CHEMORESIN PU-BETON 4051

3-component system primer for PU-BETON coatings, can be accelerated

Packaging units

Article no.	Packaging	Content (kg)
AK6180-51	Combo packaging	6.00 kg
AK6180-45	Combo packaging	18.00 kg

Product characteristics

Mixing ratio parts by weight	A : B : C = 1 : 1 : 1
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. The addition of accelerator CHEMORESIN PU-BETON 4094 KAT can reduce the processing time.
Processing temperature	Minimum 5 °C / 41 °F – Maximum 25 °C / 77 °F (room and floor temperature; at lower temperatures, accelerator CHEMORESIN PU-BETON 4094 KAT can be added)
Curing time (accessibility)	5 °C / 41 °F : 22 - 25 hrs. 10 °C / 50 °F : 15 - 18 hrs. 20 °C / 68 °F : 12 - 14 hrs. 25 °C / 77 °F : 6 - 8 hrs. The addition of accelerator CHEMORESIN PU-BETON 4094 KAT can reduce the hardening time.
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 curing, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	0.4 - 0.5 kg/m²
Colours	Natural colours
Shelf life	12 months (originally sealed) – **Protect from frost!**

Product description

CHEMORESIN PU-BETON 4051 is a solvent-free 3-component system base coat for high-quality **CHEMORESIN PU-BETON** coverings. In combination with **CHEMORESIN PU-BETON 4009** and **CHEMORESIN PU-BETON 4006**, highly durable floor surfaces in wet areas with exposure to hot water and chemicals can be produced. In combination with **CHEMORESIN PU-BETON 4004**, highly durable floor surfaces can be produced in wet areas with exposure to chemicals and a good resistance to hot water of up to 70 °C / 158 °F.

The material hardens by chemical cross-linking, similar to the CHEMORESIN PU-BETON coverings themselves, to form a robust, well adhesive base for subsequent layers. By closing the pores, the absorbency is reduced and a coatable surface is achieved.

CHEMORESIN PU-BETON 4051 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.

Depending on the temperature, subsequent coatings may be applied within 6 - 12 hours, but at the latest after 48 hours. Due to the system, CHEMORESIN PU-BETON materials have relatively short processing times, which requires a well-organised workflow. By adding catalyst **CHEMORESIN PU-BETON 4094 KAT,** the primer'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.

Within the system, the coatings are physiologically harmless after complete curing and offer a very good resistance to many chemicals, especially to aqueous saline solutions, acids or alkalis as well as to different solvents.

Area of application

- As system base coat for mortar coatings based on **CHEMORESIN PU-BETON 4004**, **CHEMORESIN PU-BETON 4006, CHEMORESIN PU-BETON 4009** as well as for plinths or covings made with **CHEMORESIN PU-BETON 4012**.
- Especially suitable for wet areas with increased demands on the temperature and chemical resistance, such as dairy farms, slaughterhouses, breweries, and other areas in the food processing industry.

Product features

- low-emission formulation
- EMICODE EC 1 plus certified
- compliant with AgBB and suitable for recreation rooms
- PU-Beton system component
- ready-to-use
- solvent-free
- good resistance to water and chemicals
- easy application
- good interlayer adhesion
- can be accelerated
- rapid-setting
- can be used from 5 °C with accelerator

Technical data

Density - Component A+B+C	1.30	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Adhesive tensile strength	> 1.5	N/mm²	DIN EN 1542
Shore-hardness D	76	-	DIN 53505 (after 7 days)

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

Included in systems

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

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

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

Coating based on **CHEMORESIN PU-BETON 4004/4006/4009** with slip resistance grade R11/12/13

- Saturated base coat with system primer **PU-BETON 4051**, consumption approx. 0.4 - 0.5 kg/m².
- 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.
- If necessary: larger uneven areas may be filled respectively levelled with **PU-BETON 4045** or **PU-BETON 4004**. If required, scatter with fire-dried quartz sand 0.7/1.2 mm.
- 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.
- Scatter the entire surface with fire-dried quartz sand of grain size 0.3/0.8 mm or 0.7/1.2 mm. After curing, sweep off 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.

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. Proper substrate preparation is a prerequisite here. Suitable substrates are concrete C25/30 or cement screed CT-C35-F5-V60 in composite. Other substrates are not or not generally suitable. If necessary, ask for a consultation. The substrates must have a sufficiently high strength for the intended use. 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 of the recommended base coat **CHEMORESIN PU-BETON 4051.** 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.

Product components

CHEMORESIN PU-BETON 4051 consists of the following components:

Standard unit:

1 packaging unit **PU 4051** Component A: 2.00 kg
1 packaging unit **PU 4051** Component B: 2.00 kg
1 packaging unit **PU 4051** Component C: 2.00 kg

Total quantity from one mixture: 6.00 kg

Triple unit:

1 packaging unit **PU 4051** TP Component A: 6.00 kg
1 packaging unit **PU 4051** TP Component B: 6.00 kg
1 packaging unit **PU 4051** TP Component C: 6.00 kg

Total quantity from one mixture: 18.00 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, 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 slow speed mixer (200 - 400 r/pm) for a consistent quality. Add the premixed binding agent into another clean mixing container, then add Component C and homogenise for another 3 minutes (at 20 °C / 68 °F). Repot and mix again briefly.

Note: pay attention to consistent mixing times. Process complete packaging units only! Inaccurate mixing ratios will lead to useless results as the described technical properties may not be achieved. In this case, process the complete mixture immediately.

The temperature of the components should have 15 - 20 °C / 59 - 68 °F during mixing. Due to the relatively short processing times of the material, mixing must be carried out quickly but thoroughly. Therefore, doubling the mixing quantity is not recommended.

Processing

Distribute the mixed material immediately after mixing in portions onto the prepared substrate and apply it with a foam rubber wiper. Subsequently, re-roll homogeneously with a velours roller. Ensure an even application and avoid puddle formation in particular. Before starting work, divide up the work areas and always work “fresh-in-fresh” to avoid any shoulders. The surface must be saturated, pore-free and primed carefully. Otherwise, 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. On walls or vertical surfaces, the primer must be mixed with approx. 2% of suspending agent.

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 cross-linking will not be possible with hardening problems and spotting to occur. Exposure to water and chemicals should be avoided within the first 24 hours. 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 or 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 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

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CHEMORESINPU4051-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.

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