KRYPTON PROLINE PU 1000TC

Single-component aliphatic polyurethane resin

DESCRIPTION

High-performance, single-component aliphatic polyurethane topcoat that cures with ambient humidity, resulting in hard, tough and flexible coatings with high resistance to abrasion, scratching, outdoor conditions and UV radiation. It also has very high resistance to chemical agents.

PROPERTIES

- Semi-gloss finish.
- As it is a single-component product, it avoids mixing and facilitates its use on site.
- Total colour stability.
- Excellent resistance to the influence of external atmospheric agents and UV rays.
- Excellent resistance to abrasion, wear and scratching.
- Fast curing and repainting.
- Long-lasting protection when used in Krypton systems.

APPLICATIONS

- Protective finish for anti-corrosion systems on ferrous and non-ferrous metal surfaces.
- Structures in medium, high and very high atmospheric corrosivity categories (C3, C4, C5 ISO 12944-2:2018).
- Finish and UV protection for cold or hot-applied waterproofing membranes (always coloured).
- Protection of exterior wooden surfaces (colourless or coloured).
- In general, it can be used to protect any surface exposed to the exterior.

CERTIFICATES

- Anti-corrosion system top coat with polyurea, C5H and C5VH certified according to ISO 12944-6:2018.
- Applus Laboratory. Mechanical properties, ageing, watertightness and water vapour permeability: 08/32307407. Abrasion: 08/32309984, 10/101.589-1432. Slip resistance: 10/1709-1862.

TECHNICAL DATA

PRODUCT INFORMATION BEFORE APPLICATION	
Chemical identity	Single-component aliphatic polyurethane in solution
Physical state	Liquid
Presentation	Metal containers: 4 kg / 20 kg (colourless) 6 kg / 25 kg (colourless)
Solids content	>50% (colourless) >70% (pigmented)
Flash point	36 °C (ASTM D 93)
Colours	Colourless. Pigmented in grey and white. For other colours, please enquire.
Density	Colourless: 0.95 g/cm³ (20 °C) Pigmented: 1.35 g/cm³ (20 °C)

	Temperature (ºC)	Viscosity (mPa.s)	
		Colourless	Pigmented
Viscosity (Brookfield, approximate)	5	890	1000
	10	660	800
	20	410	600
	30	230	300

VOC (g/l and %) **VOC category according to directive**	VOC content: 468.76 g/l (colourless), 380 g/l (pigmented). Product subcategory: i II High-performance single-component, solvent-based coatings. Phase II from 01/01/2010: 500 g/l.
Pot life	Colourless: 6 hours (1 kg, 20 °C, 50% RH) Pigmented: 2 hours (the container forms a skin on top)
Storage	Store below 35°C, away from sources of ignition and moisture. Storage time: 6 months (pigmented) from manufacture.

INFORMATION ABOUT THE FINAL PRODUCT	
Final state	Solid elastomeric membrane
Colour	Colourless, pigmented in grey or white. RAL on request.
Hardness (Shore scale)	53D (colourless) 60D (pigmented)
Mechanical properties	Maximum elongation: 173% (colourless), 70% (pigmented) Maximum tensile strength: 27.4 MPa (colourless), 15 MPa (pigmented)
Chemical resistance	Continuous contact by immersion. (0 = worst, 5 = best)

Agent	Conditions	Result
Water	15d, 80°C	5
Salt water (saturated)	5d, 80ºC	5
Hydrochloric acid 200 g/l	7d, 80ºC	0
Hydrochloric acid 20 g/l	7 days, 80ºC	3 (colouring)
Acetic acid 6%	28 days, 80ºC	5
surface contact 24 hours	28 days, 80ºC	5
Sodium hydroxide (40 g/l)	28 days, 80ºC	5
Sodium hydroxide (4 g/l)	28 days, 80ºC	3
Ammonia	28 days, 80ºC	4
Bleach	7d, 80ºC	0
bleach (10%)	7 days, 80ºC	0
Xylene	7d, 80ºC	5
Isopropyl alcohol	7d, 80ºC	3 (colouring)
Engine oil	28d, 80ºC	5
Diesel	16d, 80ºC	3 (discolouration)

Limited surface contact.
Non-pigmented. (0 = worst, 5 = best)

Agent	Conditions	Result
Hydrochloric acid (20%)	1 hour	4
	7 days	2
Acetic acid (6%) Skydrol	24 hours	5
	7 days	4

KRYPTON CHEMICAL SL
12 Martí i Franquès Street - Les Tàpies Industrial Estate
43890 - l'Hospitalet de l'Infant - Spain
Tel: +34 977 822 245 - Fax: +34 977 823 977
www.kryptonchemical.com – rayston@kryptonchemical.com

KRYPTON PROLINE PU 1000TC

Single-component aliphatic polyurethane resin

Water vapour permeability	2.7 g/m² day, (UNE EN ISO 7783, colourless).
Abrasion resistance	11 mg (Taber, CS-10, 1 kg, colourless).
UV resistance	High resistance to degradation by UV radiation. Its aliphatic polyurethane nature ensures colour stability.
Thermal resistance	Stable up to 80°C.
SRI index (ASTM E1980-01)	104.5-105.4 (White pigmented).
Gloss (60º)	>80% (colourless) 50% (pigmented)

SURFACE PREPARATION

Surface type	Minimum	Recommended
Surface profile	Ry5 (30–75 µm) (ISO 8503-1)	Ry5 (30–75 µm) (ISO 8503-1)
Primed and previously painted surfaces	P St3; PMa ISO 8501-2, ISO 12944-4	P Sa2; PMa ISO 8501-2½, ISO 12944-4
Steel	Sa 2 (ISO 8501-1)	Sa 2½ (ISO 8501-1)
Concrete	SSPC-SP 13/ NACE No. 6	SSPC-SP 13/ NACE No. 6

ENVIRONMENTAL CONDITIONS OF HUMIDITY AND TEMPERATURE

The recommended substrate temperature for application is between 10ºC and 40ºC. Relative humidity below 85% and steel temperature 3ºC equal to or above the dew point. In concrete, the moisture content of the substrate must be less than 4%.

THICKNESS

	Minimum	Maximum
Dry thickness:	60µ	150µ

Concrete: Apply the product at 200-500 $^{g/m^2}$(colourless) or 400-600 $^{g/m^2}$(pigmented).

Note: Practical coverage depends on application conditions, type of structure to be painted, surface roughness and application method.

HOMOGENISATION

If necessary, up to 10% krypton solvent can be added to adjust viscosity. Universal solvents (e.g. containing white spirit or alcohols) should never be used. Shake before use at low speed to minimise air intake.

APPLICATION

Application by roller, brush and airless spray gun.

For a thin film coating, apply with an airless sprayer.

Application with a brush or roller is not recommended for low thicknesses or thin films.

The viscosity can be adjusted by adding Krypton solvent, between 5-10% by volume. Never dilute with solvents that react with polyurethane (e.g. universal solvent or alcohols). Some types of rollers are attacked by the solvent and are not suitable. A preliminary test is recommended if in doubt.

Excessive pressure, together with high temperature and humidity conditions, can lead to the formation of microfoam, which will give the film a cloudy appearance.

To apply the pigmented product, first mix the colour paste with Colodur using a low-speed mixer and wait a few minutes for the foam to dissipate.

Apply in the same way as the colourless product. Use the entire pigmented product.

On non-porous surfaces (stoneware, tile, ceramic), it is recommended to apply PU Activating Primer beforehand.

CURING TIME

The drying time varies considerably depending on environmental conditions, as this is a moisture-curing polyurethane. The higher the temperature and the higher the humidity, the shorter the drying time. Below are some approximate values for a 100 µ membrane.

Conditions	Touch dry (h)
30ºC, 50% hr	2
25ºC, 50% hr	3

REAPPLICATION

A second coat of Krypton ProLine 1000TC can be applied as soon as the first coat is no longer tacky. To ensure the best adhesion, it is recommended that no more than 24 hours elapse between the application of the previous coat.

CURING

Depending on the intended use, it is recommended to wait between one week and ten days for complete curing. Final hardness is reached after approximately 15 days.

CLEANING

For cleaning, use Rayston solvent, acetone or alcohol. Once hardened, it cannot be dissolved.

SAFETY

Contains isocyanates and flammable solvents. Always follow the instructions on the safety data sheet for this product and take the protective measures described therein. In general, ensure adequate ventilation and avoid sources of ignition. The product must only be used for the purposes and in the manner prescribed. This product is intended for industrial and professional use only. It is not suitable for DIY use.

ENVIRONMENT

Empty containers must be handled with the same precautions as if they were full. Consider containers as waste to be treated by an authorised waste manager. If containers contain residues, do not mix them with other products without first ruling out possible dangerous reactions.

IMPORTANT NOTE

The information contained in this TECHNICAL DATA SHEET, as well as our advice, whether written, verbal or provided through testing, is given in good faith based on our experience and the results obtained through testing carried out by independent laboratories, and is not intended as a guarantee for the user, who should take it as a guide only and for information purposes
strictly informative value.

We recommend that you study this information in depth before using and applying any of these products, although it is particularly advisable to carry out tests "in situ" to determine the suitability of a treatment on site, for the purpose and under the specific conditions that exist in each case.

Our recommendations do not exempt the applicator from the obligation to have in-depth knowledge of the correct method of application of these systems before proceeding to use them, as well as to carry out any preliminary tests that may be appropriate if there is any doubt as to their suitability for any work, installation or repair, taking into account the specific circumstances in which the product is to be used.

The application, use and processing of our products are beyond our control and are therefore the sole responsibility of the installer. Consequently, the applicator shall be solely and exclusively liable for any damage or loss resulting from total or partial failure to comply with the user and installation manual and, in general, from the inappropriate use or application of these products.

This technical data sheet supersedes all previous versions.