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The Chemical Company

MASTERPREN® 2003

Bituminous torch-on waterproofing membrane

DESCRIPTION

MASTERPREN 2003 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.

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 in the membrane.

RECOMMENDED FOR

MASTERPREN 2003 is recommended for waterproofing both above and below grade structures where a protective final finish or covering is to be applied. Areas of applications include:

- flat and sloped roofs
- terraces, podiums and balconies
- water and effluent treatment tanks

FEATURES AND BENEFITS

- **Impermeable-** Protects substrate from the ingress of water and water borne salts.
- **Flexible-** Bridges active cracks without rupturing.
- **Coated with amorphous silica-** Prevents membrane from sticking to itself or to other surfaces while handling. Saves time and labour.
- **Wide service temperature range-** Performs even in extreme ambient conditions.
- **Good chemical resistance-** Allows usage in areas exposed to certain common chemicals.
- **Waterproofing mass formulated with APP-** Improved resistance to ageing and low temperature performance.
- **High resistance to polluted atmosphere-** Service life unaffected in industrial and polluted regions.

PERFORMANCE DATA

Test Method	Unit	Tolerance	Value
Flexibility at low temperature (pliability) EB1109:1999	%	</=	-5
Water vapour transmission properties EN1931:2000	µ	-	20
Tensile Strength EN12311-1:1999	N/50 mm	-20%	Long:500 Trans:350
Elongation at break EN12311-1-:1999	%	-15	Long :40 Trans:40
Resistance to tearing (nail shank)	N	-30%	Long: 100 Trans:100
Dimensional stability EN:1107-1:1999	%	</=	Long:±0.3T rans:±0.3
Flow resistance at elevated temperature after artificial ageing EN1296:2000/ EN1110:1999	%	-10	110
Watertightness after artifical ageing EN1297:2000/ EN1928-B:2000	kPa	>/=60	Passed
Visual defects after artifical ageing EN1297:2005/ EN1850-1:1999	-	Passed	Passed

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

PROPERTIES

Supply form	:	Rolled sheet
Colour	:	Black
Thickness	:	3 mm
Dimension of roll (W x L x T) m	:	1 x 10 x 0.003
Service temperature	:	-5°C to 80°C
Mass per unit area	:	4.3 kg/m^2

ESTIMATING DATA

One roll of **MASTERPREN 2003**, after deducting for the overlaps, covers an area of approximately 9.4 m^2 per roll. However, slightly higher consumption is possible while treating odd shaped areas, or where many joints are required.

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 contaminants. 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 NP1 or MASTERFLEX 700 (see separate data sheets). Consult BASF Construction Chemicals for advice.

Detailing :

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 EMACO repair products.

Expansion Joints :

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

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

Air vents :

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.

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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. **MASTERPREN 2003** can also be installed in multiple layers.

Torching :

Use a propane gas (or a mix of 95% propane and 5% butane) torch at a working pressure of 3.5 - 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 the reinforcement fabric in the membrane to prevent damage to it while torching.

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

Light bonding :

For horizontal substrates having a slope of maximum 5% and where the membrane is to be protected with a screed.

Torch-bond the sheets only at overlaps and along the perimeter of the total area.

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/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, take extra care to prevent damage to existing layer from over torching the surface while torch-bonding the subsequent layer.

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. 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 will heal by themselves during the smoothing process.

For information about application, please obtain a copy of the BASF "Application Guide for Masterpren 2003" from your local representative.

PACKAGING

MASTERPREN 2003 is supplied in rolls 1m wide and 10m long.

SHELF LIFE

Always store **MASTERPREN 2003** rolls in an enclosed place, sheltered from the sun and rain, stacked vertically and at temperatures between 5oC and 30°C. Masterpren 2003 can be kept for 12 months, if stored in unopened original packaging and as recommended above.

PRECAUTIONS

Fire: **MASTERPREN 2003** is combustible if exposed to naked flame. For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

S/Mpren2003/7/0711

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