

# RAYSTON FLOOR D50 FR

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Sprayed, hot-applied polyurea membrane for flooring applications.

## DESCRIPTION

Rayston Floor D50 FR is a 2-component polyurea resin, which cures into a hard membrane for flooring applications, with fire-resistant properties

## APPLICATION

General fast-applied flooring systems. Decorative and industrial floors, where fast application is needed.

## TECHNICAL DATA

### INFORMATION ON THE PRODUCT BEFORE APPLICATION

|                                 | Component A  | Component B                        |                 |    |      |  |           |                 |    |      |
|---------------------------------|--|------------------------------------|-----------------|----|------|--|-----------|-----------------|----|------|
| <b>Chemical description</b>     | Polyol/Polyamide   | Aromatic isocyanate prepolymer     |                 |    |      |  |           |                 |    |      |
| <b>Physical state</b>           | Liquid   | Liquid                             |                 |    |      |  |           |                 |    |      |
| <b>Packaging</b>                | Metal container<br>186 kg+pigment 4 kg<br>18,6 kg+ pigment 0,4 kg  | Metal container<br>210 kg<br>21 kg |                 |    |      |  |           |                 |    |      |
| <b>Non-volatile content (%)</b> | Approx 100%  | 100%                               |                 |    |      |  |           |                 |    |      |
| <b>Flash point</b>              | >100°C   | >100°C                             |                 |    |      |  |           |                 |    |      |
| <b>Colour</b>                   | Dark yellow  | Dark yellow                        |                 |    |      |  |           |                 |    |      |
| <b>Density</b>                  |  |                                    |                 |    |      |  |           |                 |    |      |
|                                 | <table border="1"><thead><tr><th>Temp (°C)</th><th>Density (g/cm3)</th></tr></thead><tbody><tr><td>25</td><td>1.02</td></tr></tbody></table> | Temp (°C)                          | Density (g/cm3) | 25 | 1.02 | <table border="1"><thead><tr><th>Temp (°C)</th><th>Density (g/cm3)</th></tr></thead><tbody><tr><td>25</td><td>1.13</td></tr></tbody></table> | Temp (°C) | Density (g/cm3) | 25 | 1.13 |
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| 25                              | 1.02   |                                    |                 |    |      |  |           |                 |    |      |
| Temp (°C)                       | Density (g/cm3)  |                                    |                 |    |      |  |           |                 |    |      |
| 25                              | 1.13   |                                    |                 |    |      |  |           |                 |    |      |

### Viscosity

#### approximate Brookfield

| Temp (°C) | Viscosity (.s) | Temp (°C) | Viscosity (.s) |
|-----------|----------------|-----------|----------------|
| 10        | 625            | 10        | 830            |
| 20        | 350            | 20        | 460            |
| 30        | 190            | 30        | 295            |
| 40        | 110            | 40        | 175            |
| 50        | 70             | 50        | 115            |
| 60        | 50             | 60        | 80             |

### A/B mixing ratio

A=1, B=1.1 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) for Rayston Floor D50 FR.

### Pot life

Gel time mixture A+B (20 g)  
8-10s at 25°C

### Storage

Keep between 10° y 30°C. Product is hygroscopic: protect from moisture. Component B may become hazy upon storage at low temperatures. Reheat mildly before use.

### Use before

12 months after manufacture, provided it is kept in its sealed container.

### INFORMATION ON THE FINAL PRODUCT

#### Final state

Solid hard membrane

#### Colour

Variable, depending on the chosen pigmentation. For colours available, please contact Krypton Chemical.

#### Hardness (shore)

50D

#### Mechanical properties

Elongation at break: 300%  
Tensile strength: 21 (EN-ISO 527-3)  
Tear strength: 98 N/mm (ISO 34-1, Method B)

### UV resistance

Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight. Additional UV protection can be achieved by application of an aliphatic fast curing topcoat (Kryptanate)

## SUPPORT REQUIREMENTS

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

1. Flat and levelled
2. Coct 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

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

## SUPPORT PREPARATION

Concrete substrates must be prepared mechanically using shot blasting, scarifying or diamond grinding equipment, in order to grind the surface and obtain an open pore. Substrates must be primed and repaired 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 vacuum cleaning.

## MIXING

StAdd the required pigment to the A-component and stir before loading at low speed for a few minutes. Excess stirring may lead to undesirable moisture pick up. Recirculate both components while heating up to the required application temperatures. **Best Mixing equipment should have extensible blades with overall width equivalent to 1/3 of drum diameter.**

## APPLICATION GUIDELINES

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

- Component A: 65-70°C
- Component B: 70-75°C
- Hose: 70°C

Pressure should be 130-150 bar.

During application, check layer thickness and curing speed. Spray Rayston Floor D50 FR at 2-3 kg/m2 as a general rule.

Contact Krypton Chemical for more detailed technical information.

## CURING TIME

Rayston Floor D50 FR cures to touch after a few minutes after application, with quartz sand spreaded. Walking is possible after 4-5 hours

|       |     |     |
|-------|-----|-----|
| 10min | 82A |     |
| 40min | 89A | 35D |
| 1h    | 91A | 35D |
| 2h    |     | 38D |
| 6h    |     | 43D |
| 3d    |     | 49D |
| 7d    |     | 50D |

## RE-APPLICATION

Usually, needed thickness can be obtained in one single coat.

## TOOL CLEANING

Solvent use for machine component cleaning is discouraged. A cleaning plasticizer fluid is suitable. Component B must be completely removed from all air-exposed parts and replaced with cleaning fluid.

## CLEANING AND MAINTENANCE

For stain removal, a surface treatment with Rayston solvent or isopropyl alcohol may be attempted. Strong acids are totally inadequate. Some solvents may damage the membrane. If this happens, the affected area has to be cut and repaired with fresh product



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## FAQ

| 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 Floor D50 FR  |
| No hiding power       | Horizontal?                             | Too little product<br>Too little pigment | Apply 1 kg/m2<br>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 Floor D50 FR is always delivered with the pigment of choice. Use of pigment helps to obtain a 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

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 containers 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 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. (21/08/2020)**



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