



Waterproofing

PU FLEX 1000

Technical Data Sheet

Reviewed: 26.09.2024

DESCRIPTION

PU FLEX 1000 is one component liquid-applied, permanently highly elastic, 100% polyurethane membrane used for long-lasting waterproofing. Due to the polyurethane technology, it offers the solution to sealing problems where other methods fail, such as on surfaces with ponding water and ice. Cures by reaction with atmospheric moisture and forms a highly water repellent and 100% waterproof membrane.

ADVANTAGES

- Lifetime expectancy up to **25 years**
- Simple application (1 component – ready to use)
- Forms a walkable uniform seamless membrane
- Resistant to water
- Resistant to frost
- Maintains its mechanical properties over a temperature range of -40°C to +90°C
- Crack-bridging up to 2mm (max. -10°C)
- Water vapour permeability
- Excellent adhesion to the substrate
- Excellent UV resistance
- Defects can be easily repaired locally within minutes
- Highly cost effective

APPLICATIONS

- Waterproofing of roofs, balconies and terraces
- Waterproofing of wet areas (under-tile) in bathrooms, balconies, kitchens, etc
- Protection of polyurethane foam insulation and alternative insulation panels
- Waterproofing of flowerbeds and foundations
- Waterproofing and protection of concrete constructions like bridge-decks, tunnels, etc.

INSTRUCTION FOR USE

Substrate preparation

Careful surface preparation is very important for optimum finish and durability.

1. The surface needs to be clean, dry, sound and free of any contamination that may harmfully affect the adhesion of the membrane.
2. Maximum substrate moisture content should not exceed 5%.
3. New concrete structures need to dry for at least 28 days.
4. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by mechanical means such as a sanding machine. Possible surface irregularities need to be smoothed.
5. **Clean substrate thoroughly before application.**

Repair of cracks

The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

1. Clean cracks and hairline cracks, from dust, residues or other contamination.
2. Small cracks up to 2 – 3mm must be primed locally with solvent based primer **PU 900** and allow drying. Apply locally one

coat of **PU FLEX 1000** and on the wet coat dip a fibre net (30gr/m²) or fibre tape (60gr/m²) 4 - 10cm wide and recoat with **PU FLEX 1000**.

3. Larger cracks and expansion joints must be primed locally with polyurethane primer **PU 900** and filled with polyurethane sealant **BONDFLEX 290 LM**.

Priming

1. Prime absorbent surfaces like concrete, cement screed, wood with solvent based primer **PU 900**. Allow drying for 2 – 4 hours.
2. Prime non-porous or difficult surfaces (metal, ceramic tiles, plastics) with epoxy based primer **EPOXITE DUR AQUA**.

Application

1. Stir well before use and dilute **PU FLEX 1000** up to 10% with **DIL X 100** solvent.
2. Pour the **PU FLEX 1000** onto the primed surface and spread it using a roller or brush, until all surface is covered. You can use airless spray allowing a considerable saving of manpower.
3. After 12 hours (not later than 36 hours) apply another layer of the **PU FLEX 1000** crosswise. If necessary, apply a third layer of **PU FLEX 1000**. For larger areas, airless spray application is recommended to save time.

RECOMMENDATION: Reinforcement of the entire surface, with the fibre mesh 60 – 90gr/m² is recommended. Use 5-10cm stripe overlapping. Reinforce always with the fibre cloth at problem areas, like wall-floor connections, chimneys, pipes, waterspouts (siphon), etc. In order to do that, apply on the still wet **PU FLEX 1000** a correct cut piece of non-woven fibre cloth, press it to soak, and saturate again with enough **PU FLEX 1000**.

ATTENTION: Do not apply **PU FLEX 1000** over 0,6 mm thickness per layer (0,9kg/m²). For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures delay curing while high temperatures speed up curing. High humidity may affect the final finish.

CLEANING

Clean all equipment immediately after use with polyurethane solvent DILX 100

COVERAGE

1,2 – 1,8kg/m² applied in two or three layers.

LIFETIME EXPECTANCY

PU FLEX 1000 offers a predicted waterproofing duration of 25 years by strictly following its application instructions (substrate preparation, priming, application) using reinforcing fibernet on the entire surface: 60 – 90 gr/m² and application of the material in at least three layers with a minimum consumption of 1,5kg/m² or 1,0 kg/m² with an additional coat of the 100% aliphatic coating **PU FLEX 2000**. Check the quality of the surface regularly, as in case the membrane is damaged locally by dropped objects or other inappropriate use it will have to be repaired locally with the material itself.

Evochem®

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TECHNICAL CHARACTERISTICS

Base: Polyurethane resin

Colour: White, Grey

Elongation at break: 800 ± 5 % According to ASTM D 412

Tensile strength: 7,5 ± 5% N/mm² According to ASTM D 412

Water vapour permeability: 15 ± 10% gr/m²/day ISO 9932:91

Resistance to water pressure: No leak (1m water column, 24h)
According to DIN EN 1928)

Adhesion to concrete: 2,2 ± 10% N/mm² (concrete surface failure according to ASTM D 903)

Hardness (Shore A Scale): 80 ± 15% According to ASTM D 2240)

Rain stability time: 3-4 hours (20° C, 50% RH)

Light pedestrian traffic time: 12 - 36 hours (20° C, 50% RH)

Final curing time: 7 days (20° C, 50% RH)

Chemical properties: Good resistance against acidic and alkali solutions (10%), detergents, seawater and oils.

QUV Accelerated Weathering Test 2000h: 4 h UV: (UVB Lamps, 60°C) & 4 h CONDENSATION at 50°C – No significant changes

VOC (Volatile organic Compounds) CONTENT: (Directive 2004/42/CE) EU maximum VOC content limit values for this product (category A1(SB): «One-pack performance coatings»): 500 gr/l (2010). This product contains maximum 490 gr/l VOCs (ready for use product).

STORAGE

Store in dry and cool storage conditions at temperatures 5°C - 35°C. Protect from moisture and direct sunlight

SHELF LIFE

At least 12 months in unopened containers. Products should remain in their original unopened containers, bearing the manufacturers batch number.

PACKAGING

White: 1kg, 6kg, 25kg

PACKAGING	CODE	BARCODE
White		
1kg	5308	5204094053088
6kg	68000	5204094051114
25kg	68001	5204094051121

HEALTH AND SAFETY INFORMATION

Consult recent Safety Data Sheet before application.

UFI: VCJ0-G0R6-300U-FM2H



CE MARKING	
EVOCHEM S.A. Tzavredella Place 13341, Fyli, Attica, Greece	
24	
DoP No.: 1	
EN 1504-2:2004	
MERCOLA PU FLEX 1000	
Surface Protection Products - Coating	
Permeability to CO2	SD > 50 m
Permeability to water vapour	Class I, SD < 5 m
Capillary absorption and permeability to water	w < 0.1 kg / m ² · h ^{0,5}
Adhesion strength by pull off test	≥ 1.0 N/mm ²
Artificial weathering	Pass
Euroclass F	Reaction to fire
Dangerous substances	Comply with 5.3

The directives contained in this technical data sheet are the result of our long experience from real life applications and the research testing of our research and development laboratory and have been submitted in good faith. Because of the diversity of the materials and substrates and the great number of possible applications, which are beyond our control, we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments. We are liable only for our products for being free from faults and of consistent quality. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. The present edition of this technical datasheet automatically cancels any previous ones concerning the same product.



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