RAYSTON SPRAY P3070

Sprayed, hot-applied pure polyurea membrane

DESCRIPTION

Rayston Spray P3070 is a 2-component pure polyurea resin, which cures very fast into a high hardness elastomer which still has some elasticity. This product can only be applied by 2-component spraying equipment

APPLICATION

· Industrial machinery and vehicle protection (anti abrasion, ict protection,...)
· Anti ballistic / anti explosion / military protection.
· Chemical resistant linings and secondary containment.
· Coating designs and prototypes.
· Industrial coatings: use as a wood protective coating for loudspeakers for ease of cleaning and ict resistance.

PROPERTIES

· Hard plastic elastomer, with flexibility
· Fast curing / Short waiting times before putting into service.
· High initial strength.
· Energy absorption capacity.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyamine	Aromatic isocyanate prepolymer
Physical state	Líquid	Líquid
Packaging Note: Pigment is delivered in a third container. See Pigment Spray data sheet for specific details.	Metal container 182 kg (+Pigment Spray 4 kg) 22,75 kg (+Pigment Spray 0,5 kg)	Metal container 214 kg 26.75 kg
Non-volatile content (%)	approx 100%	100%
Flash point	>100ºC	>100ºc
Colour	yellow	Slightly yellow
Density		

Temp (ºC)	Density (g/cm3)
22	1.01
60	0.98

Temp (ºC)	Density (g/cm3)
20	1,16
60	1.13

ViscosityApproximate

Temp (ºc)	Viscosity (m.Pas)
10	1100
20	520
30	250
40	130
50	85
60	60

Temp(ºc)	Viscosity (m.Pas)
10	650
20	375
30	215
40	130
50	90
60	60

Mixing ratio A/B	A=1, B=1,15 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) delivered with each kit of Rayston Spray P3070..
Pot life Approximate	Gel time mixture A+B (20 g) 3-4 s at 22ºC 2 s at 60ºC
Storage	Keep between 10º y 30ºC.
Use before	12 months after manufacture date, provided it is kept in its sealed container.

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane
Colour	Available Pigment Spray pastes are Gray RAL 7001, 7011. Tile red, Beige RAL 1001, blue RAL 5015. Other pastes under request.
Hardness Shore	70D
Mechanical properties	Elongation at break: 50% Tensile strength: 22.1 (UNE EN ISO 527-1/3)

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.
5. Clean and dry, free of dust, loose particles, oils, organic residues or laitance

Support temperature must be between 10ºC and 40ºC. At higher temperatures, additional measures to be advised by the manufacturer must be taken. Support moisture must be less than 4%.

SUPPORT PREPARATION

Metal substrates must be thoroughly sanded and the final surface must be free of dust. A suitable adhesion-promoting primer must be used (e.g.Primer Industry 20101) to prevent deformation, cracks or adhesion failure.

MIXING

Stir and homogeneize separately both components using suitable mixing equipment before being loaded into the machine. **Best Mixing equipment should have extensible blades with overall width equivalent to 1/3 of drum diameter.**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 GUIDELINES

Rayston Spray P3070 must be applied using a 2-component hot spraying equipment. Recommended temperatures are:

Component A: 65ºC
Component B: 65ºC

Pressure should be 130 bar.
During application, check layer thickness and curing speed.
Spray Rayston Spray P3070 at 1 kg/m2.

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

Approximate hardness values are provided as reference only (1 mm, polypropylene support, 20ºC 50% RH)

Time	Hardness shore D
1 min	50
10 min	58
50 min	60
4 hours	63
1 day	66
7 days	70

REAPPLICATION

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Usually, necessary thickness can be obtained in one single coat. If necessary, a second coat can be applied immediately afterwards. In any case, do not wait more than 2 hours for a second coat. If spraying over a previously applied epoxy primer, ensure the primer is completely cured (ca 8 hours)

RETURN TO SERVICE

Under most usual conditions (25ºC, 50% rh), the membrane is able to resist light use in 1 hour. After 1 day, more than 90% of the final properties are reached.

TOOL CLEANING

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

FAQS

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 P3070
No hiding power	Horizontal?	Too little product Too little pigment	Apply 1 kg/m2 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 P3070 is always delivered with the pigment of choice. Use of pigment helps to obtain an 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 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 Technical 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 Technical Data Sheet supersedes previous versions.