

RUBBER CRUMB BINDER

RAYSTON
products



Polyurethane binder for rubber crumb

DESCRIPTION

One component liquid aromatic polyurethane composition. Suitable for recycled rubber crumb binding, obtaining a compact and cost-effective elastomeric binder, for use in a variety of applications (running track fields, children play grounds, tramway noise dampening, etc.). Best suited for on-site applications.

- Low viscosity. Good wetting properties
- Low colour
- Good mechanical and elastic properties. Good tear resistance



APPLICATION

- Running track fields
- Decorative flooring
 - Gardens
 - Roundabouts
 - Slopes
 - Terraces
- Safety flooring
 - Playgrounds
 - Recreational areas



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

Chemical description	Single-component aromatic polyurethane	
Physical state	Liquid	
Packaging	Metal containers, 25 kg, 210 kg	
Non-volatile content (%)	100%	
Flash point	>120°C (ASTM D 93)	
Available colour	Light yellow	
Density	1,05 g/cm ³ (20°C)	
Viscosity	Approximate values	
approximate Brookfield	Temp (°C)	Viscosity (MPa)
	5	2000
	15	7000
	25	3000
	35	1000
Pot life	3 h (1 kg, 20°C, 50% rh) 5 h (1kg, 5°C, 60% rh)	
Storage	Keep at a temperature below 35°C, away from moisture	
Use before	Product may be used up to 12 months after manufacture in its sealed original container.	

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane
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Colour	Yellowish
Hardness (shore)	87A
Density of film	1,05 g/cm ³
Mechanical properties	Elongation: 190% Stress (mPa): 6.1 MPa
Tear strength	6,1 N/mm.
UV resistance	A colour change is expected due to its aromatic polyurethane composition. This discolouration does not affect its mechanical properties.
Chemical resistance	Permanent contact. (0=worst, 5=best)

Chemical	Test conditions	Result
Water	24h, 25°C	5
Salt water	24h, 90°C	5
Hydrochloric acid solutions	200 g/l, 24h, 25°C	4
	200 g/l, 2h, 80°C	4
	3 g/l, 24h, 25°C	5
	3 g/l, 24h, 80°C	4
Sodium hydroxide	40 g/l, 24h, 25°C	5
Acetone	24h, 25°C	1
Ethyl acetate	24h, 25°C	3
Xylene	24h, 25°C	5
Motor oil	24h, 25°C	5
Brake Fluid	24h, 25°C	2

Thermal resistance	Stable up to 80°C
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RECOMMENDED COMBINATIONS

Primer (Optional)

Rubber Crumb Binder (RBC), 250-350 g/m², diluted with Solvent Rayston where needed.

Buffer layer (recommended 20 to 100 mm thick)

RBC mixed with recycled SBR rubber crumb (1 to 7 mm particle size) in the mixing ratio:

SBR rubber: 100 parts

RBC resin: 12-15 parts

For a 10-mm layer, use 8 kg/m² of the above mixture

Specific thickness depends on the project requirements.

Sealing layer (recommended 10 to 20 mm thick)

12-24 hours after buffer layer

A mixture of:

EPDM rubber (1-4 mm particle size): 100 parts

RBC resin: 18 to 21 parts

For a 10-mm layer, use 8-10 kg/m² of the above mixture.

Note: to ensure colour stability, when using light coloured EPDM rubber, use Aliphatic Rubber Crumb Binder instead.

SUPPORT REQUIREMENTS

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

1. Flat and leveled
2. Compact and cohesive (pull off test must show a minimum resistance of 1,5 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 AMBIENTAL CONDITIONS

Support temperature should be between 10°C and 30°C. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.

Air temperature must be between 10°C and 30°C. Support moisture should be less than 4% and less than 85% in the air.

High temperature and moisture conditions can lead to bubbling/foaming

APPLICATION GUIDELINES

Concrete supports must be prepared using an abrasive treatment and priming. Add the product to the recommended amount of rubber crumb and mix together for some minutes, until total homogenisation and wetting. The mixture is the poured on the surface, spreaded and leveled using suitable spreaders.



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CURING TIME

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 1 mm coat.

Temperature (°C)	RH (%)	Dry to touch (h)
20	50	6
20	70	3
20	15	40
5	60	20
5	85	7

RETURN TO SERVICE

At usual conditions, the rubber flooring is resistant to light traffic after 48 hours. It is recommended to open to general use after 6-7 days.

TOOL CLEANING

Liquid Rubber Crumb Binder can be cleaned with Rayston Solvent. Once hardened, it cannot be dissolved.

FAQ

Question	Answer
Can I added water?	For all the on-site application, it is not recommended to add water for speeding up the curing process. Excess of water will cause foaming and loss of mechanical properties.

SAFETY

Rubber Crumb Binder contains isocyanates. Always follow the instructions provided in the material safety data sheet and take the precautions described there. As a general rule, a suitable ventilation must be ensured and all contact with skin prevented. This product is intended to be used only for the uses and in the way here described. This product is to be used only by industrial or professional users. It is not suitable for DIY-type uses.

ENVIRONMENTAL PRECAUTIONS

Empty containers must be handled taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorized waste manager. If there is some residual product in the containers, do not mix it with other substances without checking for possible dangerous reactions.

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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