KLB-SYSTEM POLYURETHAN
PU 484

Non-pigmented, light-resistant 2-component polyurethane top sealer for producing slip-resistant, coloured sand scattered coatings and clear resin layers on decorative floorings

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6946-50	Bucket combo	10.00 kg	30
AK6946-25	Hobbock combo	25.00 kg	12



Product characteristics

Mixing ratio parts by weight	A : B = 100 : 150
Mixing ratio parts by volume	A : B = 100 : 166
Processing time	10 °C / 50 °F: 30 minutes 20 °C / 68 °F: 20 minutes 30 °C / 86 °F: 10 minutes
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 16 - 20 hrs. 20 °C / 68 °F: 10 - 12 hrs. 30 °C / 86 °F: 6 - 8 hrs.
Curing	2 - 3 days until mechanical load at 20 °C / 68 °F 1 day until resistance to water at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Further coatings	After curing, but after 24 hours at the latest at 23 °C / 73.4 °F and 50% rel. humidity
Consumption	Resinate for scattered coatings: approx. 0.45 - 0.7 kg/m² Top sealer for smooth coverings: approx. 1.4 - 2.0 kg/m²
Packaging	Bucket combo 10 kg
Shelf life	6 months (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 484 is a low-emission, high-quality, colourless 2-component polyurethane resin used as a non-pigmented top sealer for coloured sand scattered coatings and as a clear resin layer.

The sealer consists of a formulated, medium viscosity, non-pigmented, light resin component and a high-quality, non-pigmented hardener with 100% solids. The mixed resin hardens by means of a chemical reaction to form a light, colour-stable polymer that has a glossy surface.

KLB-SYSTEM POLYURETHAN PU 484 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.

KLB-SYSTEM POLYURETHAN PU 484 is used as a transparent top sealer for coloured sand scattered coatings. Non-slip surfaces of various slip resistance grades (R10-R12) can be produced. Applications range from wet coverings in the food processing industry (bakeries, butcher’s shops, food production and many

others) to coloured sand coverings in technical areas. Conductive and decorative floorings are also available for commercial use (exhibition spaces, showrooms and sales rooms etc.).

KLB-SYSTEM POLYURETHAN PU 484 can be used as a decorative, glossy clear resin layer on other coatings, such as **PU 410** (also for wiping techniques), **PU 405** and **EP 200 VF**. Other combinations are not recommended, or must be tested. Please note that glossy clear resin surfaces can only be used for well-maintained areas with light traffic. Particular cleanliness and care is required during the installation process. Metallic effect coverings can be produced by adding **partiColor® Glitter** flakes or **partiColor® Metalize** pigments to **PU 484**. **PU 484** can also be used to embed and coat graphic textile printing. In both cases, please seek for advice.

KLB-SYSTEM POLYURETHAN PU 484 has good mechanical and chemical resistance. The surfaces are largely abrasion and wear resistant, hygienic and easy to clean. Due to the special binding agent system, the hardened sealer is largely resistant to plasticisers, and discolouration is significantly reduced when coming into contact with food (e.g. beetroot, curry, coffee, etc.).

Chemical resistance against water, salt, grease, water-based solutions, diluted acids and bases is ensured. A conditional resistance is given to solvents, concentrated acids and bases, as well as to oxidised chemicals.

The polyurethane resin is almost entirely non-yellowing and therefore suitable for light-coloured coverings, for applications in interior (wet areas) and outside areas.

Area of application

- Non-pigmented top sealer for coloured quartz scattered coatings in various slip-resistance grades R10, R11 and R12 (exhibition spaces, showrooms etc).
- Slip-resistant coverings in wet areas and the food processing industry (kitchens, butcheries etc.).
- Coverings in outdoor areas (terraces, balconies).
- Decorative coverings with glossy, transparent clear resin surface on a single-coloured polyurethane or epoxy resin floor with marbling created in wiping techniques or decorative flakes scattering.
- Coverings with textile inlays or printing for unique floors and metallic effect coverings, for instance using **partiColor®-Glitter**.

Product features

- tested, low-emission quality
- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")
- non-pigmented, glossy
- good resistance to water and chemicals
- capable for wet rooms
- good plasticiser resistance
- for interior and exterior areas
- colour-stable

Technical data

Viscosity - Component A+B	Approx. 400 - 900	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 99.8	-	KLB method
Density - Component A+B	Approx. 1.2	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Shore-hardness D	Ca. 78	-	DIN 53505 (after 7 days)

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

Included in systems

- System C5 - KLB LOW-VOC DECOR EP RX
- System G10 - KLB DECOR LOW-VOC PU Glitter Effect
- System G11 - KLB DECOR LOW-VOC PU Metalize Effect
- System G13 - KLB DECOR PU RX ColorQ
- System H2 - KLB KITCHEN LOW-VOC PU
- System H6 - KLB FOOD PU RX Decor
- System O2 - KLB Balcony DECOR PU Outdoor

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

---

Tests

The following external test certificates are available:

- In combination with Usability Test Certification as an industrial kitchen coating (Kiwa GmbH-Polymerinstitut).
- Classification of the fire behaviour in System H2 according to DIN EN 13501-01:2010-01: B_{fl}-s1.
- LABS-compliant according to PV 3.10.7. (VW test)

Build-up of coats

Slip-resistant RX coating with coloured sand scattering (R11)

- Prepare the surface by shot-blasting or diamond grinding; carefully vacuum off.
- Prime with **EP 50**, alternatively **EP 52 Spezialgrund**, consumption approx. 0.3-0.4 kg/m². Scatter lightly with **quartz sand 0.3/0.8 mm**, consumption approx. 0.5 - 1.0 kg/m².
- Apply a base layer of **EP 99** for scattering with coloured sand: 1 weight-% **EP 99** filled with 0.6 weight-% **mixed sand KLB-Mischsand 3/1**, consumption approx. 1.1 - 1.3 kg/m² (mixture). Apply with a trowel or squeegee directly over the scattered surface.
- Scatter the entire surface with coloured sand KLB-Colorsand **CQS 46-XXXX** for slip resistance grade R11, consumption approx. 2.5 - 3.5 kg/m².
- After curing, sweep or vacuum off the excess sand carefully until no more grains of sand come loose. The smoothness of the surface can be increased and the slip resistance reduced by carrying out a light intermediate grinding (grain size 60).
- **Important note:** it is essential to work carefully, with special care being taken to remove and vacuum off all excess sand and abrasive dust. Light-coloured shoes must be worn on the area. Work clothes must be clean. Aesthetically pleasing areas can only be produced with the utmost care.
- Apply **PU 484** with a rubber squeegee, rubber trowel or Kaupp trowel and immediately spread by going over it with a velour roller. Consumption, depending on the grain size and slip resistance, approx. 0.5 - 0.7 kg/m². Check consumption to achieve the required level of slip resistance.

Decorative coverings with glossy, smooth clear resin layers

- Prepare the substrate, e.g. preferably by shot blasting.
- Prime with the recommended KLB primer resins; on low-emission coverings e.g. **EP 53 Special Primer AgBB**, **EP 57** or **EP 58**; consumption approx. 0.3 - 0.4 kg/m².
- Scratch coat e.g. with **EP 53 Special Primer AgBB**, **EP 57** or **EP 58** and **mixed sand KLB-Mischsand 2/1**; mixing ratio 1.0 : 0.8 parts by weight; consumption approx. 0.8 - 1.2 kg/m².
- Scatter lightly with quartz sand 0.3/0.8 mm; consumption approx. 0.5 - 1.0 kg/m².
- The following coatings are suitable in the recommended application volumes for a subsequent clear resin layer: **PU 410**, **PU 405**, **EP 200 VF**. The products, where recommended, can be used as single-colour coverings, as coatings scattered with **partiColor®-Chips** (flakes), and as marbled coverings using wiping techniques. In order to ensure that light colours remain non-yellowing, **PU 405** or **PU 410** must be used.
- Within the recommended re-coating intervals, generally after 24-48 hours, **PU 484** is applied with a toothed trowel as a clear resin layer (**KLB Toothed**

blade S6), consumption 1.4 - 1.6 kg/m² and spread by going over it with a **steel needle roller.**
- Optional matt sealer: apply **PU 805 E** in crosswise motion with the velours roller, consumption approx. 0.120 - 0.160 kg/m². Alternatively, a top sealer of **PU 811 E** can be applied, consumption approx. 0.160 - 0.200 kg/m².

Clear resin layer for fair-faced floor screeds

- Prepare the substrate, e.g. preferably by diamond grinding or shot blasting with subsequent diamond grinding, and vacuum thoroughly. Suitable substrates are cement screeds of grade CT-C25 to CT-C30, and concrete of minimum grade C25/30. If the type of substrate is unknown, please contact KLB for advice.
- Prime with **PU 484** to which 5% **VR 28** has been added; consumption of mixture approx. 0.4 - 0.6 kg/m².
- Within the re-coating interval of max. 24 hours, apply a scratch coat consisting of a mixture of **PU 484** and a mixture of 0–50 µm glass beads and 200 – 400 µm glass beads; mixing ratio of 0–50 µm glass beads and 200 – 400 µm glass beads = 3 : 2 parts by weight; mixing ratio of **PU 484** to glass beads = 1 : 0.6 parts by weight; apply with a smoothing trowel over grain and re-roll with a rough/yellow textured roller, consumption of mixture approx. 0.9 - 1.2 kg/m².
- Within the recommended re-coating interval of max. 24 hours, apply a clear resin layer of **PU 484** with an **S3** toothed trowel or Pajarito 95; consumption approx. 1.6 - 2.0 kg/m² and spread by going over it with a needle roller.
- It is possible to apply **PU 805 E** or **PU 811 E** as an optional matt sealer.

Substrate

In general: the substrate to be coated must be even, dry, dust-free, sufficiently resistant to tension and compression, and free of weakly bonded components or surfaces. Materials reducing adhesion, e.g. grease, oil and paint residues, must first be removed with suitable measures. The notes given in the product information of the recommended KLB primer for the respective build-up must be observed.

Application as a top sealer for scattered coatings

When applying the product as a top sealer for scattered coatings, the excess sand must be carefully removed from the base layer after curing by sweeping, brushing off and vacuuming. If less rough coverings are desired, a light grinding (grain size 16) can be carried out. The procedure must be performed carefully in order for the scattered surface not to become dirty, or be grinded unevenly. It is very important that the areas do not become dirty or contaminated with substances that would impair adhesion. The surface should only be walked on by the coating installer, wearing clean, light-coloured shoes and clean clothing. After all of the loose sand has been carefully vacuumed up, the covering sealer can be applied.

Application as a clear resin layer

Applying a transparent, glossy resin layer requires the installer to take particular care, as any type of soiling will be visible. The freshly coated area must not be walked on or made dirty before **PU 484** is applied. The coating can be applied as a top layer within the recommended time frame as a final coat for the recommended product. The surface should only be walked on by the coating installer, wearing clean, light-coloured shoes and clean clothing.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component B has sufficient volume to contain the entire packaging unit. Empty the entire contents of resin Component A into the package of hardener. Blend with a slow speed mixer (200-400 rpm) for 2-3 minutes until a homogeneous, streak-free compound forms. When processing partial quantities, they must be stirred and weighed out according to the mixing ratio before mixing. To prevent mixing errors, it is recommended that the entire resin mixture is emptied (“repotted”) into a clean container and mixed once again briefly.

Processing

Scattered coatings: the mixed material must be applied immediately after mixing.

Apply the mixed material to the prepared, scattered area using a light-coloured, smooth, soft or hard rubber squeegee, rubber trowel or Kaupp trowel, by skimming it uniformly over the surface, avoiding ponding. Then roll or spread it uniformly with a lint-free nylon roller. The areas should be processed carefully with the roller to ensure the structure is uniform and pore-free. The application quantity depends on the required slip resistance and the displacement volume. Seek advice if necessary! Precise information on the consumption volumes can be provided on request. The product can also be applied crosswise with a roller, which will create a rougher surface covering.

Effect coatings with PartiColor®-Glitter or PartiColor®-Metalize: to achieve an even and homogeneous surface appearance of the effect pigment layers, mix them into the A component with a clean stirrer approx. 8 to 12 hours before processing.

The floor and air temperatures must not fall below 10 °C / 50 °F and the humidity must not exceed 75%. The material to be processed must be at room temperature during processing. Within the recommended processing conditions, the floor temperature may be a maximum of 3 °C / 3K / 5.4 °F colder than the ambient room air temperature to exclude a dew point on the surface to be coated and the fresh coating. If a dew-point situation arises, regular curing will not be possible, with hardening problems and foaming to occur. 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 the working conditions are not complied with, the technical properties of the end product may deviate. Water exposure should be avoided during the first 2 hours. After that, the coating is rainproof.

Special remark: when sealing with PU 484, no other coating work can be carried out in adjacent rooms or areas, as undesirable interactions with other products may occur.

Cleaning

To remove fresh contamination and to clean tools, use thinner **VR 28** or **VR 33** immediately after use.

Separate cleaning and care recommendations are available for cleaning floors produced with KLB coatings and sealers.

Storage

Store in a dry and if possible, frost-free location. Ideal storage temperature: 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

Special remarks

This 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. Observe the DIN safety data sheet and 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

CE

KLB Kötztal Lacke + Beschichtungen GmbH
Günztalstraße 25
89335 Ichenhausen, GERMANY

20

PU484-V1-112025

DIN EN 13813:2003-01

Synthetic resin screed mortar
DIN EN 13813: SR-B2,0-AR0,5-IR10

Fire behaviour	B_{fl}-s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0,5
Adhesive tensile strength	B 2,0
Impact resistance	IR 10

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	0,22	%
klima:aktiv – Components A + B	< 3	0,22	%
LEED - Components A + B	< 100	3,7	g/l
Minergie ECO ® - Components A + B	< 1 (< 2)	0,22	%

(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.