

Fast curing liquid polyurethane waterproofing membrane

DESCRIPTION



One component liquid semi-thixotropic waterproofing composition, after polymerization gives an elastomeric, cold-applied polyurethane membrane.

The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total water tightness and withstands building movements. Its fast-curing rate allows its use as a base coat or reinforcing layer when the usual Tech Seal curing time makes the the overall job to take undesirably long time to complete (e.g. low temperature

applications).

APPLICATION

- Balconies, terraces.
- Flat Roofs
- Water pipes and reservoirs
- Pitched Roofs.
- Gutters.



ADVANTAGES

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

CERTIFICATIONS

- **ETA:** European Technical Assessment document N° 06/0263 – **CE marking:** 10 and 25 years.



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

Chemical description	Solvent borne single-component aromatic polyurethane		
Physical state	Liquid-paste		
Packaging	Metal container: 5 / 10 / 25 kg		
Non-volatile content (%)	85%		
Flash point	45° C (ASTM D 93)		
Available colours	Available colours: Light Grey and Dark Grey		
Density	1.3 g/cm3 (20°C)		
Viscosity (Brookfield)	Approximate values		
	Temp (°C)	RPM	Viscosity (mPas)
	20	100	10000
	35	100	1500
VOC (g/L & %)	VOC content: 184 g/l		
VOC class	Product subclass: i II Solvent based single-component performance products Limit from 01/01/2010: 500 g/L		
Shelf Life	4 - 6 hours (1 kg, 20°C, 50% hr)		

Storage	Keep at a temperature below 30°C, away from ignition sources and moisture Product may be used up to 12 months after manufacture in its sealed original Container (Note: 9 months if white or black pigmented).
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INFORMATION ON THE FINAL PRODUCT

Final appearance	Solid elastomeric membrane		
Colour	According to the specific pigmentation		
Hardness (shore)	65-70 A (ISO 868)		
Density film	1,3 g/cm3		
Tear strength	14 N/mm (ISO 34-1, Method B)		
Water vapour permeability	µ>1000 (EN 1931) 20 g/m2 day		
Abraction	14,3 mg (Taber, 1000 cycles, CS-10, UNE 48250)		
Mechanical properties	Maximum elongation: 617% Tensile stress: 4.1 MPa (EN-ISO 527-3)		
	Elongation (%)	stress (mPa)	
	100	2.0	
	200	2.8	
	300	3.0	
	400	3.4	
Chemical resistance	Permanent contact (0=worst, 5=best)		
	Chemical	Conditions	Result
	Water	24 h, 25°C	5
	Salt water	24 h, 90°C	5
	Hydrochloric acid solutions	200 g/l, 24 h, 25°C	4
		200 g/l, 2 h, 80°C	4
		3 g/l, 24 h, 25°C	5
		3 g/l, 24 h, 80°C	4
	Sodium hydroxide	40g/l, 24 h, 25°C	5
	Ammonia 3%	24 h, 25°C	5
	Acetone	24 h, 25°C	1
	Ethyl acetate	24 h, 25°C	3
	Xylene	24 h, 25°C	5
	Motor oil	24 h, 25°C	5
	Brake fluid	24 h, 25°C	2
Adhesion	Surface	Force (mPa)	
	Concrete	2.0	
	Ceramics	2.6	
	Polyurethane foam	1.4	
UV resistance	Products includes anti UV additives. A colour change is expected due to its aromatic polyurethane composition. This discolouration does not affect its properties.		
Thermal resistance	Stable up to 120°C.		
Fire resistance	B roof= t1 (External fire exposure test).		

SUPPORT REQUIREMENTS

In order to achieve a good penetration and bonding, support must be:

- 1.Flat and leveled (Tech Seal PU is self-leveling)
- 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.

TECH SEAL PU



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RECOMMENDED ENVIRONMENTAL CONDITIONS

Support temperature should be between 0°C and 30°. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice.

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

High temperature and moisture conditions can reduce the shelf life and lead to bubble formation under the membrane surface, and a deficient appearance.

MIXING AND APPLICATION GUIDELINES

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, avoiding mechanical means to prevent bubbles.

If needed, the product may be thinned with up to 10% of solvent, as a viscosity adjustment. Never use universal or unknown solvents (e.g. white spirit or alcohols)

Apply by roller, brush, spreader or airless equipment. It is useful to apply in 2 differently coloured coats, at 1.5-2 kg/m² each. It is strongly recommended to use entirely the product of the container. Non used product even kept in a closed container, may develop a thick cured skin on the surface.

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 1 mm coat.

Temperature(°C)	RH (%)	Dry to touch (h)
7	50	4
27	60	1

RETURN TO SERVICE

At usual conditions (25°C, 50%) the membrane achieves up to 90% of its final properties in 3 to 4 days. Final hardness is not achieved until 10 or 15 days. Reapplication is possible as soon as the curing state of the first coat allows walking and working on it, and it should be done before 48 hours.

TOOL CLEANING

Liquid Tech Seal PU can be cleaned with Solvent, acetone and alcohols. Once hardened, it cannot be dissolved. It is recommended to clean equipment as soon as possible.

FAQ

Problem	Question	Cause	Solution
Does not cure	Suitable solvent?	Some thinning solvents are not suitable	Apply a second coat using only Solvent as a diluant
	Too diluted	An excess of solvent slows the curing rate	Use less diluted product
	Temperature is too low?		Use of Super accelerant is possible
High viscosity			Normal evolution in storage. Can be adjusted using Acrypol solvent

SAFETY

Tech Seal PU 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.

