

POLYURETHANE FLEX FLOOR (PU-FLEX)



Flexible self-levelling polyurethane flooring resin

DESCRIPTION

PU-Flex is a 2-component polyurethane product, suitable as a self-levelling flooring system

- Homes and residences.
- Corridors.
- Offices.
- Restaurants.
- Hospital and residence rooms.
- Commercial areas/trade shows.
- Freezer rooms
- Parking decks



BENEFITS

- Solventless.
- Good abrasion and scratch resistance.
- Good compression and impact strength.
- Applicable on road surfaces
- Reduces impact noises



CERTIFICATIONS

- CE marking. Applus laboratory No 09/32301292
- Abrasion Taber. Applus laboratory. No 08/32309984



TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyol mixture with mineral fillers	Polyisocyanate
Physical state	Liquid	Liquid
Packaging (pre-dosed sets A+B)	Metal container 21,2 kg 12,7 kg 4,25 kg	Metal container 3,8 kg 2,3 kg 0,75 kg
Non-volatile content (%)	Approx. 100%	100%
Flash point	>100°C	>100°C
Colour	Light gray	Dark brown
Density (g/cm3)	1,40 g/cm3	1,20 g/cm3

Viscosity

approximate Brookfield

Temp (°C)	Viscosity (mPa.s)	Temp (°C)	Viscosity (mPa.s)
10	11000	10	200
25	3800	25	90
35	2000	35	<60

Mixing ratio A/B

A=100, B=18 by weight
A=100, B=21 by volume

Initial density and viscosity of the mixture

Density: 1,34 g/cm3 at 25°C
Viscosity : 2260 mPa.s at 25°C

Pot life approximate

Conditions (100g)	Pot life(min)
25°C, 70% rh	55
35°C, 35% rh	30
10°C, 60% rh	70

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	
Density	1,35 g/cm3	
Hardness (shore)	81A, 27D	
Mechanical properties	Elongation (%)	Tensile strength (mPa)
	10	1,0
	20	1,9
	33	2,9
	Elongation at break: 33% Tension at break: 2,9 MPa	
Impact resistance	>14,7 N/m (UNE-EN-ISO 6272)	
Abrasion resistance	20 mg (Taber, CS-10, 1000 g, 500 ciclos)	
Adhesion	Concrete: 1,5 MPa Galvanized steel sheet: >2,5 MPa	
Chemical resistance	Surface contact test 24h (5=ok, 0=Not recommended)	
	Chemical	Result
	Water	5
	Chlorinated water 20 ppm	5
	Hydrochloric acid (20%)	0
	Hydrochloric acid (2%)	4
	Vinegar	2
	Sodium hydroxide (4%)	4
	Bleach	3
	Ammonia	4
	Xylene	2
	Isopropyl alcohol	0
	Diesel	5
	Engine oil	5
	UV resistance	PU-flex requires an aliphatic PU protection if sunlight exposure is probable. Without this topcoat, colour changes are expected, although they do not affect its mechanical properties.
Temperature use	Stable between -15°C and 80°C	
Gloss	77% (at 60°C)	

SURFACE REQUIREMENTS

Surface must have the mechanical properties listed below:

Minimum cohesive strength: 1,5 MPa



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Latest update:
Page:

04 Jan.2019
1/2

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Compression resistance: at least 25 MPa

Surface 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.

Surface temperature should be between 10°C and 25°C.

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

On new concrete slabs, wait a minimum of 21 days prior to apply PU-Flex, in order to allow the Surface to dry thoroughly.

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-Flex 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 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-Flex to 3 kg/m², giving an approximate thickness of 2 mm

CURING TIME

Conditions	Light walking traffic (h)	Fully cured (days)
25°C, 60% rh	15	4
25°C, 40% rh	18	4
35°C, 40% rh	15	3
6°C, 60% rh	100	8

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 3 or 4 days.

TOOL CLEANING

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

FAQ

Probleme	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-Flex 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-Flex 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-Flex 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 Surface, for ensuring a good adhesion
- Local treatment with fresh PU-Flex, following previous instructions.
- Apply POLYECO protective coat, overlapping 1 cm around.

SAFETY

PU-Flex 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.



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Page: 2/2