# RAYSTON EPOXY 100

## DESCRIPTION

Epoxy resins are excellent adhesive material, very useful as primers for flooring applications. Rayston Epoxy 100 is a high-solids, low viscosity epoxy system, consisting of 2 pre-dosed components. Depending on the substrate porosity, it can be diluted with Rayston solvent, to improve liquid penetration and adhesion performance.

## APPLICATION

Rayston Epoxy 100 is a useful product for concrete sealing prior to treatment with waterproofing or seamless resin flooring products. It can be also used for general surface leveling.

## CERTIFICATIONS

**ETA**: European Technical agreement document N° 06/0263 and 16/0148 -**CE marking**: 10 and 25 years.

## TECHNICAL DATA

### INFORMATION ON THE PRODUCT BEFORE APPLICATION

| | Component A | Component B |
|---|---|---|
| **Chemical description** | Epoxy resin | Polyamine mixture |
| **Physical state** | Liquid | Liquid |
| **Packaging** | Metal container 10 kg | Metal container 5 kg |
| **Non-volatile content (%)** | Approx. 100% | 98% |
| **Flash point** | 120ºC | >100ºC |
| **Colour** | Colourless, hazy | Slightly yellow |

**Density**

| Temp (ºC) | Density (g/cm$^3$) |
|---|---|
| 25 | 1,14 |

| Temp (ºC) | Density (g/cm$^3$) |
|---|---|
| 25 | 1,05 |

**Viscosity**

Approximate values Brookfield

| Temp (ºC) | Viscosity (mPa.s) |
|---|---|
| 35 | 70 |
| 25 | 150 |
| 15 | 300 |
| 5 | 500 |

| Temp (ºC) | Viscosity (mPa.s) |
|---|---|
| 35 | 83 |
| 25 | 150 |
| 15 | 320 |
| 5 | 800 |

| | | |
|---|---|---|
| **VOC** | 7 g/L, 0.7% | 20 g/L,<2% |
| **A/B mixing ratio** | A=100, B=47 by weight<br>A=100, B=51 by volume | |
| **Mixture properties** | Density: 1,01 g/cm$^3$ at 23ºC<br>Viscosity: 480 mPa.s at 23ºC<br>Colour: colourless or slightly yellow | |

**Pot life**

| Temp (ºC) | Pot life (100, min) |
|---|---|
| 6 | <70 |
| 25 | 40 |
| 35 | 25 |

| | |
|---|---|
| **Storage** | Keep between 10º and 30ºC. Component A may crystallize if stored for protracted periods under certain conditions. If this occurs, it can be restored to its original condition by heating it to 70 - 80 °C and stirring it thoroughly. |
| **Use before** | 12 months after manufacturing date. |

### INFORMATION ON THE FINAL PRODUCT

| | |
|---|---|
| **Final state** | Solid menbrane |
| **Colour** | Colourless, slightly yellow |
| **Hardness (shore)** | 80D (ISO 868) |
| **Mechanical properties** | Maximum elongation: 7,5%<br>Tensile strength: 23 MPa<br>(EN-ISO 527-3) |
| **Solid film density** | 1,15 g/cm$^3$ |
| **UV resistance** | Undergoes slight yellowing under sunlight. No mechanical properties are affected. |
| **Chemical resistance** | Permanent contact (3 days, 80ºC) |

| Chemical | %weight gain |
|---|---|
| Water | 0 |
| Methoxypropyl acetate | 5 |
| Isopropyl alcohol | 0 |
| Skydrol | 0 |
| Xylene | 3 |
| Ammonia (3%) | 0 |
| Acetone | 25 |
| Diesel | 0 |
| Hydrogen peroxide | 0 |
| Sodium hydroxide (40 g/L) | 0 |
| Bleach | 2 |
| Sulphuric acid (10%) | 0 |
| Sulphuric acid (30%) | 0 |
| Sulphuric acid (50%) | 0 |
| Acetic acid (10%) | 2 |

Surface contact (24h, room temperature, 5=ok, 0=not recommended)

| Chemical | Result |
|---|---|
| Water | 5 |
| Ethyl alcohol | 5 |
| Engine oil | 5 |
| Vinegar | 5 |
| Hydrogen peroxide | 5 |
| Sulphuric acid (10%) | 5 |
| Sulphuric acid (30%) | 5 |
| Sulphuric acid (50%) | 4 |
| Isopropyl alcohol | 4 |
| Xylene | 5 |
| Ammonia (3%) | 5 |
| Diesel | 5 |
| Methoxipropyl acetate | 4 |
| Acetic acid (10%) | 5 |
| Bleach | 5 |
| Sodium hydroxide (40 g/L) | 5 |
| Acetone | 3 |
| Skydrol | 5 |

**Adhesion strength**

| Surface | Adhesion strength (MPa) |
|---|---|
| Concrete | 5.0 |

| | |
|---|---|
| **Use temperature** | Up to 80ºC |
| **Gloss (60º)** | 104% |

## SUPPORT REQUIREMENTS

In order to achieve a good penetration and bonding, support must be:
1. Flat and levelled (Product is self-levelling)
2. Coct and cohesive (pull off test must show a minimum resistance of 1,4 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

## RECOMMENDED ENVIRONMENTAL CONDITIONS

Support temperature should be between 15ºC and 40ºC. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.

## SUPPORT PREPARATION

Surfaces must be previously prepared by cleaning and removal of all dust and loose material. In case of concrete, sandblasting is recommended.

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# RAYSTON EPOXY 100

## MIXING

Stir and homogenise thoroughly component A and B using a low-speed stirrer. The mixture turns to a homogenous clear liquid. Do not mix more material than the amount usable within the pot life window. Mixing with quartz sand is possible for other intended uses.

## APPLICATION

As a primer:
Apply 200 to 500 g/m$^2$ of undiluted product. Other quantities are possible when used with dilution. Use brush or roller.

On very absorbent substrates, a first coat may be diluted, followed by a second, undiluted coat.
Do not apply on hot surfaces.

Use enough amount to ensure complete surface sealing.

On big areas, it is recommended to spread some quartz sand in order to get a rough primer surface, improving the adhesion of the following polyurethane coat.
As a levelling coat: mix with suitable self-levelling sand/filler (50% or 100% sand depending on desired surface roughness. Apply at 2 kg/m$^2$/mm

As an Adhesion layer: 300 to 500 g/m$^2$

## CURING TIME

Application tested: 500 g/m$^2$

| Conditions | Dry to touch (h) |
|---|---|
| 35ºC, 25%hr | 2 |
| 23ºC, 50% hr | 8 |
| 23ºC, 5% hr | 9 |
| 7ºC, 60ºC | >20 |
| -15ºC | Does not dry |

## REAPPLICATION

A second coat is possible as soon as the first one is dry to touch, and within the following 24 hours.

## TOOL CLEANING

Use solvent Rayston for both components.

## QUESTION AND ANSWER

| Problem | Question | Causes | Solutions |
|---|---|---|---|
| Uneven distribution | Wetting problems | Surface contamination | Dilution with solvent Rayston may be useful |
| in-can fast reaction | | Too much material mixed | If mixed in smaller volumes, or even spread on the surface after mixing, working time can be extended.. |
| Need colours | It can be pigmented | | Yes, but ask manufacturer advice in order to select the right pigment paste |

## SAFETY

Epoxy components are potentially sensitizing. Component B is corrosive. Always follow instruction provided in the Material Safety Data Sheet. As a general rule, suitable skin and eye protection must be worn. 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 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 containes still have some material left, do not mix with other product before considering the risk of potential dangerous reactions. Never mix 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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