# RAYSTON RCB-580

## 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<br>25 kg, 210 kg |
| **Non-volatile content (%)** | 100% |
| **Flash point** | >120ºC (ASTM D 93) |
| **Colour** | Light yellow |
| **Density** | 1,05 g/cm$^3$ (20ºC) |
| **Viscosity**<br>approximate Brookfield | Temperature (ºC) / Viscosity (mPa.s)<br>5 / 20000<br>15 / 7000<br>25 / 3000<br>35 / 1000 |
| **Pot life** | 3 h (1 kg, 20ºC, 50% rh)<br>5 h (1kg, 5ºC, 60% rh) |
| **Storage** | Keep at a temperature below 35ºC, 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 |
| **Colour** | Yellowish |
| **Hardness (shore)** | 87A |
| **Density of film** | 1,05 g/cm$^3$ |
| **Mechanical properties** | Elongation: 190%<br>Stress: 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.<br>(0=worst, 5=best) |

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

| | |
|---|---|
| **Thermal resistance** | Stable up to 80ºC |

## RECOMMENDED COMBINATIONS

**Primer (Optional):**

- Rubber Crumb Binder (RCB), 250-350 g/m$^2$, diluted with Solvent Rayston where needed.

**Buffer layer** (recommended 20 to 100 mm thick):
Rayston RCB-580 resin mixed with recycled SBR rubber crumb (1 to 7 mm particle size) in the mixing ratio:

- SBR rubber: 100 parts.
- Rayston RCB-580 resin: 12-15 parts.

For a 10-mm layer, use 8 kg/m$^2$ 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
- Rayston RCB-580 resin: 18 to 21 parts

For a 10-mm layer, use 8-10 kg/m$^2$ of the above mixture.

Note: to ensure colour stability, when using light coloured EPDM rubber, use Rayston RCB 581-A instead Rayston RCB-580.

## SUPPORT REQUIREMENTS

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/mm$^2$).
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.

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### RECOMMENDED AMBIENTAL CONDITIONS

Support temperature should be between 10ºC and 30ºC. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.
Air temperature must be between 10ºC and 30ºC. 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 for some minutes, until total homogenization and wetting. The mixture is the poured on the surface, spreaded and leveled using suitable spreaders.

### 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 (ºC) | Dry to touch (h) |
|---|---|
| 15 | 9 |
| 20 | 6 |
| 40 | 4.5 |

### 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

Rayston RCB-580 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

Rayston RCB-580 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 tranferred 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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