



Technoseal DPM

A ready-to-use, liquid damp-proof membrane which provides a seamless, passive radon barrier.

It also acts as a barrier against the gases methane and carbon dioxide.

Application

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

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

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

Because of the wide variety of background types and site conditions it is always advisable to check adhesion to the background by testing on a sample area before starting any job.

The membrane may be applied by brush, roller or airless spray*. If necessary the compound can be diluted with up to 10% water. However, care should be taken to ensure that the correct dry coat thickness is applied.

The thickness of the dried membrane per coat depends on the method of application. For a single dry coat thickness of more than 0.3mm it is recommended that the membrane be applied by airless spray. If airless spray is used, single dry coat thicknesses of up to 1mm can be obtained. (Note: A single coat of 0.6mm dry thickness or more will require a greater drying time than for an equivalent multicoat application.)

If two coats are being applied it is recommended that the coats be applied at right angles to each other.

Before applying the second coat it is necessary to let the first coat become touch dry. This will vary according to site conditions but will typically be in the order of 1 hour.

The second coat should be applied within 24 hours. After all coats have been applied, the membrane should be left for at least 4 days before attempting any ponding tests.

Under unfavourable drying conditions this period may need to be extended. Whilst most applications to concrete roofs have been successful, blistering (shortly after application of the membrane to the roof) has occasionally occurred.

This blistering is caused by the heat from the sun causing a vapour pressure build up below the membrane. The problem is exacerbated if the background concrete is wet.

The risk of blistering can be minimised by ensuring a very good bond to the background and avoiding application of the membrane in, or shortly prior to, strong sunlight. Techniques for maximising bond are:

a. Vigorously brush the first coat into the background concrete using a stiff bristled broom.

or

b. Prime the roof with a slurry of Wykamol SBR latex and cement (see separate data sheet). Allow this slurry to harden for 2 days before applying the membrane.



Applications

- **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.
- **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.



In some situations e.g. at high stress points such as wall/floor junctions it is beneficial to use polypropylene fabric (skrim) reinforcement. By choosing a suitable reinforcement it is possible to achieve good control of the coating thickness

i.e. by choosing a fabric approximately 0.5mm thick and ensuring that the mesh is completely filled and covered, the minimum coating thickness of 0.6mm will be automatically achieved.

The incorporation of fabric usually increases the tensile strength but decreases the extensibility.

The fabric is rolled into the wet first coat, and then coated with additional membrane after allowing the first coat to dry to a tacky condition.

- (e.g. "Aro" gun, model 651533, on a "Clemco" pot. Compressed air supply pressure 5.6N/mm² (800psi) and compression ratio 28:1. Tip size 0.64mm (25/1000"). Fan width 200mm (8").

Storage:

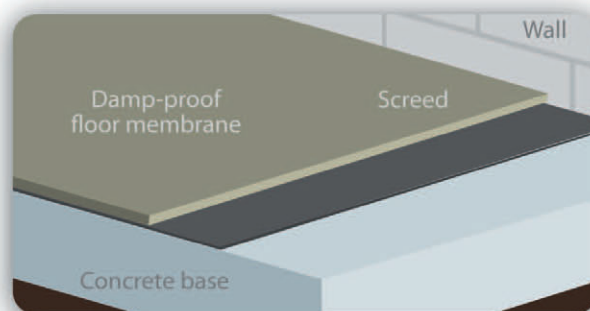
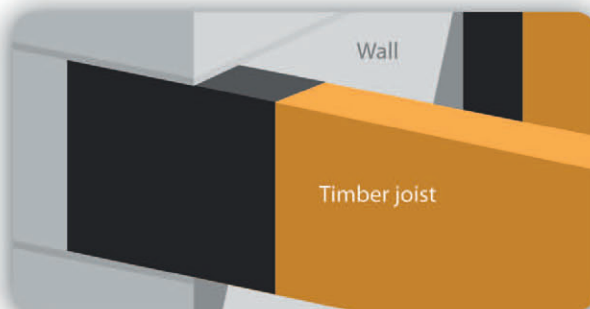
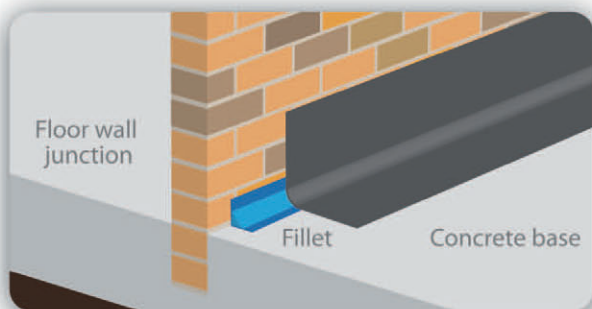
In a sealed container between +5 °C and +35 °C and protected from frost and direct sunlight.

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.



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
- Toughness, high flexibility, extensibility and good crack bridging properties
- Low water vapour permeability
- Alkali resistant, can be applied to alkaline surfaces
- Resistant to silage acids
- Non staining and stain blocking
- Available in a range of colours
- Quick drying. Typically touch dry in 1 hour

Technoseal DPM Test Results

| Adhesion to Substrate | Test | Result |
|--|--|---|
| Concrete 14 days air cured | Pull - off test | 1.3 - 2.1 N/mm ² |
| Concrete 3 months immersion in water | Pull - off test | Above 1.0 N/mm ² |
| Concrete 28 days air cured | Slant shear | 33 N/mm ² |
| Brick (Fletton) 28 days air cured | Pull - off test | 2.5 N/mm ² |
| Lightweight aggregate block | Pull - off test | ~ 0.5 N/mm ² due to failure of the block |
| Steel 28 days air cured | Pull - off test | 1.6 - 3.1 N/mm ² |
| Plasterboard, Plywood and Lead | Peel test | Bonds strongly judged subjectively |
| Adhesion of materials onto dried membrane | | |
| Ceramic Tile Adhesives | Bond strength / Pull off test | 0.5 N/mm ² |
| Floor screeds / Renders | Pull off test | 2 N/mm ² |
| Apply Technoseal DPM - cured for 8 days, screed applied and cured a further 9 days | | |
| Barrier Properties | | |
| 0.6mm thick film of Technoseal DPM cured at 23°C / 50 % RH for 7 days Supported on a porous tile biscuit | Resistance to water pressure (positive head of pressure) | Prevented water at 0.2 N/mm ² pressure during 24 hour penetrating tile. Pressure equivalent to 20m head of water |
| 0.6mm thick film of Technoseal DPM cured at 23°C / 50 % RH for 7 days | Water vapour permeability | <4g/m ² /24 hours at 25°C / 75 % RH |
| | Carbon dioxide permeability | Carbon dioxide resistance of 100 metres of still air |
| | Radon gas permeability | A 2 mm thick coating passed as "Radon-Tight" |
| | Methane permeability differential of 1 bar. | 79ml / m ² / day under a partial pressure |
| | Chemical resistance - good resistance | Silage, dilute acids (except oxidising acids such as nitric acids), alkalis and salt solutions |
| | Chemical resistance - medium | Transformer oil and cooking oil |
| | Chemical resistance - poor resistance | Oxidising agents, organic solvents such as petrol and toluene |
| Mechanical properties | | |
| 0.6mm thick film of Technoseal DPM cured at 23°C/50 % RH for 21 days | Tensile strength | 4 N/mm ² Testing speed 500mm / minute |
| | Elongation | 350 % Testing speed 500mm / minute |
| | Shore A hardness | 70 |
| | Low temperature flexibility | Pass at temperatures down to 0°C |
| 0.6mm thick film of Technoseal DPM cured at 23°C / 50 % RH for 21 days on cracked and uncracked mortar | Severe mandrel test | |
| | Crack bridging potential | 2mm at 23 °C |
| Artificial Ageing | | |
| 0.6mm thick film of Technoseal DPM cured at 23°C / 50 % RH for 21 days | Artificial ageing in Marr | After 2000 hours film contained surface cracks |
| | weatherometer | penetrating 10 % of the 0.6 mm film thickness |
| | Accelerated light ageing In a Xenotest 150 machine | After 500 hours no apparent defects in the membrane |
| Fire Resistance | | |
| The dried film, like most organic coatings is combustible and hence will not be suitable in all situations. e.g. it should not be used to coat inflammable materials (expanded polystyrene). | | |

Technical Information

Further information and advice is freely available from the Wykamol Technical Department. The company warrants this product to be of merchantable quality and fit for the purpose designed, providing that any instructions relating to use, handling and storage are duly observed. All transactions subject to our standard Conditions of sale, copies available on request.

Resistant to gases

- Measured independently to have a methane permeability of 79 mL/m²/day which indicates that the membrane is 10 times more resistant than the same thickness of low-density polyethylene.
- Provides a barrier to the penetration of radon gas A 2 mm thick coating was passed as "Radon-Tight" .
- Resists penetration of gases, vapours, water and other liquids.



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