

Aliphatic one-component polyurethane resin

DESCRIPTION

Floortop 1k is a performance polyurethane resin, aliphatic isocyanate-based, that cures upon reaction with atmospheric moisture, giving hard and flexible coatings with good abrasion, scratch and weather resistance. Floortop 1k is an excellent topcoat protection for general flooring. This product does not yellow on exposure to sunlight.

Floortop 1k can be delivered colourless or pigmented with standard colour. Colourless product can be pigmented on site by addition of suitable colour paste

APPLICATION

- Parking decks
- Industrial flooring. Freezer rooms.
- Recreational areas
- General purpose concrete floorings
- Sealing and protection of epoxy floor coatings
- Protection of outdoor wood surfaces
- General outdoor use

ADVANTAGES

- Clear, glossy, topcoat.
- One-component product. Easy to apply.
- Colour and UV stability.
- Abrasion and weathering resistance
- Fast curing
- Good hiding power.



CERTIFICATIONS

- **Applus independent laboratory:** Mechanical properties, artificial weathering, watertightness and water permeability. Certificate. Nº 08/32307407, Abrasion: 08/32309984, 10/101.589-1432, Slip: 10/1709-1862.
- **CE Marking :** EN 13813 SR-B2, 0-ARO0,5-IR14,7
- **Sunlight reflectivity certification** (white colour)
SRI index (Tecnalia Lab)
- **Antiskid certification** (DIN 51130)
Giordano Bruno Laboratory



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

Chemical description	Solvent borne single-component aliphatic polyurethane		
Physical state	Liquid		
Packaging	Metal container: 4 / 20 kg (colourless) 5kg/25kg (pigmented)		
Non- volatile content (%)	>50% (colourless) >70% (pigmented)		
Flash point	36° C (ASTM D 93)		
Available colours	Colourless. Pigmented in white and gray. Other colours under request		
Density	Colourless 0.95 g/cm3 (20°C) Pigmented 1.35 g/cm3 (20°C)		
Viscosity Brookfield, approx.	Temperature (°C)	Viscosity (mPa.s)	
		Colourless	Pigmented
	5	890	1000
	10	660	800
	20	410	600
	30	230	300

VOC (g/L i %) Voc class	VOC content: 468,76 g/l (colourless), 380 g/l (pigmented) <u>Product subclass: i II Solvent based single-component performance products</u> <u>Limit from 01/01/2010: 500 g/l</u>
Pot life	Colourless: 6 hours (1 kg, 20°C, 50% hr) Pigmented: 2 hours (forms skin on surface)
Storage	Keep at a temperature below 35°C, away from ignition sources and moisture Product may be used up to 12 months (colourless) or 6 months (pigmented) after manufacture in its sealed original container.

INFORMATION ON THE FINAL PRODUCT

Final appearance	Solid elastomeric membrane
Colour	Colourless. White and gray pigmented. Other colours under request
Hardness (Shore)	53D (colourless) 60D (pigmented)
Mechanical properties	Colourless Maximum elongation: 173% Tensile strength: 27.4 MPa Pigmented Maximum elongation: 70% Tensile strength: 15 MPa
Water vapour permeability	2.7 g/m2 Day, (UNE EN ISO 7783)
Abrasion resistance	11 mg (taber, CS-10,1 kg)
UV Resistance	UV resistant. Aliphatic polyurethanes are colour-stable, non-yellowing
Slip Resistance	With quartz sand spreaded onto (0,4-0,9 mm) at 1 kg/m3: class 3 as per UNE EN 12633-2003
Thermal resistance/use temperature	Stable up to 80°C
SRI Index (ASTM E1980-01)	104,5-105,4 (white pigmented)
Chemical resistance	Permanent contact (0=worst, 5=best)

Chemical	Conditions	Results
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)	28d, 80°C	5
Ammonia	28d, 80°C	5
Bleach, pure	28d, 80°C	3
Bleach (10% solution)	28d, 80°C	4
Xylene	7d, 80°C	0
Isopropyl alcohol	7d, 80°C	0
Engine oil	28d, 80°C	5
Diesel	16d, 80°C	3(discolouration)

Surface contact (0=worst, 5=best)

Aliphatic one-component polyurethane resin

chemical	Conditions	Results
Hydrochloric acid	1 h	4
(20%)	7 days	2
Skydrol	7 days	4

SUPPORT REQUIREMENTS

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

1. Flat and leveled (Impermax 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.

RECOMMENDED ENVIRONMENTAL CONDITIONS

Support temperature should be between 10°C and 30°C. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice. Support moisture should be less than 4%. Relative humidity of air should be less than 85%. High moisture conditions can lead to bubble formation under the membrane surface.

PREPARATION

It is necessary to prepare all critical spots. Consult application documents provided by Krypton Chemical.

MIXING

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

APPLICATION

Apply by roller, brush or airless spraying equipment. Although not strictly necessary, it is highly recommended use all the contents. If not, ensure total sealing of the remainder.

Note: some roller materials are damaged by the solvent. If in doubt, is recommended to test before use.

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

For pigmented applications, mix the pigment paste with Floortop 1k 60 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 general rule, to 200-500 g/m²

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 200 g/m² coat.

Conditions	Touch dry (h)
43°C, 50% hr	2
25°C, 50% hr	3

REAPPLICATION

A second coat of Floortop 1k 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 Floortop 1k can be cleaned with Rayston Solvent, acetone and alcohols. Once hardened, it cannot be dissolved.

FAQS

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
	Porous support?	No primer?	Seal with an epoxy-typ primer before Floortop 1k 60
Bubbles	Airless	High pressure	Lower pressure or apply thinner coats. Ambiental conditions may be adverse for this application method.
	Horizontal?	Not enough pigment	Mix well
Not enough opacity	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 has to be cut and repaired with a new Impermax application.

A final treatment and periodic maintenace with protective wax is suggested. Contact Krypton Chemical or Flooring Application manual for details.

SAFETY

Floortop 1k 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.