KLB KÖTZTAL
Lacke + Beschichtungen GmbH

# KLB-SYSTEM
# PU-BETON 4045

3-component polyurethane base and levelling mortar for concrete

**Packaging units**

| Article no. | Packaging | Inhalt | Units/pallet |
|---|---|---|---|
| AK6339-40 | Combo packaging | 21.50 kg | 30 |


**Product characteristics**

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|---|---|
| Mixing ratio parts by weight | A : B : C = 21.65 : 21.65 : 100 |
| Processing time | 15 °C / 59 °F : 25 min.<br>20 °C / 68 °F : 20 min.<br>25 °C / 77 °F : 15 min. |
| Processing temperature | Minimum 15 °C / 59 °F (room and floor temperature) |
| Curing time (accessibility) | 15 °C / 59 °F : 12 - 16 hrs.<br>20 °C / 68 °F : 8 - 10 hrs.<br>25 °C / 77 °F : 6 - 8 hrs. |
| Curing | 1 - 2 days for mechanical load at 20 °C / 68 °F<br>2 days for chemical resistance at 20 °C / 68 °F |
| Further coatings | After 8 - 10 hours, but not longer than 36 hours at 20 °C / 68 °F |
| Consumption | Approx. 3.8 - 20 kg/m² depending on the roughness; approx. 1.9 kg each mm per m² |
| Shelf life | 12 months (originally sealed) – **Protect from frost!** |

**Product description**

**KLB-SYSTEM PU-BETON 4045** is a high-quality 3-component polyurethane levelling mortar. The product consists of the reactive **KLB-SYSTEM PU-BETON 4000,** components A and B, and an additive mineral component C, **KLB-SYSTEM PU-BETON 4045**.

**KLB-SYSTEM PU-BETON 4045** is used as interlayer and levelling coating. The equalising mortar has to be used preferably on rough, milled or blasted substrates in thicknesses of 2 mm up to approx. 10 mm.

The levelling layer can be applied on low-absorbent substrates without any primer. On highly absorbent substrates, the primer **KLB-SYSTEM PU-BETON 4050 Grundierung** has to be applied.

Small cracks and bumps can be filled almost without shrinkage. To fill cracks with more than 10 mm thickness, it is recommended to use **KLB-SYSTEM PU-BETON 4012 Standfest**.

The levelling mortar can be overcoated after 6 - 16 hours, depending on the temperature, with the KLB polyurethane mortars **KLB-SYSTEM PU-BETON 4006**, **KLB-SYSTEM PU-BETON 4009** or **KLB-SYSTEM PU-BETON 4011 Grip**. An intermediate sanding with these coatings is not mandatory.

**Note:** on highly absorbent substrates, it is recommended to apply a primer with **KLB-SYSTEM PU-BETON 4050 Grundierung**. Do not apply **KLB-SYSTEM PU-BETON 4045** in a coat thickness of less than 2 mm.

## Area of application

- Roughness levelling mortar/equalizer for subsequent PU-BETON coatings.
- Pore-sealing levelling mortar in a layer thickness of 2 to 10 mm.
- For the processing or height adjustment of existing drainage systems such as floor drains, channels, etc.
- With low-absorbent substrates, there is no need for a primer.
- Shrinkage-free filling of small damaged areas and breakouts.

## Product features

- PU-Beton system component
- good processing properties
- balancing depth of roughness
- self-levelling
- can be used without primer
- resistant to hot water
- high chemical resistance
- good interlayer adhesion

## Technical data

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|---|---|---|---|
| Solid content | 92 | % | KLB method |
| Density - Component A+B+C | 1.85 | kg/l | DIN EN ISO 2811-2 (20 °C / 68 °F) |
| Weight loss | < 1.0 | weight-% | after 28 days |
| Water absorption | < 0.2 | weight-% | DIN 53495 |
| Bending tensile strength | 16 | N/mm² | DIN EN 196/1 |
| Compressive strength | 40 | N/mm² | DIN EN 196/1 |
| Adhesive tensile strength | > 1.5 | N/mm² | DIN EN 1542 |
| Flashpoint | > 100 °C | - | DIN 51755 |

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

## Included in systems

- System I3 KLB TECH PU-BETON Grip

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

## Tests

- Product is compliant with DIN EN 13813: 2003-01.

## Build-up of coats

**PU-BETON 4006/4009** scattered with corundum or quartz sand, in a slip resistance grade from R9 to R13

- Prepare the substrate by sand-blasting or miling, if necessary.
- Optional: filling rough unevenness, holes or damaged areas can be done with **PU-BETON 4045**. If required, **PU-BETON 4012 Standfest** can also be used.
- Apply **PU-BETON 4045** with a smoothing trowel, consumption approx. 4 - 16 kg/m² depending on the desired slip-resistance.

- Use the specially stable **PU-BETON 4012 Standfest** for triangular or concave covings. For a side length or radius of 5 cm: consumption approx. 2.2 - 2.8 kg per running meter. Also suitable for filling larger holes or local separations.
- Apply **PU-BETON 4006** with a pin screed scraper in layers of approx. 6 mm or **PU-BETON 4009** in layers of approx. 9 mm. Vent with a spiked roller.
- Optional: scatter with corundum 0.5/1.0 mm or fire-dried quartz sand in a grain size 0.3/0.8 mm or 0.7/1.2 mm. Consumption: please refer to the respective product information.
- After curing, sweep off and vacuum thoroughly until no more sand is released.
- Apply **PU-BETON 4080 Kopfsiegel** with a rubber squeegee and roll with a velour roller in crosswise motion. Consumption approx. 0.650 - 0.900 kg/m². Work fast and seamless.

**It is mandatory to stay within the recommended consumption for the slip resistance grade. Observe the product information of PU-BETON 4006, 4009 or 4011 Grip!**

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**Substrate**

The substrate to be coated must be even, non-slip, sufficiently resistant to tension and compression, clean as well as be free from weakly-bonded components or impurities. Materials impairing adhesion such as grease, oil and paint residues should be removed with suitable measures. The substrates must have a sufficiently high strength for the intended use as well as for the coating. Suitable substrates are concrete with a minimum quality of C25/30 according to DIN EN 206, cement screed and polymer-modified cement screeds with at least CT-C30-F5 bonded in a layer thickness of 60 or 30 mm, according to DIN 18560 part 3. Screeds as separating layer or insulation, polymer-modified, CT-C40-F5 at least, with a layer thickness > 65 mm, according to DIN 18560 part 4. Other substrates are not or not generally suitable. The substrates to be coated must be prepared mechanically, preferably by shot-blasting. The surface strength must then be at least 1.5 N/mm². For anchoring the coating, anchoring grooves are to be provided at the end edges, passages, etc. These should be approx. 6 to 10 mm deep and wide. For concrete, the moisture content must not exceed 6 CM-%. The possibility of moisture ingress from the rear must be permanently excluded. 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. If necessary, ask for a consultation.

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**Product components**

**PU-BETON 4045** consists of the following components:

1 packaging unit **PU 4000** Component A: 3.25 kg
1 packaging unit **PU 4000** Component B: 3.25 kg
1 packaging unit **PU 4045** Component C: 15.00 kg

**Total quantity:** 21.50 kg

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**Mixing**

Combo-packaging will be supplied in the correctly measured mixing ratio. Only in the present mixture of the three components can the described processing and material properties be achieved. At first, the liquid binding agent components (components A + B) are emptied into a proper container and blended with a slow speed mixer (200 - 400 r/pm) for at least 1 minute until a homogeneous, streak-free compound forms. Mixing in component C should be carried out with a compulsory mixer for a consistent mortar quality. Add the premixed binding agent into the compulsory mixer, then add component C. Mix homogeneously for approx. 3 minutes at 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the mixing times.

**Note**: pay attention to consistent mixing times. Process complete packaging units only! Inaccurate mixing ratios will lead to useless results.

**Processing**

Distribute the mortar mixture onto the area evenly without any delay and pull off with a trowel or pin screed scraper. Adjust the length of spikes according to the material before starting to work. Subsequently, after a short waiting period of about 3 - 5 minutes, vent with a spiked roller in crosswise motion. As the processing times are short due to the system, adherence to the specified working rhythm is particularly important for the end result. Apply the coating with **PU-BETON 4006, PU-BETON 4009** or **PU-BETON 4011 Grip** after the levelling mortar has hardened.

Always work “fresh-in-fresh” to avoid any shoulders. Before starting work, divide up the work areas to be covered according to the laying capacity. Do not coat surfaces that are too wide. Avoid draughts, otherwise pore-free floors will not be achieved. The mortar installation requires an experienced and trained staff.

Floor and air temperature must not fall below 15 °C / 59 °F and humidity should be at 40 to 85%. The difference in floor and room temperature must remain less than 3 °C / 3 K / 5.4 °F so that curing will not be disturbed. If a dew-point situation arises, regular curing may be disrupted with hardening problems and spotting to occur. 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.

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**Cleaning**

To remove fresh contamination and to clean tools and equipment, use **VR 28** or **VR 33** immediately. Hardened material can only be removed mechanically.

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

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**Storage**

Store in dry and frost-free conditions. Ideal storage temperature is between 15 - 20 °C / 59 - 68 °F. Bring to a suitable working temperature before application. Process complete units only!

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**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: PU40

**Indication of VOC-content:**
(EG-Regulation 2004/42) Maximum Permissible Value 140 g/l (2010,II,j/wb): Ready-for-use product contains < 140 g/l VOC.

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**CE marking**

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| CE |
| **KLB Kötztal Lacke + Beschichtungen GmbH**<br>**Günztalstraße 25**<br>**FRG-89335 Ichenhausen** |
| **17** |
| PU4045-V1-012017 |
| **DIN EN 13813:2003-01** |
| Synthetic resin screed mortar<br>DIN EN 13813: SR-B1.5-AR0.5-IR4 |

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|---|---|
| Fire behaviour | $E_{fl}$-s1 |
| Emission of corrosive substances | SR |
| Wear resistance BCA | AR 0.5 |
| Adhesive tensile strength | B 1.5 |
| Impact resistance | IR 4 |

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