

ISOTHANE E.M.A.

LIQUID APPLIED WATERPROOFING AND PROTECTION MEMBRANE

ISOTHANE E.M.A. elastomeric membrane is a liquid applied coating based on urethane pre-polymers that cure 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.

ISOTHANE E.M.A. is a very high solids 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.

ISOTHANE E.M.A. cures to a permanently flexible seamless membrane, which, by virtue of its chemical reactivity in the wet state, has good adhesion to a wide range of substrates (given proper preparation) such as roofing asphalt, slates, tiles, asbestos, concrete, brick, wood, glass and metals. Unlike more traditional bitumen based products, **ISOTHANE E.M.A.** 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 **ISOTHANE E.M.A.** is not adversely affected by extremes of temperature consequently it does not crack at low temperatures or suffer thermal flow at elevated temperatures.

ISOTHANE E.M.A. can be applied by brush, airless spray or roller without the need to mix, stir or heat before application.

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 sprayed polyurethane (p.u.) foam insulation. However, it is essential that 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.

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 overcoating the roof and it may be judged expedient to employ ventilation to cope with transmission of high levels of moisture vapour.

APPLICATION

The dry film thickness (DFT) of **ISOTHANE E.M.A.** should not be less than 0.5 mm. or more than 1.0 mm for each coat. Rough or textured surfaces will reduce the coverage rate and consequently more material must be allowed to achieve the minimum D.F.T. **ISOTHANE E.M.A.** is a membrane coating, not a paint and as such protection is only achieved with a high film build i.e. 1 mm. minimum. It is therefore essential that this is achieved. The membrane can be applied in one 1 mm. or two 0.5 mm. 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.

Do not dilute **ISOTHANE E.M.A.**

METHOD

1. Remove all loose material by vigorous brushing, wire brush if necessary.
2. Treat any remaining fungal growth with proprietary fungicide as recommended.
3. Allow surface to dry thoroughly and any moisture contained in the structure to evaporate. **ISOTHANE** Special Primer and **E.M.A.** should not be applied to damp substrates.
4. Fill cracks and voids with a mastic sealant.
5. Prime with **ISOTHANE** Special Primer (6-10 m²/lt) depending on substrate texture and porosity which cures to a slightly tacky film in 2-4 hours. Overcoat with **ISOTHANE E.M.A.** as

soon as possible after this time and certainly within 48 hours. If delay exceeds this, repriming is advised.

6. Apply **ISOTHANE E.M.A.** 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 in 12-48 hours (in some conditions this might be delayed) and the second coat should be applied within 24 hours of this stage to ensure good adhesion.
8. Second coat delay: If more than 24 hours elapse after the touch dry stage of the first coat, prime the entire surface with Special 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 150 mm. should be used.
10. Aromatic hydrocarbon solvent should be used to clean equipment etc.

Spray Application

Only airless spray should be used.
Graco King 60 to 1 ratio or similar.
Compressor: 100 psi, 60 cfm min.
Tip Size: 28/30 thou. 60° Angle.

Application Rate

ISOTHANE E.M.A. is easily and quickly applied manually at a rate of 40 m² per man-hour or up to 600 m² per day by spray application.

Repairs

Minor damage to **ISOTHANE E.M.A.** can be repaired by removing loose membrane, cleaning the surrounding area with aromatic hydrocarbon solvent overlapping by 150 mm., priming the area with Special Primer and finishing with two coats of **ISOTHANE E.M.A.**

Coverage

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

ISOTHANE Special Primer: 6-10 m²/lt.

ISOTHANE E.M.A.: 1 kg (0.8 lt)/m² on a smooth surface will provide adequate film thickness of approx. 1 mm. 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.

Storage

Store in a cool place and avoid unnecessary opening of cans. In very cold conditions store inside before using - do not attempt to thin.

Once opened **ISOTHANE E.M.A.** will start to cure and a skin will form, even on resealed cans. This can be removed if material is used within approximately a month.

Health and Safety

- * Paint Product UN I263.
- * Keep out of reach of children
- * Keep away from sources of ignition.
- * No Smoking.
- * Do not breathe vapour/spray.
- * Ensure good ventilation during application and drying.
- * In case of eye contact - wash with plenty of clean water and seek medical advice.
- * Avoid prolonged skin contact - wear suitable protective clothing and gloves,
- * Remove from skin with mild solvent/hand cleanser and wash with warm soapy water.
- * Contains isocyanate. Specific information available on request.

Note:

More details on the above are available in Liquid Polymers publication "A Guide to The Safe Handling of Polyurethane Resins". THIS DOCUMENT SHOULD BE CONSULTED BEFORE USE OF ANY ISOCYANATE BASED MATERIALS.

Technical Data

S.G.	1.18
Solids % min.	95
Abel closed cup flash point °C	56
Application limits °C	0-70
Heat Resistance °C	-40 +70
Approximate Dry time (20°C, 50 % RH)	12-20 hours touch dry - 7 days full cure
Elongation %	500
Tensile Strength psi	300
Accelerated Weathering 12000 hours	No appreciable deterioration
U/V Resistance	Excellent
Hydrolysis Resistance	Excellent
Resistance to Industrial Environment	Excellent
Mechanical Damage	Good
Storage stability (temperate climate)	9 months

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