



APPLICATION GUIDE.

Rayston Floor PU 30 Comfort System

by Krypton Chemical

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1. General 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

To ensure the correct application of the systems specified in this report, it is recommended that the contractor has successfully completed a training programme on their installation or application and the appropriate methods for preparing the substrate; furthermore, they must have the necessary equipment for the correct application of the product.

The application company must have the necessary resources and equipment, in suitable condition, for the correct application of the system.

APPLICATION PROCEDURE:

ENVIRONMENTAL CONDITIONS

Before commencing the work described in this specification, it must be verified that the environmental conditions, site conditions and substrate conditions are suitable for application.

Ultimate responsibility for any decision regarding the application of the system on site shall lie with the site manager, works manager and/or contractor, and under no circumstances with the product supplier.

PREPARATION

Proper preparation of the substrate is vital for the correct application of the products. The technical instructions recommended by the manufacturer must therefore be followed.

APPLICATION

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

PROTECTION SYSTEMS

Before commencing application work, the necessary measures shall be taken to protect workers in accordance with Occupational Health and Safety regulations, and appropriate measures shall be taken to ensure that personnel not involved in the works 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 30 Comfort** system. A 100% solids, two-component, self-levelling system based on pigmented two-component polyurethane resins with a smooth or non-slip finish for concrete substrates or surfaces. This system features a rubber mat incorporated into the base of the system, thus creating a comfortable surface.

This system can be applied in sports halls, offices, shopping centres, shops, etc. The aim is to provide users with a sense of comfort during use, whilst also protecting the floor from cleaning products and foot traffic.

To this end, the preparatory work to be carried out on the substrate must be defined to mitigate the risk of future injuries. Furthermore, we will take into account the minimum properties the substrate must meet to mitigate future risks.

3. System steps

The system must follow the following steps:

- Primer: Rayston Epoxy 100
- Adhesive: 2K PU Adhesive
- Rubber matt
- Rubber sealing layer: Pavisoft + thickening additive
- Main layer: Pavisoft
- Finish: Colodur Eco

4. Substrate requirements and treatment of details and specific areas

1 Requirements to be met by the substrate:

The concrete substrate must meet the following properties:

- Minimum cohesion (tear/tensile strength) of 1.5 N/mm².
- The concrete substrate must be compact and have sufficient compressive strength (minimum 25 N/mm²).



- HR <4%
- No cracks
- Cohesive
- Uncontaminated
- Level

(Otherwise, the coating will highlight any existing irregularities)

2 Moisture content, ambient temperatures and substrate.

Before application, check the moisture content of the substrate, relative humidity (RH), and dew or condensation point. If the substrate moisture content exceeds 4%, the surface should be dried using appropriate equipment where possible; otherwise, alternative primers should be considered.

The ambient and substrate temperatures and humidity must be monitored throughout the entire application cycle (before, during and after) (min. +10°C and max. +30°C) to prevent accelerated reactions. In addition, the dew point or condensation point must also be monitored (always apply when the temperature is 3°C above this point).

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

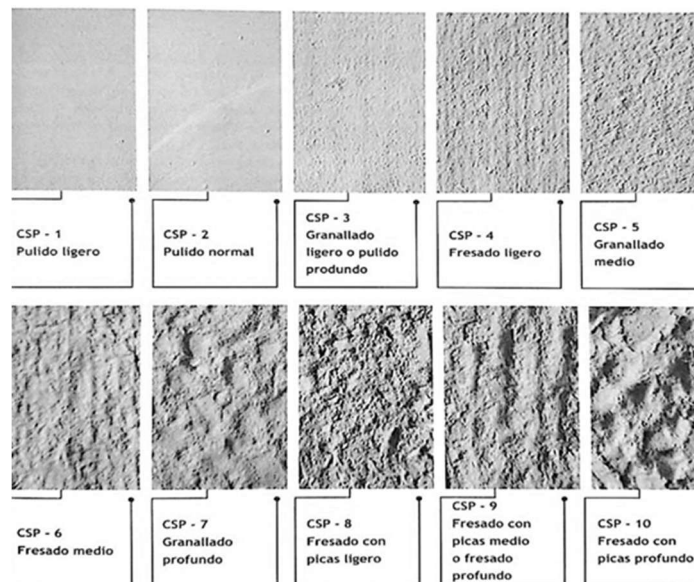
3 Substrate preparation:

To ensure good compatibility of the system with the existing substrate and to achieve good adhesion, it is very important that the substrate meets the following minimum requirements properties:

1. Cohesive.
2. Even and uniform.
3. Completely continuous.
4. Free from fissures, cracks and potholes (which must be treated beforehand).
5. Clean and free from dust, grease, liquids and any other type of chemical contaminant.
6. Fully cured.
7. Free from particles and other materials not fully bonded to the substrate.
8. As dry as possible (with no risk of negative pressure).

The substrate must be washed with a high-pressure water jet to remove dirt (degreasing) and impurities. It is important that no material residues remain, as these can affect the membrane's adhesion to the substrate.

The degree of roughness in the concrete must be CSP3–CSP6 in accordance with Technical Guide No. 03732 of the ICRI (International Concrete Repair Institute) "Selection and Specification of Concrete Surface Preparation for Polymer Coatings, Sealants and Linings".



4 Treatment of damage and impact marks:

Before priming the surface, localised repairs shall be carried out using Rayston Epoxy 100 resin-based dry mortar, with aggregate of 0.4 to 0.9 mm particle size or equivalent, or with R4-type cementitious repair mortar, ensuring complete aesthetic uniformity with the existing surface. Any cracks or small cavities shall be filled with a polyurethane filler such as Rayston Flex or equivalent.

5 Treatment of details and specific areas:

Right angles should be avoided at horizontal-vertical junctions, corners and other parts of the structure; in other words, it is advisable to round off these areas of the surface with mortar (**quarter-rounding**).



With regard to the structure's **expansion joints**, if they have a movement greater than 50% of the joint's width, mechanical joints must be installed (for example, a joint with a minimum width of 10 cm must open a maximum of 15 cm). To ensure the system is watertight, these mechanical joints must be installed in accordance with the manufacturer's specific recommendations.

If the movement is minor, it can be addressed using the highly elastic Rayston Joint Geo tape, after filling the gaps appropriately (with a polyethylene foam cylinder and a polyurethane sealant such as Rayston Flex). Rayston Joint Geo adheres to the primed substrate using an adhesive (2K PU Adhesive) or an epoxy resin such as Rayston Epoxy 100, applied to the geotextile bonded to the tape. Polyurea membranes do not adhere well to the Rayston Flex Joint Geo strip; therefore, in the event of movement in the joint, this movement will not be transferred to the polyurea membrane, or at any rate the movement will be dampened by this polyurea membrane, reducing the risk of cracking in the membrane.

Rayston Joint Geo is available in various widths; it is advisable to always use a strip of the appropriate width.

For small-scale applications, the single-component polyurethane mastic Rayston Flex 3040 should be applied manually. For greater productivity, the highly elastic polyurea-based sealant (two-component, curing in a few seconds), Rayston Flex 70, can alternatively be applied using the portable Rayston Spray Gun. Where a large number of linear metres of joint need to be filled, application will be more efficient using the Rayston G-1 machine.

A similar treatment should be carried out on cracks wider than 2 mm, or even narrower if it is suspected that they are moving and/or continuing to open over time (unstabilised cracks or fissures).

Important: Treatment carried out in winter (at the lowest possible temperatures) will always be more effective than treatment carried out in summer. In winter, at low temperatures, the materials will be contracted and the edges of the joint will be further apart. In summer, at high temperatures, the materials will be expanded and the edges of the joints will be closer together. If the treatment is carried out in summer, without leaving any slack in the membrane, when winter arrives and the temperature drops, the edges of the joints will separate and the membrane will be stretched, with the risk of cracking.

5. Steps and application of the system

5.1 Primer

RAYSTON EPOXY 100 is a high-viscosity, high-solids epoxy system consisting of two pre-measured components. Depending on the porosity of the substrate, it can be thinned with Rayston solvent to improve liquid penetration and adhesion performance. Ideally applied in two stages to achieve maximum adhesion.

Apply 0.5 kg/m² of Rayston Epoxy 100 in two coats. The first primer coat may be thinned with 10–15% Rayston Solvent to ensure it penetrates (bonds) into the surface and helps to consolidate it. A total of 0.2 kg/m² should be applied in this first coat.

Next, once the first coat has cured, apply the second coat with a light wet dusting of aggregate with a particle size of 0.3–0.8 mm. A total of 0.3 kg/m² should be applied.

To apply, spread the material evenly, avoiding build-up, and work within the product's pot life (see technical data sheet).

Important: The primer is applied to seal the porosity of a surface and must never be applied when there is rising damp, i.e. when there is direct sunlight on a porous exterior surface that is gradually heating up. The product recommended for this system, RAYSTON EPOXY 100, may only be used if the substrate moisture content is less than 4%. (If higher, contact the technical department for a list of primers).

Application tools for Rayston Epoxy 100:



5.2 2-component PU adhesive

PU 2K ADHESIVE is a two-component polyurethane adhesive for a wide range of construction applications. Pour the mixture in strips 10–20 cm wide and spread quickly with a trowel or notched trowel. Apply to the second surface to be bonded and maintain adequate pressure throughout the curing time. Estimated consumption is 0.3–0.4 kg/m².

Note: The product is self-levelling. If applying to sloping or vertical surfaces, use a thickening additive to prevent sagging.

5.3 Rubber Matt

RUBBER MATT PLUS rubber mats consist of sheets of recycled rubber crumbs bonded with a polyurethane resin. They provide an excellent shock-absorbing base, particularly for sports floors

Once the 2K PU Adhesive has been spread over the surface, immediately place the Rubber Matt Plus onto the adhesive. It is recommended to roll over the sheet to apply pressure and improve adhesion.



5.4 Rubber sealing layer: Pavisoft + thickening additive

Once the Rubber Mat Plus has been laid and the adhesive has dried, the next step is to fill the pores of the sheet. This is achieved by applying a layer of **PAVISOFT** membrane **with a 2% THICKENING ADDITIVE** by weight of the resin. The amount of Pavisoft required to seal the pores is 0.8–1 kg/m². The product should be applied using a rubber or metal trowel.



5.5 Main Layer: Pavisoft

PAVISOFT is a two-component, self-levelling, 100% solids aromatic polyurethane resin. Solvent-free, flexible, waterproofing, abrasion-resistant. The required coverage for the system is 3 kg/m².

The product should be applied by pouring the entire contents of the container onto the surface and spreading it quickly using a trowel or notched trowel. It is advisable to wear spiked shoes and to de-air the product using a spiked roller in criss-cross strokes, within a maximum of 10 minutes of mixing. Depending on the size of the surface to be treated, ensure there are sufficient staff to carry out the mixing, application and de-airing quickly and evenly.

Note: Ensure that all materials are always available and easily accessible, so that application can be carried out continuously. Refer to the product data sheet for mixing and application details.

The tools required for applying Pavisoft are: a notched trowel and a spiked roller.



5.6 Finishing

For the finish, apply a total of 0.5 kg/m² in two coats of 0.25 kg/m² each of **COLODUR ECO PIGMENTADO**, a high-performance, water-based, two-component aliphatic polyurethane resin that provides hard yet flexible coatings with high resistance to abrasion and chemical agents. It provides excellent surface protection for floors subjected to heavy wear and tear. This product does not yellow when exposed to UV rays, making it suitable for outdoor use. The absence of solvents allows this product to be used in areas with public access, without the need to evacuate them.

To achieve a seamless surface, always keep the edge of the application 'fresh'.

To achieve a non-slip finish, add 5–7% anti-slip additive to the second coat.



6. Certificates

Pavisoft Certificates

The Pavisoft product has been thoroughly tested by the Applus laboratory, which has carried out the following tests.

- Adhesion to concrete substrates, UNE-EN 1381:2003
- Pencil hardness, UNE 48269:95
- Surface hardness, UNE-EN 13892-6
- Impact resistance, UNE-EN ISO 6272-1:2012
- BCA abrasion resistance, UNE-EN 13892-4:2003
- Determination of slip resistance, UNE-ENV 1263:2003
- Compressive and flexural strength, UNE-EN 13892-2:2003
- Determination of flexural properties, UNE-EN ISO 178:2003

Colodur ECO Certificates

The Colodur ECO product has been thoroughly tested by the Applus laboratory, which has carried out the following tests:

- TABER abrasion resistance in accordance with UNE 48250
 - Scratch resistance n/a UNE EN ISO 1518
 - Resistance to liquids (petrol and diesel) n/a UNE EN ISO 2812-3 and UNE EN ISO 2812-4
 - Resistance to staining caused by contact with vulcanised rubber
 - Determination of brightness s/n UNE EN ISO 2813
 - Colorimetric determination (CIELAB coordinates) in accordance with UNE 48073/2 and ISO 7724/2
 - Determination of whiteness index and yellowness index in accordance with ASTM E313
 - Accelerated artificial ageing test in the open air
- Test method in accordance with UNE EN ISO 11341: 2005 "Paints and varnishes: Ageing

7. Maintenance

It is advisable to maintain the facilities and carry out periodic cleaning, removing surface residues and dirt prior to cleaning.

A minimum of two visual inspections per year is recommended, one at the start of spring and the other at the start of autumn.

In addition, the system must always be inspected after other professionals have carried out work such as building works, the installation of new equipment or the repair of existing equipment.

8. Conclusions

The **RAYSTON FLOOR PU 30 COMFORT** system, developed by Krypton Chemical, has been used in a large number of construction and refurbishment projects in Spain and other countries. It has a proven track record of success.

This system is completely seamless (joint-free), remains firmly bonded to the treated surface and offers excellent long-term durability. Furthermore, it is a system that easily and effectively addresses all the specific challenges that may arise in a project of this nature. It features an aliphatic finish.

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

The information contained in this document, as well as the advice provided by the professionals at Krypton Chemical, SL—whether in writing, verbally or through testing—is given in good faith based on our experience and the results obtained from tests carried out by independent laboratories. It does not serve as a guarantee for the applicator, who should treat it as a guide only and for strictly informational purposes. We recommend studying this information in depth before proceeding to select, use and apply any of these products. It is advisable to carry out on-site tests to determine the suitability of a treatment at the location. Our recommendations do not exempt the applicator from the obligation to have a thorough understanding of the correct method of application of these systems before proceeding with their use, nor from carrying out as many tests as necessary should there be any doubt regarding their suitability for any work, installation or repair, taking into account the specific circumstances in which the product will be used.

The obligations incumbent upon Krypton are those established by Law 38/1999 on Building Regulations in Article 15 in its capacity as a product supplier. Under no circumstances is it assumed that Krypton is assuming the responsibilities and obligations corresponding to the project manager, the site management and the builder as set out therein.

The obligations incumbent upon Krypton shall be solely those that may be claimed from a supplier of products. Under no circumstances, through this or any other document, does Krypton assume the responsibilities and obligations corresponding to the site manager, the project management team or the builder.

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