

DESMOFLEX PU

Liquid-applied polyurethane waterproofing membrane (1K)

DESCRIPTION

The **DESMOFLEX PU** is a polyurethane based, white, glossy one component used for long term waterproofing. Due to its polyurethane technology, provides solutions to problems of waterproofing where the rest methods fail, like to surfaces with stagnant waters and ices.

The **DESMOFLEX PU**, is based on pure elastomeric hydrophobic polyurethane resins, which result in excellent mechanical, chemical, thermal, UV and natural element resistance properties. The **DESMOFLEX PU** polymerizes with the moisture of the subsoil and air.

FIELDS OF APPLICATION

- Waterproofing of roofs and terraces.
- Waterproofing of balconies and verandas.
- Under-tile waterproofing in balconies, bathrooms, kitchens etc.
- Protection of polyurethane foam insulation.
- Waterproofing of flowerbeds and planter boxes.
- Protection of asphalt felts waterproofing of old Bitumen felts, Asphalt felts, EPDM and PVC membrane sand old Acrylic coatings
- Waterproofing and protection of constructions from concrete like bridge-decks, tunnels, bases, etc.

ADVANTAGES - CHARACTERISTICS

- Simple application (one component, ready for use)
- During the application polymerizes and creates a seamless elastic hydrophobic membrane without joints.
- Does not hydrolyzes and can be applied to places with stagnant waters.
- Resistant to microorganisms
- Crack-bridging up to 2mm, even at -10 °C.
- Can leave the substrate to breathe.
- Provides excellent adhesion to the whole surface.
- Resistant to detergents, oils, seawater and domestic chemicals
- Does not smooth in the summer and does not harden in the winter, as it maintains its mechanical properties over a temperature span of -30 °C to +80 °C.
- The surface remains passable.
- In case of mechanical damage to the membrane, it can be easily repaired in a few minutes.
- Certified as resistant to root penetration.
- Provides resistance to frost.
- Provides excellent sun light resistance, by giving better thermo insulation results.
- Provides excellent resistance to the sun.
- Over 15 years of possible repaint

SURFACE PREPARATION

The careful preparation of the surface is important in order to have excellent result and high durability. The surface has to be clean, dry, without damages and free of any contamination which can affect negatively the adhesion of the membrane. Remove all old, loose coatings and dust. New concrete structures need at least 28 days in order to dry.

Maximum moisture content should not exceed 5%. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothed. Any loose surface pieces and grinding dust need to be thoroughly removed.

APPLICATION

BE CAREFUL: Do not clean the surface with water.

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

Repair of cracks: Clean the cracks from dust, residue or other contamination. Prime locally with the primer **DESMOFLEX EPOXY PRIMER** and allow 2-3 hours to dry. Fill the cracks with the sealant **ELASTO PU**. Then, apply locally fair enough of waterproofing material **DESMOFLEX PU**, and while wet, cover with a suitable cut stripe of THRAKON fabric of 60g/m², width of 20 cm, centered over the crack. Press the stripe with a metallic roll in the liquid in order to be irrigated. Then, saturate enough waterproofing material **DESMOFLEX PU**, until presented full repletion.

Repair of joints: Clean expansion joints and control joints of dust, residue or other contamination. If the joint is too small, use cutting machine in order to widen it to the prescribed size. The prepared movement joint should have a depth of 10-20mm. The width-depth ratio of the movement joint should be 2:1. With a brush, apply waterproofing material **DESMOFLEX PU** of 20cm width, centered over and inside the joint. Place a stripe of polyester geofabric over the wet material and with a suitable tool press the stripe deeply in the joint, till its internal surface to be fully covered with the geofabric. Apply over the fabric fair enough waterproofing material **DESMOFLEX PU**, till repletion. Then, place in the joint a suitable polyurethane cord and fill in the remaining free space of the joint with the sealant **ELASTO PU**. Allow it for 12 to 18 hours in order to be polymerized.

Priming: Prime absorbent and non-absorbent surfaces like concrete (also prime fresh concrete), cement screed or wood metal, bituminous membranes, ceramic tiles and old acrylic coatings with the **DESMOFLEX EPOXY PRIMER**.

Application of waterproofing membrane:

After approx. 6-12 hours (not later than 24 hours) and while the **DESMOFLEX EPOXY PRIMER** is still a bit tacky, apply the polyurethane coating **DESMOFLEX PU**. Pour enough of **DESMOFLEX PU** onto the prepared and primed surface and lay out by roller or brush. Continue with the same way till the surface for waterproofing is fully covered.

After 12 hours (till 48 hours), apply another layer of **DESMOFLEX PU**. For bigger surfaces, apply a third layer of the product.

RECOMMENDATION: We recommend the reinforcement of **DESMOFLEX PU** with polyester geofabric THRAKON fabric of 60g/m² to the whole surface for waterproofing. Use 5-10cm stripe overlapping. Reinforce carefully with the polyester fabric all the critical points like connections of walls- floors, exits of ventilations, pipings etc. In order to do that, apply on the wet **DESMOFLEX PU** a suitable correct cut piece of polyester fabric and press it with a metallic roll in order to be irrigated. Then, apply onto the fabric fair enough **DESMOFLEX PU**, until repletion.

ATTENTION: Do not apply the **DESMOFLEX PU** over 0.7mm thickness per layer. For excellent results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperatures speed up it. High humidity may affect the finishing.

Finishing: For excellent results, cover the whole waterproofed surface with one layer of the elastic protection paint **DESMOFLEX TOP COAT**. The use of **DESMOFLEX TOP COAT**, is recommended especially when applied dark colors exposed to the sunlight. (after 12-24hours of **DESMOFLEX PU**)

In case of the surface is going to accept heavy circulation of pedestrians (e.g. stadium shuttles), apply two layers.

CONSUMPTION

1,4-2,4 kg/m² applied in two or three layers. We recommend the application of **DESMOFLEX PU**,

reinforced either locally or to the whole surface with the polyester THRAKON FABRIC (60 g/m²).

PACKAGING

The **DESMOFLEX PU** is supplied to pails of 25kg and 6kg. The pails must be stored in dry and cool rooms for up to 9 months from production date. Protect the pails from humidity and sunlight.

Temperature of storing: 5-35°C. The product should remain in its original, unopened pail, by bearing the manufacturer name, its description, the batch number and application precaution label.

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PRECAUTIONS

Read the information on the label and MSDS of the product before using.

Wear suitable protective clothes and gloves.

Technical Data

TECHNICAL CHARACTERISTICS	VALUE	STANDARD
Composition	Polyurethane membrane	
Elongation at break	900 + 80 %	ASTM D 412
Tensile strength	6+ 0,30 N/ mm ²	ASTM D 412
Capillary absorption (EN 1062-3, requirement of EN 1504-2: w < 0.1)	0.01 kg/m ² ·h ^{0.5}	EN 1504-2
Resistance to water pressure	No leak	DIN EN 1928 A
Adhesion to concrete	>2 N/mm ² (concrete destruction)	ASTM D 903
Hardness (Shore A scale)	65 + 5	ASTM D 2240
CO ₂ permeability:	Sd > 50m	EN 1504-2
Water vapor permeability EN ISO 7783-2, permeable,Class I < 5m	Sd=0.72m	EN 1504-2
Artificial weathering: (EN 1062-11, cracking or after 2000h)	Pass (no blistering, flaking)	EN 1504-2
Spectral reflectance (SR)	86 %	ASTM E903-12 and G159-98
Infrared emittance factor	0,87	ASTM C1371-04α
Solar reflective index	108	ASTM E1980-11
Reaction to fire (EN 13501-1)	Euroclass F	EN 1504-2
Rain stability time	7-24 hours after the application	Conditions: 20°C, 50% RH
Light pedestrian traffic time	12-18 hours	
Final curing time	7 days	
Chemical strengths	Good: Acidic and alkali solutions (10%), common detergents, oils and seawater.	

Remark: The tests have been performed in laboratory conditions of +23°C temperature, 50% relative humidity and with no fresh air. It is possible to differ in comparison with the conditions of sites such as temperature, humidity, ventilation and absorbcency of substrate.

The technical information and instructions contained in the present brochure and referring to the application and end use of Thrakon products are based on the up to now know-how and experience of the Company with regards to the products and are provided in good faith as long as such products are stored, used and applied as per Thrakon recommendations. Due to the inability, on our part, to directly inspect the conditions prevailing at the worksite as well as the application procedures of the product, the Company does not provide any guarantee with regards to the adequacy of its products for specific purpose while the Company shall not bear any legal responsibility based on the information stated in the present brochure or any other written, oral, or otherwise provided recommendations and instructions. The users of the products are advised to perform a limited surface testing of the products adequacy for the eventual application and use intentions. Thrakon reserves the right to modify the features of its products without prior notification. All orders shall be approved only following acceptance of the above and under the eventual Commercial Policy terms of the Company. The issuance of the present brochure voids any prior version.