



Liquid polyurethane waterproofing membrane

DESCRIPTION

One component liquid waterproofing composition, after polymerization gives an elastomeric, cold-applied low yellowing polyurethane membrane. The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total watertightness and withstands building movements.

APPLICATION

It can be used on several type of surfaces (concrete, brick, fibrous cement, ceramic tiles, bituminous, steel, zinc, aluminium...):

- Balconies, terraces.
- Baths (showers), kitchens and difficult access spots.
- Flooring with light pedestrian traffic.
- Stairs, stadiums, stands.

PROPERTIES

Elastic and seamless coating, weather resistant and excellent bonding. No reinforcement usually required except at critical points.



CERTIFICATES

- CE marking, EN-1504-2 protection, and repair of concrete structures. Certificate number: 0370-CPR-2247.
- Fire resistance classification: B_{roof}4, EN 13501-5:2016. Certificate number: Q100951-1001.



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION		
Chemical description	One –component polyurethane, solvent-based	
Physical state	Liquid	
Packaging	Metal container: 6 / 25 kg	
Solid content	76%	
Flash point	45° C (ASTM D 93)	
Colour	White, Grey RAL 7040. Other colours under request.	
Density	1,32 g/cm ³ (25°C)	
Viscosity	Temperature (°C)	Viscosity (mPa.s)
	10	28500
	20	15000
	25	11500
	30	8500
VOC (g/L and %)	VOC: 314 g/l % VOC: 15	
Class VOC	Product subclass: i II One component high performance coating, solvent based.	
Pot life	4 to 6 hours (1 kg, 20°C, 50% rh)	
Storage	Keep at temperatures below 35°C, away from moisture and ignition sources.	
Use before	12 months after manufacturing date	

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane	
Colour	Pigmented	
Hardness (Shore)	60-65A (ISO 868)	
Solid density	1,6 g/cm ³	
Mechanical properties	Maximum elongation: 402%	
	Tensile strength: 2,9 MPa (EN-ISO 527-3)	
Adhesion strength by pull-off test	1,3 MPa (Impermax LY thin coat primer)	
	1,4 MPa (Humidity Primer) (UNE-EN 1542:1999)	
Water vapour permeability	Sd = 1,2 (Class I)	
	(UNE-EN ISO 7783:2012)	
Liquid water permeability	0,001 kg/m ² h ^{0,5}	
	(UNE-EN 1062-3:2008)	
Crack bridging	Class A5 (UNE-EN 1062-7:2004, method A)	
Solar reflectance	White colour: 73.1 %	
	(ASTM E-903-12)	
Thermal emittance	White colour: 0.88	
	(ASTM C1371-15)	
Solar reflectance index, SRI (Convective Coefficient, Medium Wind)	White colour: 89.5	
	(ASTM E1980-11)	
Adhesion	Surface	Adhesion (MPa)
	Concrete (epoxy primer)	1
	Polyurethane foam	1,2
	Steel (Primer PU)	1,7

SUPPORT REQUIREMENTS

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

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

AMBIENTAL CONDITIONS

Support temperature should be between 0°C and 40°. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.

Air temperature must be between 0°C and 30°C.

High moisture conditions can lead to bubble formation under the membrane surface.

SUPPORT PREPARATION

Prepare preventively all critical points. Consult application guidelines from Krypton for further information.

MIXING

Stir and homogenise the product before use. Some of the contents settle during storage and must be redispersed. Allow some minutes to release air bubbles. Stirring should be done at low speed. If needed, the product may be thinned with up to 10% of Rayston solvent, as a viscosity adjustment. Never use universal or unknown solvents (e.g. white spirit or alcohols)



Liquid polyurethane waterproofing membrane

APPLICATION

Apply by roller, brush, spreader, or airless equipment. It is useful to apply in 2 differently coloured coats, at 1 kg/m² each. Although not strictly necessary, it is strongly recommended to use entirely the product of the container. If there is some product left, ensure it is completely sealed after use. Use a spiked roller immediately after spreading to reduce bubbling. It is recommended to place a reinforcement mesh between layers of Impermax LY to reinforce the system and avoid problems.

CURING TIME

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives an estimation of the curing time under diverse conditions:

Temperature (°C)	Relative humidity (%)	Thickness (microns)	Touch dry (hours)
10	55	1000	8
24	60	1000	4

RETURN TO SERVICE

At usual conditions the membrane achieves up to 90% of its final properties in 3 days. Usually walking time is 1 or 2 days. Final hardness is not achieved until 10 or 15 days. It is preferable to wait this time before contact with water is allowed.

TOOL CLEANING

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

QUESTIONS

Problem	Question	Causes	Solutions
Does not cure	Suitable solvent?	Some thinning solvents are not suitable	Remove as much as possible and apply a second coat using Rayston solvent as a diluent
	Too diluted?	An excess of solvent slows the curing rate	Use a less diluted coat
Bubbles	Porous support?	High temperature	Use a first diluted coat and apply second coat when temperature drops
	Non porous support?	Stirring excessive	Allow to degas after stirring. Apply gently and use spike roller
Blistering		Support moisture	Before: use Humidity Primer. After: cut blisters and repair
Insufficient opacity	Horizontal?	Too little product	use a minimum of kg/m ²
	Sloped	Too self-leveling	use thickening additive
In case of rain	Rain droplets do not affect properties, but impact in early stages of curing will cause craters. A second coat may be needed.		

CLEANING AND MAINTENANCE

A maintenance work must be carried out regularly on the treated roofs according to the intended use.

This work includes the following tasks:

- Leaf removal
- Grass, dirt, moss, and other vegetation removal
- Keeping storm water system in good working order.
- Ensure gratings are in place, to prevent gutter obstructions.
- Check proper condition of several structures (flashing, seams, retaining walls...)
- Verification of possible damages due to improper use.

If aesthetic appearance of the roof is an important issue, it is essential to regularly clean the surface with water (some mild detergent may be added), according to the use.

It may be necessary to reapply decorative layers (Impertrans, Colodur) 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 has to be cut and repaired with a new Impermax application.

SAFETY

Impermax LY 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.

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.