

PARKHAUS-Oberflächenschutzsystem KLB-SYSTEM POLYURETHAN PU 5550



Elastic 2-component polyurethane floating/wearing layer for OS 11 a/b or OS 14 surface protection systems in accordance with DAfStb (2001) and TR maintenance directive

Packaging units



Article no.	Packaging	Inhalt	Units/pallet
AK6134-47	Bucket combo	12.00 kg	30
AK6134-30	Hobbock combo	30.00 kg	12
AK6134-01	Drum combo	400.00 kg	1

Product characteristics

Mixing ratio parts by weight	A : B = 1 : 1
Mixing ratio parts by volume	A : B = 1.0 : 1.4
Processing time	10 °C / 50 °F : 30 - 40 minutes 20 °C / 68 °F : 20 - 30 minutes 30 °C / 86 °F : 10 - 15 minutes
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F : 24 - 32 hrs. 20 °C / 68 °F : 16 - 24 hrs. 30 °C / 86 °F : 12 - 16 hrs.
Curing	2 - 3 days until mechanical load at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Further coatings	After 18 - 24 hours, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	Floating layer for OS 11a: approx. 2.0 - 2.2 kg/m ² Floating and wearing layer for OS 11b: approx. 2.0 - 2.2 kg/m ² / while adding 30% by weight of quartz sand 0.1/0.3 Floating layer for OS 14: approx. 2.6 - 2.8 kg/m ²
Shelf life	12 months (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 5550 is an elastic 2-component polyurethane coating, used as a floating layer for crack-bridging surface protection systems in accordance with RiLi SIB and TR maintenance directive in OS 11a/b or OS 14.

KLB-SYSTEM POLYURETHAN PU 5550 is used in the system as an intermediate layer, flexible even at low temperatures, with increased dynamic crack-bridging capability in underground car park and multi-storey car park coatings with an increased risk of crack formation.

KLB-SYSTEM POLYURETHAN PU 5550 is resistant to frost and de-icing salt and permanently protects the fabric of the building against the penetration of water and deicing salt.

KLB-SYSTEM POLYURETHAN PU 5550 is a component of a complete car park system for surfaces that are exposed to different requirements.

The system components are:

- **KLB-SYSTEM EPOXID EP 5520** „2-component epoxy resin primer“
- **KLB-SYSTEM EPOXID EP 5530** „2-component epoxy resin primer“
- **KLB-SYSTEM POLYURETHAN PU 5550** „2-component polyurethane floating coat, cold-flexible“
- **KLB-SYSTEM POLYURETHAN PU 5560** „2-component polyurethane wear coat“
- **KLB-SYSTEM EPOXID EP 5570** „2-component epoxy resin top sealer, flexibilized“
- **KLB-SYSTEM POLYUREA PU 5580** „2-component polyurea sealer, coloured, non-yellowing and weather-resistant“

Area of application

- As a crack-bridging floating layer for the OS 11a or OS 14 surface protection system for indoor and outdoor car park structures.
- As a crack-bridging scattering and wearing layer for the OS 11b surface protection system for indoor and outdoor car parks.
- As a highly elastic and tension-equalising intermediate layer.
- As a sealing layer in garages or multi-storey car parks.

Product features

- elastic and deformable
- flexible at low temperatures
- resistant to frost and de-icing salt
- impervious to fluids
- crack-bridging
- insulating impact sound
- jointless coating
- suitable on steel

Technical data

Viscosity - Component A+B	3000 - 4000	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Density - Component A+B	Approx. 1.30	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Tensile strength	Approx. 4 (at 23°C / 73.4°F), Approx. 12 (at -20 °C / -4°F)	N/ mm ²	DIN 53504
Elongation at break	Approx. 600 (at 23 °C / 73.4 °F), Approx. 300 (at -20 °C / -4 °F)	%	DIN 53504
Shore-hardness A	68	-	DIN 53505 (after 7 days)

The values established in tests are average values. Deviations from the product specification may occur.

Included in systems

- [System K2 KLB PARKING PU OS11a Outdoor](#)
- [System K3 KLB PARKING PU OS11b Indoor](#)
- [System K4 KLB PARKING PU OS 14 Outdoor](#)

Please visit our website to get more information about our KLB systems: www.klb-koetzal.com

Tests

- Test report (system test): Performance characteristics test for the use as a surface protection system/product following DIN EN 1504-2 „Products and systems for the protection and maintenance of concrete supporting structures, part 2: surface protection systems for concrete; German version EN

1504-2:2004“, in consideration of DIN V 18026, „Surface protection systems for concrete from products following DIN EN 1.5.2004-2“ and in accordance with the DAfStb guidelines „Protection and maintenance of concrete components“ and the TR maintenance directive.

- Declaration of performance in accordance with Appendix III of (EU) Regulation n. 305/2011 (construction product regulation), for the single products
- Fire behaviour classification according to DIN EN 13501-01:2010-01
- Slip-resistance according to DIN 51130 and BGR 181 for OS 11a/b available in R10 V4, R11/V4 and R11/V6.
- Parking Abrasion Test (PAT): VK1

Build-up of coats

Surface protection system OS 11a

Coating with increased dynamic crack-bridging capability for surfaces that are accessible to foot and vehicle traffic as well as for open parking decks

- Prepare the substrate preferably through shot-blasting and thoroughly vacuum off.
- Prime with **EP 5520**, consumption approx. 0.3 - 0.4 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Alternatively, **EP 5530** can be used as pre-filled primer, consumption approx. 0.3 - 0.6 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Apply the floating coat **PU 5550** with the toothed scraper **Toothed blade RS4** or **Pajarito 48**, consumption approx. 2.0 - 2.2 kg/m².
- Roughness depth surcharge:

Roughness depth surcharge 0.5 mm d_z of > 0.7 kg/m²

Roughness depth surcharge 1.0 mm d_z of > 1.3 kg/m²

In accordance with the maintenance directive TR or RiLi SIB (DAfStb), corresponding layer thickness surcharges are required when there is roughness. The control of the layer thicknesses and, if necessary, the adjustment of the resulting consumption quantities must be carried out by the processor.

- Fill the **PU 5560** wearing layer with approx. 20% of quartz sand of grain size 0.1/0.3 mm and mix until homogeneous.
- Apply the **PU 5560** wearing layer using the toothed scraper **Toothed Blade RS4** or **Pajarito 48**, consumption of the mixture approx. 2.2 - 2.5 kg/m².
- Scatter the entire surface using quartz sand with a grain size of 0.3/0.8 mm, consumption approx. 4 - 6 kg/m². Remove excess sand after curing, brush off loose grains and thoroughly vacuum off the entire surface.
- For weather-exposed surfaces, the non-yellowing **PU 5580** top sealer, consumption approx. 0.5 - 0.8 kg/m², is applied using a foam rubber wiper and uniformly distributed in crosswise motion with a velour roller.
- Alternatively, the flexibilised **EP 5570** top sealer with a consumption of approx. 0.5 - 0.8 kg/m² can be applied.

Important notes:

- The RiLi SIB or maintenance directive TR require compliance with the layer thicknesses for attaining the certified properties, such as crack-bridging in class B 3.2 according to DIN EN 1062-7 at -20 °C/-4 °F.
- For OS 11a, a minimum layer thickness of 1.5 mm for the elastic surface protection (floating layer) and 3.0 mm plus the current roughness depth layer thickness surcharge d_z for the wearing surface is required.
- Only the OS 11a system may be used on weather-exposed parking decks.
- Please observe the TR maintenance directive for further requirements.

Surface protection system OS 11b

Coating with increased dynamic crack-bridging capability for surfaces that are accessible to foot and vehicle traffic

- Prepare the substrate preferably through shot-blasting and thoroughly vacuum off.
- Prime with **EP 5520**, consumption approx. 0.3 - 0.4 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Alternatively, **EP 5530** can be used as pre-filled primer, consumption approx. 0.3 - 0.6 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Fill the floating/wearing coat **PU 5550** with approx. 30% of quartz sand with grain size 0.1/0.3 mm and mix until homogeneous.
- Apply the floating/wearing coat **PU 5550** with the toothed scraper **Toothed blade RS4** or Pajarito 48. Consumption of the mixture approx. 2.6 - 2.8 kg/m².
- Roughness depth surcharge:

Roughness depth surcharge 0.5 mm d_z of > 0.4 kg/m² plus 30 weight-% of quartz sand 0.1/0.3 mm

Roughness depth surcharge 1.0 mm d_z of > 0.8 kg/m² plus 30 weight-% of quartz sand 0.1/0.3 mm

In accordance with the maintenance directive TR or RiLi SIB (DAfStb), corresponding layer thickness surcharges are required when there is roughness. The control of the layer thicknesses and, if necessary, the adjustment of the resulting consumption quantities must be carried out by the processor.

- Scatter the entire surface using quartz sand with a grain size of 0.3/0.8 mm, consumption approx. 4 - 6 kg/m². Remove excess sand after curing, brush off loose grains and thoroughly vacuum off the entire surface.
- Apply the flexible top coat **EP 5570**, consumption approx. 0.5 - 0.8 kg/m², with a foam rubber wiper and evenly distribute in crosswise motion with a velour roller.
- Alternatively, **PU 5580** can be used as a non-yellowing top coat, consumption approx. 0.5 - 0.8 kg/m².

Important notes:

- The RiLi SIB or maintenance directive TR require compliance with the layer thicknesses for attaining the certified properties, such as crack-bridging in class B 3.2.
- For OS 11b, a minimum layer thickness of 4.0 mm plus the current roughness depth layer thickness surcharge d_z is required.
- The OS 11b system is not allowed to be used on weather-exposed parking decks.
- Please observe the TR maintenance directive for further requirements.

Surface protection system OS 14

Coating with increased dynamic crack-bridging capability for surfaces that are accessible to foot and vehicle traffic as well as for open parking decks

- Prepare the substrate preferably through shot-blasting and thoroughly vacuum off.
- Prime with **EP 5520**, consumption approx. 0.3 - 0.4 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Alternatively, **EP 5530** can be used as pre-filled primer, consumption approx. 0.3 - 0.6 kg/m². Open sanding with quartz sand, grain size 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Apply the floating coat **PU 5550** with the toothed scraper **Toothed blade RS4** or Pajarito 48. Consumption approx. 2.6 - 2.8 kg/m².
- Roughness depth surcharge: see OS 11a build-up
- Fill the **PU 5560** wearing layer with approx. 20% of quartz sand of grain size 0.1/0.3 mm and mix until homogeneous.

- Apply the **PU 5560** wearing layer using the toothed scraper **Toothed Blade S2** or Pajarito 78 respectively **Toothed Blade S1** or Pajarito 92, consumption of the mixture approx. 3.0 - 3.2 kg/m².
- Scatter the entire surface using quartz sand with a grain size of 0.3/0.8 mm, consumption approx. 6 - 8 kg/m². Remove excess sand after curing, brush off loose grains and thoroughly vacuum off the entire surface.
- For weather-exposed surfaces, the non-yellowing **PU 5580** top sealer, consumption approx. 0.5 - 0.8 kg/m², is applied using a foam rubber wiper and uniformly distributed in crosswise motion with a velour roller.
- Alternatively, the flexibilised **EP 5570** top sealer with a consumption of approx. 0.5 - 0.8 kg/m² can be applied.

Important notes:

- The maintenance directive TR requires compliance with the layer thicknesses for attaining the certified properties, such as crack-bridging in class B 4.2 according to DIN EN 1062-7 at -20 °C/-4 °F.
- For OS 14, a minimum layer thickness of 2.0 mm for the elastic surface protection (floating layer) and 4.0 mm plus the current roughness depth layer thickness surcharge d_z for the wearing surface is required.
- Please observe the TR maintenance directive for further requirements.

Application on walls and pedestal areas

- Prepare the substrate, e.g. by milling, grinding or blasting.
- Apply the **EP 5520** primer, consumption approx. 0.25 - 0.35 kg/m². In order to avoid the primer to run off, 0.5 - 2% of suspending agent **Stellmittel 5FT** or **Stellmittel 3 Super** can be added.
- Alternatively, in case of larger pores and shrinkage cavities: smooth the surface with **EP 5520** while adding 3 - 5% of suspending agent **Stellmittel 5FT** or **Stellmittel 3 Super** so that all pores are filled, consumption variable and depending on pore size.
- After curing, sharply apply **PU 5550** with the addition of approx. 1.5 - 2.5% of suspending agent **Stellmittel 5FT** and 10 - 15% of quartz sand 0.3/0.8 mm.
- Scatter the fresh coating entirely with quartz sand 0.3/0.8 mm, consumption approx. 1.5 - 2.5 kg/m².
- Apply the **EP 5570** or **PU 5580** top seal while adding 0.5 - 1% of suspending agent **Stellmittel 5FT** with a velour roller, consumption approx. 0.5 - 0.7 kg/m².

Substrate

The substrate to be coated must be even, dry, free of dust, sufficiently resistant to tension and compression as well as be free from weakly-bonded components or surfaces. Materials impairing adhesion such as grease, oil, and paint residues should be removed with suitable measures.

Observe the information issued by RiLi SIB and the TR maintenance directive as well as by the trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S as well as the notes in the product information of the recommended KLB primers **EP 5520** and/or **EP 5530**.

The surface strength must then be at least 1,5 N/mm². For concrete, moisture content must not exceed 4.5 CM-%, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. Primers must not be left open for longer than 48 hours or must be scattered with quartz sand. The substrates to be coated should be prepared mechanically, preferably by shot blasting. The prepared area must be saturated, pore-free and primed carefully. It is often difficult to judge the necessary pore-free condition of substrates. It is therefore recommended that a scratch coat be applied to smooth the surface. If the substrate has not been primed to be pore-free, bubbles and pores can develop in the coating due to air rising from the substrate. Old substrates must be cleaned before any mechanical preparation. If old synthetic resin surfaces need to be sealed, it must be ensured that sufficient adhesion is achieved. In case of doubt, we recommend testing on a trial surface.

Reconstruction beyond the regular requirements demands further substrate testing, e.g. by conducting a tensile bonding test.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component B has sufficient volume for the entire packaging unit. Empty all of the component A and mix immediately. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes until a homogeneous, streak-free compound forms. To prevent mixing errors, empty ("repot") the entire resin/hardener mixture into a clean container and mix it once again briefly. Should quartz sand be added, this must be done immediately after mixing by stirring in.

Processing

Processing is carried out immediately after mixing. To maintain the layer thicknesses specified in accordance with RILI-SIB, application is done with a notched trowel (with the recommended toothing).

The consumption and, if necessary, the wet layer thicknesses must be checked.

The coating compound is adjusted for optimum deaeration, however, rolling with a spiked roller is recommended to improve the wetting of the substrate, to optimise levelling and to remove remaining air bubbles.

This should be carried out time-delayed after approx. 10 - 20 minutes. To work seamlessly, always work "fresh-in-fresh" and define work areas before starting. Do not scatter too early because of the deaeration, the optimum time is at 20 °C / 68 °F after 15 - 30 minutes.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 75 %. The difference in floor and room temperature must remain less than 3 °C / 3 K / 5,4 °F so as not to impede the curing process. If a dew-point situation arises, regular curing will not be possible with hardening problems and spotting to occur. Exposure to water should be avoided during the first 7 days. The specified curing times apply for 20 °C / 68 °F; temperatures below this require longer processing and curing times, while higher temperatures require shorter times. If working conditions are not complied with, the technical properties of the end product may deviate from those specified (surface and load-bearing capability).

Special remarks:

High-rising components must be protected by applying the coating at a height of 15 - 50 cm away from the floor, depending on the frequency and risk of splashing. In order to do so, a concave or triangular coving with a minimum side length of 30 x 30 mm must be placed onto the wall or pedestals within a dense structure. The products to be used as well as the build-up proposal can be found in the section "Build-up of coats", subsection "Application on walls and pedestal areas".

Depending on the construction, we recommend carrying out maintenance visits twice a year, thus at least once a year at the beginning of winter as well as a repair works of possibly damaged areas.

Cleaning

To remove fresh impurities and for cleaning tools, use thinner **VR 28** or **VR 33** immediately after use. Hardened material can only be removed mechanically.

Storage

Store in dry and at frost-free conditions. Ideal storage temperature is between 10 °C - 20 °C / 50 °F - 68 °F. Bring to a suitable processing temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

Special remarks



The product is regulated by the German Ordinance on Hazardous Substances (GefStoffV), the German Ordinance on Industrial Safety and Health (BetrSichV), and transport regulations for hazardous goods. The necessary information is contained in the DIN Safety Data Sheet. Observe all identification information on the container label!

GISCODE: PU50

Indication of VOC-content:

(EG-Regulation 2004/42) Maximum Permissible Value 500 g/l (2010,II,j/lb): Ready-for-use product contains < 500 g/l VOC.

CE marking

			
1119		KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen		18	
18		PU5550-V1-092018	
PU5550-V1-092018		DIN EN 13813:2003-01	
DIN EN 1504-2:2004		Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4	
Surface protection products-coating DIN EN 1504-2: ZA.1d,ZA.1f,ZA.1g		Fire behaviour	C _r -s1
Abrasion resistance	complied with	Emission of corrosive substances	SR
CO ₂ permeability	S _D > 50m	Wear resistance BCA	AR 0.5
Water vapour permeability	Class III	Adhesive tensile strength	B 2.0
Capillary water absorption and water permeability	< 0.1 kg/m ² *h0.5	Impact resistance	IR 4
Resistance to increased chemical excavation	complied with		
Impact resistance	Class I		
Tear-test for adhesive strength evaluation	> 1.5 N/mm ²		
Fire behaviour	C _r -s1		
Compatibility to temperature Change	complied with		
Crack bridging ability	B 3.2 (-20 °C)		
Grip	Class III		



Please consider the latest version of this product information on our website.

All stated information is based on our experience and technical preparation. We guarantee the correct and proper quality of our products. We do not assume any responsibility for the work not carried out by us, since we have no influence on the processing or processing conditions. We recommend on-site trials to be conducted in individual cases. With the publication of this new KLB product information, all prior information loses validity. The latest version is available electronically on our website www.klb-koetzal.com. In addition, our "General Terms and Conditions" apply.