

RAYSTON SPRAY P3030

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Pure polyurea membrane

DESCRIPTION

Rayston Spray P3030 fast 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.

CERTIFICATIONS

Applus(Independent laboratory):

- Low-temperature foldability: 11/2855-1313
- Mechanical properties: 11/2855-1314
- Contact with fuel products (UNE 48307:2011) Exp 13/6620-457

AITEX (Independent laboratory):

- Mechanical properties EN ISO 527-1/3.
- Tear, according to UNE-EN ISO 34-1:2011

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyamine	Aromaticisocyanate-prepolymer
Physicalstate	Liquid	Liquid
Packaging	Metal container	Metal container
Note: Pigment is delivered in a third container. See Pigment Spray data sheet for specific details.	185 kg	211 kg
	23.1 kg	26.3 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)
	201,02	201,12
	601.01	601,10
Viscosity		
Approximate values	Temp (°C)Viscosity ()	Temp (°C)Viscosity ()
Brookfield	20600	202000
	30200	301000
	5060	50400
	7040	70150
A/B mixing ratio	A=1, B=1,17 by weight A=1, B=1 by volume	
Density and viscosity of the AB mixture	Fast polymerization (see pot life data)	
Colour	Dark yellow, but component A is pigmented by addition of pigment paste (Pigment Spray) delivered with each kit of Rayston Spray P3030.	
Curing performance	Gel time mixture A+B (20 g) 4 s at 25°C 3 s at 60°C Tack free time 30 s at 70°C	
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)	87A 35D												
Mechanical properties	<table><tr><th>Elongation (%)</th><th>Tensile strength (N/mm²)</th></tr><tr><td>50</td><td>9.8</td></tr><tr><td>100</td><td>11</td></tr><tr><td>200</td><td>13</td></tr><tr><td>300</td><td>15.5</td></tr><tr><td>324</td><td>16.2</td></tr></table> Maximum elongation: 324% Tensile strength: 16.2 (UNE EN ISO 527-1/3) Tear strength 61.8 N/mm (UNE EN ISO 527-1/3)	Elongation (%)	Tensile strength (N/mm²)	50	9.8	100	11	200	13	300	15.5	324	16.2
Elongation (%)	Tensile strength (N/mm²)												
50	9.8												
100	11												
200	13												
300	15.5												
324	16.2												
Tear strength	69 N/mm (ISO 34-1, method B)												
UV resistance	Rayston Spray P3030 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.												
Abrasion resistance	10 mg (Taber, 1000 c. CS-10, 1kg)												

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

Immersion test.
(0=not recommended, 5=best)

Chemical	Conditions	Result
Water	15d, 80°C	5
Salt water (saturation)	15d, 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
Phosphoric acid (54%)	7d, 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 hypochlorite 15%	7d, 80°C 21d, 80°C	4
Engine oil	7d, 80°C	5
Crude petroleum	21d, 23°C	5
Sulfamic acid 85%	7d, 80°C	4
Oleic acid	7d, 80°C	0
Glycerine	7d, 80°C	5
Ethanol/water 20/80 w/w	7d, 80°C	4

Adhesion strength

Surface	Adhesion strength (N/mm²)
Concrete (with epoxy primer)	4.0
Plywood (with epoxy primer)	1.6 (cohesive wood failure)
Steel (PU primer)	5.3
High density PU foam (150kg/m³)	>1.5 foam failure

SUPPORT REQUIREMENTS



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

1. Coct and cohesive (pull off test must show a minimum resistance of 1,4 N/mm²).
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 must be between 10°C and 40°C. Support moisture must be less than 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

Rayston Spray P3030 must be applied using 2-component hot spraying equipment. Recommended temperatures are:

- Component A: 55-65°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 P3030 is applied at 1,5-2,0 kg/m², obtaining a 1,5-2 mm thickness.

Please contact Krypton Chemical for specific application details.

CURING TIME

Rayston Spray P3030 cures to touch after a few minutes after application.

Approximate hardness values are provided here as reference only (1 mm, polypropylene support, 25°C 50% RH)

time	Hardness shore A
5 min	28
10min	40
20 min	55
1 hr	70
24 hrs	80
4 days	88

RECOATING

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

Where an epoxy primer has been previously applied, spray Rayston Spray P3030 Fast only after the primer is fully cured.

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 solvents. 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
Bubbles or open holes in the membrane	Porous substrate?	No primer	Apply an Epoxy-type primer before Polyurea Open holes are frequent with fast-curing polyurea
Not enough hiding power	Horizontal?	Too few No pigment	Use 1 kg/m ² minimum



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Gray colour darkens upon exposure to sun	Exposed?	Components react with UV light.	Mix and homogenize pigment in component A before spraying Apply an aliphatic topcoat afterwards
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SAFETY

Component B of Rayston Spray P3030 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 filters+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 container still has 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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