APPLICATION GUIDE.

Rayston Floor PU 10 W System

by Krypton Chemical

Content

1. General terms and conditions

RECOMMENDATIONS

MANUFACTURER

The manufacturer of the products used in the works described in this specification shall demonstrate in writing that its Quality Assurance system complies with the requirements of the Spanish Standard UNE-ISO 9001.

APPLICATOR

For a correct application of the systems specified in this report, it is recommended that the application company satisfactorily completed an instruction program on their installation or application and the appropriate methods for the preparation of the substrate, in addition to having the necessary equipment for the correct application of the product.
The application company must have the means and equipment necessary and in suitable conditions for the correct application of the system.

EXECUTION OF THE APPLICATION:

CONDITIONS

Before starting the work described in this specification, check that the environmental, site and substrate conditions are suitable for the application.
The final responsibility for any decision regarding the application of the system on site shall rest with the project manager, project execution manager and/or builder, and in no case with the supplier of the product.

PREPARATION

The good preparation of the substrate is vital for the correct application of the products. Therefore, the technical instructions recommended by the manufacturer should be followed.

APPLICATION

It is recommended that the products described in this report be applied or installed according to the manufacturer's instructions and in compliance with current regulations.

PROTECTIVE SYSTEMS

Before starting the application work, the necessary measures will be taken for the protection of workers in terms of Occupational Risk Prevention, and the appropriate measures will be taken so that personnel outside the work site are not affected by the application.

2. Proposed solution

This document is intended to assist you and the applicator during the application of the **RAYSTON FLOOR PU 10 W** system. This is an aliphatic, pigmented, solvent-free system.

The system chosen for treating the flooring must be completely continuous, without joints. It must have good impact and abrasion resistance and be easy to clean.

For this purpose, the previous actions to be carried out on the facing to mitigate the risk of future injuries must be defined. In addition, we will take into account the minimum properties that the support must comply with to mitigate future risks.

3. System Steps

The system should follow the following steps:

- Primer: Humidity Primer
- Top Coat: Colodur Eco

4. Support requirements and treatment of details and singular points.

1 Requirements to be met by the substrate:

The concrete substrate must meet the following properties:

- Minimum cohesion (pull-out/tensile strength) of 1.5 N/mm^2.
- The concrete substrate must be compact and have sufficient compressive strength (minimum 25 N/mm^2).

- RH <4%.
- Seamless
- Cohesive
- Not contaminated
- Leveling

(If not, the coating will mark the existing irregularities).

2 Moisture Content, Ambient and Support Temperatures.

Before application, confirm the moisture content of the substrate, RH, dew point or dew point. If the humidity of the substrate is higher than 8%, and if it is possible we should dry the surface by means of devices enabled for this purpose, otherwise another type of primer will be evaluated.

The temperature and humidity of the environment and substrate (min. + 10ºC and max. + 30ºC) should be controlled during the whole application cycle (before - during - after), to avoid accelerated reactions. In addition to this, the dew point should also be controlled (always apply when the temperature is 3ºC above).

Note: The speed of any chemical reaction depends on the temperature, as a general rule the higher the temperature, the faster the reaction. Condensation on the substrate should be at least 3°C above the dew point, and the ambient humidity should not exceed 85%.

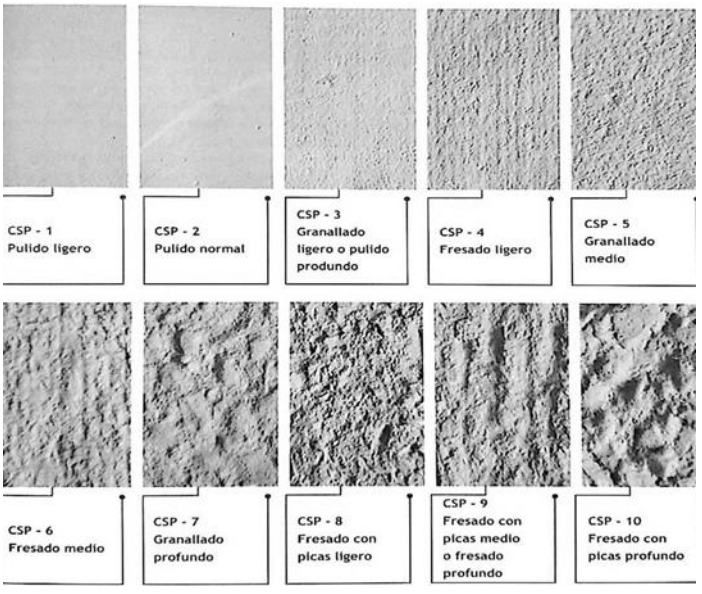
3 Preparation of the substrate

To ensure a good compatibility of the system with the existing substrate and to obtain a good adhesion, it is very important that the support has minimum conditions and the following ones properties:

1. Cohesive.
2. Regular and homogeneous.
3. Fully continuous.
4. Free of fissures, cracks and crazing (to be treated beforehand).
5. Clean and free of dust, grease, fluids and any other type of contaminating chemical agent.
6. Fully cured.
7. Free of particles and other materials not completely adhered to the substrate.
8. As dry as possible (no risk of negative pressure).

The stand will be washed with a high-pressure water machine to remove the dirt (degreasing) and impurities. It will be important that there are no material remains since may affect the adhesion of the membrane to the substrate.

The degree of roughness in concrete should be CSP1- CSP3 according to ICRI (INTERNATIONAL INSTITUTE for Concrete Repair) Technical Guide No. 03732 "Selection and Specification of Concrete Surface Preparation for Coatings, Sealers and Polymeric Coatings. "



4 Treatment of damages and shocks:

Before priming the surface, local treatments will be made with dry mortar based on Rayston Epoxy 100 resin, with 0.4 to 0.9 mm granulometry aggregate or equivalent, or with cementitious repair mortar type R4, assuring a complete aesthetic homogeneity with the existing treatment. Possible cracks or small cavities will be filled with a polyurethane putty type Rayston Flex 3040 or equivalent.

5 Treatment of details and singular points:

Right angles should be avoided in horizontal-vertical joints, corners and other parts of the structure, i.e. it is advisable to round these areas of the surface with a mortar **(half-rounds).**

Regarding the **expansion joints of** the structure, if they have a movement greater than 50% of the joint size, mechanical joints should be placed (for example, a joint with a minimum width of 10 cm should be opened a maximum of 15 cm). To ensure the watertightness of the system, these mechanical joints should be placed according to the manufacturer's specific recommendations.

If the movement is smaller, they can be treated with Rayston Joint Geo high elasticity band, after filling them appropriately (polyethylene foam cylinder and polyurethane putty type Rayston Flex). Rayston Joint Geo adheres to the primed support thanks to an adhesive (PU 2K adhesive) or an epoxy resin such as Rayston Epoxy 100 applied on the geotextile adhered to the strip. Polyurea membranes do not have a good adhesion on the Rayston Flex Joint Geo strip, so that, in case of movement of the joint, this movement will not be transferred to the polyurea membrane, or in any case the movement will be attenuated to this polyurea membrane, reducing the risk of cracking of the same.

Rayston Joint Geo can be supplied in different widths; it is advisable to always use a band with the appropriate width.

For small jobs, Rayston Flex 3040 one-component polyurethane putty should be applied manually. For higher productivity, it is possible to apply, alternatively, the very high elasticity polyurea based filler (bicomponent, curing in a few seconds) reference Rayston Flex 70 with the Rayston Spray Gun portable machine. If it is necessary to fill many linear meters of joint, the application will be more efficient with the Rayston G-1 machine.

Similar treatment will be done on cracks larger than 2 mm or even smaller in width if they are suspected of moving and/or continuing to open over time (unstabilized cracks or fissures).

Important: Treatment done in winter (lowest possible temperatures) will always be more effective than treatment done in summer. In winter, with low temperatures, the materials will be contracted and the joint edges will be farther apart. In summer, with high temperatures, the materials will be expanded and the joint edges will be closer together. If the treatment is done in summer, without leaving any slack in the membrane, as winter sets in and the environment cools, the joint edges will separate and the membrane will be stressed with the risk of cracking.

5. Steps and application of the system

5.1 Primer

HUMIDITY PRIMER is a Water based epoxy primer system consisting of 2 pre-metered components. Depending on the porosity of the substrate, it can be thinned with water to improve liquid penetration and adhesion performance. Ideally applied in two stages to achieve maximum adhesion.

Apply 0.5 kg/m² of Humidity Primer in two coats of 0.25 kg/m². The first coat of primer can be diluted with 10% water to help it penetrate (adhere) to the surface and aid consolidation.

For application, the material should be spread evenly, avoiding accumulations, working within the product's pot life (see FT).

Important: The primer is applied with the purpose of sealing the porosity of a surface. It should never be applied when there is rising air, i.e. when there is direct sunlight on a porous exterior surface that is gradually heating up. The product recommended in this system, Humidity Primer can only be used if the humidity of the substrate is less than 7% (if it is higher, ask the technical office for a list of primers).

Application tools Humidity Primer:

5.2 Topcoat

Colodur Eco is a water based aliphatic polyurethane coating for the protection of concrete surfaces and pavements.

Apply in two crossed layers. It is supplied colorless or pigmented.

For this system the dosage to be applied is a total of 0.5 Kg/m^2 in two layers of 0.25 Kg/m^2 each. To obtain an anti-slip finish, broadcast the first layer with aggregates with a granulometry of 0.3 - 0.8 mm with 1 Kg/m^2.

Once the product has dried, sweep or vacuum the excess aggregate and then apply the second coat. Spread the material with a short roller or with the Air-less machine.

Note: For light colors, a minimum of 3 layers will be required with a consumption of 0.15-0.20 kg/m^2.
Optional: last coat with Colodur ECO Varnish.

6. Certificates

Colodur Eco

The Colodur Eco product has been thoroughly tested by Applus Laboratory, which has performed the following tests:

- CE Marking
- UNE-EN 13813 : 2003
- Wear Resistance (BCA) AR 0,5
- Impact Resistance IR 14,7
- Abrasion Resistance 19,1 mg (1000 cycles, cs-17 wheel).
- Resistance to liquids, (engine oil and Diesel).

7. Maintenance

A minimum frequency of two visual inspections per year is recommended, one at the beginning of spring and the other at the beginning of fall.

Although polyurethane resins are non-absorbent products and dirt does not easily adhere to them (facilitating their proper condition and cleaning), it is advisable to maintain the installations and carry out periodic cleaning by removing surface residues and dirt prior to cleaning.

In oily or greasy environments, neutral detergents with low foaming power or high-performance alkaline floor cleaner. For mineral oil contamination, use a high-performance neutral degreaser. As with any other cleaning process, dirt must be removed and/or removed from the surface. Bottles of cleaning solutions, if allowed to evaporate or dry, can cause deposits on the surface and the appearance of water marks that may be difficult to remove later.

For floors, especially the larger ones, mechanical cleaning equipment should be used and in areas not accessible to machines we will use hand-held equipment.

In addition, the surface will always be inspected after other professionals have performed work such as construction, installation of new equipment or repair of existing equipment.

8. Conclusions

The **RAYSTON FLOOR PU 10 W** system proposed by Krypton Chemical, has been used in many works and rehabilitation projects in Spain and other countries. It has a great track record of success.

This system is totally continuous (without joints), remains adhered to the treated surface and offers great resistance over time. In addition, it is a system that easily and efficiently solves all the singular points that can be found in an installation of these characteristics. It has an aliphatic finish.

This system, applied on site by a company approved by Krypton Chemical, is CE marked, based on tests carried out by the APPLUS laboratory.

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