KLB KÖTZTAL

Heavy-duty and safe.

KLB-SYSTEM PU-BETON

Industrial flooring for wet areas – resistant to hot water and chemicals

Very convincing:

- high mechanical load capacity
- high temperature stability up to 150 °C / 302 °F
- different grades of slip resistance (R9 to R13)
- layers of 6 to 9 mm
- steam cleaning possible
- colours availabe: beige, red, green and grey

KLB-SYSTEM PU-BETON

Industrial flooring with special features.

PU-BETON is able to cope with many things.

Industrial flooring has to put up with different things: it gets stepped on, driven on with material handling equipment, has to get in contact with water, heat, chemicals or harsh cleansers. To make a long story short: the flooring is the component with the highest load. To keep up with this load in any length of time the coating has to be extremely resistant on one hand and very well cleanable, hygienic and slip resistant on the other hand.

KLB-SYSTEM PU-BETON coatings are high-quality, 3-component polyurethane mortar coatings suitable for highly stressed floors. In comparison to other synthetic resin coatings, **PU-BETON** features much better temperature resistance. That's the reason why it is applied already for many years where floors get in contact very often with water, hot water, high temperatures and chemicals. Used in the food production and food processing industry as well as the beverage and chemical industry and many other areas.

Keep cool.

Stable even at high temperatures.

Heat doesn't bother PU-BETON.

Compared to many common synthetic resin coatings which capitulate at temperatures of 50 to 60 °C / 122 to 140 °F, **PU-BETON** features a considerably higher glass transition temperature. An excellent temperature stability is achieved by this: up to 130 °C / 266 °F for humid heat and up to 150 °C / 302 °F for dry heat. This is what makes **PU-BETON** perfect for high fluctuations of temperature and hot water. **PU-BETON** also allows the usage of steam jet cleaning equipment.

To select the perfect **PU-BETON**-flooring for your individual needs in industrial or trading business different system components and products as well as layers from 6 mm up to 9 mm are available. Since the coating is made out of one casting it offers good mechanical resistance.

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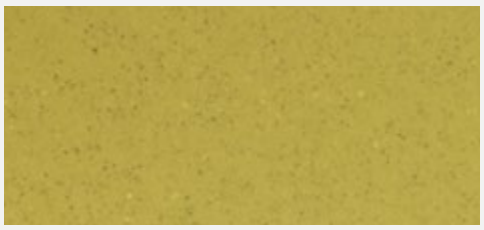
PU-BETON-SYSTEM is a perfectly aligned combination of different components:
A high-quality polyurethane system combined with a hydraulic-setting binding agent, supplemented with special additives, pigments and additives. The combination depends on the demands, the usage site, the layer thickness and grade of slip resistance.

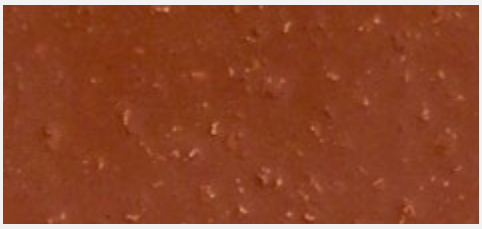
KLB-SYSTEM PU-BETON at a glance:



R9

R10

R11



R11 - 4011 Grip

R12

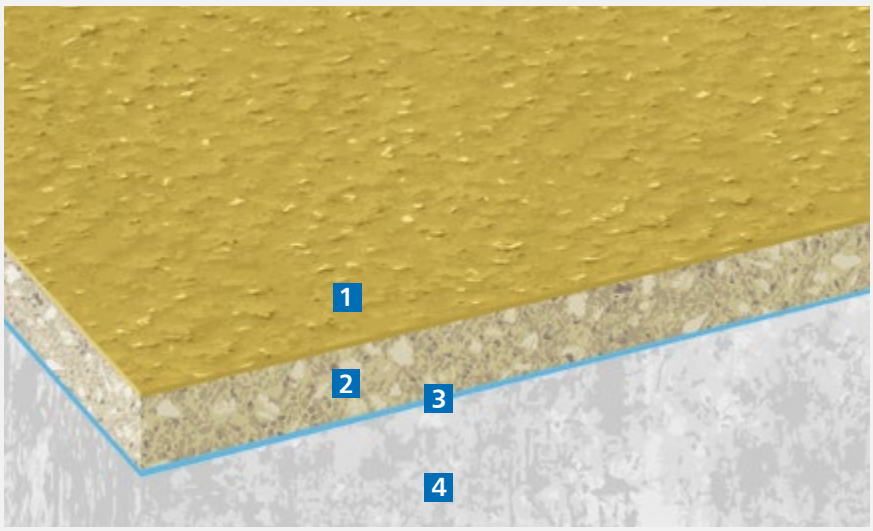
R13

Examples of PU-BETON: 4 colours available in different grades of slip resistance.

Grade of slip resistance	R9	R10	R11	R12	R13
KLB-SYSTEM PU-BETON 4006	■	■	■	■	■
KLB-SYSTEM PU-BETON 4009	■	■	■	■	■
KLB-SYSTEM PU-BETON 4011 Grip			■		
Quartz sand 0.3/0.8 mm			■		
Quartz sand 0.7/1.2 mm					■
Quartz sand 0.5/1.0 mm				■	
KLB-SYSTEM PU-BETON 4080 Kopfsiegel		■	■	■	■

In areas with extreme fluctuations in temperature a stable substrate is very important beside the coating. Movements of the substrate due to temperature fluctuations as well as built-in parts like joints or gutters have to be kept in mind when coating. The components of **KLB-SYSTEM PU-BETON** are aligned in an optimal way and grant a high-quality result.

Build-up of coats - possibilities of combination for PU-BETON-coatings:



1 Top sealer – **KLB-SYSTEM PU-BETON 4080**

2 Coating – **KLB-SYSTEM PU-BETON 4011 Grip**

3 Base coat – **KLB-SYSTEM PU-BETON 4050**

4 Concrete floor – at least C25/30

Watch out – slippery when wet!

The smoother the floor the easier the cleaning. This makes the flooring likeable for the user but it increases the slip danger. According to the rules of the employer's liability insurance association for safety and health at work BGR 181 "floor in working rooms and working areas with slip danger" the floor has to be slip resistant for each respective application. At the same time the flooring has to have adequate displacement room so fluids do not lead to aquaplaning. To increase the protection against accidents **KLB-SYSTEM PU-BETON** may be produced in slip resistance grades of R9 to R13.

PU-BETON has been certified by tests:

Fire test according to DIN EN 13501-1: PU-BETON 4006 / PU-BETON 4009 / PU-BETON 4011 Grip: classified; B_{fl}-s1: low flammability

Determination of slip resistance properties according to DIN 51130 and BGR 181 inspection

Grades of slip resistance: R9 - R10 - R11 - R12 - R13

The coating system is suitable for usage in the food industry

Testing according to chemical resistance, abrasion resistance, water impermeability and ability for disinfection

Even stands up to chemicals.

Resistant to many chemicals, acids and alkalis.

Areas of use:

- breweries
- beverage industry
- creamery / dairy
- dairy farming
- slaughterhouses
- butcheries
- meat industry
- chemical industry

and many other areas.

PU-BETON is a functional floor with special strength for special demands. **PU-BETON** shows an outstanding reliability against multiple chemicals. This makes **PU-BETON** interesting especially for the usage in industrial areas where the floor has quite often contact with different acids, alkalis, solvents and other chemicals.

Medium / Chemical	Concentration (%)*	Very short-term resistant	Short-term resistant	Resistant	Discolouration / Alteration
Acetone	100 %	■			■
Formic Acid	10 %			■	
Benzine	100 %			■	
Beer/Ale	100 %			■	
Bio Diesel	100 %			■	
Acetic Acid	10 %			■	
Ethanol	98 %			■	
Hot Water	100 °C			■	
Potassium Hydroxide	25 %			■	
Methyl Ethyl Ketone	100 %	■			■
Lactic Acid	10 %			■	
Sodium Hydroxide	20 %			■	
	50 %			■	
Peracetic Acid	2 %			■	■
Nitric Acid	20 %			■	■
	65 %	■			■
Hydrocloric Acid	20 %			■	■
Sulfuric Acid	20 %			■	■
Skydrol LD 4	100 %			■	
Phosphoric Acid	20 %			■	■
	85 %			■	■
Hydrogen Peroxide	30 %			■	■
Tartaric Acid	5 %			■	
Citric Acid	20 %			■	

* water diluted

Resistant to chemicals & hygenic.

Chemicals should be removed regularly in spite of the high resistance because frequent load may affect the durability of the flooring.

The cleaning of the floor may be done with commercially used cleansing products. Additionally the pore-free structure prevents the growth of bacteria and fungus. Therefore **PU-BETON** meets the highest demands on hygiene.

To protect the flooring from bacteria, please use the antibacterial top sealer **KLB-SYSTEM PU-BETON 4080 Kopfsiegel AntiBak.** The antibacterial efficacy is possible through small active substance particles, which are embedded in the entire sealing. For further assistance, please ask!

"Very short-term resistant" – contamination with chemicals should take a few hours to the max. The chemicals should be removed as soon as possible.

"Short-term resistant" – contamination with chemicals should take a few days to the max. It is essential that the contamination is only temporary and a recovering phase is possible.

"Resistant" – no alteration of the flooring could be detected within a 90 day period.

Discolouration and alterations like fading, loss of lustre, yellowing or structural change of the surface may not be eliminated especially when using concentrated chemicals and chemical mixtures in particular. The functionality of the floor still remains. There is no assurance for a floor free of alterations.

Please obtain advice at KLB Kötztal GmbH for any other unlisted chemicals!

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to ISO 9001.