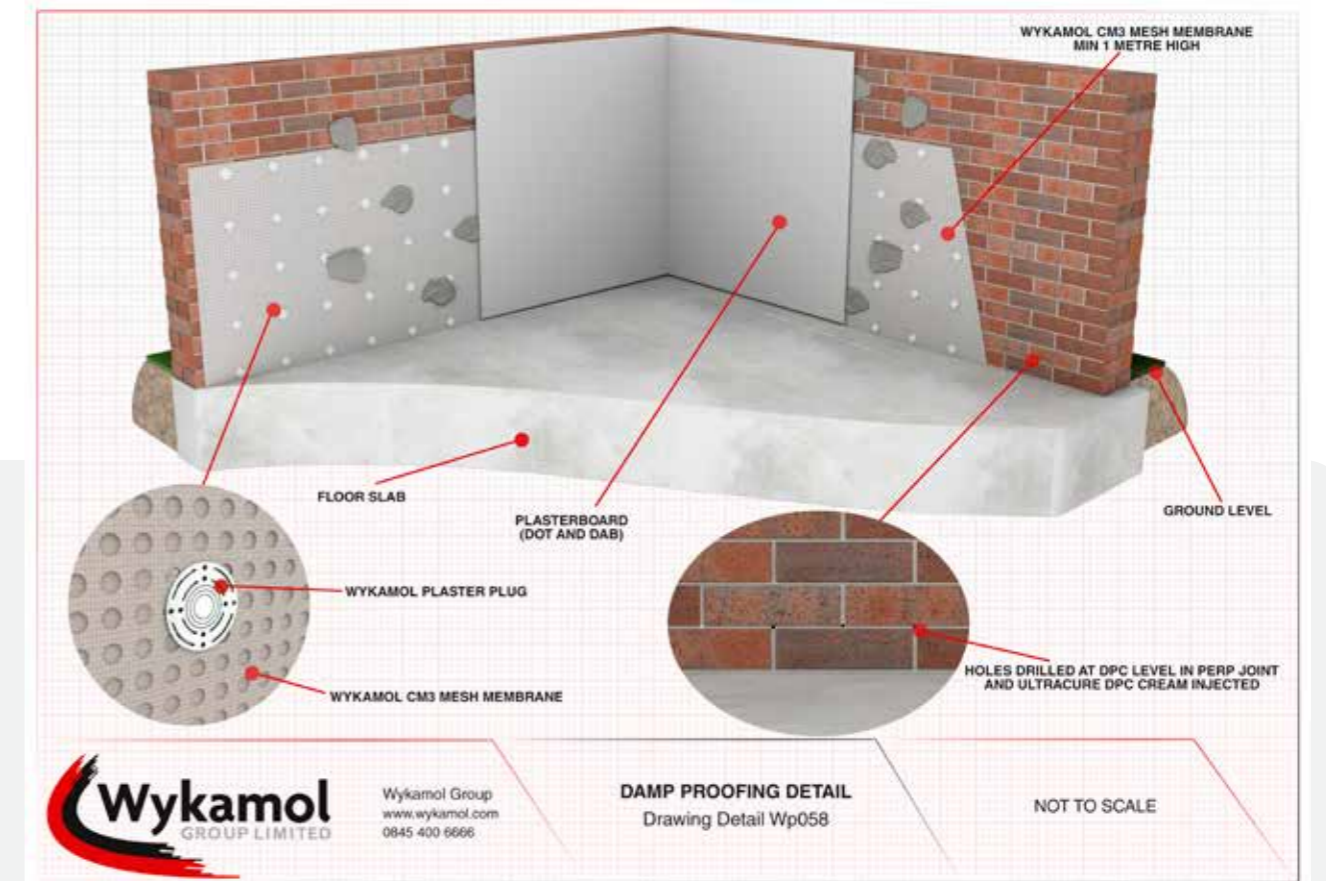
Pack Size: 1m x 10m
1m x 20m
1.2 x 20m
2m x 20m

Coverage: 10m²
20m²
24m²
40m²



Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.505 Kg/m ²	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



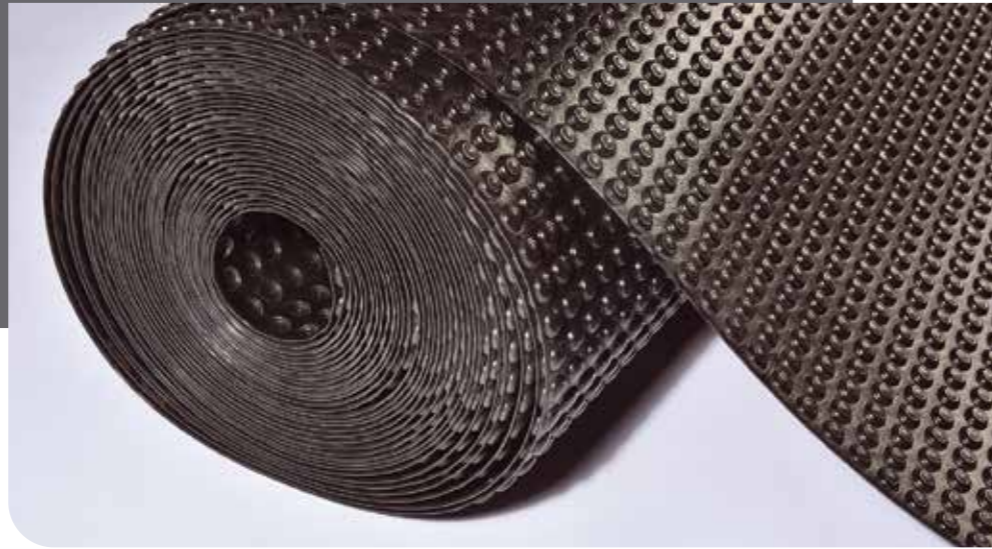
Wykamol Group
www.wykamol.com
0845 400 6666

DAMP PROOFING DETAIL
Drawing Detail Wp058

NOT TO SCALE

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.

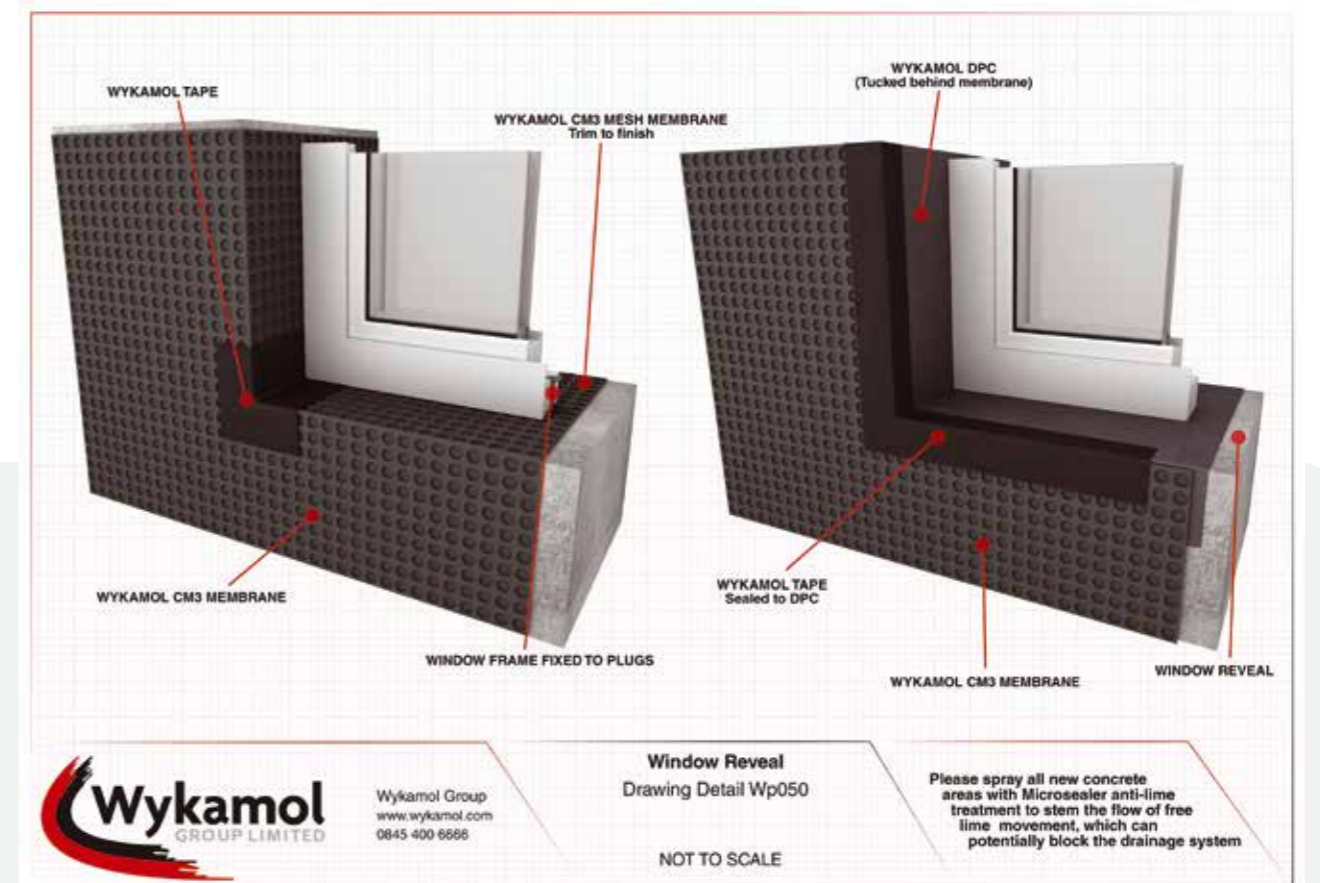
CM3 Cavity Drain Membrane is a 3mm studded membrane, suitable for Type C waterproofing or damp-proofing, and delivering a grade 3 environment to BS8102:2009 and NHBC Chapter 5.4.

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.

Properties

Technical Data	Result	Test Standards
Material	HDPE	N/A
Unit Weight	0.5 Kg/m ²	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
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



Wykamol
GROUP LIMITED
Wykamol Group
www.wykamol.com
0845 400 6666

Window Reveal
Drawing Detail Wp050

NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

Uses

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

Available Sizes

Pack Size: 2m x 20m

Coverage: 40m²



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 70mm 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 70mm 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

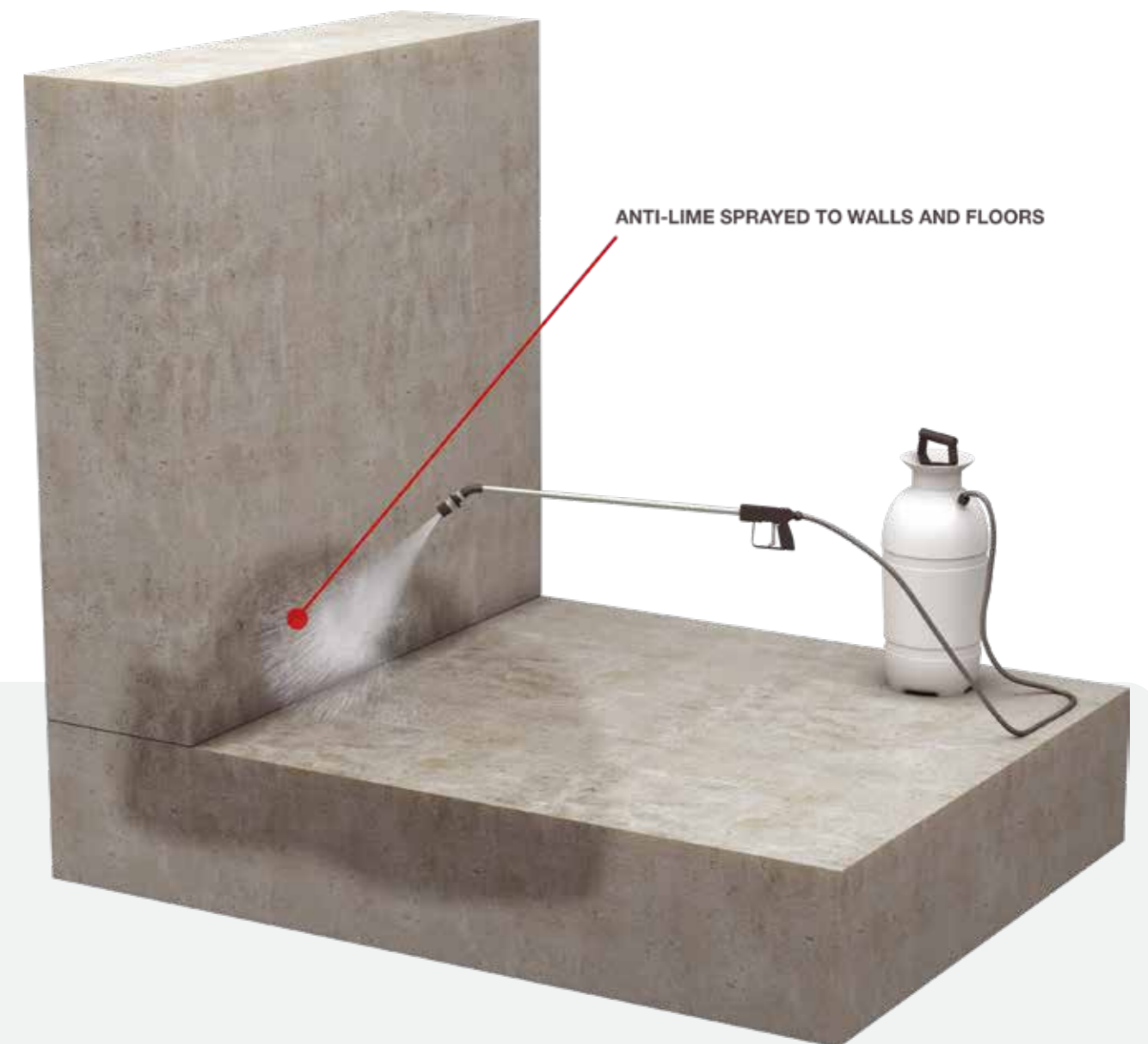
Available Sizes

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



ANTI-LIME SPRAYED TO WALLS AND FLOORS

DANOPREN 500TL

Thermal Insulation

Thermal insulation is manufactured from rigid extruded polystyrene (XPS) foam, free of CFC, HCFC and HFC compounds.



DANOPREN® 500 TL boards are produced in 50mm thickness and are used to form an insulated spacer adjacent to waterguard and floordrain drainage channels within the Wykamol BBA certified waterproofing system. The insulation boards have a high compressive resistance of 500kPa and feature a specially designed slotted profile underneath. This, in combination with the perimeter and cross floor drainage channels of the Wykamol Membrane System forms a fully draining supporting spacer below the floor membrane.

DANOPREN® 500 TL can also be used as a protection board for Wykamol external type A waterproofing systems. Applied externally, the board offers protection, insulation and drainage.

Advantages

- Does not absorb water, since DANOPREN® has a closed cell structure, long-term water absorption is negligible. This allows the insulation and its benefits to remain stable over time.
- Breathable, reduces the risk of interstitial condensation forming as DANOPREN® boards are breathable.
- High compression resistance, DANOPREN® 500 boards resist point loads up to 500 kPa.

Advantages (Cont.)

- Lasting performance, extensive testing demonstrates consistent performance during the lifespan of the board.
- Quick and simple installation, DANOPREN® boards are light and easy to cut without the need for specialist tools. The interlocking sides of the board facilitate an easy installation and reduce the risks of thermal bridging.
- Internationally certified, independently tested and certified by leading bodies such as AENOR and ACERMI Environmental credentials independently verified with a full EPD.
- 100% Recyclable, DANOPREN® can be recycled at end of use.

Installation

- Ensure that the surfaces are clean, dry, without large projections steps or gaps.
- Insulation boards may either be mechanically fastened, adhered to loose laid and should be interlocked with corresponding ship-lapped edges.
- Boards should be laid in a staggered brick-like pattern with joints lightly butted. There should be no gaps at abutments.
- In multi-layer applications, the same principals apply but board joints should be offset from the underlying layers to reduce the risk of thermal bridging.

TECHNICAL CHARACTERISTICS	STANDARD	AVERAGE DATA	UNITS
Thickness Tolerance	EN 823	50 ±2	mm
Length Tolerance	EN 822	1250 ± 8	mm
Width Tolerance	EN 822	600 ± 8	mm
Flatness	EN 825	6	mm/m
Squareness	EN 824	5	mm/m
Thermal Conductivity (50mm)	EN 12667	0.034	W/mK
Compressive Strength	EN 826	≥ 500	kPa
Compressive Creep - Max. 2% Deflection (50 YEARS)	EN 1606	≥ 150	kPa
Long-Term Water Absorption by Total Immersion	EN 12087	≤ 0.7	vol. %
Long-Term Water Absorption by Diffusion	EN 12088	≤ 3	vol. %
Water Absorption by Freeze-Thaw Cycling	EN 12091	≤ 1	vol. %
Water Vapour Diffusion Resistance Factor	EN 12086	≥ 80	-
Dimensional Stability	EN 1604	≤ 5 %	-
Reaction to Fire	EN 13501-01	EUROCLASS E	-
Coefficient of Linear Thermal Expansion	-	0.07	mm/m·K
Working Temperature Range	-	-50 TO +75	°C
Specific Heat Capacity	-	1.450	J/kg·K
Nominal Density	EN 1602	38	kg/m ³



Uses

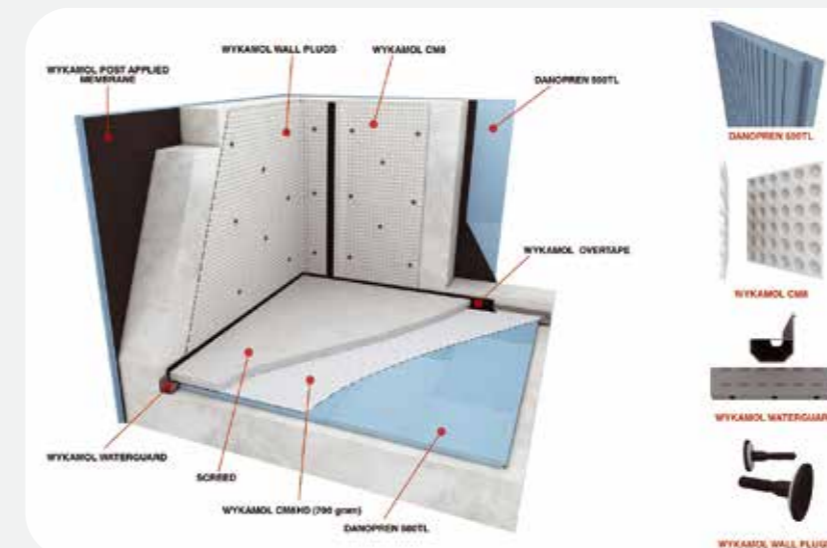
Fast track flooring system when a structural slab is in place

Protection board for external uses

Available Sizes

Pack Size: 1.250m x 600mm

Pack Qty: 6m² per pack (minimum)



Environmental Information

An Environmental Product Declaration (EPD) is an independently verified assessment of the environmental impact of a product. This quantified assessment allows a full life-cycle environmental impact of the product to be considered, all in accordance with the international standard EN ISO 14025. EPDs therefore provide objective, transparent, comparable sets of data, right through from raw material extraction, manufacturing to end use.

DRAINAGE 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.



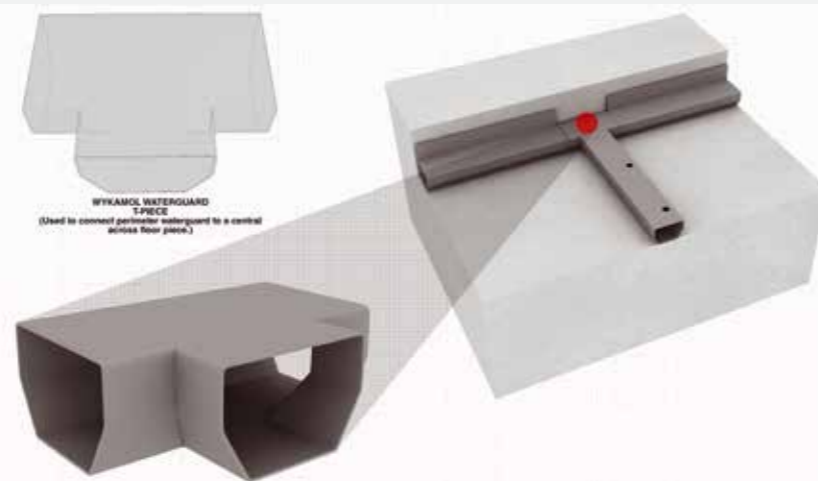
DRAINAGE Channelling

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 overseal 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 .



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 continuously for 30mins (303 pump) or 60mins (301 pump), based on a 3.5m head.



PowerFlo

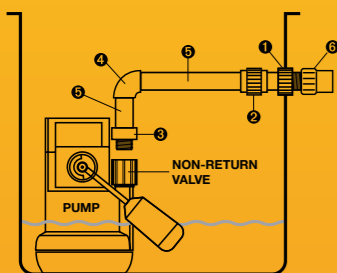
The battery back-up system is designed especially for where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system comprises of a control panel, 24V back-up pump, 3 no. float switches and a non-return valve. and is wall mounted the 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.

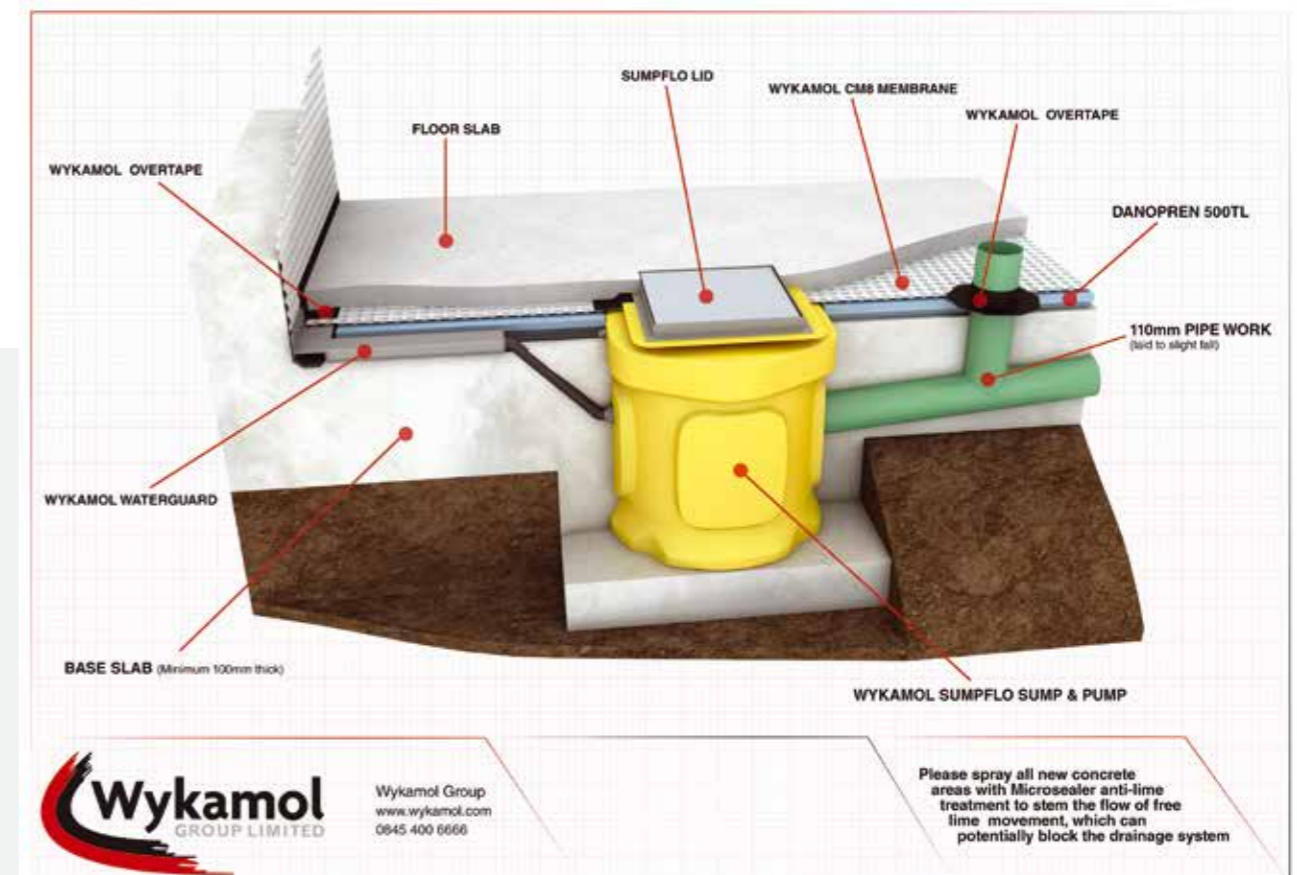
Available Sizes

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



Wykamol Group
www.wykamol.com
0845 400 6666

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

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.

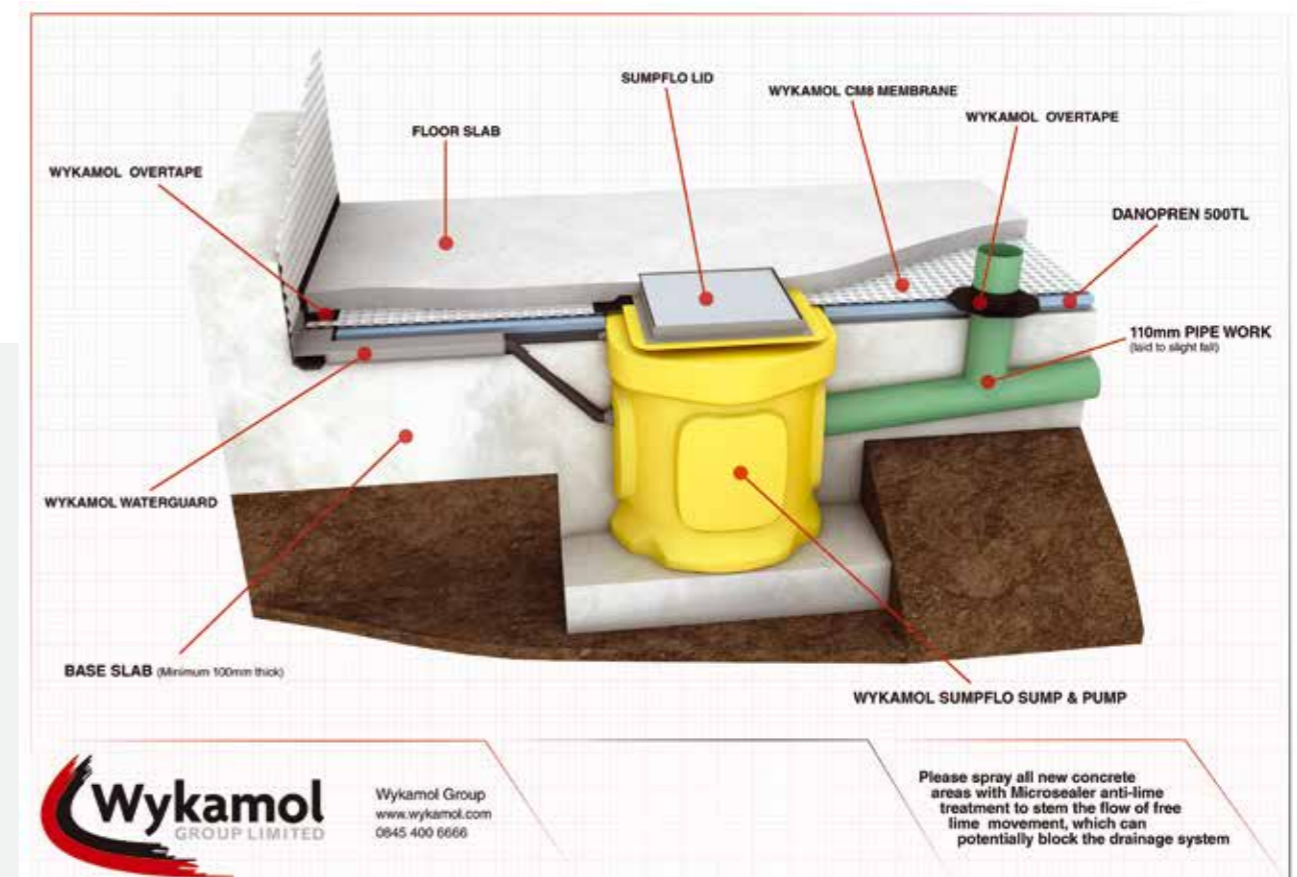
Available Sizes

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



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.

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)

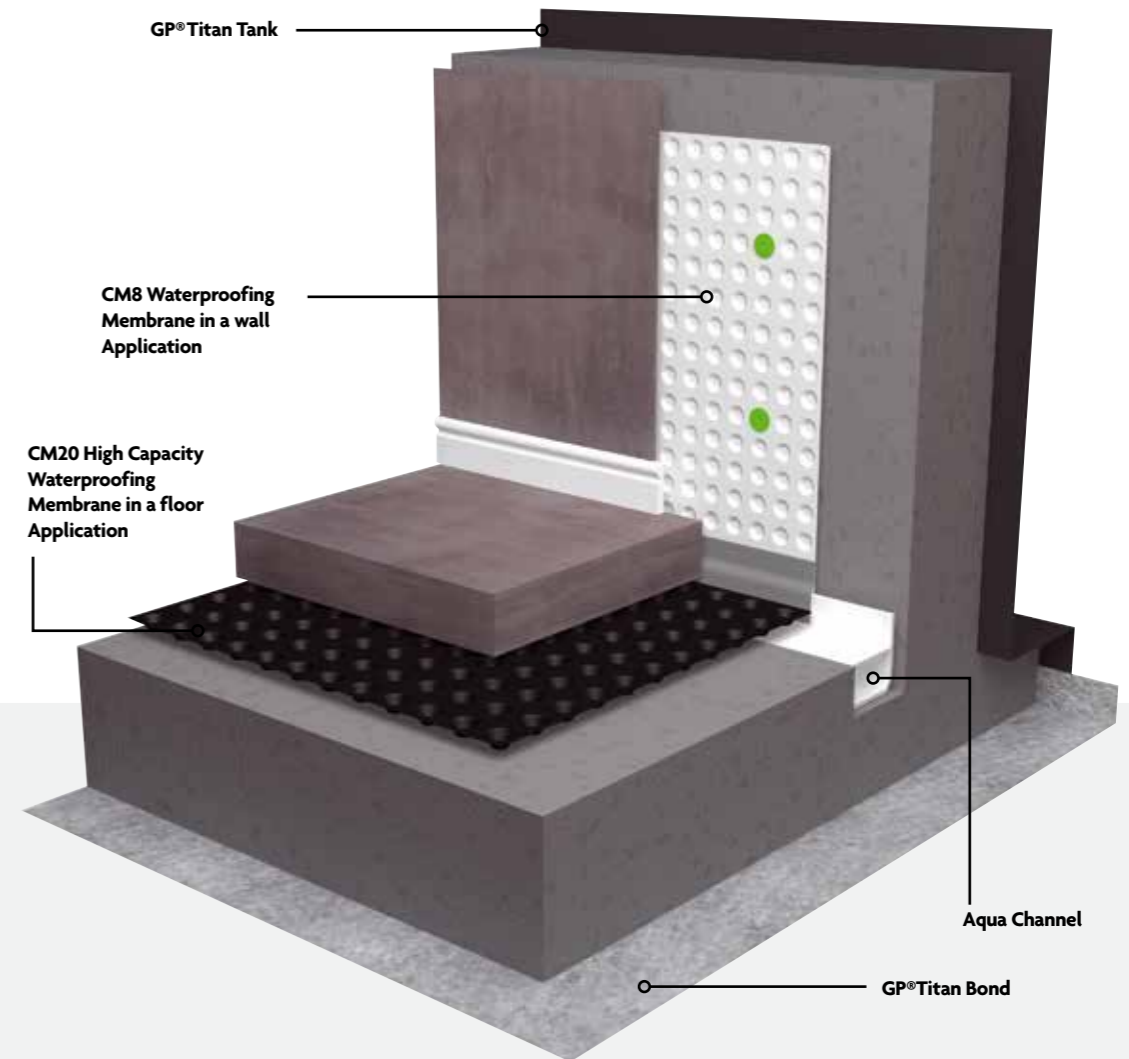


Diagram shows a 'Type A' waterproofing and Gas proofing application along with a 'Type C' maintainable system conforming to NHBC Chapter 5.4 and BS8102

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



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



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)

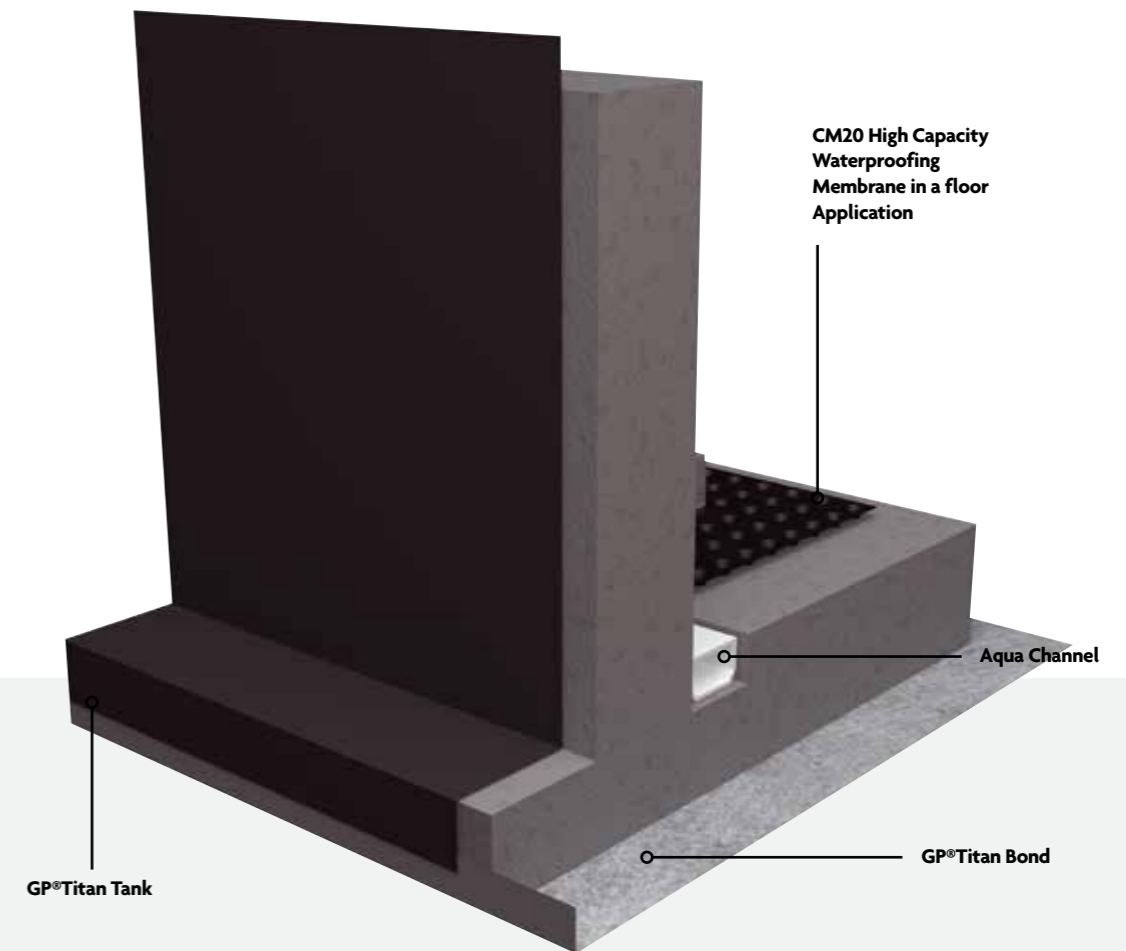


Diagram shows a 'Type A' waterproofing and Gas proofing application along with a 'Type C' maintainable system conforming to NHBC Chapter 5.4 and BS8102

GP®TITAN FLEX

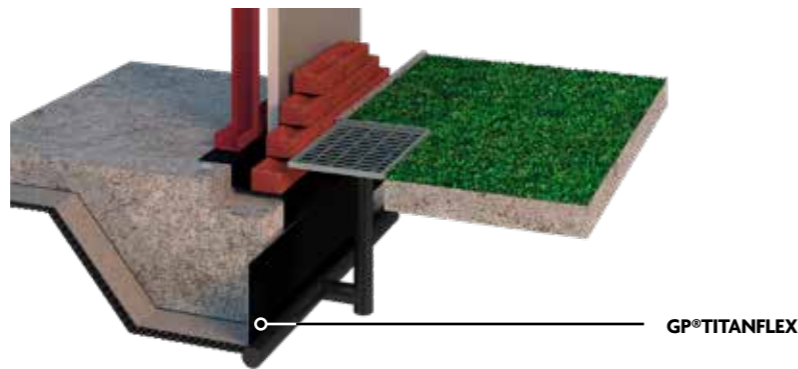
Post-applied membrane



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

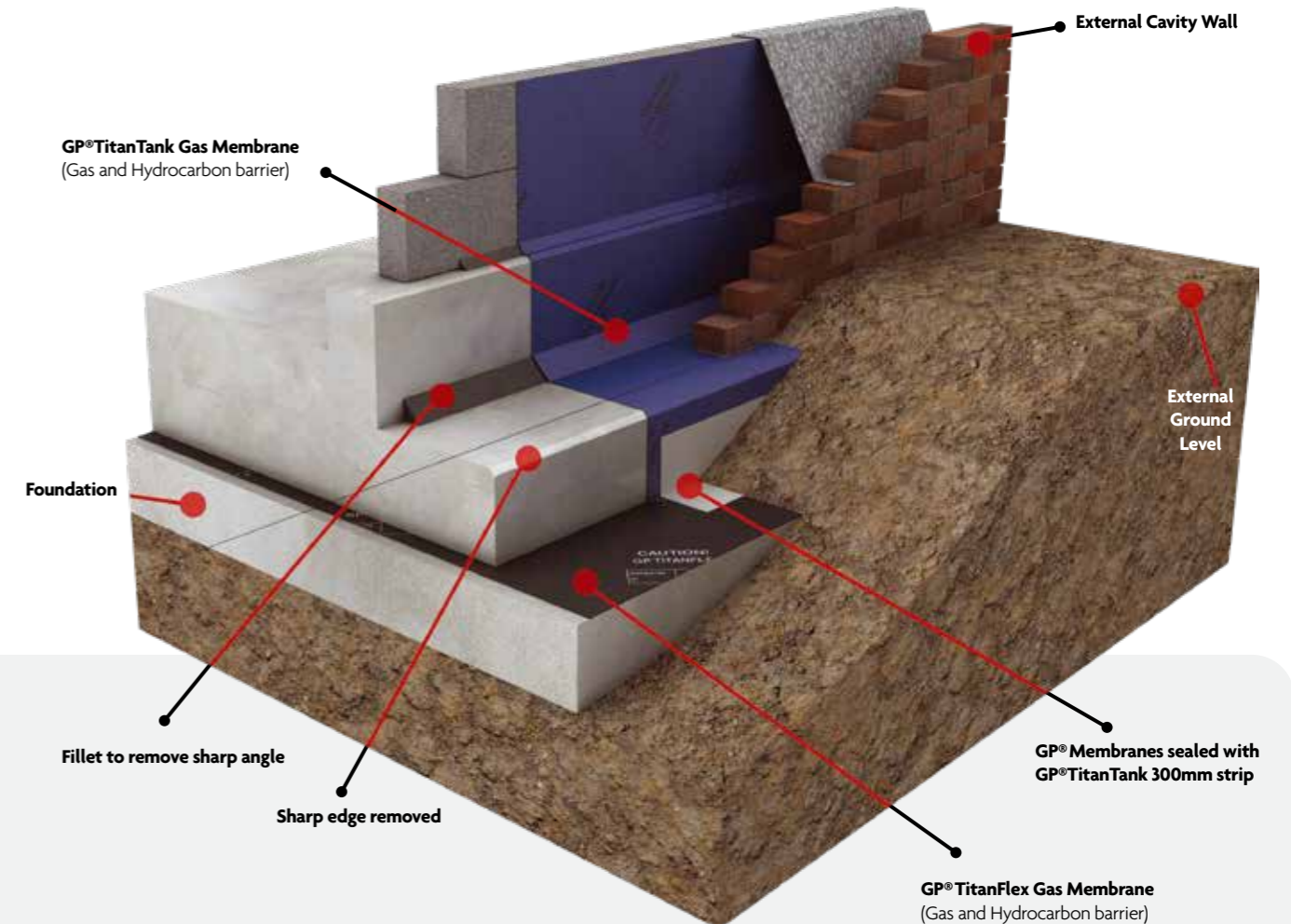
Associated Products

GP Tape 50mm x 15m



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



GP®TITAN GAS PAINT Post-applied Paint

GP®TITAN 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.



JUTA GP® - LIQUID GAS BARRIER is a ready for use specialist styrene butadiene latex based liquid applied membrane. It offers a simple continuous passive gas prevention barrier against the ingress of Methane, Carbon Dioxide, Radon, Ground Gas, voc and air moisture into buildings.

LIQUID GAS BARRIER also acts as a waterproofing membrane complying with the requirement C2 and C4 schedule 1 of the Building Regulations 1991 for England and Wales and BS8102:2009 (Type A waterproofing membrane).

JUTA GP - LIQUID GAS BARRIER complies with the latest codes of practice as published by BRill, CIRIA and BSI (BS 8485:2015). Suitable for use as gas protection for NHBC GREEN, AMBER 1 and AMBER 2 site characterisations.

Handeling

Material is supplied in tubs of 5kg or 15kg weight. Appropriate care must be taken with handling. Clean tools with water immediately after use.

Storage

Store tub in conditions between 5°C and 30°C; Shelf life 12 months unopened.

Properties

Juta GP® LIQUID GAS BARRIER can be used to protect most building surfaces from 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

JUTA GP® LIQUID GAS BARRIER may be applied by brush, roller or airless spray. A minimum dry coated thickness of 1.0mm is needed to provide a gas barrier. To achieve 1.0mm thickness, a total of 2kg/m² is required, therefore a 15kg tub will cover an area of 7.5m², and a 5kg tub will cover an area of 2.5m².

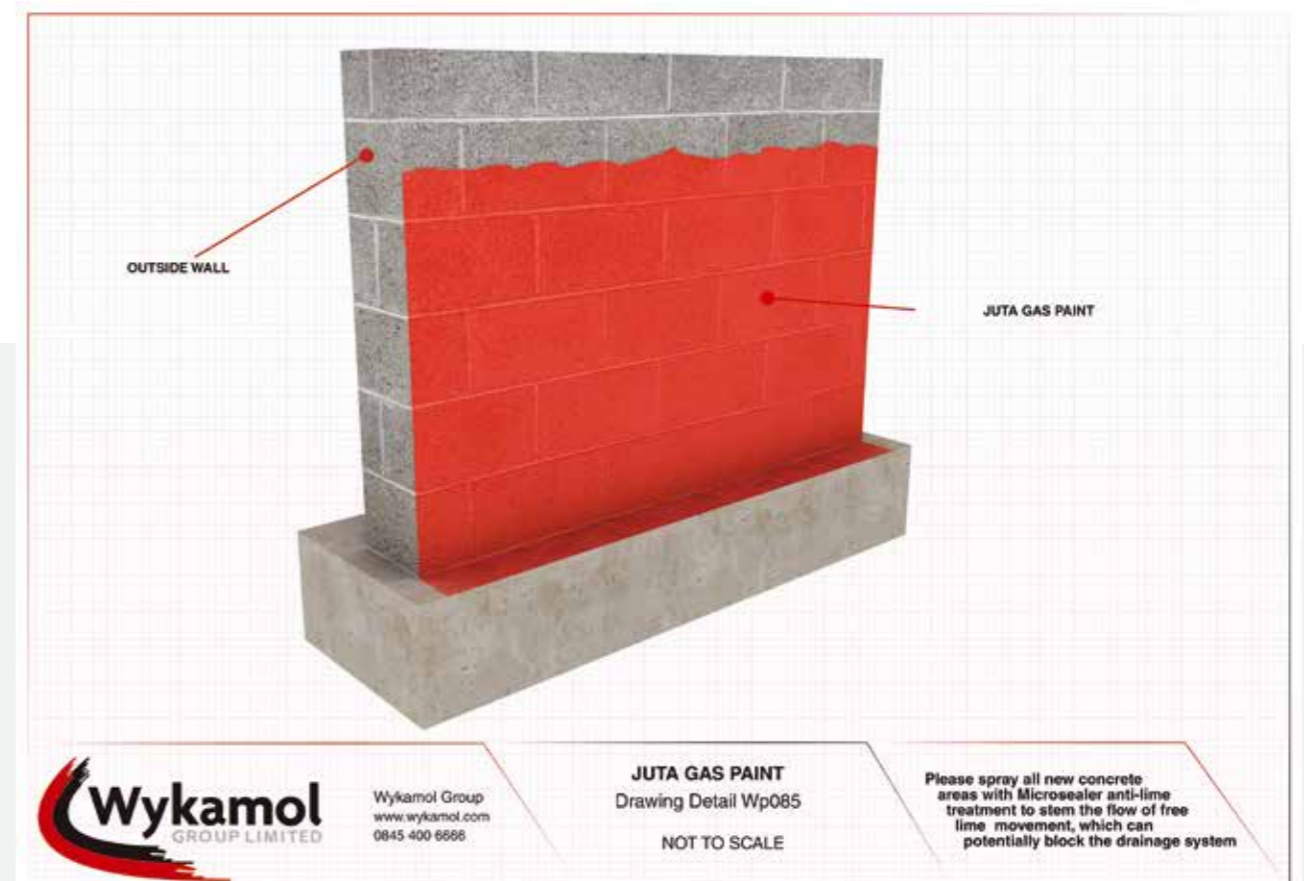
Application

The background surface should be smooth or have a light even texture, and masonry should be flush pointed and defects in the surfaces made good prior to application. The surface should be clean, sound and free of dust, loose material or free surface water. The LIQUID GAS BARRIER should not be applied in wet conditions or where inclement weather is expected before the membrane has dried. The membrane should not be applied in temperatures below 5°C.

Where multiple coats are applied, it is recommended that the coats are applied at right angles to each other. Before application of secondary coats it is necessary to let the first coat become touch dry.

The time required to reach touch dry condition will vary dependant on site conditions within the working area, but will typically be in the order of 1-2 hours in favourable conditions. It is preferable that secondary coats are applied within 24 hours.

For HYDROSTATIC applications - the use of Hydradry Tanking mortar should be used prior to the application of Liquid Gas Barrier.



Wykamol
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JUTA GAS PAINT
Drawing Detail Wp085
NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

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 poked concrete be poured to sandwich the waterproofing system onto the substrate.)

External Type A Barrier Waterproofing
(Project Dependent)

Internal TYPE A
Barrier Waterproofing
(Project Dependent)



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.

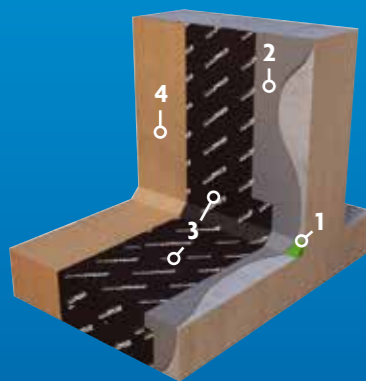
SureProof should be laid in accordance with the provisions of BS 8102:2009. Where **SureProof** is being used as a floor DPM there should be continuity with the wall DPC's and other DPM's used in the structure. If methane presence is suspected, a comprehensive site survey needs to be carried out and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

SureProof Schematic

- 1 Fillet Seal
- 2 SurePrime MT
- 3 SureProof
- 4 Protection Board



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

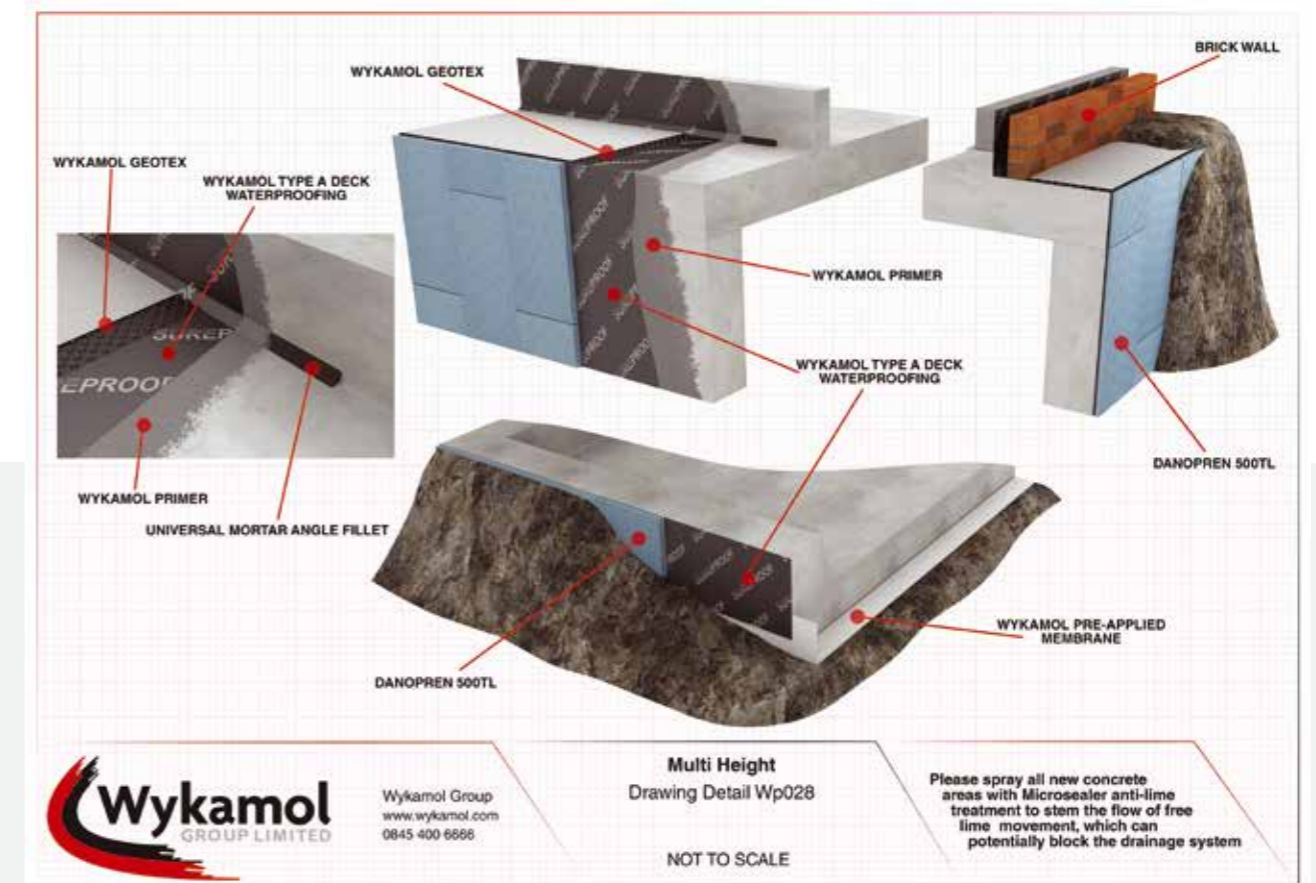
Sureproof 1m x 20m (20m²)

Sureproof primer 5 litre (20m²)



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/m ²)	0.09
Water Vapour Transmission (Resistance factor, μ) (EN 1931)	μ	220000



HYDRA DRY Tanking Slurry

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



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.

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



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.

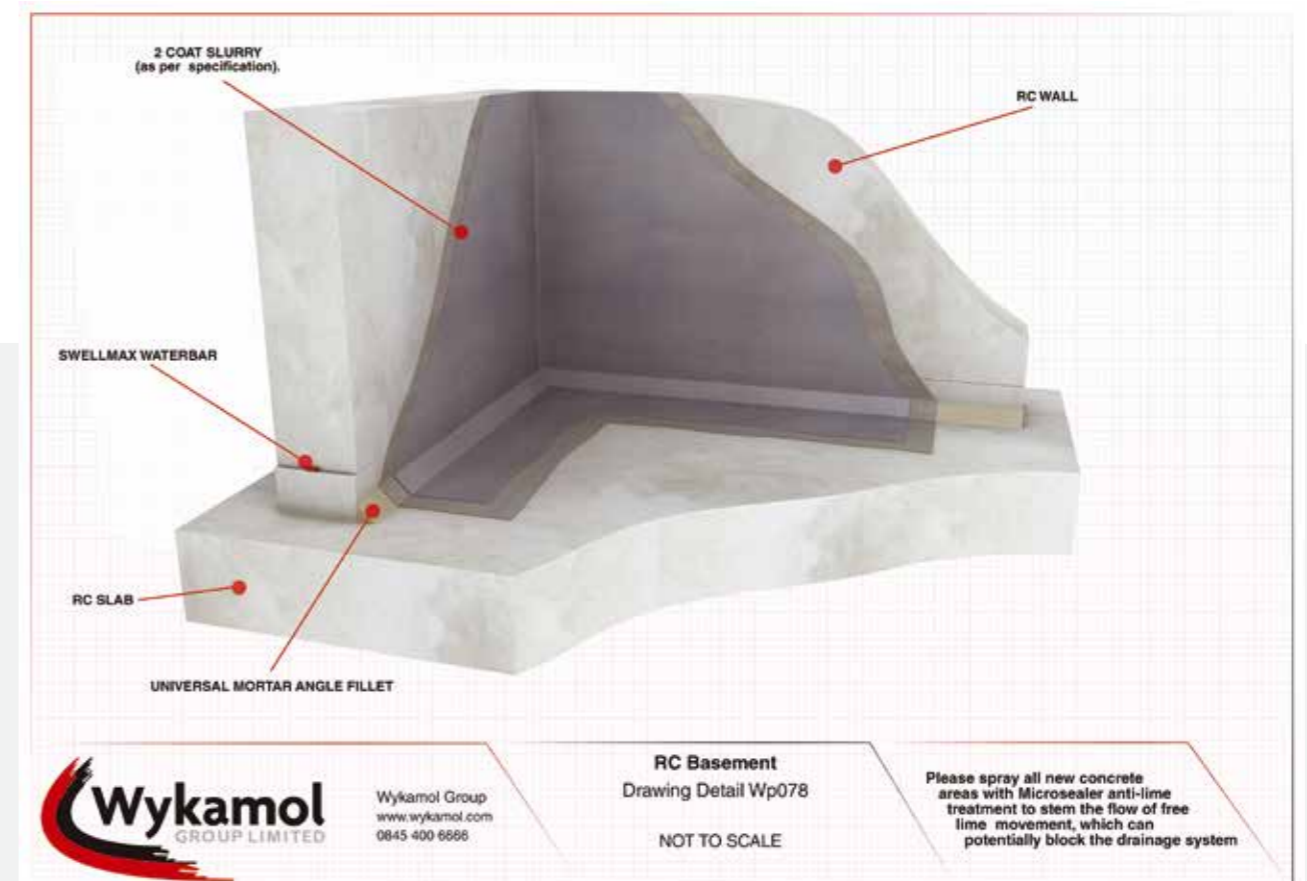
Floors: Special precautions may be necessary to ensure a continuous waterproof barrier at the wall to floor joints and corner joints to avoid sharp changes of angle in the tanking membrane. The joints should be thoroughly raked out, cleaned and wetted prior to application of Wykamol's Universal Mortar.

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.



UNIVERSAL MORTAR

Mortar and Fillet seal



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



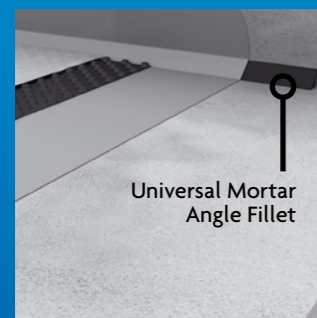
The product cures to produce a high performance, Universal Mortar, Multi-purpose, fibre reinforced, fair faced levelling coat, render and profiling mortar, with enhanced waterproofing properties.

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 consistent quality.



Universal Mortar Angle Fillet



Universal Mortar Angle Fillet

Uses

Waterproofing and protection against water and moisture. Mortar for waterproofing, 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

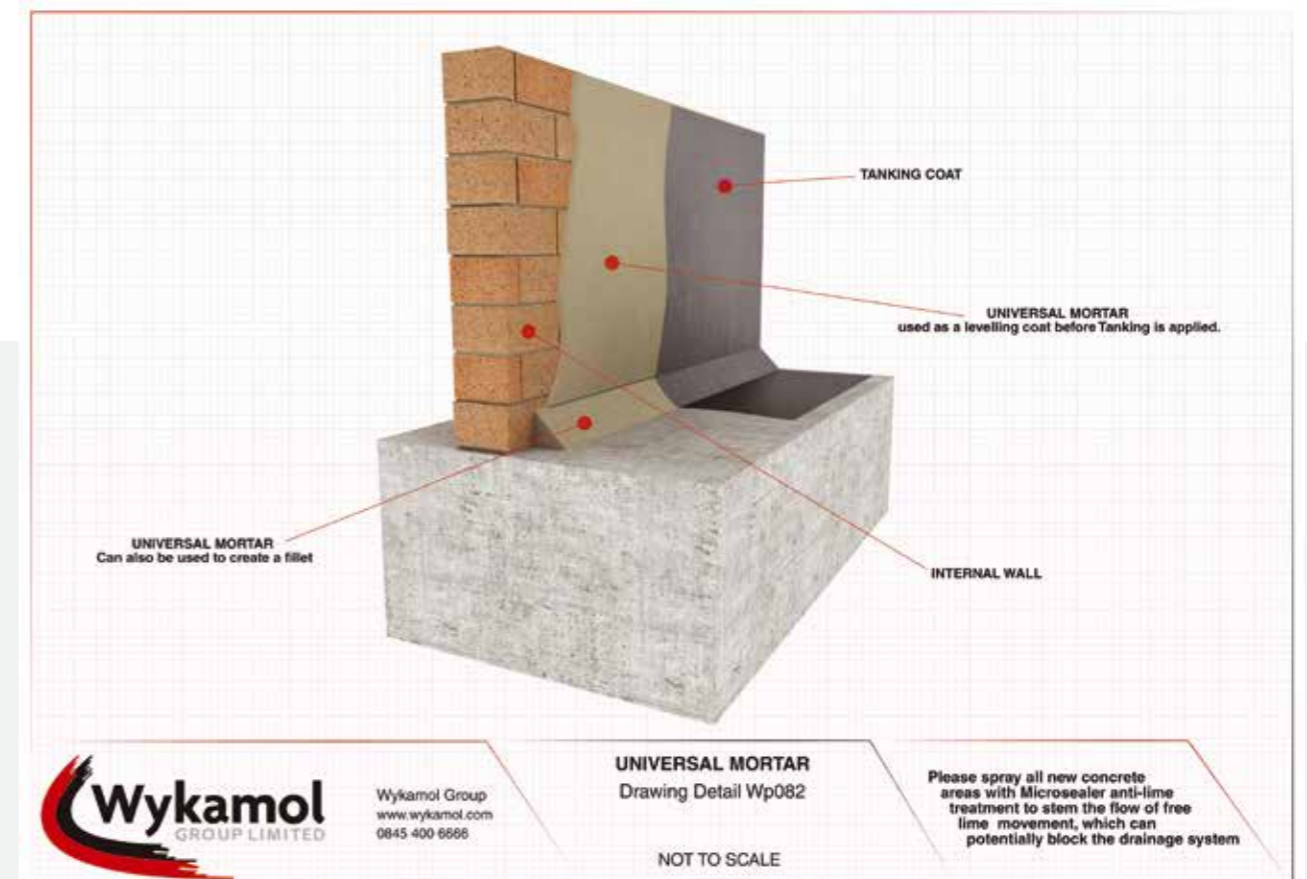
Universal Mortar is best applied by a gloved hand, trowel or suitable spray equipment, when using spray equipment use traditional wet mortar and processes.

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

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.



Wykamol Group
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0845 400 6666

UNIVERSAL MORTAR
Drawing Detail Wp082

NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

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

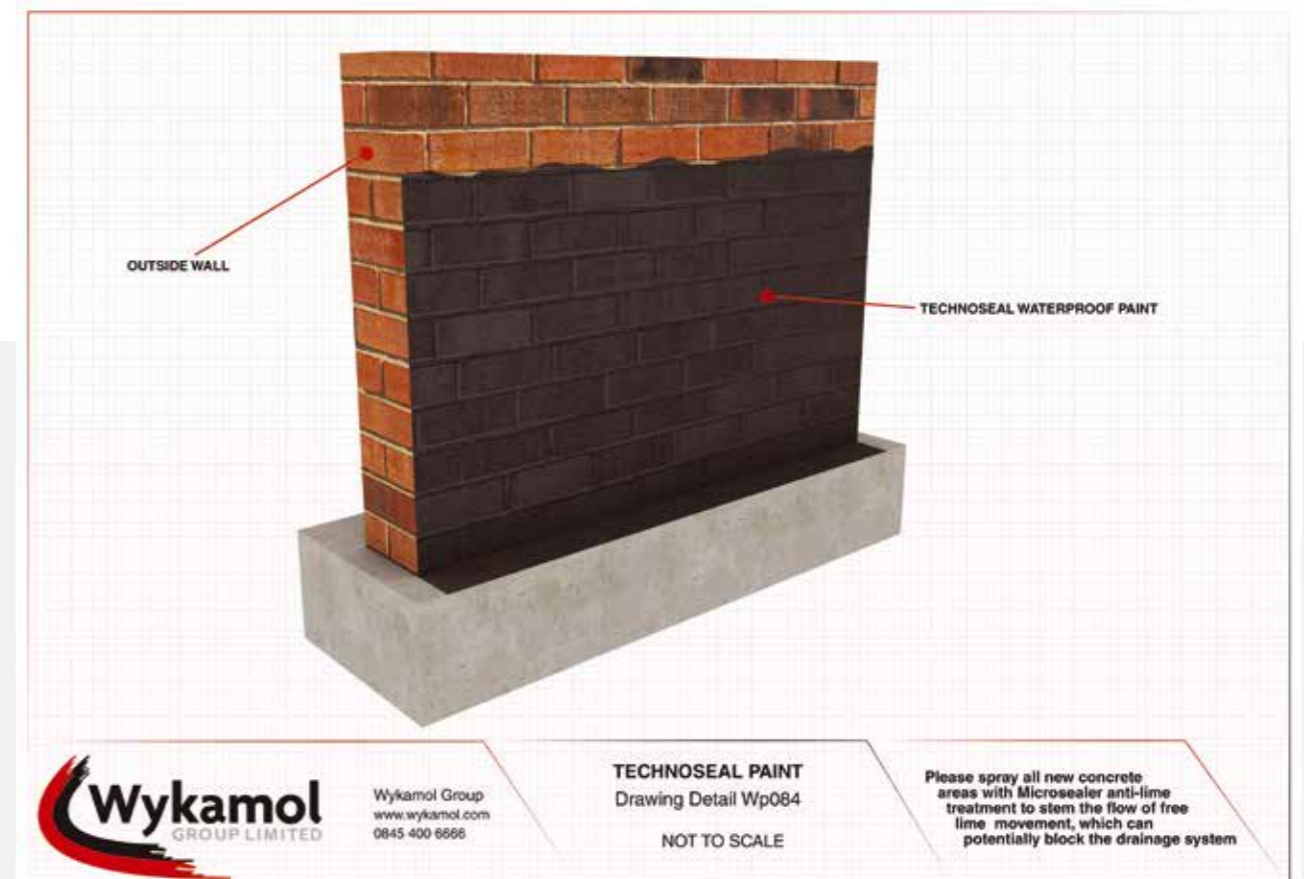
In a sealed container between +5 °C and +35 °C and protected from frost and direct sunlight.

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.



WATER PROOFING

TYPE B

Structures will generally be reinforced or prestressed concrete.

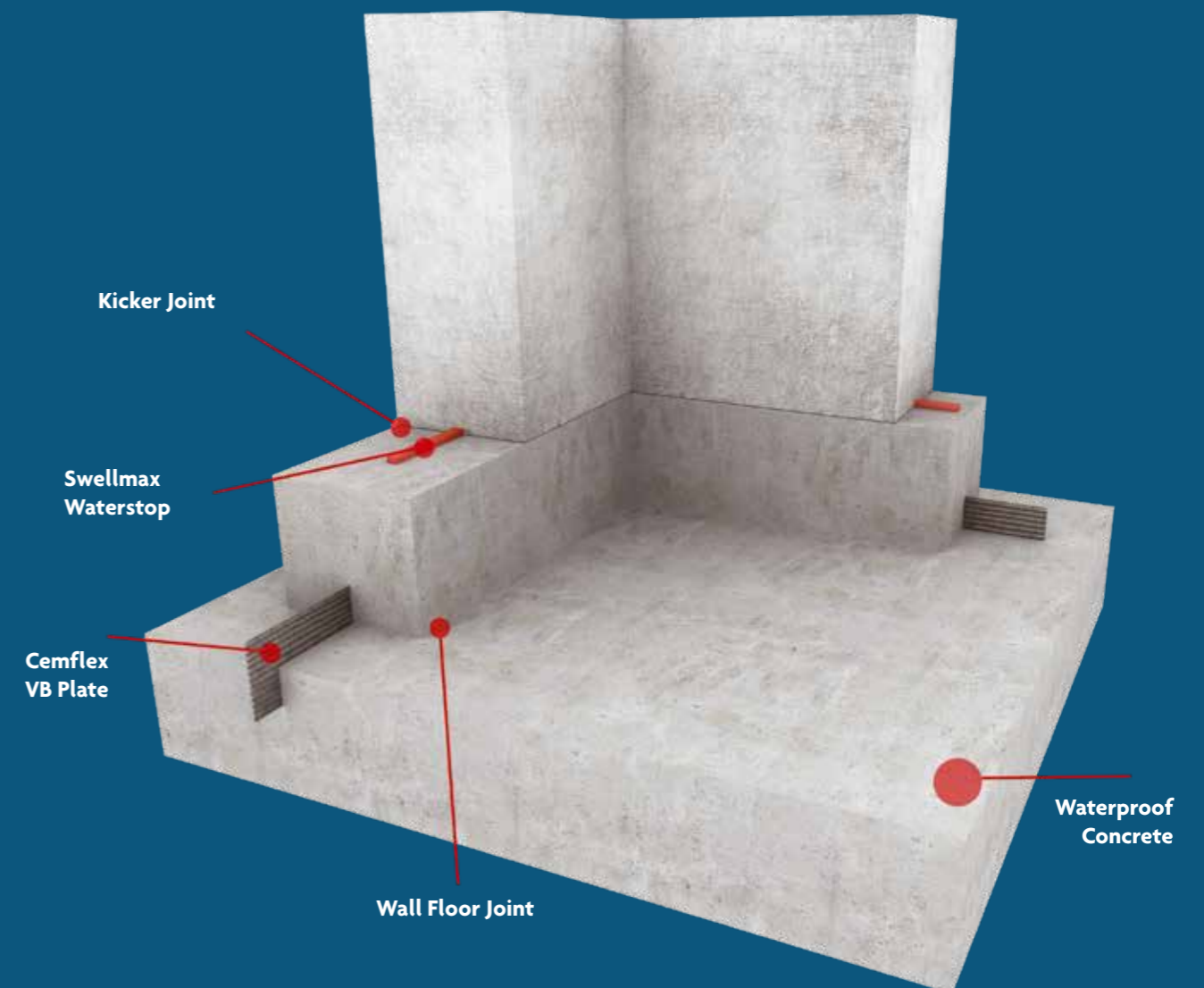
Type B Waterproofing as defined in BS 8102: (2009) Type B (structurally integral) protection as defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) where the structure itself is constructed as an integral water resistant shell. Invariably 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.

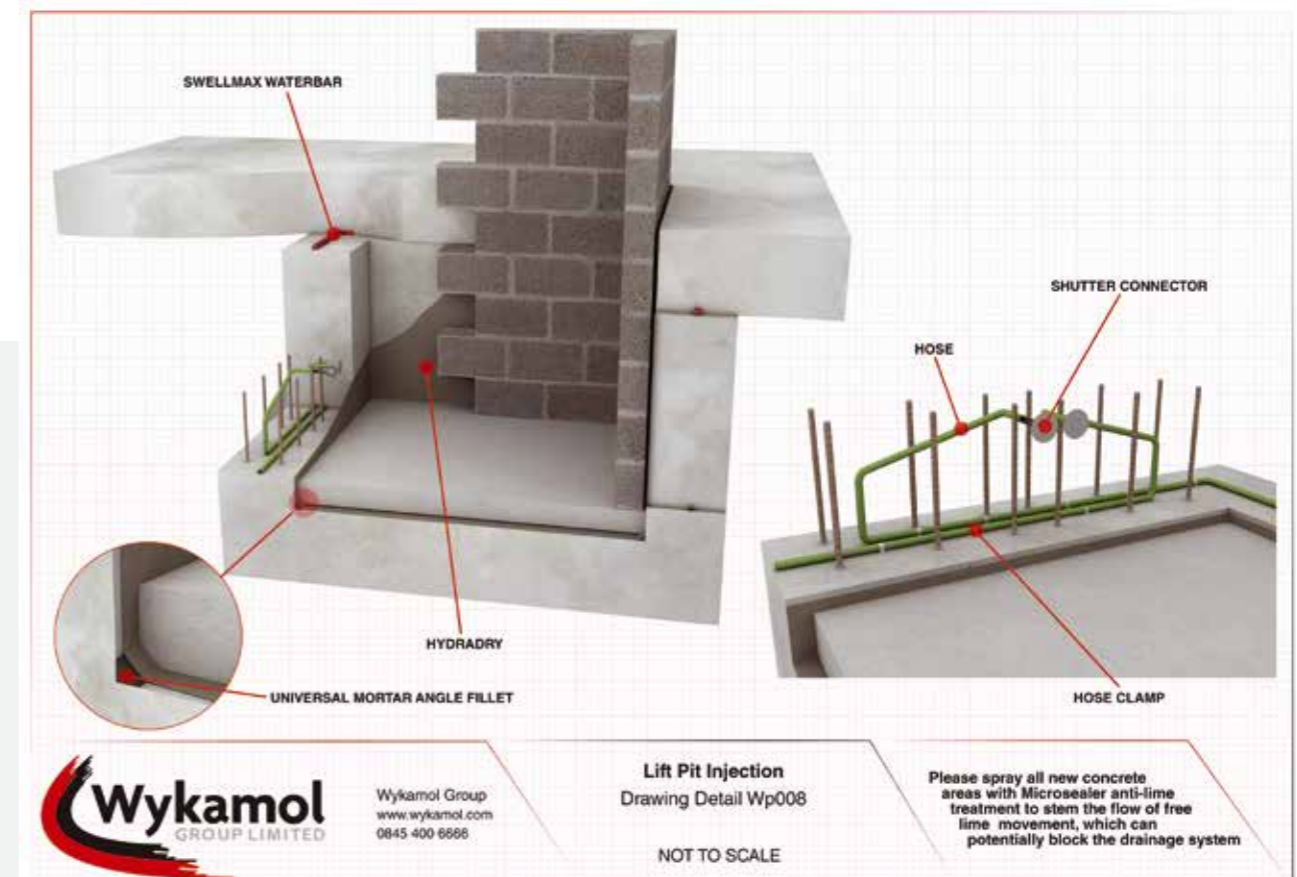
Note: The above method must be closely adhered to and only operatives that are fully trained and familiar with the injection equipment should be installing this product. For help and advice please contact the Wykamol Technical Department.

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.



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Lift Pit Injection
Drawing Detail Wp008

NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system



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.

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

Crack Injections

Restoration of Aesthetics

If cracks are only minor defects, they are simply repaired to restore the aesthetics of the building Carbo Crack

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

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.

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. CarboEpoxy, 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.

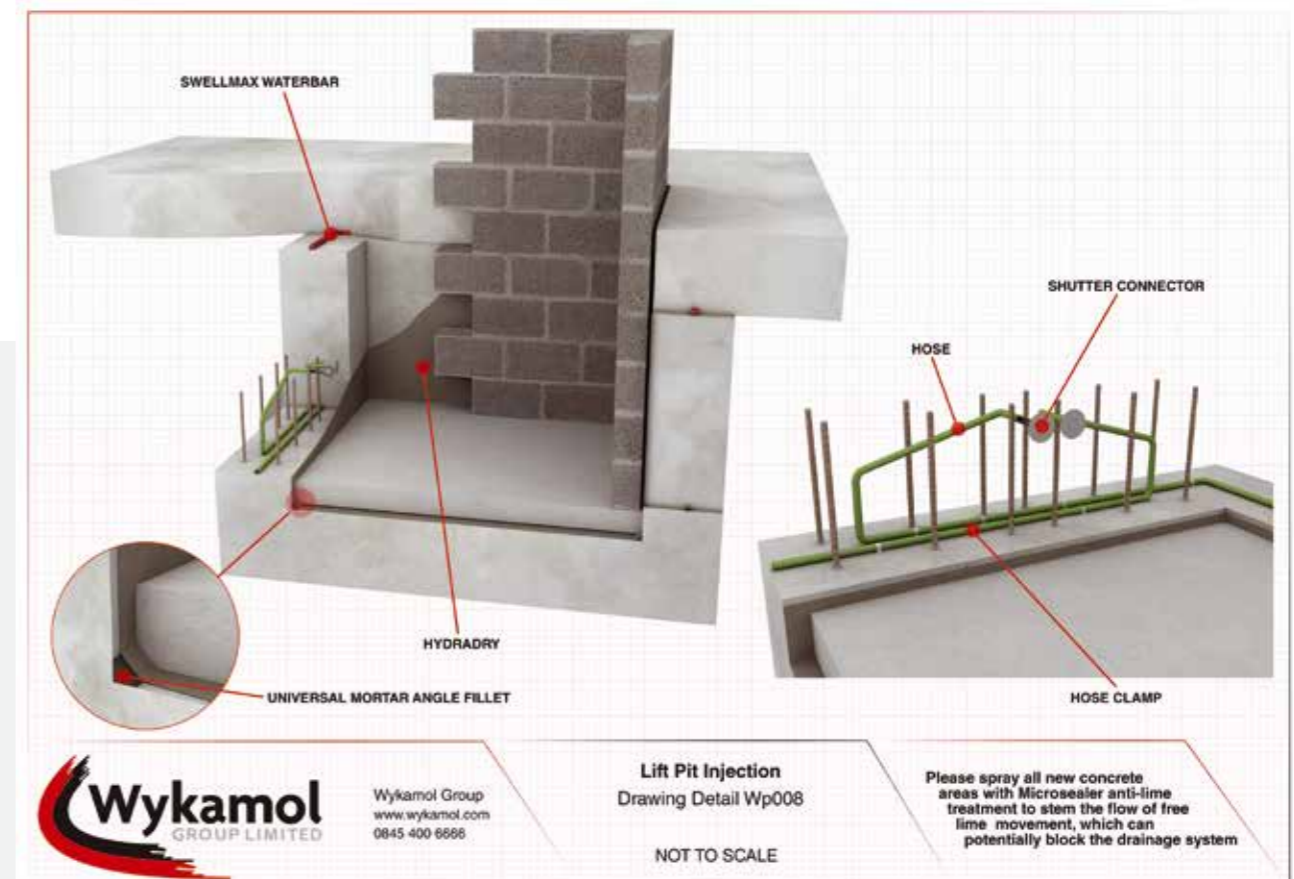
The resin penetrates through the perforation of the tube and fills the cracks and voids of the cold joint area thereby sealing the structure. The resin remains elastic during its life and will not dry and crack.

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.



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Lift Pit Injection
Drawing Detail Wp008

NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

WATER BARS

Joint Sealing



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

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.

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.



Technical Data

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

Technical Data

Colour	Grey
Shore A	38
Elongation at Break	490/770%
Tensile Strength	1.1 / 2.1 MPa
Specific Weight	1.25g/cm ³ = 1.25
Volume of Swelling	Approximately 400%
Service Temperature	- 30°C to + 70°C
Resistance	Up to 5 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.

Uses

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

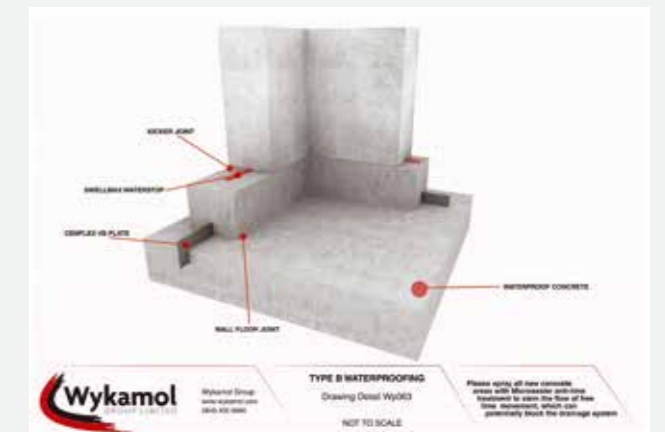
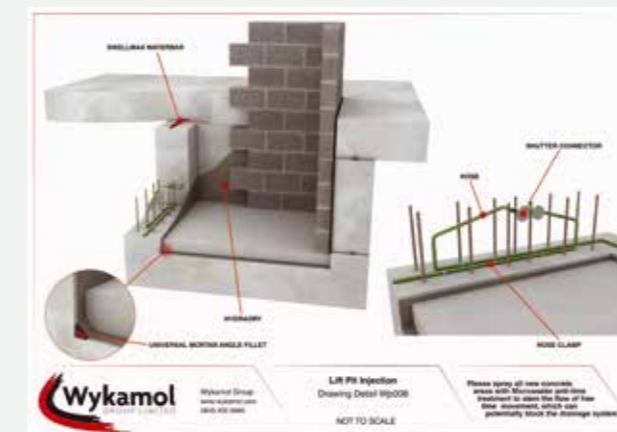
Shield-driven tunnels such as subways, water supply and sewage systems, tunnels, cable lying etc.

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



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 seepage in concrete and masonry.

Water Stop is designed to expand as it sets to ensure a permanent water tight seal is achieved 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:

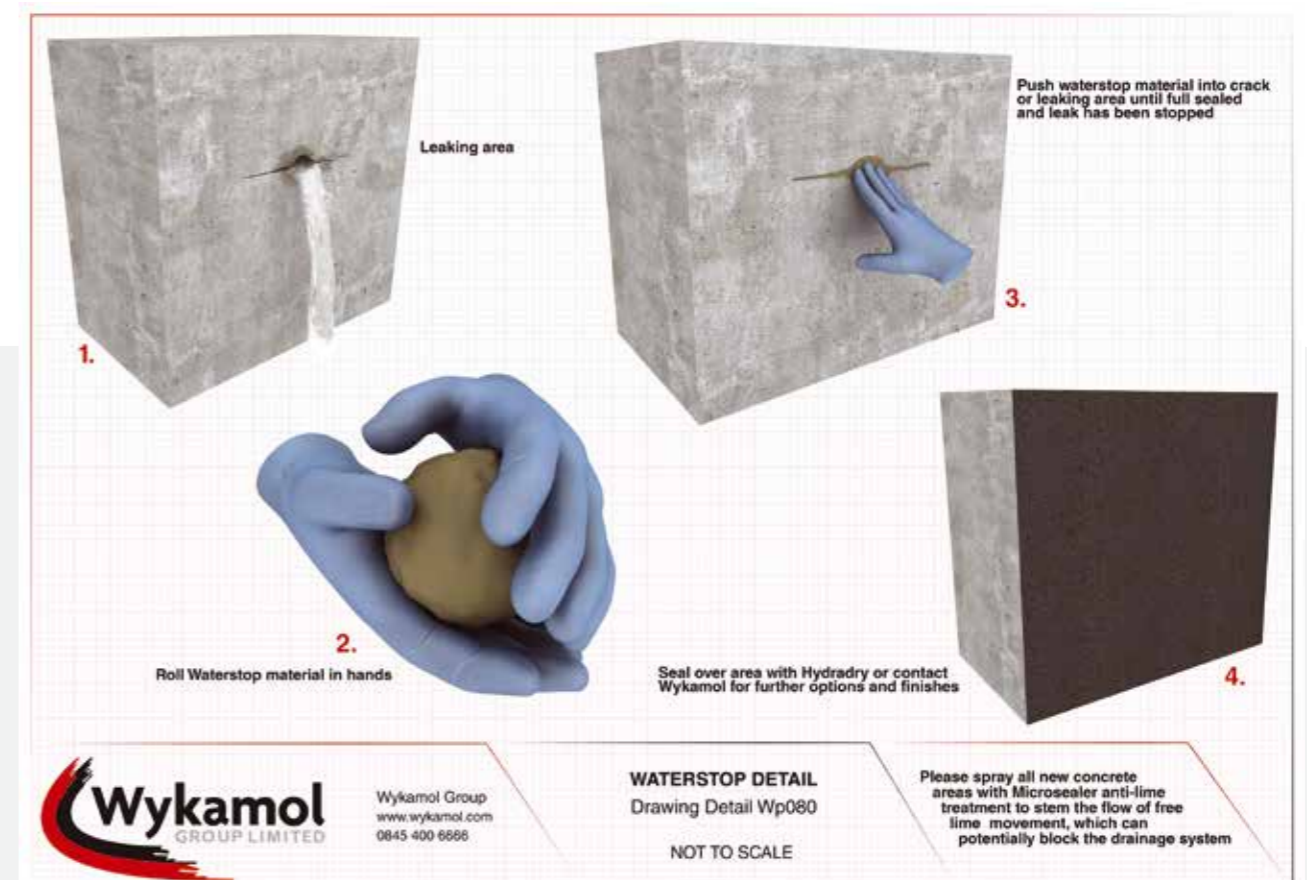
1. Starting at the top of the hole or crack, work your way down. Trowel apply or hand kneed the mixed mortar firmly into place, ensuring maximum contact with the substrate before the material sets.
2. Remove any excess material to form a uniform surface.

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 achieved.
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, hydros swelling 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

Uses

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

Where retrospective waterproofing injections are necessary

Available Sizes

Pack Size: 310mm Tube

- 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

Properties

Property	Value	Norm
Solids	100%	Test CEM
Uncured:		
Consistency	gel/paste	Test CEM
Density (at 20 °C)	approx. 1,45 kg/dm ³	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/mm ²	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

1. Pipe entry through basement retaining wall
2. Chased out 20mm channel around perimeter of pipe
3. Fill Channel with Cem Active 805 Mastic

4. Prime the Pipe with Technoseal and then using Wykamol rope wrap around the perimeter of pipework.
5. Cut Wykamol CM8 wall membrane around pipe, and push into Wykamol rope(step 4) to create a seal
6. Using Wykamol overseal tape seal Wykamol CM8 wall membrane to the pipe to complete fully sealed pipe penetration

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PIPE ENTRY
Drawing Detail Wp042

NOT TO SCALE

Please spray all new concrete areas with Microsealer anti-lime treatment to stem the flow of free lime movement, which can potentially block the drainage system

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.



Wykamol Training CPD Seminars

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



Wykamol Training CPD Seminars

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.



The Ultimate Waterproofing and Gas Protection Guide

Wykamol Group

Unit 3, Boran Court, Network 65 Business Park, Hapton, Burnley, Lancashire BB11 5TH

t: +44 (0)845 4006666 f: +44 (0)845 4003333

www.wykamol.com e: info@wykamol.com



**Basement
Waterproofing**
ASSOCIATION

