

Single-component aliphatic polyurethane resin with high elasticity

DESCRIPTION

Single-component aliphatic polyurethane resin that when cured (with ambient humidity) forms a continuous coating of high elasticity and excellent resistance to the outside and UV radiation. It contains solvents in its composition.

Final protective finishing layer for waterproofing membranes (applied cold or hot) of high elasticity. It can be supplied as a colorless and transparent resin or as an already pigmented resin in two standard colors (white and gray similar to RAL 7001). The colorless resin can be easily pigmented with a suitable color paste in case a small amount is needed in a specific RAL color.

PROPERTIES

- High retention of brightness, color and mechanical resistance when exposed to weather and UV radiation.
- Easy to apply (brush, roller or airless gun).
- Glossy finish (colorless or colorless plus colored paste) or satin (white or pigmented gray).
- Excellent resistance to abrasion, wear and scratching.
- Quick curing and possible repaintings.
- Excellent covering power, especially the pigmented single-component version.
- Waterproof coating and resistant to continuous contact with water (immersion).
- Resistant to light foot traffic.

APPLICATIONS

- Protective finish of waterproofing membranes applied in liquid form in cold or hot form (resin always pigmented) especially on roofs and in outdoor garden ponds with fish.
- "Cool roof" finish for high reflectance roofs, Impertrans Pigmented in white.
- Protection of exterior surfaces of wood (colorless or pigmented).
- Protection of polyurethane insulating foam.
- In general, it can be used to protect any surface exposed to the outside (concrete, metal, wood, synthetic waterproofing membranes especially if they are elastic ...)

CERTIFICATIONS

- **Applus Laboratory.** Test of tensile strength, tightness, vapor permeability and external aging. Exp. No. 06/32013329.
- **Applus Laboratory.** Contact water with drinking. Exp: N° 07/320000006.
- **ETE:** Included as a protective finishing membrane in ETE's numbers 10/0296 and 16/0148 (W3).



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

Chemical description	Solvent borne single-component aromatic polyurethane
Physical state	Liquid
Packaging	Metal container 4 kg / 20 kg (colourless) 6 kg / 25 kg (pigmented)
Non-volatile content	>60% (colourless), >70% (pigmented)
Lead content	<1 mg/kg (pigmented)
Flash point	36° C (ASTM D 93)
Available colour	Colourless. It can be pigmented (grey similar to RAL 7001 or white)
Density	Colourless: 0,96 g/cm ³ (20°C) Pigmented: 1,35 g/cm ³ (20°C)

Viscosity	Temperature	Viscosity (mPa.s)	
	(°C)	Colourless	Pigmented
	5	145	1000
	10	130	800
	20	90	600
	30	50	300
VOC (g/L and %)	VOC content:		
VOC class as per 2004/42/EC	450 g/l (colourless)		
	380 g/l (pigmented)		
	% VOC: 50		
	Product subclass: i II Solvent based single-component performance products		
	Limit from 01/01/2010: 500 g/l		
Pot life	Colourless: 6 hours (1 kg, 20°C, 50% hr)		
	Pigmented: 2 hours (1 kg, 20°C, 50% hr)		
Storage	Keep below 35°C, away from ignition sources and moisture.		
Use before	Colourless: 12 months		
	Pigmented: 6 months		

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane
Colour	Colourless or pigmented
Hardness (Shore)	65-70A (colourless) 85-90A (pigmented) (ISO 868)
Density	Colourless: 1.35 g/cm ³ Pigmented: 1.45 g/cm ³
Mechanical properties	Colourless: Elongation at break: 276% Tensile strength: 10.4 MPa Pigmented: Elongation at break: 380% Tensile strength: 11.7 MPa
Thermal resistance	Stable between -40°C to 80°C
Solar reflectance	White colour: 83.4 % (ASTM E-903-12)
Thermal emittance	White colour: 0.83 (ASTM C1371-15)
Solar reflectance index, SRI (Convective Coefficient, Medium Wind)	White colour : 103 (ASTM E1980-11)

CHEMICAL RESISTANCE

Permanent contact (0=worst, 5=best)

Chemical	Test conditions	Result
Water	24h, 25°C	5
Salt water	24h, 25°C	5
Hydrochloric acid solutions	200 g/l, 24h,25°C	1
Sodium hydroxide	40 g/l, 24h,25°C	5
Acetone	24h,25°C	1
Ethyl acetate	24h,25°C	3
Xylene	24h,25°C	5
Engine oil	24h,25°C	5
Brake Fluid	24h,25°C	2



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SUPPORT REQUIREMENTS

To obtain good adhesion, the support must always meet the following characteristics:

1. Levelled.
2. Cohesive with a minimum resistance of 1.5 N/mm² (pull off test).
3. Regular and fine appearance.
4. Free of cracks and cavities. If there are, they should be treated beforehand (filling with polyurethane putty, for example).
5. Healthy, clean, totally dry, without dust or traces of materials or loose particles, surface grouts and free of fats, oils, chemicals and mosses.

RECOMMENDED ENVIRONMENTAL CONDITIONS

The air temperature must be between 5°C and 40°C. The relative humidity should be less than 85%.

The temperature of the support must be at least 3°C above the dew point to avoid condensation on the surface.

MIXING

If necessary, up to 10% Rayston solvent could be added to adjust the viscosity (for example, in the case of a Pigmented Impertrans close to its expiration date). Universal solvents (containing turpentine or alcohols) should never be used. Shake prior to use, at low speed to minimize air ingress.

APPLICATION

The pigmented resin can be applied to brush, roller or airless gun. It is not recommended to apply the colorless resin to an airless gun, since there is a risk of microfoam formation that would give a veiled appearance to the coating.

Once opened, it is recommended to use the contents of the entire container.

Avoid using, as far as possible, pigmented resins from different batches and / or different deliveries in the same work.

In case of pigmenting the colorless resin with a colored paste, previously dilute the paste with a little colorless resin to reduce its viscosity and facilitate its transfer, pour the paste into the colorless resin canister and mix gently with a low-speed electric agitator until a homogeneous color is obtained. Follow the same procedure for all sets, in this way you will avoid differences in colour shade between them.

When applying Impertrans Pigmented as a finish of a polyurea or polyurethane waterproofing membrane, it will be important to respect the curing times of the membrane to obtain the maximum possible chemical adhesion between layers. In the case of hot application polyureas, the finish should be applied between 1-3 hours after the application of the polyurea, always on the same day. If it is not possible to respect these times, the support should be cleaned with Rayston Solvent, allow the solvent to evaporate, apply the adhesion promoter PU Activating Primer, allow the solvent to evaporate and apply the first finishing coat.

Always apply a membrane of a colour like or equal to the color of the desired finish.

When Impertrans (colourless or pigmented) is applied on another external support (concrete, metal, wood, old cladding, prefabricated waterproofing membrane, asphalt fabric ...), this support must meet the requirements described in this technical sheet and it will be necessary to apply an adequate and specific primer for that support. On a porous support, a first layer of pigmented or colorless Impertrans can be applied as a primer (without the need to dilute this layer).

Apply 1-2 layers of 200-250 g/m² depending on the requirements of each project and the degree of opacity required.

On a non-porous support, if it is considered convenient to apply the resin in two layers, it is not recommended to dilute the first, in this case there could be a risk that the back layer managed to tear off the first layer to the "reticular" on it, being too thin and not very resistant.

CURING TIME

As Impertrans is a moisture-cured polyurethane, curing time varies considerably with environmental conditions and wet film thickness. By increasing the temperature and/or relative humidity of the environment and in the presence of direct sun, the curing time is considerably reduced. As the layer thickness increases, the curing time also increases. Below are some guideline values at 20°C and 50% relative humidity. (Clear Impertrans).

Wet film thickness	Touch dry (h)
100 microns	1.5
250 microns	3
500 microns	5

RETURN TO SERVICE

At usual conditions (25°C, 50% rh) the membrane achieves up to 90% of its final properties in 3 days. For light traffic, wait a minimum of 24 hours.

CLEANING

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

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 Impertrans application.

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 diluant
	Too diluted	An excess of solvent slows the curing rate	Use less diluted product
	Temperature?	Normal at low temperatures	Below 15°C use of accelerators is advised
Bubbles	Porous support?	High temperature	Wait until temperature drops and apply a first coat, diluted at less than 500 g/m ²

SAFETY

Impertrans contains isocyanates and flammable solvents. Always follow the instructions provided in the material safety data sheet and take the precaution described there. As a general rule, 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.



ENVIRONMENTAL PRECAUTIONS

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.

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.