

## EMA Elastomeric Waterproofing

### Product Description

**EMA** elastomeric membrane is a liquid applied coating based on urethane prepolymers which cures by reaction with atmospheric moisture to give a continuous film which is rubbery and elastic. It contains leafing aluminium which gives excellent U.V. resistance.

**EMA** is a very high solid coating designed to give a high-build film. It can be brush or spray applied ( with airless spray equipment ) but it has a higher viscosity than a conventional paint and should not be diluted.

**EMA** cures to a permanently flexible seamless membrane that, by virtue of its chemical reactivity in the wet state, has good adhesion to a wide range of substrates. Unlike more traditional bitumen based products, **EMA** does not readily embrittle with age, exposure to ultra violet radiation or weathering, and hence it does not crack or craze.

Since it is elastomeric **EMA** is not adversely affected by extremes of temperature consequently it does not crack at low temperatures or suffer thermal flow at elevated temperatures.

**EMA** can be applied by brush or roller without the need to mix, stir or heat before application. **EMA** can be made into a sprayable grade by the addition of solvent. Please refer to Isothane instructions on the correct procedure.

### Areas of Application

Isothane elastomeric membranes are designed to bond to many types of substrate particularly those commonly used as roofing, such as felt, asphalt, slate, tiles, asbestos, concrete, brick, wood, glass and metals. They can also be applied to spray polyurethane (pu) foam insulation. However, it is essential that the substrate and structures are properly prepared, and stable.

Surfaces previously treated with silicone-based materials will inevitably be difficult to overcoat and this should not be attempted with Isothane products.



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#### Areas of Application cont...

Substrates with poor adhesion to the underlying structure ( e.g. blistered roofing felt ) may also cause problems in providing sound over-coating.

Preferential vapour drive in buildings must also be borne in mind when over-coating the roof and it may be judged expedient to employ ventilation to cope with transmission of high levels of moisture vapour.

#### Methods of Application

The dry film thickness ( DFT ) of **EMA** should not be less than 0.5mm or more than 1.0mm for each coat. Rough or textured surfaces will reduce the coverage rate and consequently more material must be allowed to achieve the minimum DFT.

**EMA** is a membrane coating, not a paint and as such protection is only achieved with a high film build, i.e. 1 mm on flat surfaces minimum. It is therefore essential that this is achieved. The membrane can be applied in one 1 mm or two 0.5mm coats. Two coats are recommended on uneven and jointed surfaces to minimise the possibility of thin patches, missed areas and pinholing. In the case of two coat application, it is important to re-coat within 24 hours of the first coat becoming sufficiently cured to allow operator access.

#### Coverage

Coverage rates may vary with surface texture and porosity. The information given is based on average usage. A site trial is recommended.

**PU PRIMER:** 6 - 10m<sup>2</sup> / lt

**EMA:** 1 litre / m<sup>2</sup> on a smooth flat surface will provide an adequate film thickness of approx. 1mm. Any surface texture will increase the surface area which must be allowed for when calculating usage e.g. On a chipping embedded surface the actual area will be approximately doubled.

Sloping/vertical surfaces:

Total coverage 0.7lt / m<sup>2</sup> in 2 coats to give D.F.T approx. 600 microns.

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## Method

Do not dilute **EMA**.

1. Remove all loose material by vigorous brushing, wire brush if necessary.
2. Treat any fungal growth with proprietary fungicide as recommended.
3. Allow surface to dry thoroughly and any moisture contained in the structure to evaporate. **PU PRIMER** and **EMA** should not be applied to damp substrates.
4. Fill cracks and voids with a polyurethane mastic sealant.
5. Prime with **PU PRIMER** ( 6 - 10 m<sup>2</sup> / lt depending on substrate texture and porosity ) which cures to a slightly tacky film within 2-4 hours. Overcoat with **EMA** as soon as possible after this time and certainly within 48 hours. If delay exceeds this, re-priming is advised.
6. Apply **EMA** at a maximum film thickness of 0.5 mm for two-coat applications and 1 mm for one coat.
7. In the case of two coat application, the first coat should be touch dry 12 - 48 hours ( in some conditions this might be delayed ).
8. Second coat delay: - if more than 24 hours elapse after touch dry stage of the first coat, prime the entire surface with **PU PRIMER** and allow to dry before recoating within 4 - 8 hours.
9. Day-work joints – where application extends over more than a working day, an overlap of 150mm should be used.
10. Aromatic hydrocarbon solvent should be used to clean equipment etc.

## Spray Application ( Refer to Isothane procedure guide )

Only airless spray should be used 63 : 1 Graco King

Compressor:- 100psi, 60cfm min

Tip Size :- 21-25 thou 50° Angle

100' x 3/8 Hose and 25' Whip End

Note: For ambient temperatures below 10°C consult Isothane's Technical Department.

## Application Rate

**EMA** is easily and quickly applied manually at a rate of 40m<sup>2</sup> per man or up to 600m<sup>2</sup> per day by spray application.

## Repairs

Minor damage to **EMA** can be repaired by removing loose membrane; cleaning the surrounding area with aromatic hydrocarbon solvent; overlapping by 150mm; priming the area with **PU PRIMER** and finishing with two coats of **EMA**.

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### Storage, Handling and Personal Protection

The recommendations in our Safety Data Sheet for this product must be followed at all times. More general information is included in our publication "A Guide to the Safe Handling of Polyurethane Chemicals" and in the following Technical Data Sheets which are available on request:-

- Fire safety when Storing, Handling and Installing Polyurethane Foam.
- Decontamination of Isocyanates using Isothane Decontaminant.

### Typical Properties

Solids % min	95
Abel closed cup flashpoint °C (ISO 1523, 1983)	56
Application limits °C	5 - 70
Approximate Dry Time (20°C, 50% RH)	12 - 20 hrs touch dry, 7 days full cure
Elongation % (ASTM D412)	450
Tensile Strength MN/m <sup>2</sup> (ASTM D412)	2.07
Accelerated Weathering (ASTM G154)	12000hrs no appreciable deterioration
U/V Resistance ( European Conditions )	Excellent
Hydrolysis Resistance	Excellent
Resistance to Industrial Environments	Excellent
Mechanical Damage	Good
Storage Stability ( temperate climate )	6 months
Penetration by Fire & Surface Spread of Flame Resistance (BS476: Part 3)	EXT.F.AA.
Glass Transition Temperature °C (RAPRA)	-30

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