

POLYUREA KEVLAR SPRAY



Sprayed, hot-applied polyurea membrane for flooring applications.

DESCRIPTION

POLYUREA KEVLAR is a 2-component polyurea resin, which cures into a hard membrane for flooring applications, with fire-resistant properties

APPLICATION

General fast-applied flooring systems. Decorative and industrial floors, where fast application is needed.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B								
Chemical description	Polyol/Polyamide	Aromatic isocyanate prepolymer								
Physical state	Liquid	Liquid								
Packaging	Metal container 186 kg+pigment 4 kg 23.25 kg+ pigment 0,5 kg	Metal container 210 kg 26.25 kg								
Non-volatile content (%)	Approx 100%	100%								
Flash point	>100°C	>100°C								
Colour	Dark yellow	Dark yellow								
Density										
	<table border="1"><thead><tr><th>Temp (°C)</th><th>Density (g/cm3)</th></tr></thead><tbody><tr><td>25</td><td>1.02</td></tr></tbody></table>	Temp (°C)	Density (g/cm3)	25	1.02	<table border="1"><thead><tr><th>Temp (°C)</th><th>Density (g/cm3)</th></tr></thead><tbody><tr><td>25</td><td>1.13</td></tr></tbody></table>	Temp (°C)	Density (g/cm3)	25	1.13
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Viscosity

approximate Brookfield

Temp (°C)	Viscosity (mPa.s)	Temp (°C)	Viscosity (mPa.s)
10	625	10	830
20	350	20	460
30	190	30	295
40	110	40	175
50	70	50	115
60	50	60	80

A/B mixing ratio

A=1, B=1.1 by weight
A=1, B=1 by volume

Density and viscosity of the mixture

Fast polymerization. See Pot life data

Colour

Dark yellow, but component A is pigmented by addition of pigment paste (Pigment Spray) for POLYUREA KEVLAR.

Pot life

Gel time mixture A+B (20 g)
8-10s at 25°C

Storage

Keep between 10° y 30°C. Product is hygroscopic: protect from moisture. Component B may become hazy upon storage at low temperatures. Reheat mildly before use.

Use before

12 months after manufacture, provided it is kept in its sealed container.

INFORMATION ON THE FINAL PRODUCT

Final state

Solid hard membrane

Colour

Variable, depending on the chosen pigmentation. For colours available, please contact Krypton Chemical.

Hardness (shore)

50D

Mechanical properties

Elongation at break: 300%
Tensile strength: 21 MPa (EN-ISO 527-3)
Tear strength: 98 N/mm (ISO 34-1, Method B)

UV resistance

Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight. Additional UV protection can be achieved by application of an aliphatic fast curing topcoat (POLYNATE)

SUPPORT REQUIREMENTS

In order to achieve a good penetration and bonding, substrate must be:

1. Flat and levelled
2. Compact and cohesive (pull off test must show a minimum resistance of 1,4 N/mm²).
3. Even and regular surface
4. Free from cracks and fissures. If any, they must be previously repaired.
5. Clean and dry, free of dust, loose particles, oils, organic residues or laitance

RECOMMENDED ENVIRONMENTAL CONDITIONS

Air temperature should be between 10°C and 40°C. Relative air humidity should be less than 85%.

SURFACE PREPARATION

Concrete substrates must be prepared mechanically using shot blasting, scarifying or diamond grinding equipment, in order to grind the surface and obtain an open pore. Substrates must be primed and repaired until a regular surface is obtained. Sharp irregularities are eliminated using an abrading disc machine.

Eliminate all dust and loose particles from the substrate by vacuum cleaning.

MIXING

StAdd the required pigment to the A-component and stir before loading at low speed for a few minutes. Excess stirring may lead to undesirable moisture pick up. Recirculate both components while heating up to the required application temperatures

APPLICATION GUIDELINES

POLYUREA KEVLAR must be applied using a 2-component hot spraying equipment. Recommended temperatures are:

- Component A: 65-70°C
- Component B: 70-75°C
- Hose: 70°C

Pressure should be 130- 150 bar.

During application, check layer thickness and curing speed. Spray POLYUREA KEVLAR at 2-3 kg/m² as a general rule.

Contact Krypton Chemical for more detailed technical information.

CURING TIME

POLYUREA KEVLAR cures to touch after a few minutes after application, Walking is possible after 4-5 hours

10min	82A	
40min	89A	35D
1h	91A	35D
2h		38D
6h		43D
3d		49D
7d		50D

RE-APPLICATION

Usually, needed thickness can be obtained in one single coat.

TOOL CLEANING

Solvent use for machine component cleaning is discouraged. A cleaning plasticizer fluid is suitable. Component B must be completely removed from all air-exposed parts and replaced with cleaning fluid.

CLEANING AND MAINTENANCE

For stain removal, a surface treatment with SINDEC solvent or isopropyl alcohol may be attempted. Strong acids are totally inadequate. Some solvents may damage the membrane. If this happens, the affected area has to be cut and repaired with fresh product



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25/7/2018

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FAQ

Problem	Question	Cause	Solution
Product does not cure	AB ratio is correct?	Pressure differences	Check and correct machine operation
Bubbles or open pores	Porous support?	No primer	Apply suitable primer before POLYUREA KEVLAR
No hiding power	Horizontal?	Too little product Too little pigment	Apply 1 kg/m ² Ensure full A+pigment homogeneization
Colour change	Exposed to sunlight?	UV-reaction	Use a last coat in dark grey or red Not recommended. POLYUREA KEVLAR is always delivered with the pigment of choice. Use of pigment helps to obtain a uniform appearance.
	Can it be applied without pigmentation?		

SAFETY

Component B contains isocyanates. Always follow the safety instructions in the Material Safety Data Sheet. As a general rule, a good ventilation and/or respiratory protection is needed (combined organic vapor filters+particles) along with protective clothing. This product must be used only for the applications here described. This product is intended for industrial and professional use. It is not suitable for DIY-type applications.

ENVIRONMENTAL PRECAUTIONS

Empty containers must be handled with the same precautions as if they were full. Treat empty containers as hazardous waste, and transfer them to an authorized waste manager. If the containers still have some material left, do not mix with other product with no knowledge of potential dangerous reactions. Component A and B may be mixed on a 1/1 ratio in order to get an inert material, but never do it in volumes larger than 5 litres in order to prevent a dangerous heat evolution

OTHER INFORMATION

The information contained in this DATA SHEET, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information.

We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests "on-site" in order to determine their convenience for a specific project.

Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.

This data sheet supersedes previous versions.

