TIKIDAN
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TECHNICAL FILE
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DANOCOAT® 250

Waterproofing

Continuous and union-free hybrid polyurea hot-sprayed liquid membrane for more demanding waterproofing, protection and sealing works.

WATERPROOF | GOOD ELASTICITY | RESISTANCE TO FREEZE-THAW CYCLES | VERY GOOD BONDING | SOLVENT-FREE NO PLASTICIZERS | BICOMPONENT | STORM RESISTANT

1. PRODUCT DESCRIPTION

DANOCOAT 250 is a two components solvent and plasticizer-free aromatic hybrid polyurea based membrane, with 100% of content in solids and cures in a few seconds; for a waterproofing with high elasticity and crack bridging capacity. DANOCOAT 250 can only be applied by being projected with proper equipment.

1.1 Uses

DANOCOAT 250 is a versatile material, fit for waterproofing and protection coating in several types of supports.

1.2. Application fields

- Waterproofing of roofs, terraces and balconies
- Waterproofing of benches and access staircases
- Waterproofing of pedestrian crossings
- Pavements and parking lot roofs
- Waterproofing of pools, retaining basins, tanks and silos
- Waterproofing and protection against metallic surface abrasion
- Protection of concrete steel and other materials in any chemically aggressive environments

1.3. Compatible supports

Concrete, ceramics, steel, metal sheet, aluminium, PVC, asphalt membranes, >50 kg/m3 density polyurethane foam, wood, etc.

1.4. Advantages

- Excellent waterproofing and leak resistance
- Continuous, union-free membrane with excellent bonding, adaptable to any geometry of the support
- Good chemical resistance, especially in stagnant waters and hydrolysis
- Excellent resistance to temperature variations (-40°C to +140°C)
- High elasticity able to bridge cracks, including at low temperatures
- Instant curing and drying in just a few seconds
- Fast work execution without any inconveniences
- Able for vehicle and pedestrian traffic
- Resistant to penetration by roots
- Application of high thickness with one single coat. Aesthetic finishing with multiple colours and textures
- Eco-friendly: solvent and plasticizer-free

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2. TECHNICAL DATA

PRODUCT DATA		
	COMPONENT A (Isocyanate prepolymer)	**COMPONENT B** (Polyol/Polyamine)
COLOUR	Yellowish	See colour in package
PRESENTATION	225 kg can	210 kg can
DENSITY (g/cm3) at 23°C	1.11 ± 0.02	1.05 ± 0.02
VISCOSITY (MpA.S.) AT 23°c	750 ± 150	550 ± 100
CONTENT OF SOLIDS	100%	100%
RELATION A/B (in weight)	106/100	
RELATION A/B (in volume)	100/100	
APPLICATION DATA		
TEMPERATURE COMPONENT (°C)	70-80	65-75
TEMPERATURE OF THE HOSE (°C)	70-75	
APPLICATION PRESSURE (bar)	160-200	
GELATION TIME (s) at 70°C	<5	
DRY TO THE TOUCH (s) at 70°C	15-20	
SUPPORT/AMBIENT TEMPERATURE (°C)	+5° / +40°C (3°C above dew point)	
RELATIVE HUMIDITY	< 85%	
PROPERTIES OF THE APPLIED PRODUCT		
SHORE A/D 15s (ISO 868)	90/43	
ELONGATION TO RUPTURE (ISO 527-3)	> 400%	
TENSILE STRENGTH (N/mm2) (IS 527-3)	> 21	
RESISTANCE TO ABRASION(mg) ASTM D4060 (H18/1000)	> 125	
ADHESION TO CONCRETE (with primer DANOPRIMER EPS) (N/mm2) EN 1542	> 2.0 (rupture of the substrate)	
DRYING TIME	Light pedestrian traffic: 10min. Intense pedestrian traffic or vehicle traffic: 24h	

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3. PREPARATION OF THE SUPPORT

3.1 Characteristics of the support

The support must be cohesive, without loose particles, free from cracks or crevices, with regular surface texture and a tensile strength higher than 1.5 N/mm2. Any previous coatings must be eliminated from the support. The support must be clean, dry, without oils, greases, surface slurries or other elements that may harm the adherence.

3.2 Selection of the primer

SUPPORT	PRIMER	YIELD* (g/m²)
CONCRETE	Danoprimer EP/Danoprimer EPS	300-500
PVC	Danoprimer PU	50-100
WOOD	Danoprimer PU	50-150
BITUMINOUS MEMBRANES	Danoprimer PU2K	200-300
POLYESTER	Danoprimer PU	50-100
METALLIC SUPPORTS	Danoprimer PU	50-100
FIBRE CEMENT	Danoprimer EPS/ Danoprimer PU	200-300 / 100-150
NON POROUS CERAMIC SUPPORTS	Danoprimer PU	100-150
ASPHALT AGGLOMERATE	Danoprimer PU2K	200-300

*The indicated yields are approximate and will depend on each case of conditions of the support

3.3 Preparation of the support

*** Concrete**

The support must be at least 28 days of curing and a compression resistance equal or higher than 25 MPa.

The residual moisture content must be lower than 4% (for a higher residual humidity, contact the technical department). The temperature of the substrate must be, at least, 3°C above dew point temperature.

All loose particles, or contaminants, that affect the adherence, must be eliminated by using mechanical means: milling, sanding or gritting; aiming to regularize the surface and open pores, in order to enable a good adherence by the primer.

Before applying the primer, the support's defects must be repaired. The existing holes or areas with lack of material must be filled with DANOPRIMER EP epoxy resin, mixed with sand in the approximate relation of 1:4, depending on ambient temperature, or with R3 type repair mortar.

Apply one coat of bicomponent epoxy based DANOPRIMER EP primer, with an approximate yield of 300 to 500 g/m², depending on the support's porosity.

After applying the primer coat, the cracks must be opened with a diamond disc until reaching a depth of 1 to 2 cm, vacuum the generated dust and fill with ELASTYDAN PU40 polyurethane base elastic mastic. If the cracks present dislocation, apply afterwards in the whole length, a DANOBAND Butyl self-adhesive tape with 75mm width.

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In the case of very porous, irregular supports, or to generate a vapour barrier, it must be applied a second coat of primer with a spatula, type DANOPRIMER EP, mixed with 0.063mm-0.3mm sand, in the approximate relation of 1:1, depending on the ambient temperature.

Afterwards, spray with 0.3mm-0.6mm sand on the still wet layer, with a proportion of approximately 1kg/m^2, to improve the membrane's adherence.

***Metal/Steel**

The metallic surfaces must be prepared with a SA 2.5 grading with sand blast. To eliminate oils and greases, clean with a solvent.

Apply DANOPRIMER PU primer, with a relation of approximately 50 to 100 g/m^2. Apply the primer before in the following 8 hours after the sandblast treatment to avoid oxidation of the surface.

***Asphalt membranes / PVC membranes**

The surface must be clean with pressurized water and left to dry. The membrane must be glued to the support. If there are any detached areas, it must be cut and glued with DANOPRIMER PU2K primer.

Apply DANOPRIMER PU primer with a relation of approximately 50 to 100g/m^2.

In the case of asphalt membranes with mineral self-protection, it must be applied DANOPRIMER PU2K primer with a relation of approximately 200 to 300 g/m^2.

*** Sheet metal/Sandwich panel**

The surface must be clean with pressurized water and left to dry. Eliminate oxides with mechanical resources. Apply DANOPRIMER PU primer, with a relation of approximately 50 to 100 g/m^2.

In all the joints between the panels it must be applied a DANOBAND Butyl self-adhesive tape with 75mm width.

*** Ceramics**

Clean the surface with a diamond or carborundum disc to open the pores and clean the efflorescence. Afterwards vacuum to eliminate dust.

All ceramics must be properly bonded. Fill the joints with DANOPRIMER EP epoxy resin mixed with sand in an approximate relation of 1:4, depending on ambient temperature.

Apply DANOPRIMER PU primer, with an approximate relation of 100 g/m^2.

3.4 Primer curing times

In the following table it are indicated the minimum and maximum waiting times fro a proper curing of the primers, before projecting the membrane. The indicated times are merely indicative and may vary depending on environmental conditions, mainly regarding the relative humidity.

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PRODUCT	MINIMUM TIME (HOURS)			MAXIMUM TIME (HOURS)		
	Temperature of the support			Temperature of the support		
	10° C	20° C	30° C	10° C	20° C	30° C
DANOPRIMER EPS	24	12	6	72	48	24
DANOPRIMER EP	12	8	4	72	48	24
DANOPRIMER PU	12	6	5	72	48	48
DANOPRIMER PU2K	12	4	3	72	48	48

4. APPLICATION MODE

4.1 Application equipment

DANOCOAT 250 is applied using high pressure projection equipment for two components with heating and a 1:1 mixing relation in volume. For example, Graco Reactor E-XP2, H-XP2 or Range Evolution G-30H, G-250H.

4.2 Proof of the environmental conditions

Before starting the projection, check if the environmental and support's conditions are adequate:

- Temperature between +5°C and +40°C, and relative humidity <80%
- Wind speed <20km/hour
- Humidity of the support <4%
- Temperature of the support, at least 3°C above dew point temperature

4.3 Preparation of the product

Shake component B for at least 4 minutes with a mechanical low revolutions shaker (300 to 400 rpm), until there is a homogenous mix. It is recommended to keep shaking component B during the whole application at very low revolutions to keep its homogeneity.

Place the equipment in recirculation and heat the components until reaching the recommended temperatures.

It must be made initial projection tests to prove the correct mix and component dosage, proving the aspect and dry to the touch, as well as verify the thickness obtained depending on the number of coats. Repeat these proofs in periodical intervals during the application.

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4.4 Application of the membrane

The membrane must be applied continuously, making a homogenous distribution of the product in its entire surface, with a relation of 2 kg/m2 of product, corresponding, on a flat support, to a 1.9mm thickness. In irregular supports, the application per m2 must be increased to maintain the minimum recommended thicknesses.

Consult the technical department on proper thicknesses for each type of use and system.

4.5 Repainting intervals

The following table indicates the minimum and maximum time intervals to repaint on the DANOCOAT 200 membrane of the wear layer, seal and protection layers or application of the same membrane DANOCOAT 200 in the case of work joints, without having the need to reactivate the surface.

PRODUCT	MINIMUM TIME (HOURS)			MAXIMUM TIME (HOURS)		
	Temperature			Temperature		
	10° C	20° C	30° C	10° C	20° C	30° C
DANOCOAT 250	Immediate			6	4	2
WEAR LAYER	3	2	2	48	24	16
TOP COAT	3	2	2	24	18	12

In the case of having interrupted the application and the indicated maximum repaint times have been overtaken, the surface membrane must be reactivated with a coat of DANOPRIMER PU as connection bridge.

If the interruption of the works is for a period longer than 2 weeks, than sand the surface of the membrane, clean with solvent and apply the DANOPRIMER PU connection bridge.

4.6 Sealing and finishing coat

DANOCOAT 250 is an aromatic hybrid polyurea which, when exposed to UV rays, suffers a discoloration that causes an aesthetical change, although its mechanical properties are not affected.

Notwithstanding, to ensure a durable aesthetical effect, we recommend the application of a sealing layer type DANOCOAT PAS 700, based on a polyaspartic, "asphaltic polyurea", manually applied at ambient temperature using a brush or airless. It also enables to make anti-slip finishing, adding, to the sealing coat between 5% and 10% of the weight in DANOCOAT non-slip synthetic chips. It may be added until 5% of thinner to achieve a larger application.

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5. NOTES

• The treatment of occasional points must be made according to the indications of the Solutions Manual.

• The DANOCOAT systems must be applied solely by certified installers.

• Cover the surrounding elements to avoid being stained during the projection of the membrane. In the case of wind, verify if it does not carry particles that can damage other buildings, vehicles, etc.

• Do not dilute, nor add any other component that may change the characteristics of the product DANOCOAT 250.

6. STORAGE

Keep the containers hermetically sealed and protected from extreme temperatures (store between 15°C and 25°C) for a period no longer than 12 months at 20°C / 50% R.H. The last four digits of the lot number indicated in the tag correspond to the product's manufacturing date (month/year).

7. SAFETY AND HYGIENE INSTRUCTIONS

See the safety files of the two components.

8. LEGAL NOTES

All the information provided in this document is merely indicative, corresponding to our experience and current state of technical knowledge. It does not assume any contract agreement in respect of third parties. It is indispensable to conduct previous tests to verify the products adequacy for the intended use. Any doubt must be presented to our technical department.
You must always check if you are consulting the last edit of the technical file.