

RAYSTON SPRAY P3050R

RAYSTON
products



Polyurea membrane. Extra fast curing

DESCRIPTION

Rayston Spray P3050R is a 2-component polyurea system for elastic membrane application with crack-bridging capability. It is an extra fast-curing system that can only be applied by hot mechanical spraying equipment.

PROPERTIES

- Crack-bridging capability. Highly elastic membrane.
- Very fast curing, using two-component spraying equipment.
- It can be pigmented.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyamine	Aromaticisocyanatep repolymers
Physicalstate	Liquid	Liquid
Packaging	Metal container	Metal container
Note: Pigment is delivered in a third container. See Pigment Spray data sheet for specific details.	188 kg+4 kg Pigment paste	208 kg
	188 kg + 0,4 kg Pigment paste	20,8 kg
Non-volatile content (%)	100%	100%
Flash point	>100°C	>100°C
Colour	Yellow (without pigment)	Yellow
Density	Temp (°C) Density (g/cm3)	Temp (°C) Density (g/cm3)
	20 1,1 60 0,98	20 1,14 60 1,10
Viscosity	Temp (°C) Viscosity (l)	Temp (°C) Viscosity (l)
Approximatevalues	20 475 30 250 50 90 60 65	20 800 30 450 50 200 60 120
A/B mixing ratio	A=1 B=1.17 by weight A=1 B=1 by volume	
Colour	Dark yellow, but component A is pigmented by addition of pigment paste (Pigment Spray) delivered with each kit of Polyurea Rayston.	
Curing performance	Gel time mixture A+B (20 g) 1-2 seconds. Tack free 10 seconds.	
Storage	Keep between 10°C and 30°C.	
Use before	12 months after manufacturing date.	

INFORMATION ON THE FINAL PRODUCT

Final state	Elastomeric solid membrane
Colour	Available Pigment Spray pastes are blue RAL 5015, gray RAL 7011. Tile red, Beige RAL 1001,. Other pastes are available under request.
Gloss (60°)	80-85
Hardness (shore)	55D
Mechanicalproperties	Maximum elongation: 225% Tensilestrength: 16,2 (UNE EN ISO 527-1/3) Tear strength 100N/mm (UNE EN ISO 34-1 method B)
UV resistance	Polyurea Rayston is an aromatic isocyanate based product. A colour change is to be expected under sunlight. This change does not affect its mechanical properties. An additional UV protection can be provided with an Impertrans/Colodur topcoat.
Abrasionresistance	10 mg (Taber, 1000 c. CS-10, 1kg)
Thermalresistance	Stable up to 200°C (6-hour test). According to low temperature tests, (UNE_EN 495-2001), the membrane can be folded at -45°C without cracking or breaks.
Chemical resistance	Permanent contact test (5=ok, 0=Not recommended)

Chemical	Conditions	Result
Water	15d, 80°C	5
Salt water (saturation)	7d, 80°C	5
Xylene	7d, 80°C	2
Ethyl acetate	7d, 80°C	1
Isopropyl alcohol	7d, 80°C	0
Sodium hydroxide (50%)	7d, 80°C	5
Hydrogen peroxide (33%)	7d, 25°C	4
Sulphuric acid (10%)	7d, 80°C	5
Sulphuric acid (30%)	30d, 80°C	4
Bleach	7d, 80°C	4
Ammonia (3%)	7d, 80°C	5
Diesel	16d, 80°C	5
Hydrochloric acid 12M (37%)	7d, 80°C	0
Hydrochloric acid 6M (18%)	7d, 80°C	1
Hydrochloric acid 3M (9%)	7d, 80°C	4
Hydrochloric acid 0.75M (2%)	7d, 80°C	5
Sodium hychlorite 15%	7d, 80°C	4
Engine oil	7d, 80°C	5
Crude petroleum	21d, 80°C	5
Sulfamic acid 85%	7d, 60°C	4
Oleic acid	7d, 80°C	0
Glycerine	7d, 80°C	5

Adhesion strength

Surface	Adhesion strength (l)
Concrete (with epoxy primer)	4.0
Plywood (with epoxy primer)	1.6 (cohesive wood failure)
Steel (PU primer)	5.3

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 temperatures should be 10°C-40°C. Support moisture must be below 4%

SUPPORT PREPARATION

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

MIXING

Stir and homogenise separately both components using suitable mixing equipment before being loaded into the machine. Add the required Pigment Spray to the A-component and stir before loading. Recirculate both components while heating up to the required application temperatures.

APPLICATION AND RECOMMENDED QUANTITIES

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

- Component A: 60-65°C
- Component B: 65-70°C

Pressure must be adjusted to 140 bar.

During spraying, check coating thickness to ensure curing evolution is correct. Rayston Spray P3050R is applied at 1,5-2,0 kg/m², obtaining a 1,5-2 mm thickness.

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

Please contact Krypton Chemical for specific application details.

CURING TIME



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Page:

1/2

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Gel time: 1-2 s
Tack free timer ca 10 s

RECOATING

It is recommended to obtain the right thickness with a single application.

RETURN TO SERVICE

Under most conditions (25°C, 50% rh), the membrane is resistant to light use after 10 minutes.

TOOL CLEANING

In order to keep equipment in good conditions (spraying gun, gaskets), it is recommended not to use solventes. A cleaning fluid like Rayston Fluid can be used instead. Component B must be thoroughly removed and replaced with this fluid.

FAQ

Problem	Question	Answer	Solution
Does not cure or remains sticky	Ratio AB correct?	Different pressure	Check and correct pumping equipment Apply an Epoxy-type primer before Polyurea
Bubbles or open holes in the membrane	Porous substrate?	No primer	Open holes are frequent with fast-curing polyurea Use 1 kg/m ² minimum.
Not enough hiding power	Horizontal?	Too few No pigment	Mix and homogeneize pigment in component A before spraying
Gray colour darkens upon exposure to sun	Exposed?	Components react with UV light.	Apply an aliphatic topcoat afterwards (egImpertrans, Colodur)

SAFETY

Component B of Polyurea Rayston contains isocyanates and Component A contains corrosive polyamines that can cause burns. Always follow the safety instructions in the Material Safety Data Sheet. As a general rule, a good ventilation, protective clothing and respiratory protection is needed (combined organic vapor filter+particles A2P). 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.



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