



LLOYD INSULATIONS (INDIA) LTD.

ISOTHANE EMA

Elastomeric Waterproofing

TECHNICAL INFORMATION

IN TECHNICAL COLLABORATION WITH
L I Q U I D
P O L Y M E R S , U K

DESCRIPTION

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

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

ISOTHANE EMA 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.

Surface 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 building 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.

METHOD OF APPLICATION

The dry film thickness (DFT) of ISOTHANE EMA, 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 EMA 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 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 EMA.

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 EMA. should not be applied to damp substrates.
4. Fill cracks and voids with a mastic sealant.
5. Prime with ISOTHANE Special Primer (6-10m²/lit) depending on substrate texture and porosity) which cures to a slightly tacky film in 2-4 hours. Overcoat with ISOTHANE EMA as soon as possible after this time and certainly within 48 hours. If delay exceeds this, re-priming is advised.
6. Apply ISOTHANE 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 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 15 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 cft min.
Tip Size :- 28/30 thou. 60° Angle.

APPLICATION RATE

ISOTHANE EMA 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 EMA, 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 EMA.

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 EMA 1 kg (0.8 lt)/m² on a smooth surface will provide and 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.

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 EMA will start to cure and a skin will form, even on re-sealed cans. This can be removed if material is used within approximately a month.

HEALTH AND SAFETY

The recommendations in our material safety data sheet (MSDS) ref. 05 should be followed at all times.

- * Paints Product UN 1263.
- * 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 : TYPICAL PROPERTIES

Specific Gravity		1.18
Solids	% min.	95
Abel closed cup flash point	°C	56
Application limits	°C	0-70
Approximate Dry time	(20 °C, 50% RH)	12-20 hours touch dry 7 days full cure
Tensile Strength	MN/m ²	2.07
Accelerated Weathering	12000 hours	No appreciable deterioration
U/V Resistance		Excellent
Water Resistance		Excellent
Resistance to Industrial Environments		Excellent
Resistance to Mechanical Damage		Good
Storage Stability (Temperate climate)		9 months

This information is of general nature and is supplied without recommendation or guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Liability for loss or damage through use cannot be accepted except for death or injury caused by negligence on the part of Liquid Polymers PLC. Whilst these specifications are based on expert knowledge, practical experience and laboratory testing successful application depends upon the nature and conditions in which the products are applied. Users must, by comprehensive testing ensure suitability of product for own use. Without control or supervision of the preparation for and application of Isothane products, general guarantees cannot be offered.



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