

Aliphatic monocomponent polyurethane resin for the protection of liquid applied waterproofing membranes

DESCRIPTION

Single component aliphatic polyurethane, solvent based, moisture cured. Once the resin is cured, it forms a hard, flexible, and elastic coating at the same time, with excellent mechanical resistance, high abrasion and scratch resistance, as well as durability against outdoor conditions and UV radiation. Protective topcoat finish for waterproofing aromatic resins applied in liquid form on water containment structures (decorative, leisure and sports purposes). It is supplied clear and must always be applied pigmented with a suitable colour paste.

APPLICATION

Topcoat for aromatic waterproofing membranes applied in liquid form on water containment structures for decorative, sports, and leisure use. Examples include swimming pools (salt water), recreational and wave lakes, artificial beaches, slides and other structures in water parks, decorative fountains, ponds, channels and aquariums.

Not recommended for water containment structures with chlorinated water.

PROPERTIES

- Resistant to UV radiation and outdoor exposure.
- Excellent abrasion, wear, and scratch resistance.
- Resistant to continuous contact with neutral or saltwater.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

Chemical description	Solvent borne single-component aliphatic polyurethane	
Physical state	Metal container: 4 kg / 20 kg	
Packaging	Liquid	
Non-volatile content	>50%	
Flash point	36° C (ASTM D 93)	
Available colours	Colourless or according to the specific pigmentation. For available colours and use details, see Technical Data Sheets of Pigment PU	
Density	0.95 g/cm ³ (20°C)	
Viscosity	Temperature (°C)	Viscosity (mPa.s)
	5	890
	10	600
	20	400
	30	250
VOC (g/L and %)	VOC content: 468 g/l	
VOC class	<u>Product subclass:</u> i II Solvent based single-component performance products	
	<u>Limit from 01/01/2010:</u> 500 g/l	
Pot life	6 hours (1 kg, 20°C, 50% hr)	
Storage	Keep at a temperature below 30°C, away from ignition sources and moisture.	
Expiration	Product may be used up to 6 months after manufacture in its sealed original container.	

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane
Colour	According to the specific pigmentation
Hardness (Shore)	53D

Density of film	1,35 g/cm ³
Mechanical properties	Maximum elongation: 170% Tensile strength: 27 MPa (EN ISO 327-1)
Water vapour permeability	2,7 g/m ² day, (UNE EN ISO 7783)
Abrasion	11 mg (Taber, CS-10, 1 kg)
Chemical resistance	Permanent contact (0=worst, 5=best)

Agent	Conditions	Result
Water	15d, 80°C	5
Salt water (saturated)	5d, 80°C	5
Hydrochloric acid (200 g/l)	7d, 80°C	0
Hydrochloric acid (20 g/l)	7d, 80°C	3 (discolouration)
Sodium hydroxide (40 g/l)	28d, 80°C	4
Sodium hydroxide (4 g/l)	28 d, 80°C	5
Ammonia	28 d, 80°C	5
Bleach, pure	28 d, 80°C	3
Bleach (10% solution)	28 d, 80°C	4
Xylene	7 d, 80°C	0
Isopropyl alcohol	7d, 80°C	0
Engine oil	28 d, 80°C	5
Diesel	16d, 80°C	3 (discolouration)

Surface contact (0=worst, 5=best)

Chemical	Conditions	Result
Hydrochloric acid (20%)	1h	4
	7 days	2
Skydrol	7 days	4

UV resistance	UV resistant. Aliphatic polyurethanes are colour-stable, non-yellowing.
Thermal resistance	Stable up to 80°C

SUPPORT REQUIREMENTS

To achieve a good penetration and bonding, support must be:

- Flat and levelled (Impermax is self-levelling).
- Compact and cohesive (pull off test must show a minimum resistance of 1,4 N/mm²).
- Even and regular surface.
- Free from cracks and fissures. If any, they must be previously repaired.
- Clean and dry, free of dust, loose particles, oils, organic residues or laitance.
- Correctly primed.

RECOMMENDED ENVIRONMENTAL CONDITION

Support temperature should be between 10°C and 30°C. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.

Relative humidity of air should be less than 80% High moisture conditions can lead to bubble formation under the membrane surface.



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Latest update: 03/03/2025

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Do not apply this product under intense sunlight/high temperatures. This rises any internal moisture pressure and makes application difficult.

SUPPORT PREPARATION

It is necessary to prepare all critical spots. Consult application documents provided by Krypton Chemical. Paintchlore is not effective where a negative water pressure (from within) can develop on the membrane. This is the case of water retained inside walls, or under the tiles. In this case, use of Primer H (epoxy) can be useful as a sealing coat (bear in mind some yellowing of the inner epoxy layer is possible). For all applications on waterproofing membranes (Impermax, Impermax 2k, Impermax Polyurea H, Polyurea) re-apply Paintchlore following the relevant reapplication guidelines.

MIXING OR HOMOGENIZATION

If necessary, dilute with up to 10% Solvent Rayston for viscosity adjustment. Note: on non-porous substrates, do not dilute the first coat. Use low speed stirring equipment to minimize air bubbles.

APPLICATION GUIDELINES

Apply by roller, brush or airless spraying equipment. Application of clear product by spraying is not recommended due to the risk of micro bubbling. Although not strictly necessary, it is highly recommended use all the contents. If not, ensure total sealing of the remainder.

For airless spraying equipment, viscosity is likely to need adjustment. Excess pressure, along with high temperature and humidity, may give rise to microbubbles that makes the surface to look hazy.

On walls, since it is a self-leveling product, several thin coats must be applied. Estimate up to 7 coats on the pool walls to achieve a 1-mm thickness. 2 to 3 coats are necessary to cover the pool floor.

For pigmented applications, mix the pigment paste with Paintchlore by means of a low-speed stirrer and wait some minutes to allow bubbles to disappear. Apply the pigmented colour normally. It is recommended to use all the pigmented mixture.

Apply, as a rule, to 300-500 g/m² for each coat.

CURING TIME

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 500 microns coat.

Conditions	Dry to touch (h)
43°C, 50% hr	2
25°C, 50% hr	14

COLOR FASTNESS

Colors other than the standard ones (white, light gray, or blue similar to RAL 5015) may have low color stability, even in an aliphatic resin matrix.

REAPPLICATION

A second coat of Paintchlore can be applied when the first one is no longer sticky. Do not wait more than 24 hours for the next coat application to ensure good intercoat adhesion.

RETURN TO SERVICE

At usual conditions (25°C, 50% rh) the membrane can be walked on (light traffic) in 24-48 hours. Depending on final use, it is recommended to wait 7-10 days for usual traffic. Final hardness development may take up to 15 days.

TOOL CLEANING

Liquid Paintchlore can be cleaned with Rayston Solvent, acetone and alcohols. Once hardened, it cannot be dissolved.

FAQ

Problem	Question	Cause	Solution
Does not cure	Suitable solvent?	Some thinning solvents are not suitable	Apply a second coat using only Rayston Solvent as a diluent
	Porous support?	No primer?	Seal with an epoxy primer before Paintchlore
Bubbles	Airless	High pressure	Lower pressure or apply thinner coats. Ambiental conditions may be adverse for this application method.
Not enough opacity	Horizontal?	Not enough pigment	Mix well
Curing rate can be slower?	Use of slow solvent Rayston can be useful		

CLEANING AND MAINTENANCE

It may be necessary to reapply Impertrans layers if they are worn out due to traffic, weather, corrosion, etc.

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 must be cut and repaired with a new Impermax application.

In case of blistering due to negative water pressure (from within), cut and remove the affected area. Allow the spot to dry and treat the area again.

SECURITY

Paintchlore contains isocyanates and flammable solvents. Always follow the instructions provided in the material safety data sheet and take the precaution described there. As a rule, a suitable ventilation must be ensured, and all ignition sources must be avoided. 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.

ENVIRONMENT

Empty containers must be handled taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorized waste manager. If there is some residual product in the containers, do not mix it with other substances without checking for possible dangerous reactions.

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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 studying 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.