



The Chemical Company

MASTERPREN[®] 2004M

Bituminous, UV resistant, torch-on waterproofing membrane

DESCRIPTION

MASTERPREN 2004M is a composite waterproofing membrane, consisting of a thermoplastic, modified bituminous compound, reinforced in the middle with a polyester based, non-woven fabric for optimum mechanical strength and incorporating a layer of coloured mineral granules on the exposed surface.

The modified bituminous compound is formulated using selected grades of bitumen and atactic polypropylene (APP) to achieve superior ageing properties and resistance to low temperatures. The layer of mineral granules allows the surface to be exposed to sunlight.

FIELDS OF APPLICATION

MASTERPREN 2004M is especially suitable for waterproofing exposed surfaces.

The main areas of application are flat and sloped roofs which will not receive any further surface finish.

FEATURES AND BENEFITS

Impermeable	Protects substrate from the ingress of water and water borne salts
Flexible	Bridges active cracks without rupturing
Coated with coloured mineral granules	Suitable for exposed conditions. Eliminates expensive protective coverings. Aesthetically attractive
Wide service temperature range	Performs even in extreme ambient conditions
Chemical resistant	Allows usage in areas exposed to certain common chemicals
Bituminous compound modified with APP	Improved resistance to ageing and low temperature performance. Durable
High resistance to polluted atmosphere	Service life unaffected in industrial and polluted regions

TYPICAL PERFORMANCE DATA

Elongation at break (UNI-8202/8)	Long. : 40 Tran. : 45
Tensile strength at break (UNI-8202/8)	Long. : 12 N/mm ² Tran. : 10 N/mm ²
Tear resistance (UNI-8202/9)	Long. : 149 N Tran. : 160 N

Puncture resistance (UNI-8202/11)	Static : ≥ PS-2 Dynamic : ≥ PD-3
Adhesion to concrete (Pelage UEAtc) using torch-bonding	: 20 N/cm
Cold flexibility (UNI 8202/15)	: -5°C
Water impermeability (UNI-8202/21)	: ≥ 0.06 N/mm ²
Water vapour transmission (UNI 8202/23)	: 40,000 μ
Ageing , Q.U.V. test (ASTM G53-77)	: Passed

PROPERTIES

Supply form	: Rolled sheet
Colour	: Black
Thickness	: 4 mm
Service temperature	: -5°C to 80°C
Mass per unit area	: 4.5 kg/m ²

APPLICATION

Surface Preparation

Correct substrate preparation is critical for optimum performance.

Surfaces should be structurally sound, clean, and free from loose particles, oil, grease, or any other contaminant.

Fill surface irregularities such as blowholes, honeycombs etc., with an EMACO repair mortar to achieve a smooth and level surface. Repair cracks either by resin injection or by caulking, depending on the nature of cracks. Where needed provide expansion joints and seal them with SONOLASTIC SL1 or MASTERFLEX 700 (see separate data sheets). Consult BASF Construction Chemicals for advice on repair methods.

Detailing :

The detailing at external and internal corners, joints and penetrations of pipes, air-con ducts, openings such as drains, etc., must be carefully carried out before commencing application of the horizontal membrane area. Contact BASF Construction Chemicals for advice.

External and internal corners :

Round off the corners between the vertical and horizontal by providing covings in the inward corners and by re-profiling the outward ones, using an EMACO repair mortar.

Expansion Joints :

Seal the joints with MASTERFLEX 700 polysulphide sealant (see separate data sheet), before laying the membrane.

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Lay the membrane only up to the joint edge without taking it across the joint. Contact BASF Construction Chemicals for further advice.

Air vent :

Installation of air vents is recommended to vent out trapped air and water vapour from the substrate and/or the insulation board (if laid). Contact BASF Construction Chemicals for advice.

Placing

Check for any damage to the membrane by unrolling it once at site and roll it back ready for laying. Ensure that the torchable side is down. On a horizontal surface the laying should start from the lowest level and on vertical or very steep surfaces, from the bottom.

In applications involving multiple layer installation, use **MASTERPREN 2004M** only for the final layer.

Torching :

Use a propane gas (or a mix of 95% propane and 5% butane) torch at a working pressure of 3.5 to 4 bars, with bell diameter of 50 mm for small areas and 70 mm for large areas.

Pass the flame briefly over the torchable side of the membrane without overheating it, then direct the flame towards the area of the substrate about to receive the membrane. Take care to see that the flame does not touch the surface.

It is essential to be aware of the depth of reinforcement fabric in the membrane to prevent damage to it while torching.

Choose one of the two bonding methods to suit a given situation - Semi bonding and Full bonding.

Semi bonding :

For horizontal substrates having slopes of maximum 40% if laying on concrete and 20% if laying on thermal insulation covering.

Torch-bond the membrane along the perimeter, at overlaps and at staggered spots or strips limiting the total bonded area to 50% of the total. Stagger the torching spots / strips so as to obtain a continuous air pocket between the substrate and the membrane.

Full bonding :

For surfaces with slopes steeper than 40%, vertical surfaces and while installing subsequent layers over the existing one where multi-layers are being installed.

Use battens or fasteners to hold the top edge of the membrane in position on steeply sloping and vertical surfaces immediately after torch-bonding the edge. Continue to torch-bond the entire area of the membrane from top downwards.

In the case of multiple layer installations, while torch-bonding the upper layer to the lower, ensure that the lower layer is not damaged due to over torching of the surface.

General guidelines

Torching the membrane, heating the substrate and bonding the torched part of the membrane onto the heated area, should be carried out in quick succession.

Press the bonded area firmly with a rubber roller and smooth the membrane from the centre outwards to the edges for optimum adhesion and to expel any entrapped air.

Unroll in a straight line, without creasing. After a roll has been installed and smoothed, install the next roll with a minimum overlap of 50mm along the sides and 100mm at the ends.

If the membrane has ballooned at a few spots after laying due to entrapped air or water, puncture the bubbles with a sharp needle. The pinholes would normally heal by themselves during the smoothing process.

It is recommended that the horizontal membrane is laid first followed by the vertical. Ensure that the vertical membrane laps over the horizontal one by at least 100 mm.

In service, the granular mineral layer of **MASTERPREN 2004M** protects the membrane from the effects of light foot traffic and sunlight.

ESTIMATING DATA

One roll of **MASTERPREN 2004M**, after deducting for the overlaps, covers an area of approximately 9.4 m² per roll. However, slightly higher consumption is possible while treating odd shaped areas, or where many joints are required.

PACKAGING

MASTERPREN 2004M is supplied in rolls 1m wide and 10m long.

SHELF LIFE

Always store **MASTERPREN 2004M** rolls in a well enclosed place sheltered from the sun and rain, stacked vertically and at temperatures between 5°C and 30°C. **MASTERPREN 2004M** can be kept for 12 months from the date of manufacture, if stored in unopened original packaging and as recommended above.

PRECAUTIONS

For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

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