CHEMORESIN
eine Marke der KLB Kötztal Lacke + Beschichtungen GmbH

CHEMORESIN PU-BETON 4045

3-component polyurethane concrete base and levelling mortar

Packaging units

Article no.	Content (kg)
AK6180-37	37.00 kg

Product characteristics

Mixing ratio parts by weight	A : B : C = 21.65 : 21.65 : 100
Processing time	5 °C / 41 °F : 20 - 30 min. 10 °C / 50 °F : 15 - 20 min. 20 °C / 68 °F : 12 - 15 min. 25 °C / 77 °F : 10 - 12 min.
Processing temperature	Minimum 5 °C / 41 °F – Maximum 25 °C / 77 °F (room and floor temperature)
Curing time (accessibility)	5 °C / 41 °F : 22 - 25 hrs. 10 °C / 50 °F : 15 - 18 hrs. 20 °C / 68 °F : 8 - 10 hrs. 25 °C / 77 °F : 6 - 8 hrs.
Curing	1 - 2 days for mechanical load at 20 °C / 68 °F 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) – **Store dry and frost-free!**

Product description

CHEMORESIN PU-BETON 4045 is a high-quality 3-component polyurethane levelling mortar. The product consists of 3 reactive components **CHEMORESIN PU-BETON 4045**, the liquid Components A and B as well as a mineral Component C.

CHEMORESIN PU-BETON 4045 is used as intermediate and levelling layer, preferably on rough, milled or blasted substrates in thicknesses of 2 mm up to approx. 10 mm. By adding catalyst **CHEMORESIN PU-BETON 4094 KAT**, the coating's chemical reaction, accessability and time until usability can be significantly accelerated. This is particularly advantageous for repair works or renovations with tight time windows.

CHEMORESIN PU-BETON 4045 is certified by EMICODE EC1 Plus; thus meets the requirements for a sustainable building certification according to DGNB, LEED or BREEAM; not only the German requirements of AgBB or ABG, but also the emissions regulations of many other European countries.

The levelling layer can be applied on low-absorbent substrates without any primer. On highly absorbent substrates, the primer **CHEMORESIN PU-BETON 4051** has to be used.

Smaller breakouts and defective areas can be filled almost without shrinkage. To fill chipping with more than 10 mm thickness, it is recommended to use **CHEMORESIN PU-BETON 4012**.

The levelling mortar can be overcoated after 6 - 16 hours, depending on the temperature, with the CHEMORESIN polyurethane resin mortar coverings **CHEMORESIN PU-BETON 4004, CHEMORESIN PU-BETON 4006** or **CHEMORESIN PU-BETON 4009**. An intermediate scattering with these coatings is not mandatory.

Note: on highly absorbent substrates, it is recommended to apply the primer **CHEMORESIN PU-BETON 4051**. Do not apply **CHEMORESIN PU-BETON 4045** in a layer thickness of less than 2 mm.

Area of application

- Mortar for roughness levelling/balancing on subsequent CHEMORESIN PU-BETON coatings.
- Pore-closing levelling mortar in layer thicknesses of 2 to 10 mm.
- For the application or height adjustment onto existing drainage systems such as floor drains, gutters, etc.
- With low-absorbent substrates, there is no need for a primer.
- Shrinkage-free filling of small damaged areas and breakouts.

Product features

- low-emission formulation
- EMICODE EC 1 plus certified
- compliant with AgBB and suitable for recreation rooms
- PU-Beton system component
- good processing properties
- balancing depth of roughness
- self-levelling
- usable without primer
- resistant to hot water
- high chemical resistance
- good interlayer adhesion

Technical data

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.

Tests

- Certified as low-emission according to EMICODE with the EC1 Plus label. Compliant with AgBB for recreation rooms.
- Product is compliant with DIN EN 13813: 2003-01.

Build-up of coats

CHEMORESIN PU-BETON 4004/4006/4009 scattered with corundum or quartz sand, in a slip resistance grade from R9 to R13

- Prepare the substrate by sand-blasting or milling, if necessary.
- Optional: larger unevenness, holes or damaged areas may be filled respectively levelled with **PU-BETON 4045** or **PU-BETON 4004**. If required, **PU-BETON 4012** can also be used.
- Apply **CHEMORESIN PU-BETON 4045** with a smoothing trowel, consumption approx. 4 - 16 kg/m² depending on the required layer thickness.
- Use the specially stable **PU-BETON 4012** 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 cavities.
- Apply the coating **PU-BETON 4004** with a pin screed scraper in a layer thickness of approx. 4 mm, **PU-BETON 4006** in a layer thickness of approx. 6 mm or **PU-BETON 4009** in a layer thickness of approx. 9 mm. Vent with a spiked roller.
- Optional: scatter the entire surface with corundum 0.5/1.0 mm or fire-dried quartz sand of 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 the excess sand and vacuum thoroughly until no more sand is being released.
- Apply **PU-BETON 4080** with a rubber squeegee and re-roll with a velour roller in crosswise motion. Consumption approx. 0.650 - 0.900 kg/m². Work fast and seamless.

It is mandatory to adhere to the consumption quantities for obtaining the required degree of slip-resistance. Observe the product information of CHEMORESIN PU-BETON 4004/4006 or 4009!

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 and sandy components or any 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. Proper substrate preparation is a prerequisite here. 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 in composite 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 informations. If necessary, ask for a consultation.

Product components

CHEMORESIN PU-BETON 4045 consists of the following components:

1 packaging unit **PU 4045** Component A: 6.00 kg
1 packaging unit **PU 4045** Component B: 6.00 kg
1 packaging unit **PU 4045** Component C: 25.00 kg

Total quantity from one mixture: 37.00 kg

The hardening times can be reduced by adding **CHEMORESIN PU-BETON 4094 KAT**. Please observe the product data sheet of the catalyst.

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, empty all of the liquid binding agent components (Components A + B) into a proper container and blend 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 mix in Component C homogeneously for 3 minutes (at 20 °C / 68 °F). Lower temperatures may increase, higher temperatures may decrease the mixing time.

At lower temperatures, the addition of **CHEMORESIN PU-BETON 4094 KAT** can accelerate the hardening. Please observe the product data sheet of the catalyst.

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 evenly and without any delay from the recipient onto the substrate that has been prepared and if necessary, primed. Then pull off with a trowel or pin screed scraper. Before installation, adjust the length of the spikes according to the thickness of the material. Subsequently, after a short waiting time of about 3 - 5 minutes, vent with a spiked roller in crosswise motion. As the processing times are short due to the system, it is particularly important to adhere to the specified working rhythm in order to achieve the desired result. Coat with **CHEMORESIN PU-BETON 4004/4006 or PU-BETON 4009** after the levelling 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 cannot be achieved. Mortar installation requires an experienced and trained staff.

Floor and air temperature must not fall below 5 °C / 41 °F and humidity should be between 40 and 85%. 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 drying will not be possible 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, 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 frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Process complete packaging 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

CE

KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
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CHEMORESINPU4045-V1-082023	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4	
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.

KLB KÖTZTAL Lacke+Beschichtungen GmbH
Günztalstraße 25
89335 Ichenhausen, GERMANY
Phone +49 (0) 8223-96 92-0
Fax +49 (0) 8223-96 92-100
www.klb-koetztal.com
info@klb-koetztal.com