

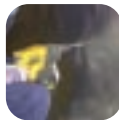
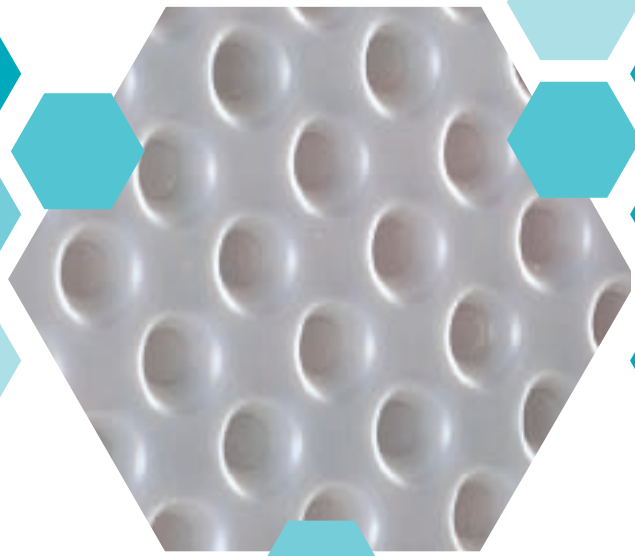
# wykamol

Specialist Products for the Building and Preservation Industries

## cavity drain membranes

01

data sheet



drainage membranes  
for basements walls

# CM8 CM20 CM Plaster CM Floor CM Foundation



The Wykamol range of cavity drain membranes are high quality waterproof basement tanking materials giving a wide choice of stud height (drainage capacity) and plaster finish (dry lining or wet plaster). For use on walls, floors, vaults and tunnels with minimal surface preparation required. Also suitable for external foundation waterproofing and to provide insulated dry lining for walls above ground level which may not be suitable for conventional plaster finishes

## Description

**Wykamol CM** membranes are manufactured from high quality ('virgin') polymers - polyethylene (CM20, CM8, CM Plaster) and polypropylene (CM Floor) - all giving extremely low vapour permeability and high resistance to salts etc. Studs are formed in a regular pattern on one side to provide a range of drainage capacity options (see product specifications below). Wykamol **CM Plaster** studs are designed to provide a key for subsequent plastering (when used with Wykamol Plaster Plugs).

*Wykamol CM membranes are suitable for use in type 'C' (drained protection) structural concrete constructions in accordance with BS 8102:1990, Clause 3.2.4*

## Products

**Wykamol CM20** is the highest drainage capacity membrane in the CM range giving a void volume of 14 litres/m<sup>2</sup>. Suitable for use on floors and walls in very wet situations or where the large stud height is desired to maximize insulation values. When used on floors CM20 can normally be installed without the need for perimeter drainage channels and, when overlaid with concrete, the large diameter studs will give high point load resistance capabilities (150 kN/m<sup>2</sup>) to support load bearing walls built off the slab.

**Wykamol CM8** is a medium capacity drainage membrane (4 litres/m<sup>2</sup>) for floors and walls both above and below ground level. When used on basement floors it is recommended that perimeter drainage channels are provided to optimise the flow of ground water towards the sump location (see separate data sheet '**Wykamol Drainage Solutions**').

The recommended plaster finish for the above systems is dry lining on stud framing (timber or metal) fixed to Wykamol Brick Plugs. Alternatively, plasterboard can be erected using 'dot and dab' methods using **dab collars** to provide a physical bond for the board adhesive (see '**Finishing**' below). For floors, standard screeds can be applied (50 mm minimum) or T&G chipboard etc. (12 mm minimum, with absorbent layer for sound reduction).

**Wykamol CM Plaster** is a specialist wall membrane for basements and other damp surfaces giving a low-medium drainage capacity (1.84 litres/m<sup>2</sup>). The 5 mm studs are uniquely designed so that, when the membrane is fixed using CM Plaster Plugs, the walls can be plastered using conventional methods or 'dot and dab' plasterboard finishes. In basements, CM Plaster can be used in combination with CM8/CM20 on the floor. Above ground, the low stud height enables CM Plaster to be used as a remedial re-plastering system following insertion of a DPC where it is necessary to match-up to retained plaster at higher levels. Alternatively, in walls severely affected by damp/salts to a high level CM Plaster can be used as a full-height damp proof membrane on walls ('ventilated system', see below). When using CM Plaster all lap joints must be sealed with CM overseal fibre tape.

**Wykamol CM Floor** is a low profile membrane (2 mm studs) specially designed for fast-track sealing of damp concrete at ground floor level – no need for extensive surface preparation normally required with liquid DPM systems (epoxies etc.) and no curing times before floor finishes can be applied. It may also be used on basement floors where the low stud height is critical to maintain ceiling clearance and special measures can be taken to ensure the floor drains freely via drainage channels both around and across the floor.

**Wykamol Foundation** is a geotextile lined cavity drain membrane specifically for foundation waterproofing of new structures below ground. It can be used as a 'protection board' in association with a primary waterproofing layer (e.g. Wykamol **Technoseal DPM**) or as a stand-alone system (in well drained soils or where some seepage is permitted e.g. earth retaining walls). The 7 mm stud provides a double drainage layer on either side of the membrane (2.3 litres per sq. metre between wall and membrane) thereby reducing dramatically the risk of water seepage affecting foundations. The geotextile on the outer face prevents soil particles clogging-up the boundary layer and ensures the french drains provided to carry water away from footings are kept operating efficiently. **NOTE:** In addition to Wykamol **Foundation** on walls, **CM20** can be used as a drainage layer below concrete raft foundations as part of an integrated drainage specification. However, for the best possible waterproof construction under all ground water conditions we recommend an internal lining system with sump and pump. Please consult our Technical Department for further details.

*For further details regarding Wykamol **Foundation** and the general use of our full range of CM products to provide external protection to buildings, please refer to our separate data sheet 'Foundation Waterproofing'.*

*Basement Waterproofing with Wykamol Cavity Membranes is a means of achieving dry living space below ground without affecting the loads (water pressure) on walls and floors. However, it remains important that the basement to be tanked is structurally sound and stable (some minor vibration movement may be tolerated). Also, for the system to work under severe water ingress it is essential that the cavity drains to a suitable point (sump) where water can be removed. In order to select the best drainage system (whether tanking internally or externally) it is recommended that the type of soil is assessed and this information incorporated in to other features of a full basement survey by a competent damp proofing surveyor (CSRT/CSSW qualified).*

*Above Ground, Wykamol CM membranes are ideal for use as open (ventilated) linings to isolate damp walls/floors especially where aggressive salts are present and/or for 'fast track' projects where long drying times (often associated with conventional plaster finishes on damp walls) are unacceptable.*



## Installation Instructions

### Preparation

When used in new construction the concrete slab must be laid in accordance with BS 8204-1:1999 to achieve a flat surface not deviating more than 5 mm from the underside of a 3000 mm straight edge. Unsound plaster, render or screed should be removed and surfaces made level (with floors to the above tolerances) with a sand:cement mix (3:1 incorporating waterproofing additive e.g. **Wykamol Integral Waterproofing Liquid No. 2** see separate data sheet). Leave all new works to dry thoroughly before CM membranes are fixed.

In the case of walls suffering from mould or masonry fungi, remove surface contamination by brushing and apply a fungicidal wash (e.g. **Wykabor 10, Microtech Biocide**) prior

to fixing membranes. If dry rot (*Serpula lacrymans*) is present in the walls this will require detailed assessment before proceeding (consult the Wykamol Technical Department for further advice).

Above ground level Wykamol CM membranes are designed to provide a damp proof lining to walls suffering from penetrating or rising damp and/or which are prone to condensation (as part of a wall insulation system). However, it is recommended where possible that all sources of moisture are alleviated at source (e.g. by providing a DPC) to reduce the potential for damage to masonry, timber etc.

### Fixing

**Wykamol CM** Membranes are installed with studs against the underlying structure. Fixing to walls is carried out with either the Wykamol Brick Plug or CM Plaster Plug (in the case of CM8 through the centre of the stud, for CM Plaster through the flat face of the membrane). Take care when drilling holes to avoid excessive masonry dust falling in to the cavity.

**Fixing densities** will depend to some extent on the choice of final plastering finish but should never be less than 600 mm centres for dry lining and 250 mm centres for plasters or dot and dab adhesives. The shank of the plug is sealed to the face of the membrane with Wykamol Rope wrapped around the shaft at least two turns before driving the fixing home with a wooden mallet. In all damp proofing and water proofing applications Wykamol CM Membranes are sealed at flanges (a band of membrane running along the edge with no studs) with Wykamol Tape. Stud-to-stud joints are overlapped by at least two rows (three in very wet conditions) and the flat area of membrane between rows sealed with Wykamol Rope (two runs of Rope in the case of three stud overlaps). Always ensure flanges run vertically on walls and they are positioned in front of the preceding width of membrane. In the case of horizontal joints the lower sheet is always positioned to the front. In severe conditions of water ingress, in addition to the above, joints may also be closed off using Wykamol Overseal tape.



Step 1: Drilling through the membrane to accept fixing plug.



Take care when running the membranes around internal and external corners to ensure the sheet is fixed tight to the angle thereby allowing well defined edges during subsequent plastering works.

On floors the membrane is rolled out 'dome down' and joints sealed as above. No fixings should be used. At the wall, the floor membrane should be cut flush and the gap sealed with Wykamol Corner Strip. Alternatively the floor membrane can be taken up the wall 100 mm (in front of the wall membrane) and sealed using Wykamol Rope and Overseal tape as required.

Flat soffits below ground should never be lined with Wykamol CM membranes (minimum slope required 10%). Vaulted ceilings can be successfully lined using Wykamol CM8/CM Plaster\* taking care to seal all mitred joints with Tape/Rope/Overseal Tape as required and ensuring an overlap down the walls of at least 200 mm. The wall membrane is cut to fit the curve of the vault then sealed to the face using Delta Rope/Overseal Tape.

Above ground, the membranes are finished at solid floor and ceiling junctions using **CM Profile Strips** (ensuring a continuous air gap for cavity ventilation and a 'straight edge' for plastering).

## Finishing

### Dry Lining

**CM8/CM20 - stud frame:** where this method of finishing is anticipated the brick plugs should be in a vertical line roughly corresponding to the stud locations and battens (min. 25 x 38 mm) fixed to the plugs using 6 mm bolts or No. 12 screws. If it is not possible to ensure a straight line for the stud fixings use e.g. 'Gyproc' brackets to hold the battens in place. When fixing plasterboard ensure the screw depth does not perforate the CM membrane. On reasonably flat walls Wykamol Dab Collars can be used to provide a key for board adhesives. The collars, which incorporate a built in fixing plug going through the centre of the collar, are sealed as before with rope on the collar face rather than under the fixing plug head. The fixing collars are set out according to the width of the plasterboard to be used at centers not less than 600 mm.



Step 2: Waterproof rope is wrapped around the plug before fixing takes place.



Step 3: Driving the fixing home.



**CM Plaster (or CM8/CM20 with Dab Collars):** use a board adhesive or bonding plaster/adhesive recommended by the board manufacturer in a conventional ‘dot and dab’ application. Ensure at least 50% of the membrane surface area is covered by plaster adhesive and to a final depth of 8 mm. Provide

temporary support to the boards at the bottom (25 mm) until the plaster has set.

*\* Note: CM8 is usually finished with plasterboard. Steeply vaulted ceilings may preclude this method of finishing so use CM Plaster only.*

### Plasters (CM Plaster Only)

Use Tilcon ‘Whitewall’, Carlite ‘Bonding’ or a 6:1:1 sand-cement-lime mix in a two coat application to achieve a final plaster thickness of approx 15 mm. The first scratch coat should be pushed firmly in to the studs and struck flush (just covering the

plugs). Leave to set overnight (possibly longer under adverse conditions) then apply a float coat prior to finishing with a conventional skim coat (e.g. Thistle multi finish).

### Floors

CM Floor, CM8 and CM20 may be overlaid with expanded polystyrene insulation before laying T&G flooring (ensuring a 10 mm expansion joint all round). Alternatively, a conventional s/c screed (50 mm) can be laid if preferred.

### Decoration

Normal decorating materials can be used as soon as the floor, screed or plaster finishes are dry (ensure atmospheric moisture levels are below 70% RH). Impermeable floor finishes should not be laid until screed moisture content is below 75% RH.

### Ventilation

**Wykamol CM** products can provide a dry, warm and habitable living space in basements and other areas suffering chronic damp conditions. However, it is equally important to ensure that areas which lack natural ventilation are provided with adequate means of condensation control, especially in wet areas such as kitchens, bathrooms etc. This is normally best dealt with through the provision of an effective mechanical ventilation system (please consult the Wykamol Technical department for further advice).



## Technical Data

The following list of data gives an overview of typical characteristics for the products. If specific data for a particular product is required but is not given below please contact our technical department for further details.

<b>Sheet thickness:</b>	CM8/Floor/Plaster – approx. 500 µm CM20 – approx. 1000 µm
<b>Unit weight:</b>	0.48 (CM8) – 0.95 (CM20) kg/m <sup>2</sup>
<b>Compressive strength (3 mm deformation):</b>	180 kN/m <sup>2</sup> (CM8)
<b>Deformation under long term loading:</b>	max. 20% at 50 kN/m <sup>2</sup> (CM8)
<b>Working temperature:</b>	–50° to +60°C (all CM products)
<b>Softening temperature:</b>	+125 °C (all CM products)
<b>Linear coefficient of thermal expansion:</b>	0.13 mm/m. °C (CM8/Plaster)
<b>Water vapour resistance:</b>	1800 m <sup>2</sup> .s.GPa/kg (CM8) or 350 m equivalent air layer. 3500 m <sup>2</sup> .s.GPa/kg (CM20)
<b>Air gap volume:</b>	CM8 = 4 l/m <sup>2</sup> CM Plaster = 1.8 l/m <sup>2</sup> CM20 = 14 l/m <sup>2</sup>
<b>Thermal resistance:</b>	0.10 m <sup>2</sup> . K/W (CM Plaster), 0.17 (CM20)
<b>Life expectancy:</b>	at least 50 years
<b>Colour:</b>	CM8/CM Plaster - clear CM20/CM Floor - black
<b>Chemical Resistance:</b>	The product is resistant to all chemicals to which it can be exposed in normal building construction.  A small number of aggressive chemicals (e.g. solvents) can, in large concentrations, damage the products during prolonged exposure. For special applications contact the Wykamol technical department for advice.
<b>Sizes:</b>	CM8/CM Floor – 2.07m x 20m* CM20 – 2.0 x 20m CM Plaster – 2.0 x 20m  <small>* including flat overlapping edge (flange) without studs, working area ca. 40 m<sup>2</sup>.</small>

### Storage

Rolls of Wykamol CM should be stored on end in dry conditions away from sharp objects, direct sunlight and high temperatures. Keep membranes away from areas where naked flames may be used.

### Health & Safety

No specific hazards are likely to arise in the use of Wykamol CM products (membrane or ancillaries; neither are classified as hazardous in respect to CHIP II Regulations 1999). However, general precaution should be exercised in the use of drills etc. taking particular note of the special risks associated with confined spaces (basements) with restricted means of access/egress.

### Technical Advisory Service

The Wykamol Group are committed to excellence in product design and manufacture and the information provided in this data sheet is intended to guide **professional contractors and specifiers** in the appropriate use of our CM range of waterproofing membranes to ensure a successful basement tanking or damp proofing project. If any further advice is required please consult our Technical Department who will be pleased to answer your questions.



CM8  
CM20  
CM Plaster  
CM Floor  
CM Foundation

Approved Installer

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