

ELASTORAPID VK 260

PURE POLYUREA FORMULATED WITH AROMATIC ISOCYANATES AND PARTICULAR DIAMINES WITH DIFFERENT MOLECULAR WEIGHTS

IN COMPLIANCE WITH THE REQUIREMENTS OF THE 1504-2 EUROPEAN STANDARD:
Product for humidity control 2.2, physical resistance 5.1, chemical resistance 6.1, resistivity increase 8.2

Features

- Highly waterproofing.
- Very high curing speed and rapid reaching of the final mechanical characteristics.
- High resistance to hydrolysis, punching, abrasion, ageing, mechanical stress.
- Can withstand vehicle traffic.
- Application temperature from -20°C to +40°C without condensation.
- Operating temperature from -40°C to +90°C in air.

Field of use

- Waterproofing product for slabs of road and rail bridges, viaducts, underground structures, tunnels.
- Protection and waterproofing of hydraulic constructions, channels, containment tanks.
- Waterproofing for roofs of civil and industrial buildings.
- Waterproofing of car parks even of significant dimensions.
- Protection and encapsulation of fibre cement (also asbestos).

Application

Support preparation

Support preparation is fundamental, thus the surface to be treated must be free of any pollutant, dry, coherent and it must have a bond strength of at least 1,5 MPa. In any case it is necessary, depending on the type of surface, to make a preparation of the flooring by sand-blasting, milling, shot peening, smoothing or sanding.

Free and stagnant water coming from the foundation, from previous washing processes or from meteorological events must be removed or dried.

On porous substrates the reactivity of the material is such that the resulting heat development may lead to the formation of through holes in the coating because of the heating of the air trapped in the surface. Therefore after application of the primer it is advisable to make sure that the surface is actually closed (saturated).

Primer

Depending on the surface to be treated the preparations are different:

- **Concrete surfaces:** carry out the shot peening, then smooth with **RESINA 700** or **530** mixed with quartz 0,1-0,3. In case of very porous surfaces make a double smoothing. On the wet resin broadcast quartz sand to improve adhesion.

On surfaces affected by humidity or counterthrust apply **EPOXCEMENT TIXO** or **EPOXCEMENT HB RAPIDO** until a dry surface is obtained, then apply another coat and broadcast quartz.

On highly wrinkled areas it is possible to smooth the surface using **EPOXCEMENT TIXO** or **EPOXCEMENT HB RAPIDO** adding quartz 0,1-0,3 or 0,1-0,5 to control the thickness and the texture of the product.

- **Metal surfaces:** sandblast in compliance with SSPC-SP10 to the Sa2^{1/2} grade and apply immediately **ELASTORAPID VK 260**.

If protection against corrosion is desired, after the sandblast apply **FLOORFIX 44** in two coats.

On the second coat broadcast quartz with the appropriate granulometry. Apply **ELASTORAPID VK 260** after 24 hours.

To create anti-slippery surfaces, immediately after having applied the first coat of **ELASTORAPID VK 260**, rotate the spray-gun to make it parallel to the surface, with the nozzle aiming high make the arm oscillate to create a "rain" of **ELASTORAPID VK 260**.

Product preparation

Two-component product, applicable with high-pressure bimixer airless spray guns, better if implemented with a programmable logic controller (PLC) for quantity and mass flow rate, equipped with a suitable mixing gun for polyureic systems (reaction within the gun).

The best results are obtained by spraying the product at a temperature of 70-80°C and a pressure of 180-200 bar.

The equipment must have line heaters, tanks and heated hoses.

The components of **ELASTORAPID VK 260** must not be polluted with any chemical agent (solvents, oils, water, or anything else) because the characteristics of the product would be seriously compromised.

Tools cleaning

The cured product can be removed from the tools by immersion in *N*-methylpyrrolidone, dimethylformamide or, less efficiently, **DILUENTE PU1**.

Technical data

Colour	Neutral or RAL Colours	-
Density <i>Component A</i> <i>Component B</i>	1,10 ± 0,05 kg/l 1,11 ± 0,05 kg/l	EN ISO 2811-1
Viscosity at 20°C <i>Component A</i> <i>Component B</i>	1000 ± 200 mPa·s 1250 ± 250 mPa·s	EN ISO 2555
Mixing ratio <i>By volume and by weight</i>	1:1	-
Theoretical consumption	1 mm = 1,08 kg/m ²	-
Non-volatile-matter content	> 99,8 %	EN ISO 3251

Bond strength by pull-off	> 3,0 MPa	EN 1542
Adhesion on metal	> 7,0 MPa	EN 13144
Bond strength by pull-off on fibre cement	> 1,4 MPa	EN 1542
Resistance to temperature shock	> 3,3 MPa	EN 13687-5
Impact resistance	20 N·m	EN ISO 6272
Abrasion resistance (Taber)	< 35 mg	EN ISO 5470-1 Wheel H22 1000 g, 1000 cycles
Tensile strength	> 16 MPa	EN 12311-2
Tear resistance	> 12 kN/m	EN 12310-2
Elongation at break	> 350 %	EN 12311-2
Tensile strength, -20°C	> 14 MPa	EN 12311-2
Tear resistance, -20°C	> 12 kN/m	EN 12310-2
Elongation at break, -20°C	> 114 %	EN 12311-2
Shore D hardness	> 45	EN ISO 868
Liquid water permeability	$w < 0,1 \text{ kg/m}^2 \times \text{h}^{0.5}$	EN 1062-3
Resistance to ozone	Excellent	EN 1844
Resistance to severe chemical attack	Hydrocarbon mixture Acetic acid 10 % Sulphuric acid 20 % Sodium hydroxide 20 % Sodium chloride 20 %	Class II Class II Class II Class II Class II EN 13529

ELASTORAPID VK 260 exposed to UV rays can show variations in colour and slight chalking, but the mechanical characteristics will not be affected.

To avoid these changes, it is necessary to protect it with an aliphatic polyurethane coating like **ITALPAINT EEP**, **ITALPAINT 136**, **ITALPAINT 67**, **ITALPAINT 10**.

Curing

At 22°C, 50 % R.H.	
- Gel time	3 seconds
- Touch dry	60 seconds
- Walkable	40 minutes
- Overlaying (finish)	80 minutes
- Withstands traffic	12 hours

Storage


The product in the original sealed packaging, stored in a dry and sheltered place at a temperature comprised between +5°C and +35°C, is preserved for 12 months.

Do not store the product at temperatures lower than 6°C.

Safety

In the application of this product it is advisable to use goggles, rubber gloves and all the PPE required by the laws on the use of chemical substances.

For all the additional information consult the material safety data sheet of the product.

		
PERFORMACES IN COMPLIANCE WITH CERTIFICATION CE EN 1504-2		
Product type 1702		DoP 103
Characteristics	Product performance	Test Method
CO ₂ permeability	s _D > 50 m	EN 1062-6
Water vapour permeability	Class I	EN ISO 7783-2
Liquid water permeability	w < 0,1 kg/m ² x h ^{0,5}	EN ISO 1062-3
Bond strength by pull-off	> 2,0 N/mm ²	EN 1542
Crack bridging	A5 (23°C) > B4.1 (23°C)	EN 1062-7
Impact resistance	Class III	EN ISO 6272-1
Temperature shock	> 2,0 N/mm ²	EN 13687-5
Abrasion resistance	< 3000 mg	EN ISO 5470-1
Resistance to severe chemical attack	CR4 (Class II), CR9 (Class II), CR10 (Class II), CR11 (Class II), CR12 (Class II)	EN 13529
Hazardous substances	The hardened product does not release hazardous substances	
Reaction to fire	F	EN 13501-1

CR4: 60 % toluene, 30 % xylene, 10 % methylnaphthalene

CR9: acetic acid at 10 %

CR10: sulphuric acid at 20 %

CR11: sodium hydroxide at 20 %

CR12: sodium chloride at 20 %

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