WATERPROOFING POLYURETHANE ELASTOMERIC COATING FOR WATER TANKS

DESCRIPTION

PENECOAT[™] SF ELASTIC is an elastic, two component polyurethane coating, free of solvents, for long lasting waterproofing. Based on the polyurethane technology, PENECOAT[™] SF ELASTIC can be used in even demanding applications, such as potable water tanks. It cures by reaction (cross linking) of the two components.

RECOMMENDED FOR

PENECOAT[™] SF ELASTIC can be used on surfaces in contact with potable water. It can be used on surfaces with insufficient ventilation, as it is free of solvents.

- Waterproofing potable water reservoirs/tanks (fully reinforced)
- Waterproofing channels and pipes of potable water (fully reinforced)
- Fire protection cisterns or watering systems
- Swimming pools (under tiles)
- Odorless waterproofing of various applications, below tiling in bathrooms, kitchens, balconies, pool channels, etc

ADVANTAGES

- Certified for use in potable water reservoirs/tanks
- Easy to apply
- > When applied, it cures and creates a uniform hydrophobic membrane without joints
- Not hydrolyzed
- Flexible. Crack bridging
- Ensures excellent bonding on the surface
- Maintains its mechanical properties over a temperature span of -30 °C to 90 °C (-22 °F to 194 °F) Not suitable for tanks and reservoirs with water over +60 °C (140 °F). No seasonal softening or hardening occurs
- Surface can return to service
- Full surface adherence
- > The membrane can be easily repaired locally within minutes in case it gets mechanically damaged
- Low cost



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TECHNICAL CHARACTERISTICS

Characteristics	Test Result	Test Method
Composition	Polyurethane resin + Hardener	
Color	Off-White	-
Mixing ratio	A : B = 6 : 1 (by mass)	
Resistance to water pressure	No leakage (1m water column, 24h)	DIN EN 1928
Elongation at break	> 60% (without reinforcement)	ASTM D 412
Adhesion to concrete	> 2 N/mm ² (concrete failure)	ASTM D 903
Hardness (Shore A Scale)	70 ± 5	ASTM D 2240
Solids content	100%	CALCULATED
UV accelerated ageing, in the presence of moisture	Passed – No significant changes	EOTA TR-010
Hydrolysis (5% KOH, 7 days cycle)	No significant elastomeric change	Inhouse Lab
Application temperature	5 °C to 35 °C (41 °F to 95 °F)	Conditions: 20 °C (68 °F), 50% RH
Workability time	30 min	
Curing time	6-8 hours	
Traffic time	24 hours	
Final curing time	7 days	
Chemical properties	Good resistance against acidic and alkali solutions (5%),	

detergents, seawater and oils

All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

DIRECTIONS FOR USE

Surface Preparation: The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the coating. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

NOTE: Careful surface preparation is essential for optimum finish and durability. Do not wash surface with water.

Expansion joint sealing: Prime the expansion joints with the appropriate primer (U-SEAL 110 for porous substrates). Apply a polyethylene backing rod, of the appropriate section (PENETRON® BACKING ROD) inside the joint and fill the joint with the appropriate sealer, U-SEAL or SiMP®SEAL.

Priming: Clean cracks and hairline cracks of dust, residue or other contamination. Fill all cracks with suitable mortar. Prime all surfaces with the PENEPOXTM SF PRIMER A+B, by roller or by brush [min. $0.05 \ 0.06 \ \text{lb/ft}^2 \ (250 - 300 \ \text{gr/m}^2)$]. Wait 12 hours to dry (but not more than 18 hours). **Mixing:** Stir thoroughly PENECOAT[™] SF ELASTIC A with a drilling mixer and a mixing wand, before use. Pour the content of PENECOAT[™] SF ELASTIC B into the PENECOAT[™] SF ELASTIC A and mix thoroughly with a low-speed drilling mixer and a mixing wand for about 3 minutes, until the mixture is completely homogeneous.

NOTE: The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the container.

Mixing ratios: Mixing ratio of PENECOAT^M SF ELASTIC is A : B = 6 : 1 (by mass).

Application: Apply the mixture of PENECOAT[™] SF ELASTIC onto the surface and lay it out by roller, brush or trowel, until all waterproofing surface is covered. 12- 18 hours later (but not later than 48 hours), apply a second layer of PENECOAT[™] SF ELASTIC A+B. For demanding or under-tile applications, 12- 18 hours later (but not later than 48 hours), apply a third layer of PENECOAT[™] SF ELASTIC A+B. If PENECOAT[™] SF ELASTIC A+B is to be covered with ceramic tiles, fully saturate with quartz aggregate sand 0,4-0,8mm (QUARTZ SAND MIX). The aggregates will create an adhesion bridge to the tile adhesive that will follow.

PRODUCT DATA SHEET

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Reinforcing membrane: Reinforcing PENECOAT[™] SF ELASTIC with FABRIC (in the first layer of wet product) across the coated surface, is highly recommended. Reinforce all critical spots with FABRIC, such as wall-floor connection, exhaust vents and piping, etc. While wet, put a correct-size piece of FABRIC on PENECOAT[™] SF ELASTIC, press it to soak and then apply enough amount of PENECOAT[™] SF ELASTIC, till saturation of the FABRIC. The use of FABRIC is expected to double the

PENECOAT[™] SF ELASTIC consumption per ft² (m²). Contact PENETRON HELLAS S.A. for detailed application instructions, regarding FABRIC.

Coverage: $1,2 - 1,5 \text{ kg/m}^2 (0,25 - 0,31 \text{ lb/ft}^2)$ applied in 2 - 3 layers. The use of FABRIC is expected to double the PENECOATTM SF ELASTIC consumption per ft² (m²).

SPECIAL CONSIDERATIONS

For the best results, the temperature application and curing should be between 50 °F to 95 °F (10 °C to 35 °C). Low temperatures cause curing retardation, while high temperatures speed up curing. High humidity may affect the final finish.

The material is recommended for structures that are not exposed to direct sunlight. If exposed to sunlight, the material shows partial yellowing and chalking effect, but generally maintains good mechanical properties.

Careful compliance with the time margins is essential for an excellent result.

All the produced mixture must be used immediately on the surface, as polymerization causes an exothermic reaction and the mixture hardens quickly, preventing from applying it properly.

When you apply PENECOAT[™] SF ELASTIC A+B, ensure that its consumption is inside the working time limits (30 minutes).

Hands and tools should be cleaned, before polymerization with the solvent PENECLEANER™ A PLUS.

Contact PENETRON HELLAS S.A. for further information, regarding your project.

PACKAGING

PENECOAT[™] SF ELASTIC A+B is available in 15+2,5 kg (33+5,5 lb) and 6+1 kg (13+2,2 lb) containers.

STORAGE / SHELF LIFE

PENECOATTM SF ELASTIC A+B can be stored for 12 months in its original packing (unopened container) at 5 °C – 35 °C (41 °F – 95 °F) in a cool, dry place. Keep away from wet areas and direct sunlight.

SAFE HANDLING INFORMATION

Good ventilation or appropriate respiratory equipment is advised. Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves, mask and goggles should be worn. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON[®] products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers. KEEP OUT OF REACH OF CHILDREN.

CERTIFICATION

PENECOAT[™] SF ELASTIC is certified by the current European and German regulations for use on surfaces with permanent contact with potable water. PENECOAT[™] SF ELASTIC is certified by the General Chemical State Laboratory, based on the German Standard Kunststoffe im Lebensmittelverkehr, par. 1.3.2.5.2), the Greek Standard (Codex Aliimentarius, articles. 21,21a,24,26,28) and the current European regulations. All test were carried out based on ELOT EN 1484, prEN 12873-1, prEN 14395-1 Standards.

PENETRON HELLAS S.A. 50 Thrakomakedonon Av., 136 79 Acharnes, Greece 22 1128-CPR-10.09.0479 DOP NO: 14.026-52-06D160922-05 EN 1504-2 PENECOAT SF ELASTIC Surface protection product - coating: Protection against ingress [Method 1.3] (Used with PENEPOX SF PRIMER) Linear shrinkage: NPD Coefficient of thermal expansion: NPD Adhesion by cross-cut test: NPD Permeability to CO₂: S_D > 50m Water vapour permeability: Class II: 5 m < S_D < 5m Capillary absorption and permeability to water: $\omega < 0.1$ ka/m².h^{0,5} Thermal compatibility: NPD Resistance to thermal shock: NPD Chemical resistance: NPD Crack bridging ability: NPD Adhesion strength by pull-off test: \geq 1,5 (1,0) N/mm² Reaction to fire: Class F Slip / skid resistance: NPD Behavior after artificial weathering: NPD Antistatic behavior: NPD Adhesion on wet concrete: NPD Dangerous substances: According 5.3

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WARRANTY - DISCLAIMER

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