RAYSTON SPRAY P5040 FR

Sprayed, hot-applied polyurea membrane

DESCRIPTION

Rayston Spray P5040 is a 2-component polyurea resin, which cures very fast into an elastic membrane with crack-bridging capacity. This product can only be applied by 2-component spraying equipment.

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 188 kg+4 kg pigment 18,8 kg+0,4 kg pigment	Metal container 208 kg 20,8 kg
Non-volatile content (%)	Approx 100%	100%
Flash point	>100ºC	>100ºC
Colour	Dark yellow	Slightly yellow

Density

Temp (ºC)	Density (g/cm3)	Temp (ºC)	Density (g/cm3)
20	1.05	20	1.14
60	1.02	60	1.10

Viscosity

approximate Brookfield

Temp (ºC)	Viscosity (.s)	Temp (ºC)	Viscosity (.s)
5	2400	5	2500
10	1800	10	1800
20	975	20	800
30	550	30	450
40	335	40	300
50	230	50	200
60	170	60	120

A/B mixing ratio	A=1, B=1.08 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-Rayston Spray P5040.
Pot life	Gel time mixture A+B (20 g) 8-9 s at 25ºC 4-6 s at 60ºC
Storage	Keep between 10º y 30ºC. 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 elastomeric membrane
Colour	Variable, depending on the chosen pigmentation. For colours available, please contact Krypton Chemical.
Hardness (shore)	90A/40D (ISO 868)
Mechanical properties	Elongation at break: 400% Tensile strength: 14 (EN-ISO 527-3)
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 a Impertrans or colodur topcoat.
Tear strength	69 N/mm (ISO 34-1 Method B)

Chemical resistance Permanent contact (7days, 80ºC 0=worst, 5=best)

Chemical	Result
Water	5
Ammonia (3%)	5
Hydrochloric acid 3M (9%)	4
Isopropyl alcohol	1
Ammonia (3%)	4
Xylene	0
Sulphuric acid (50%)	0

Adhesion strength

Substrate	Adhesion strength ()
Concrete (EP 100 primer)	5.6
Steel (PU primer)	3.6

SUPPORT REQUIREMENTS

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

1. Coct and cohesive
2. Even and regular surface
3. Free from cracks and fissures. If any, they must be previously repaired.
4. Clean and dry, free of dust, loose particles, oils, organic residues or laitance

Support temperature should be between 10ºc and 40ºC. Moisture content must be below 4%

SUPPORT PREPARATION

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

MIXING

Stir and homogeneize separately both components using suitable mixing equipment before being loaded into the machine. Add 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

Rayston Spray P5040 must be applied using a 2-component hot spraying equipment. Recommended temperatures are:

- Component A: 70ºC
- Component B: 65ºC
- Hose: 65ºC

Pressure should be 170 bar.
During application, check layer thickness and curing speed.
Spray Rayston Spray P5040 at 2 kg/m2 as a general rule.

Wind speeds in excess of 25 km/h may result in excessive loss of exotherm andinterfere with the mixing efficiency of the spray gun affecting polyurea surfacetexture, cure, and physical properties and will cause overspray issues.

Contact Krypton Chemical for more detailed technical information

CURING TIME

Rayston Spray P5040 cures to touch after a few minutes after application. Approximate hardness values are provided as reference only (1 mm, polypropylene support, 25ºC 50% RH).

Time	Hardness (shore A/D)
10 min	74/27
20 min	77/29
1 hr	80/30
24 hr	88/35

RE-APPLICATION

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Usually, needed thickness can be obtaines in one single coat. If necessary, a second coat can be applied immediately afterwards.

RETURN TO SERVICE

Under most usual conditions (25ºC, 50% rh), the membrane is resistant to light use after 15 minutes. After 2 days, 90% of the final properties are reached.

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.

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 Rayston Spray P5040
No hiding power	Horizontal?	Too little product	Apply 1 kg/m2
		Too little pigment	Ensure full A+pigment homogeneization
Colour change	Exposed to sunlight?	UV-reaction	Use a last coat in dark grey or red
	Can it be applied without pigmentation?		Not recommended. Rayston Spray P5040 is always delivered with the pigment of choice. Use of pigment helps to obtain a uniform appearance.

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 filtres+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 containes 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 da ngerous 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.