DANOCOAT I-500

Spray Applied Elastomeric Hybrid Polyurea Waterproofing Coating

DESCRIPTION

DANOCOAT I-500 is two components solvent free plural spray applied elastomeric aromatic hybrid polyurea waterproofing coating, which cures very rapidly in few seconds to form a highly durable elastomeric waterproofing and protection film exhibiting a high degree of performance, abrasion and chemical resistance.

The elastomeric film of **DANOCOAT I-500** exhibits outstanding elongation and toughness, abrasion, impact and chemical resistance, tensile and tear strength and adhesion to the substrates, making it highly suitable for use on concrete, ceramics, steel, metal sheet, aluminum, PVC, asphalt membranes, PU foam (density of 40 to 50 Kg/m^3), wood, etc.

The two components (Resin & Hardener) of **DANOCOAT I-500** is applied using plural high-pressure projection equipment for two components with in-built heating arrangement with mixing relation of 1:1 by volume, such as Graco Reactor E-XP2, H-XP2 or Range Evolution G-30H, G-250H.

ADVANTAGES

- Excellent waterproofing and leak resistance.
- Excellent bonding and adaptable to complex geometry of support.
- Good resistance to chemical spillages and hydrolysis.
- Fast work execution without any inconveniences.
- Abrasion resistance - suitable for vehicular and pedestrian traffic.
- Resistant to penetration by roots.
- High build - application of high thickness in single coat.
- Free of solvent.
- Aesthetic colours - grey, black and tan shades.
- High elasticity and crack bridging ability.
- Instant curing and drying in few seconds.

USES

DANOCOAT I-500 is designed to waterproof and protect various substrates against water ingress, abrasion and corrosion encountered in buildings, industries and infrastructure projects, which covers to include:

- Roofs and terraces
- Retaining Walls.
- Pavements and parking deck
- Bridges under the asphalt
- Linings of sewage & waste water treatment plants
- Internal and external pipelines
- Secondary containment and retaining areas
- Swimming pools and pond liners
- Marine and offshore installations
- Benches, staircases and other areas
- Lining truck beds

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Metals: Clean the metal surface as per SSPC SP-1. Abrasive blast cleaning of metal is done as per SSPC SP-10. The metal surface must be dry and dust free before applying primer. Apply polyurethane based metal primer **TIKI PRIME PUHS** @ 6 to 10 m^2/Kg. Allow primer to cure for 8-12 hours.

Concrete: Clean the concrete surface thoroughly as per ASTM D 4258. Abrasive blast cleaning of concrete surface is done as per ASTM D 4259. The prepared concrete surface should be dry and free from surface condensation and rising moisture, surface porosity, honeycomb etc. Temperature of concrete substrate must be at least 3^0C above dew point temperature.

Over the clean concrete surface, suitable Epoxy based primer recommended by TIKIDAN should be applied depending upon the site conditions.

If the time is lapsed for more than 24 hours after application of primer, abrade the primed surface to provide mechanical key to subsequent coats.

APPLICATION

DANOCOAT I-500 is applied after the applied primer is dry, using high pressure projection equipment for two components with heating arrangement and a 1:1 mixing by volume.

Before starting the application, check for the adequate weather and substrate conditions:

- Ambient temperature -5^{0}C to +50^{0}C
- Relative humidity <85%
- Substrate surface moisture <4%
- Temperature of the support, at least 3^{0}C above the dew point temperature

The liquid membrane **DANOCOAT I-500** must be applied continuously, making homogenous distribution of the product on primed surface at recommended rate to build required thickness. On irregular supports, the application rate per m^2 must be increased to maintain recommended thickness. During application, the spray pressures between resin and hardener components should be balanced. The difference must not be greater than 10-15%. If this difference is greater, than the application may result in blisters, pinholes and soft or brittle films or ultimate failure.

The applied coating of **DANOCOAT I-500** can be left exposed to U.V, however, on exposure there could be change in colour and slight deterioration in performance parameters. For additional protection and extended durability, a U.V resistant protective topcoat of DANOCOAT PAS 600/DANOCOAT PAS 700 or as recommended by TIKIDAN should be applied over the applied DANOCOAT I-500 for exposed conditions (as per the site requirement).

CLEANING

Immediately after application of **DANOCOAT I-500**, use suitable solvent for cleaning application tools.

APPLICATION DATA

Mix Ratio - Part A : Part B (Resin : Hardener)	1:1 by Volume
Thickness at Stipulated Application Rate	0.50 to 1mm (Primed Steel) 1 to 3mm (Primed Concrete)
Theoretical Coverage*	1 m^2/ltr. @1mm thickness
Relative Humidity	<85 %
Tolerance to Surface Moisture	Up to 4%
Open Time	6 seconds

*Coverage is approximate and it depends upon the site conditions and surface porosity at the time of application.

PROPERTIES

Properties**	**Values**	**Test Standard**
Solid Content (Zero VOC)	100 %	ASTM C1250
Tensile Strength	15 ± 1 N/mm^2	ASTM D412
Elongation	≥500 %	ASTM D412
Tear Strength	≥60 N/mm	ASTM D624
Water Permeability	Nil at 7 bar	DIN 1048
Water Vapour Transmission	≤0.40 gm/m^2/day	ASTM E96 Method B
Shore A Hardness	≥85	ASTM D2240
Adhesion to Primed Concrete, 7 Days	2-4 MPa (Concrete Failure)	ASTM D7234
Abrasion Resistance, CS17 Wheel, 1000g, 1000 Cycles	≤20 mg	ASTM D4060
Puncture Resistance	1000 N	ASTM E154
Static Crack Bridging	2.5 mm	EN 1062-7(A)

** Mentioned values are based on testing under ideal laboratory conditions. Actual test results are subjected to 5-15% tolerance due to circumstances which are beyond our control, viz: variation in test methods, sample preparation, test temperatures & conditions, manual errors, etc. TIKIDAN reserves the right to change the properties of its products without prior notice.

STORAGE

DANOCOAT I-500 must be stored above 5^{0}C. Store under the shed & protect from extremes of temperature, heat, direct sunlight, and children.

SUPPLY

The components of **DANOCOAT I-500** is supplied in 200 liter M.S barrels consisting of Component-A: 225 Kg. and Component-B: 206 Kg. **DANOCOAT I-500** has a shelf life of 6 months in the unopened containers.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage.

Chemical Resistance Chart for Cured Coating Tested as per ASTM D1308 at 23^{0}C, 7 Days			
Test Media	Results	Test Media	Results
Acetic Acid, 10%	R	Lactic Acid, 20%	R
Acetone	R-C	Methanol	R-C
Ammonia, 33%	R	Nitric Acid, 5%	R
Ammonium hydroxide, 10%	R	Nitric Acid, 20%	NR
Ammonium Nitrate	R	Petrol	R-Dis
Ammonium Phosphate	R	Phosphoric Acid, 10%	R
Brake Fluid	R-C	Phosphoric Acid, 50%	NR
Butanol	R-C	Potassium Hydroxide, 50%	R
Chlorine (2000 ppm in water)	R	Sea Water	R
Citric Acid, 50%	R	Sodium Chloride, 10%	R
Detergent Solution	R	Sodium Hydroxide, 25%	R
Diesel Fuel	R	Sodium Hydroxide, 50%	R-Dis
Distilled Water	R	Sulphuric Acid, 10%	R
Hydraulic Oil	R-Dis	Sulphuric Acid, 50%	NR
Hydrochloric Acid, 10%	R	Toluene	R-C
Hydrochloric Acid, 20%	R-C	Urea Solution, 10%	R
Hydrochloric Acid, Concentrated	NR	Lactic Acid, 20%	R
Isopropyl Alcohol	R	Methanol	R-C
Kerosene	R	Nitric Acid, 5%	R

R: Recommended (little or no visible damage)
R-C: Recommended Conditionally (some swelling, discoloration, softening - wash down within 1 hour of spillage)
NR: Not Recommended
R-Dis : Resistant - Some discoloration only

Note: As not all possible exposure conditions can be covered, the above information may be used in conjunction with one's good judgment to choose the best system to resist a specific chemical exposure. The service life is dependent upon proper surface preparation and application, as well as the length and frequency of exposure to the chemical. The chemical resistance detail given above is a guideline based on laboratory testing against individual chemicals/solutions under controlled conditions. However, the combination of above chemicals may have different impact on the results. The results from the field may vary due to actual conditions on site.

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