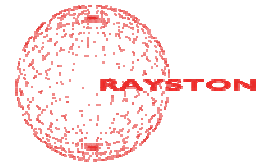


RAYSTON SPRAY D50



Sprayed, hot-applied pure polyurea membrane

DESCRIPTION

Rayston Spray D50 is a 2-component pure polyurea resin, which cures very fast into a hard and elastic membrane. This product can only be applied by 2-component spraying equipment.

APPLICATION

- Industrial machinery and vehicle protection
- Protection of concrete structures, roof, terraces, etc.
- General waterproofing
- Specialty seamless flooring

PROPERTIES

- Flexible, hard membrane
- Fast curing
- Pigmentable.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyamine	Aromatic isocyanate prepolymer
Physical state	Liquid	Liquid
Packaging Note: Pigment is delivered in a third container. See Pigment Spray data sheet for specific details.	Metal container 188 kg 23.5 kg	Metal container 208 kg 26 kg
Non-volatile content (%)	approx 100%	100%
Flash point	>100°C	>100°C
Colour	Dark yellow	Slightly yellow

Density

Temp (°C)	Density (g/cm ³)	Temp (°C)	Density (g/cm ³)
20	1.01	20	1.14
60	0.98	60	1.10

Viscosity

Approximate

Temp (°C)	Viscosity (m.Pas)	Temp (°C)	Viscosity (m.Pas)
5	1100	5	2500
10	740	10	1800
20	425	20	800
30	250	30	450
40	140	40	300
50	80	50	200
60	60	60	120

Mixing ratio A/B

A=1, B=1,12 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 D50..

Pot life

Gel time mixture A+B (20 g)

Approximate

4 s at 25°C
3 s at 60°C

Storage

Keep between 10° y 30°C.

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	50D	
	96A	
Mechanical properties	Elongation at break: 270% Tensile strength: 17.2 MPa 527-1/3)	(UNE EN ISO
	Tear strength: 100 N/mm method B)	(ISO 34-1
Adhesion strength	surface concrete	Adhesión (m.Pa) 2.5
UV resistance	Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight. This change does not affect its mechanical properties. Additional UV protection can be achieved by application of an Impertrans or colodur topcoat.	
Abrasion resistance	Taber, CS10, 1000 c, 1 kg: 20 mg	
Chemical resistance	Immersion test, 80°C, 7 days (0=worst, 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
Sulfuric acid 10%	7d, 80°C	5
Sulfuric acid 30%	30d, 80°C	4
Bleach	7d, 80°C	4
Ammonia	7d, 80°C	5
Diesel	16d, 80°C	5
Hydrochloric acid 12M	7d, 80°C	0
37%		
Hydrochloric acid 6M	7d, 80°C	1
18%		
Hydrochloric acid 3M 9%	7d, 80°C	4
Hydrochloric acid 0.75M	7d, 80°C	5
2%		
Sodium hypochlorite	7d, 80°C	4
15%		
Engine oil	7d, 80°C	5
Crude petroleum	21d, 20°C	5
Sulfamic acid 85%	7d, 60°C	4
Oleic acid	7d, 80°C	0
Glycerine	7d, 80°C	5
Kerosene	7d, 80°C	3

SUPPORT REQUIREMENTS

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

1. Flat and leveled
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

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

Vehicle (pick-up trucks)



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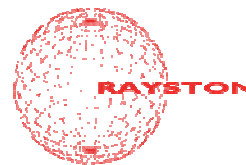
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Original paint must be removed and the surface must be clean and rust-free. Metal should be resistant to deformation by curing stress.

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

RECOMMENDED ENVIRONMENTAL CONDITIONS

Air temperature should be between 10°C and 40°C. Relative air humidity should be less than 70%.

SUPPORT PREPARATION

Concrete substrates must be prepared mechanically using high pressure sand or abrasion, in order to remove the surface and obtain an open pore. Substrates must be primed and levelled 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 brushing or vacuum cleaning. Failure to adequately priming the surface may lead to premature delamination, cracking or contraction.

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. PU Primer) to prevent deformation, cracks or adhesion failure.

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 GUIDELINES

Rayston Spray D50 must be applied using a 2-component hot spraying equipment. Recommended temperatures are:

Component A: 65°C
Component B: 65°C

Pressure should be 130 bar.
During application, check layer thickness and curing speed.
Spray Rayston Spray D50 at 1-2 kg/m².

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 surface texture, 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 (2 mm, polypropylene support, 20°C 50% RH)

Time	Hardness shore D
5 min	35
45 min	43
6 hours	48
24 hours	50

REAPPLICATION

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 (25°C, 50% rh), the membrane is resistant to rain droplets after 5 minutes, and able to resist light pedestrian traffic 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.

CLEANING AND MAINTENANCE

A maintenance work should be carried out regularly on the treated surfaces according to the intended use

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 D50
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
	Can it be applied without pigmentation?		Not recommended. Rayston Spray D50 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 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

LEED-requirements compliant.
EQ Credit 4.2, Low emissin materials: Paints and Coatings.

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 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.



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