

RAYSTON FLEX 90

RAYSTON
products



Modified polyurea mastic for joint filling

DESCRIPTION

Rayston Flex 90 is a 2-component modified polyurea resin, which cures very fast into an elastic material. This product can be used for expansion joint filling in concrete flooring.

APPLICATIONS

Floor joint and fissure filling.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B		
Chemical description	Polyol/Polyamide	Aromatic isocyanate prepolymer		
Physical state	Liquid	Liquid		
Packaging	Cartridge	Cartridge		
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	1.03	20	1.12
	60	1.01	60	1.10

Viscosity

approximate Brookfield	Temp (°C)	Viscosity (MPa)	Temp (°C)	Viscosity (MPa)
	20	1800	20	2000
	30	900	30	1000
	50	250	50	400
	70	100	70	150

VOC (g/L i %)	<2g/L, <0,2 %	0
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A/B mixing ratio	A=1, B=1.12 by weight A=1, B=1 by volume
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Density and viscosity of the mixture	Fast polymerization. See Pot life data
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Colour	Dark yellow,
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Pot life	Gel time mixture A+B (20 g) 16 s at 25°C 7 s at 60°C
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Storage	Keep between 10° y 30°C (recommended).
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Use before	12 months after manufacture, provided it is kept in its sealed container.
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INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric mastic
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Colour	Dark yellow
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Hardness (shore)	88A/42D, (ISO 868)
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Tear resistance	43 N/mm (ISO 34-1 method B)
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Mechanical properties	Elongación (%)	Tracción (MPa)
	50	7.0
	100	9.5
	150	11.1
	184	13.0

Water vapour permeability	μ=2000, 14g/m ² day, (EN 1931)
Chemical resistance	Permanent contact. (0=worst, 5=best)

Chemical	Conditions	Result
Water	15d, 80°C	5
Brine	5d, 80°C	5
Diésel	16d, 80°C	5
Xylene	7d, 80°C	1
Ethyl acetate	7d, 80°C	0
Isopropyl alcohol	7d, 80°C	0
Sodium hydroxide (40g/L)	7d, 80°C	5
Hydrogen peroxide (33%)	7d, 25°C	4
Ammonia (3%)	7d, 80°C	5
Sulfuric acid (10%)	7d, 80°C	4
Hydrochloric acid conc.	7d, 80°C	0
Bleach	7d, 80°C	4
Sulfamic acid (8.5%)	7d, 60°C	4

UV resistance	Good resistance to UV-induced degradation. Aromatic polyurethanes undergo change of colour under sunlight. This change does not affect their mechanical properties. Additional UV protection can be achieved by application of a Impertrans or colodur topcoat.
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Termal resistance	Stable up to 80°C
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SUPPORT REQUIREMENTS

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

1. Flat and levelled
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

RECOMMENDED ENVIRONMENTAL CONDITIONS

Support temperature should be between 10°C and 40°C. Relative air humidity should be less than 85%.

SUPPORT PREPARATION

Joints must be clean and free from water, oils or greases that could impair adhesion. Open and clean joints before filling.
No primer is specifically needed

MIXING

Shake gently both cartridges before use..

APPLICATION GUIDELINES

Rayston Flex 90 must be applied using a suitable pumping portable pumping machine.

It is recommended to fill completely the joints and remove overfilling material at the surface level. Rayston Flex 90 can be cut up to 60 s after application using a steel blade.

Contact Krypton Chemical for more detailed technical information.

Achievable joint length with a 1.7kg cartridge (in meters)

Joint depth in mm	Joint width in mm				
	4	6	8	12	20
4	23,2	15,9	11,8	7,9	4,6
6		10,5	7,9	5,2	3,2
8			5,9	3,9	2,3
10				3,2	2,0



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CURING TIME

Rayston Flex 90 cures to touch after a few minutes after application. Approximate hardness values are provided as reference only (1 mm, polypropylene support, 25°C 50% RH)

Time	Hardness (shore)
15 min	30
30 min	47
1 hr	60
3 hr	72
8 hr	79
24 hr	82
7 days	87

RETURN TO SERVICE

Under most usual conditions (25°C, 50% rh), the material is resistant to rain droplets after 15 minutes, and able to resist light pedestrian traffic in 1 hour. After 2 days, 90% of the final properties are reached

FAQ

Problem	Question	Cause	Solution
product does not cure	AB ratio is correct?		Check and correct machine operation
Colour change	Exposed to sunlight?	UV-reaction	Use a last coat in dark grey or red

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

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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ISO 9001

BUREAU VERITAS
Certification

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