

KLB-SYSTEM PU-BETON 4006

3-component polyurethane mortar coating for wet area coverings

Packaging units



Article no.	Packaging	Inhalt	Units/pallet
PU6301-34	Combo packaging	26.50 kg	12
PU6301-19	Combo packaging	53.00 kg	12

Product characteristics

Mixing ratio parts by weight	A : B : C = 16.25 : 16.25 : 100
Processing time	15 °C / 59 °F : 35 min. 20 °C / 68 °F : 25 min. 25 °C / 77 °F : 20 min.
Processing temperature	Minimum 15 °C / 59 °F – Maximum 25 °C / 77 °F (room and floor temperature)
Curing time (accessibility)	15 °C / 59 °F : 12 - 16 hrs. 20 °C / 68 °F : 8 - 10 hrs. 25 °C / 77 °F : 6 - 8 hrs.
Curing	1 - 2 days until mechanical load at 20 °C / 68 °F 2 days until chemical load at 20 °C / 68 °F
Further coatings	After 8 - 10 hours, but after 36 hours at the latest at 20 °C / 68 °F
Consumption	10 - 14 kg/m ² at 5 - 7 mm layers
Layer thickness	5.0 - 7.0 mm
Colours	Beige, red, green, grey
Shelf life	12 months (originally sealed) – Protect from frost!

Product description

KLB-SYSTEM PU-BETON 4006 is a high-quality, trowelable 3-component polyurethane mortar coating for heavy-duty coatings that are exposed to water and chemicals. **KLB-SYSTEM PU-BETON 4006** is therefore primarily used in the food processing industry, as well as in areas where resistance to chemicals is required.

KLB-SYSTEM PU-BETON 4006 consists of reactive resin components and a mineral component, which are carefully aligned and result in a durable, robust, and consistent coating. The product is available in 4 standard colours and consists of the binding agent **KLB-SYSTEM PU-BETON 4000**, Components A and B, and the pigmenting additive mixture **KLB-SYSTEM PU-BETON 4006** Component C.

The mortar mixture is self-levelling, offers sufficient processing time, and may be applied with a coating knife. The material is applied on the prepared, adequately durable substrate in layers of 6 mm (5 - 7 mm).

For an increased degree of thermal and mechanical stability, **KLB-SYSTEM PU-BETON 4009** is available in layers of 9 mm. **KLB-SYSTEM PU-BETON 4006** may be used as a scratch coat on very uneven surfaces.

The coating offers high mechanical and thermal resistance, and very good resistance to many chemicals, especially to aqueous saline solutions, acids and alkalis, as well as solvents.

Compared to conventional synthetic resin coatings, **KLB-SYSTEM PU-BETON 4006** offers an increased glass transition temperature. This is why the material provides a good temperature resistance up to 90 °C / 194 °F.

As far as a slip-resistant floor is required, scatter the surface (e.g. with fire-dried quartz sand 0.7/1.2 mm), then seal with **KLB-SYSTEM PU-BETON 4080 Kopfsiegel**.

KLB-SYSTEM PU-BETON 4006 may only be applied on suitable substrates, like concrete of at least C25/30 because it shrinks slightly when curing. Closing-off edges must be fastened with a groove to absorb any tension on the coating. Yellowing may occur when exposed to UV rays because of the consistency. This will not affect any technical properties of the material though. Polyurethane mortar coatings are functional and their optical appearance may not always be consistent. Differences in texture, shoulders, and fastening grooves may become visible, especially on smooth coatings (R9).

Area of application

- Highly resistant, trowelable, self-levelling mortar coatings in layer thicknesses of approx. 6 mm. Offers good resistance to thermal, chemical and mechanical load. Suitable even for fork-lift traffic.
- Slip-resistant, durable coatings with frequent exposure to water. Finish with scattering and sealing. Suitable for areas with increased cleaning efforts, like in food production and processing areas (wet coatings), such as dairy farms, slaughterhouses, breweries, and others.
- For highly resistant coatings with exposure to chemicals.
- As levelling coat underneath **PU-BETON 4006 / PU-BETON 4009** on uneven floors.

Product features

- PU-Beton system component
- jointless coating
- self-levelling
- can be applied with a scraper
- rapid-setting
- resistant to hot water
- high mechanical resistance
- hygienic
- high chemical resistance
- resistant to impacts
- available in several colours
- resistant to permanent moisture

Technical data

Density - Component A+B+C	1.96	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	15	N/mm ²	DIN EN 196/1
Compressive strength	43	N/mm ²	DIN EN 196/1
Shore-hardness D	82	-	DIN 53505 (after 7 days)
Gloss level	< 10 (85°)	-	DIN 67530

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

Included in systems

- System I1 KLB TECH PU-BETON Standard
- System I2 KLB TECH PU-BETON RX

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

Tests

External test certificates are available:

- Classification of the fire behaviour according to DIN EN 13501-01:2010-01: B_{fl}-s1.
- Slip resistance grade R11, R12/V6, R13/V4, R13/V6 possible, according to DIN 51130 and BGR 181.
- Slip resistance grade R9 possible, in combination with **PU-BETON 4080 Kopfsiegel R10**, according to DIN 51130 and BGR 181.
- Suitable for use in foodstuffs according to § 31 para. 1, German Food and Feed Code (german law LFGB).
- Product is compliant with DIN EN 13813: 2003-01.

Note:

Please ask for the tested system build-up!

Build-up of coats

Slightly non-slip, smooth coating R9

- Saturated base coat with the primer **PU-BETON 4050 Grundierung**, consumption approx. 0.4 - 0.5 kg/m².
- Use the specially stable **PU-BETON 4012 Standfest** for triangular or concave coverings. 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.
- If necessary: larger uneven areas may be filled respectively levelled with **PU-BETON 4045** or **PU-BETON 4006**. If the application of the mortar coating will exceed the time frame, another prime coat is mandatory.
- Apply the **PU-BETON 4006** with a pin screed scraper in layers of 6 mm. Consumption approx. 10 - 14 kg/m². Work fast and seamless. Vent with a spiked roller.

Coating with slip resistance grade R11/12/13

- Saturated base coat with primer **PU-BETON 4050 Grundierung**, consumption approx. 0.4 - 0.5 kg/m².
- Use the specially stable **PU-BETON 4012 Standfest** for triangular or concave coverings. 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.
- If necessary: larger uneven areas may be filled respectively levelled with **PU-BETON 4045** or **PU-BETON 4006**. If the application of the mortar coating will exceed the time frame, another prime coat is mandatory.
- Apply **PU-BETON 4006** with a pin screed scraper in layers of 6 mm. Consumption approx. 10 - 14 kg/m². Vent with a spiked roller and scatter with fire-dried squartz and grain size 0.3/0.8 mm or 0.7/1.2 mm respectively white corundum 0.5/1.0 mm, consumption approx. 2.0 - 2.5 kg/m².
- 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.

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 for the recommended base coat **PU-BETON 4050 Grundierung**. On areas with increased thermal exposure, use only **PU-BETON 4050 Grundierung**. The prepared area must be saturated, pore-free and primed carefully. 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. In case of doubt, we recommend testing on a trial surface. If necessary, ask for a consultation.

Product components

PU-BETON 4006 consists of the following components:

Standard unit:

1 packaging unit **PU 4000** Component A: 3.25 kg
1 packaging unit **PU 4000** Component B: 3.25 kg
1 bag **PU 4006** Component C: 20.00 kg

Total quantity: 26.50 kg

Double unit:

1 packaging unit **PU 4000 DP** Component A: 6.50 kg
1 packaging unit **PU 4000 DP** Component B: 6.50 kg
2 bags **PU 4006** Component C: 40.00 kg

Total quantity: 53.00 kg

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. For double units, the mixing ratio (see above) must be observed!

Processing

Distribute the mortar mixture onto the area evenly without any delay and pull off with a 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. For slip-resistant surfaces, scatter completely with fire-dried quartz sand 0.3/0.8 mm or 0.7/1.2 mm, respectively with white corundum 0.5/1.0 mm. Seal with **PU-BETON 4080 Kopfsiegel** after the flow mortar has cured. 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.

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.

Storage

Store in dry and at 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!

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.

CE marking

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
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PU4006-V1-022013	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4	
Fire behaviour	B _f -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.

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.