

KLB-SYSTEM POLYURETHAN PU 9039

Low-emission, light and weather-resistant 2-component polyurethane binder for indoor and outdoor stone carpets



Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK6946-95	Combo can	1.00 kg	240
AK6946-70	Bucket combo	5.00 kg	45
AK6946-52	Bucket combo	10.00 kg	30

Product characteristics

Mixing ratio parts by weight	A : B = 100 : 163
Mixing ratio parts by volume	A : B = 100 : 178
Processing time	10 °C / 50 °F : 30 - 40 min. 20 °C / 68 °F : 20 - 25 min. 30 °C / 86 °F : 15 - 20 min.
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F : 14 - 18 hours 20 °C / 68 °F : 12 - 14 hours 30 °C / 86 °F : 8 - 12 hours
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 curing, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	Decorative coverings: approx. 2.0 - 2.2 kg of binder for each 25 kg bag of quartz pebbles; 0.140 - 0.170 kg/m ² of binder for each mm of layer
Layer thickness	depending on the grain size
Colours	Non-pigmented
Shelf life	12 months (originally sealed)

Product description

Low-emission, light and weather-resistant 2-component polyurethane binding agent for producing high-quality, decorative stone carpet coverings in the interior and exterior.

KLB-SYSTEM POLYURETHAN PU 9039 is used as light-stable binding agent for decorative coverings and stone carpets made with coloured and natural dry sand, as well as for binding other granulates. The binder has a low odour during processing.

KLB-SYSTEM POLYURETHAN PU 9039 can be used in exterior areas for binding decorative pebble coatings on balconies and terraces. With a sufficiently long pot life, this new version is rainproof after just one hour and completely weather-resistant after curing. Due to its high-quality setting and the low odour during application, **KLB-SYSTEM POLYURETHAN PU 9039** is suitable for stone carpets also in interior areas when a non-yellowing and low-emission resin is required.

KLB-SYSTEM POLYURETHAN PU 9039 is certified according to "Indoor Air Comfort Gold" and meets the emission criteria for a sustainable construction certification according to DGNB, LEED or BREEAM. "Indoor Comfort Gold" fulfills

the highest requirements in regards to the emission of volatile organic compounds and respects not only the German limits of AgBB or ABG, but also of the emissions regulations of many other European countries.

The binder does not stick to the smoothing trowel and has an excellent smoothability. Cleaning the tool with thinner is not necessary during installation. The product hardens homogeneously in thick layers after the decorative pebble covering has been resined; foaming is completely excluded.

Slip-resistant coverings are principally recommended for weathered exterior areas. When coating balconies and terraces, consider the details like connections or declines and apply a waterproofing layer for a processing that is conforming to standards.

The improved quality offers excellent resistance to chemicals like water, saline solutions, diluted acids and bases, mineral oil, fuel and others more. The susceptibility to staining has been reduced, but the surfaces are not permanently tyre-resistant.

Area of application

- Special binding agent for decorative pebble coatings made with quartz and marble.
- For low-emission and colour-stable stone carpet coverings in interior areas.
- For exterior balconies and terrace areas.

Product features

- tested, low-emission quality
- for interior and exterior areas
- odorless
- glossy
- resistant to weather
- low stickiness, no foaming
- good processing properties
- light-stable

Technical data

Viscosity - Component A+B	approx. 1300 - 1800	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 99.5	%	KLB method
Density - Component A+B	approx. 1.13	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Shore-hardness D	Ca. 80	-	DIN 53505 (after 28 days)

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

Included in systems

- [System L4 - KLB DECOR STONE-CARPET LOW-VOC PU Exclusive](#)

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

Tests

The following external test certificates are available:

- Certified low-emission according to "Eurofins Indoor Air Comfort Gold".

Note:

Please ask for the tested system build-up!

Build-up of coats

Quartz pebble coating

- Apply one of the recommended KLB base coats, like **EP 50**, **EP 51 RAPID S**, **EP 52 Spezialgrund** or the low-emission versions **EP 57** or **EP 53 Spezialgrund AgBB**. Consumption approx. 0.3 - 0.4 kg/m², depending on the substrate. Scatter openly with quartz sand of a grain size 0.7 - 1.2 mm.
- Optional waterproofing layer: apply an elastic compound sealing layer with **PU 426**, consumption approx. 2.5 - 3.0 kg/m² in two layers and openly sand with quartz sand of a grain size 0.7 - 1.2 mm.
- Apply the stone carpet covering with the premixed decorative pebble binding agent mixture in portions onto the substrate. Distribute homogeneously. Then smooth and compact evenly with the smoothing trowel or sword type screed blade.
- Consumption of the mortar mixture depending on the grain size and layer thickness: approx. 2.0 kg of mixture for each mm of layer; at layer thickness 8 mm, it is 13 - 15 kg/m². The thickness of the covering depends on the largest grain. Stone carpets are laid in layer thicknesses of 6 - 12 mm.
- Optional: apply a varnish layer to stabilise the surface after 18 hours at the earliest using **PU 9039**, while adding 4 - 6% of thinner **VR 28**, consumption approx. 0.100 - 0.150 kg/m². If low emissions are required, please seek advice.

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 beforehand with suitable measures. For concrete, moisture content must not exceed 4.5 CM-%, remaining residual humidity. Under certain circumstances, **EP 52 Spezialgrund** can be applied on wetter substrates as well as on substrates that are not sufficiently impervious. Seek advice if necessary. Observe the information issued 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 provided in the product information for the recommended KLB base coats.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component A has sufficient volume to contain the entire packaging unit. Empty all of the hardener compound B into the resin. Blend with a slow speed mixer (200 - 400 r/pm) for approx. 2 minutes until a homogeneous, streak-free compound forms. Use a compulsory mixer for adding any additives, if necessary with a powerful, double-barrelled stirrer. The binder is then poured into the sand/granulates and mixed in carefully for approx. 2 - 3 minutes. Careful mixing must be ensured. The mixing times should always be the same to avoid colour change due to abrasion. The recommended mixing ratios and proper mixing must be adhered to.

Processing

Jointless application is possible when the working area is divided before starting to work. Protect the area from strong sunlight and rain/wetness. Apply only when the climate conditions are as recommended, even during the curing period.

Process the mortar immediately after mixing. Apply the material in small quantities onto the prepared substrate and spread evenly with a smoothing trowel in a uniform layer. Subsequently smooth and compact with pressure so that the individual stones lie compactly against each other. Always work "fresh-in-fresh". It can only be applied to the wet edge of the surface, this must be done within approx. 15 - 20 minutes.

Keep within the recommended binding agent mixing ratio. Do not empty any excess binding agent onto the surface.

In-between cleaning of tools is not necessary. Clean tools after a longer working period with little amounts of **VR 28**.

A varnish layer to stabilise the surface is recommended for exterior areas using **PU 9039**, consumption approx. 0.200 - 0.250 kg/m². If vertical surfaces such as risers, plinths or small wall coverings are to be coated, the addition of 2 - 4% of suspending agent **Stellmittel 5 FT** is suitable. First stir in the suspending agent into the binder, then add the granulates.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 80 %. The floor temperature must be greater than 3 °C / 3 K / 5.4 °F above dew-point. If a dew-point situation arises, regular curing may be disrupted with hardening problems and staining (whitening, etc.) to occur. Do not work in strong sunlight or on strongly heated surfaces, as the working time will be greatly reduced and bubble formation is possible. Polyurethane coatings are sensitive to moisture when fresh, so the humidity specifications must be strictly observed. The specified hardening times apply for 20 °C / 68 °F. Lower temperature may increase; higher temperature may decrease the curing and processing times. If working conditions are not complied with, the technical properties of the end product may deviate from the description.

Cleaning

To clean tools, use thinner **VR 28** or **VR 33**. Hardened material can only be removed mechanically.

Storage

Store in dry and if possible, at frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened containers and use the content as soon as possible. Material has a limited shelf life.

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: PU10

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

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 89335 Ichenhausen, GERMANY	
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PU9039-V1-082023	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1,5-AR0,5-IR4	
Fire behaviour	B _{ff} -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0,5
Adhesive tensile strength	B 1,5
Impact resistance	IR 4

VOC content

The product complies with the high requirements to low VOC contents, as required for sustainable construction. Therefore, these values are well below the limits set by the European Union directive 2004/42/EG (Decopaint Directive).

	Limit value	Actual content	
Decopaint Directive 2004/42/EG - Component A	< 500	9,3	g/l
Decopaint Directive 2004/42/EG - Component B	< 500	0	g/l
DGNB - Components A + B	< 3	0,21	%
Klima:aktiv - Components A + B	< 3	0,21	%
LEED - Components A + B	< 100	2,8	g/l
Minergie ECO ® - Components A + B	< 1 (< 2)	0,21	%

(According to the Decopaint directive, single components are used for calculation. In the sustainable building rating systems, the mixture of both components in the correct mixing ratio is the determining factor.)



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-koetztal.com. In addition, our "General Terms and Conditions" apply.