

FlexiMaxx PU-1K

Elastomeric, Aliphatic Polyurethane Liquid Applied Waterproofing Membrane

Description

BITUMAT's FlexiMaxx PU-1K is a single component liquid applied waterproofing and protective coating for concrete & metal structures based on a distinctive aliphatic polyurethane formulation. The polyurethane is modified with specially selected polymers to form a tough, flexible, and durable coating. It is completely free from coal tar and other hazardous ingredients. Because of its excellent flexibility and thixotropic nature is an ideal for use on vertical as well as horizontal surfaces. It is an eco-friendly waterproof coating with very low VOC. It has excellent solar insulation with high resistance to UV exposure for aggressive weather conditions.

Areas of Application / Uses

- Waterproofing of Concrete & Metal Roofs (Exposed & Non-Exposed).
- Water proofing of Podiums, Roof Gardens & Planter Boxes (Protected with Screed).
- Waterproofing of Wet Areas in Bathrooms, Kitchens, Balconies.
- Water proofing of flashing, roof edgings, gulley's, steeply pitched designs, etc.
- Water proofing of external plastered walls, sunshades (chajjas), parapet walls, etc.
- Water proofing of new surfaces as well as for the repairs of old surface.
- FlexiMaxx PU-1K is optimally suitable for application on structures having complicated geometry like domes, arches, shells, folded plates, sandwich panels, corrugated sheets, etc.

Characteristics & Advantages

- Simple and easy to apply by roller, brush and airless spray.
- Provides joints free membrane throughout the surface for less maintenance and impervious to water.
- Cured seamless dry film follows the movement of substrates without tearing and peeling.
- FlexiMaxx PU-1K primer seals micro pores & micro cracks and increases cohesive strength of surfaces.
- Balanced tensile strength, hardness and elongation factor provides maximum flexibility (crack bridging property).
- Very low VOC contents & order less for safe and healthy environment.
- Reflects direct solar heat for ambience comfort and saves air conditioning cost & electricity.
- Excellent bonding to most building materials with effective edge terminations.
- Best over any old & new roofs as resistance to UV and at sudden change in weather conditions.
- Suitable to industrial environment as resistance to common fuel and chemical vapor attack.
- Provides water vapor permeability, so the surface can breathe to avoid bubble formation in the film.
- Anti-Root, highly recommended for roof gardens and planter boxes.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally and with less cost.
- Stability in roofing sheets when used along with fabric (moderate protection from wind pressure and rain pressure).

Technical Data

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Property	Typical Value	Test Method
Nature of Liquid PU	1 Component	-
Colour	White, Grey	-
Specific Gravity	1.25 ± 0.05	ASTM D 792
VOC	Max. 20 gram Per Ltr	ASTM D 3960
Tensile Strength	3.2 N/mm ² ±10%	ASTM D 412
Elongation at Break (%)	700 ±10%	ASTM D 412
Crack Bridging (For >2mm thick coating)	>2mm	ASTM C 1305
Adhesion to Concrete	>2.50 N/mm ²	ASTM D 4541
Tear Resistance	Up to 20 N/mm	ASTM D 624
Shore "A" Hardness	>70	ASTM D 2240
Resistance to Water Pressure	No leak - 1 meter Column	DIN EN 1928
Water Absorption	<0.40%	ASTM D 6489
Water Vapor Transmission	>5.0 gr/m ² /24hrs.	ASTM E 96-95
Thermal Resistance (80°C, 100 days)	Passed	EOTA TR-011
Service Temperature	-20°C to +80°C	-
Shock Temperature (Short Time)	Up to 200°C	-
Solar Reflective Index (SRI)	>95%	ASTM E 1980
Resistance to Root Penetration	Yes	EN 13948
Tack Free Time	4-6 Hrs	-
Re-coat Interval	12-18 Hrs	-
Light Pedestrian Traffic Time	24 Hrs	-
Full Cure	7 days	-

The information given in this Technical Data Sheet reflects typical median properties based on laboratory test, and practical experience; subject to the tolerance levels of EN, DIN & ASTM directives. However, as the product is often used under conditions beyond our control, we can't warrant but the product itself. This publication automatically supersedes all previous publications relating to this product.

Safety:

Non-hazardous. If ingested, seek medical advice.

Shelf Life & Storage:

Minimum 12 months in unopened container. Store away from sunlight and preferably below 42°C.

Packing:

FlexiMaxx PU-1K is available in 20kg Pail.



Application Instructions:

Surface Preparation:

Careful surface preparation is essential for optimum finish and durability of the Liquid Applied Membrane. Surface should be free from oil, grease, and loose particles. In case of metal surface, remove rust and contamination for better protection, If the surface has been already treated with asphalt or bitumen coatings or roofing's felt sand any blisters, peel-off traces, loose laying, etc. which may harmfully affect the adhesion of the membrane, must be cut away and be properly filled.

Repair of Cracks and Joints:

Treating the existing cracks and joints before the application is extremely important for long lasting, durable waterproofing system. Clean concrete cracks and hairline cracks, of dust, residue, or other contamination. Apply prime coat of **FlexiMaxx PU-1K** (dilute as per surface condition) by brush, spray or roller and allow 2-3 hours to dry. For cracks >3mm, fill all prepared cracks with suitable PU sealant. Then apply a layer of undiluted **FlexiMaxx PU-1K**, required width centered over all large cracks and while wet, cover with a correct cut stripe of the Geotextile Fabric well placed and soaked. Apply **FlexiMaxx PU-1K** coat over the Geotextile until it is fully covered. It is very important to ensure each coat is totally cured before the next coat is applied.

Clean concrete expansion joints and control joints of dust, residue, or other contamination. Widen and deepen joints (cut open) if necessary. The prepared movement joint should have a depth of 10-15 mm. The width: depth ratio of the movement joint should be at a rate of approx. 2:1.

Priming:

Prime absorbent surfaces like concrete, cement screed with **FlexiMaxx PU-1K** (dilute as per surface condition) by roller or spray and allow it to cure fully. The curing time depends on the site conditions and ambient temperature.

Waterproofing Main Coat:

Prior to application, stir **FlexiMaxx PU-1K** thoroughly in order to achieve a homogeneous mix. Pour the **FlexiMaxx PU-1K** onto the primed surface and lay it out by roller or brush, until all surface is covered. For large roofs, airless spray can be used allowing a considerable saving of manpower and time. After 12-18 hours curing apply another layer of the **FlexiMaxx PU-1K**. Do not spoil the dry surface while walking on it for application. For Termination and detailing at critical areas, like wall-floor connections, chimneys, pipes, cold joints and waterspouts, etc, reinforce always with the Geotextile Fabric. Water ponding test shall be done only once the coating is fully cured. **Coverage:** 1.2 – 2.0 kg/m² total consumption when applied in multiple layers over a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption, please contact the manufacturer for more information.

Note: For best results, the temperature during application and cure should be >5°C and <40°C. Material should be applied within the workable time and full curing may take up to 7 days depending on temperature and humidity. Low temperatures slow curing process while high temperature speed up curing.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Installing the coating either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.

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