

# POLYURETHANE FLOOR (PU-FLOOR)



## Self leveling polyurethane resin for flooring applications

### DESCRIPTION AND APPLICATIONS

PU-Floor is a 2-component polyurethane product for self-levelling flooring applications such as:

- Homes and residences.
- Industrial buildings and warehouses (when resistance to heavy traffic of trucks and forklifts is required).
- Corridors.
- Offices.
- Restaurants.
- Rooms in hospitals and residences.
- Commercial areas / trade shows



### PROPERTIES

- Self-levelling, resilient flooring material
- Fast processing and curing.
- Solvent free.
- Resistant to abrasion and scratching



### CERTIFICATIONS

- CE Markings. Independent Applus laboratory, document N° 09/32301291
- Taber abrasion. Independent Applus laboratory.
- Fire exposure. Independent laboratory FCBA according to EN 13501-1: 2007.



### TECHNICAL DATA

#### INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
<b>Chemical description</b>	Polyol and mineral fillers mixture	Solventless polyisocyanate
<b>Physical state</b>	Liquid	Liquid
<b>Packaging</b>	Metal container 21,0 kg, 4,2 kg	Metal container 4,0 kg, 0,8 kg
<b>Non-volatile content (%)</b>	Approx 100%	100%
<b>Flash point</b>	>100°C	>100°C
<b>Colour</b>	Light gray. Other colours possible	Dark brown
<b>Density</b>		
	Temp (°C)    Density (g/cm3)	Temp (°C)    Density (g/cm3)
	23            1.51	23            1.20

#### Viscosity

approximate Brookfield	Temp (°C)	Viscosity (mPa.s)	Temp (°C)	Viscosity (mPa.s)
	15	15000	15	180
	25	6000	25	90
	35	3000	35	<60

**A/B mixing ratio**                    A=100, B=19 by weight  
    A=100, B=24 by volume

#### Initial mixture properties

Temperature (°C)	Density (g/cm3)
25	1,46

#### Pot life approximate

Temperature (°C)	Pot life(100g,min)
20	40

**Colour**                                    Light gray. Other colours possible.

**Storage**                                Keep between 10°C and 30°C protected from moisture

**Use before**                            12 months after manufacturing date, in its unopened container

#### INFORMATION ON THE FINAL PRODUCT

**Final state**                            Solid flexible polyurethane membrane

**Colour**                                    Standard colour is light gray. Other colours available on request

**Solid density**                        1,44 g/cm3

**Hardness (shore)**                60-65D

**Mechanical properties**        Maximum elongation: 30%  
Maximum tensile strength: 7 MPa

**Chemical resistance**            Permanent contact  
(5=ok, 0=Not recommended)

Chemical	Result
Water	5
Sulphuric acid (20%)	2
Sulphuric acid (2%)	3
Sodium hydroxide (4%)	4
Bleach	4
Ammonia	4
Xylene	1
Isopropyl alcohol	3
Diesel	4

**UV resistance**                    PU-Floor requires an aliphatic PU protection if sunlight exposure is probable. Without this topcoat, colour changes are expected, although they do not impair mechanical properties.

**Temperatures of use**            Stable between -15°C and 80°C

**Adhesion strength**              Concrete: 1,5 MPa (unprimed), 4,3 MPa (Epoxy primer)

**Brightness**                         75% (at 60°)

#### SURFACE REQUIREMENTS

- In order to achieve a good degree of penetration and bonding, surface must be:
1. Flat and leveled ( Product is 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

#### HUMIDITY AND TEMPERATURE

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

#### PREPARATION

It is important to carry out a suitable surface treatment (sanding, sandblasting, etc) and to apply a suitable primer coat (e.g. Epoxy primer). Primer must be dry before starting PU-Floor 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.

#### APPLICATION

Pour the mixture and spread quickly with squeegee or toothed spreader. It is recommended to wear spiked shoes and remove the bubbles by using a spike



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Latest update:

08/02/16

Page:

1/2

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roller immediately after the spreading, in a crossing pattern, up to 10 minutes after the application.

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

Apply PU-Floor to 3 kg/m<sup>2</sup>, giving an approximate thickness of 2 mm

### CURING TIME

Conditions	Walking (h)	Dry to touch (h)
25°C, 50% rh	24	7

### RECOATING

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 5 or 7 days.

### TOOL CLEANING

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

### FAQ

Problem	Answer
Bubble/blister formation	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 Sindec (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 PU-Floor applied onto.
Soft spots. Uncured areas	When mixing is not complete, some pockets containing unmixed component A remain, which are poured together with the mixed mass. These areas remain as a soft spots, sometimes under a cured, hard skin. Repair them by removing the liquid material and refill with fresh mixture.
Colour changes	Under sunlight, aromatic polyurethanes undergo colour change to yellow/brown. This does not impair 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.

### CLEANING AND MAINTENANCE

PU-Floor can be coated, after curing, with floor-protection products. These products are usually glossy or semi-glossy wax emulsions. These products are usually reapplied twice a year, following manufacturers information. Do not use natural wax based products for PU-Floor protection.

A daily mechanical floor scrubbing is allowed. Use only suitable flooring cleaning products with specific cleaning disc machinery.

Stain removal usually requires solvent use. It is important not to attempt a solvent cleaning before complete curing. Use solvents sensibly: many of them damage the coating.

Shoes and rubber tyres marks.

Rubber transfer occurs often after application. A good maintenance method, with a neutral detergent, can remove these stains. If a strong treatment is deemed necessary, non-aggressive solvents can be tested.

Other difficult stains

Find out in each case, which products can clean the stains without damaging the flooring. Should any doubt arise concerning a non-standard cleaning problem, please contact Jofa Resins.

Repairs

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

- Cut and remove the damaged area
- Prepare the underlying support, for ensuring a good adhesion
- Local treatment with fresh PU-Floor, following previous instructions.
- Apply Poly ECO protective coat, overlapping 1 cm around.

### SAFETY

PU-Floor contains isocyanates. Always follow the instructions provided in the material safety data sheet and take the precaution described there. As a general rule, a 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 studying 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.**

