IMPERMAX AQUA 2K

Liquid waterproofing polyurethane membrane

DESCRIPTION

Impermax Aqua 2k is a waterproofing, polyurethane-based material, with excellent resistance. Certified for contact with drinking water.

APPLICATION

It can be easily applied on different surface types, used in hydraulic environments.

- Concrete
- Mortar
- Ceramics
- Fiber glass reinforced polyester.
- Etc.

ADVANTAGES

Among other benefits:

- Provides easily a cost-effective, seamless and continuous membrane.
- No solvents are used. Suitable for indoor or poorly-ventilated environments.
- Good resistence and mechanical properties.
- Certified according to provisions of European regulation 98/83/EC for materials in contact with drinking water.
- The material can be installed where other systems can be difficult to apply.
- Thick layers can be obtained by using reinforcement with Geomax, even in sloped or vertical surfaces.
- This product can be thickened for use in vertical surfaces. Thick layers are obtained in a single coat with Thickening Additive.
- Light traffic possible without specific protection on top.

The polymerized membrane is contact stable, even in permanent immersion.
Best suited for construction and repairing of:

- Water tanks
- Canals
- Aquaculture installations

CERTIFICATIONS

Drinking water contact: Applus independent laboratory Nº: 928/08/6545

CE marking EN 1504-2: 0370-CPR-2247

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Mineral filler and polyols mixture	Solventless polyisocyanate
Physical state	Liquid	Liquid
Packaging	Metal container 15.3 kg 3.2 kg	Metal container 5.7 kg 1.3 kg
Non-volatile content (%)	Approx 100%	100%
Flash point	>100ºC	>100ºC
Colour	Light grey	Dark yellow
Density	Temperature (ºC) / Density (g/cm³) 25 / 1.40	Temperature (ºC) / Density (g/cm³) 25 / 1.16
Viscosity approximate Brookfield	Temperature (ºC) / Viscosity (mPa.s) 10 / 11000 25 / 3800 35 / 2000	Temperature (ºC) / Viscosity (mPa.s) 25 / 1000

A/B mixing ratio	A=100, B=38 by weight A=100, B=45 by volume		
Initial mixture properties	Temperature (ºC)	Density (g/cm³)	Viscosity (mPa.s)
	25	1.34	2500
Colour	Standard colour is light gray. Other colours available on request.		
Pot life	Conditions	Pot life(min)	
	18ºC, 40%hr	45-50	
Storage	Keep at temperatures between 10º and 30ºC, protected from moisture		
Use before	12 months after manufacture date.		

INFORMATION ON THE FINAL PRODUCT

Final state	Solid flexible polyurethane membrane
Colour	Light gray
Solid density	1,35 g/cm³
Hardness (shore)	66-69A
Mechanical properties	Elongation at break: >130% Maximum tensile strength: 4 MPa
Chemical resistance	Permanent contact. (0=worst, 5=best)

Chemical	Result
Water	5
Chlorinated water 20 ppm	5
Hydrochloric acid (20%)	3
Hydrochloric acid (2%)	4
Sodium hydroxide (4%)	5
Bleach	3
Ammonia (3%)	4
Xylene	2
Isopropyl alcohol	0

Adhesion strength	Concrete: 1,5 N/mm² (EN 13892-8) 2,5 (primed Epoxy 100)
UV resistance	Impermax Aqua 2k changes colour under sunlight, without iirment of its mechanical properties
Use temperature	Stable between -15ºC and 80ºC

SUPPORT REQUIREMENTS

Support must have the mechanical properties listed below:

Minimum cohesive strength: 1,5 MPa
Compression resistance: at least 25 MPa

Support must be completely free from water pressure from below. It must be clean, dry and with no signs of poorly adhesive areas. Moisture content should be less than 4%. It must be free from oil stains or other synthetic products.

Support temperature should be between 10ºC and 25ºC.

Where high moisture levels are suspected, a suitable primer, to be advised by Krypton Chemical, should be applied.

On new concrete slabs, wait a minimum of 21 days prior to apply Impermax Aqua 2k, in order to allow the support to dry thoroughly.

AMBIENTAL CONDITIONS

Air temperature: +10ºC to 30ºC
Relative humidity: less than 60%

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SUPPORT PREPARATION

It is important ot carry out a suitable surface treatment (sanding, sandblasting, etc) and to apply a suitable primer coat. Primer must be dry before starting Impermax Aqua 2k application.

MIXING

Open container of component A. Stir gently to redisperse fillers and avoid trapping of air. Stir for 2 minutes. Pour component B into the A container and continue stirring for 2 more minutes. Transfer the mixture to a bigger container and check there is no unmixed product left. **Best Mixing equipment should have extensible blades with overall width equivalent to 1/3 of drum diameter**.

APPLICATION

Pour the mixture and spread quickly with squegee or toothed spreader. It is recommended to wear spiked shoes and remove the bubbles by using a spike roller immediately after the spreading, in a crossing pattern, up to 10 minutes after the application.

In vertical or sloped walls, use Thickening Additive to prevent sagging.

Assign, depending on the size of the application area, enough personnel to the task for a mixing, application and spreading in a quick and regular way.

RECOMMENDED QUANTITIES

A coat of Impermax Aqua 2k can be applied up to 1,5 kg/m^2, to obtain an approximate coat thickness of 1 mm.

CURING TIME

Conditions	Light traffic (h)	Full
18ºC, 40% rh	24	2

RE-APPLICATION

A second application can be done after 24 hours from the curing (walking) of the first one.

RETURN TO SERVICE

Under usual conditions, light pedestrian traffic is allowed the following day. A degree of curing suitable for most uses is achieved in 3 or 4 days. Wash throughly before use in contact with drinking water.

TOOL CLEANING

Component A and B can be cleaned with solvent Rayston. Cured product cannot be dissolved.

REPAIRS

Local repairs:

Repairing should be done cautiously, trying to damage as little as possible the appearance of the whole area.

a) Cut and remove the damaged area
b) Prepare the underlying support, for ensuring a good adhesion
c) Local treatment with fresh Impermax Aqua 2k, following previous instructions.

FAQ

Problem	Answer
Component B solid	Solidification of component B may occur if stored at low temperatures (<10ºC). Product can be recovered by gentle heating (50ºC) until fully liquid and stirring afterwards no ensure homogeneisation.
Blisters of bubbling	Bubbles form easily under not optimal ambient conditions. Do not apply the product in warm and/or humid environments. Ensure correct primer application, with enough thickness to be sure all porosity has been sealed. Under humid conditions, an addition of solvent Rayston (up to 10%) at component A before mixing can help to block moisture pickup. Bubble-affected areas have to be sanded and a new fresh coat of Impermax Aqua 2k applied onto.
Sticky, soft spots	When mixing is not complete, some pockets containing unmixed component A remain, which are poured together with the mixed mass. These areas remain as soft spots, sometimes under a cured, hard skin. Repair them by removing the liquid material and refill with fresh mixture.
Colour change	Under sunlight, aromatic polyurethanes undergo colour change to yellow/brown. This does not iir their mechanical properties, but it may affect the aesthetic appearance. This can happen even in a short time after the application. Apply a protective, colour-stable aliphatic topcoat when colour stability is important.
Uneven surface even after application	A cavity filling primer is needed, as recommended combination for uneven supports.

SAFETY

Impermax Aqua 2k contains isocyanates. 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 any skin contact 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, component A and B can be mixed, always according to the A/B ratio, and allowed to cure. Do not mix volumes bigger than 5 litres in order to prevent 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.

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