CHEMORESIN PU-BETON 4012

Stable 3-component polyurethane concrete coating for surfaces in the food or chemical industries that are exposed to chemicals and humidity

Packaging units

Article no.	Content (kg)
AK6180-56	15.00 kg

Product characteristics

Mixing ratio parts by weight	A : B : C = 7.5 : 7.5 : 100
Processing time	5 °C / 41 °F : 25 - 30 min. 10 °C / 50 °F : 20 - 25 min. 20 °C / 68 °F : 15 - 20 min. 25 °C / 77 °F : 12 - 5 min.
Processing temperature	Minimum 5 °C / 41 °F – Maximum 25 °C / 77 °F (room and floor temperature)
Curing time (accessibility)	5 °C / 41 °F : 20 - 25 hrs. 10 °C / 50 °F : 16 - 20 hrs. 20 °C / 68 °F : 10 - 14 hrs. 25 °C / 77 °F : 8 - 10 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 10 - 14 hours, but after 36 hours at the latest at 20 °C / 68 °F
Consumption	2.2 - 2.8 kg/running metre at side-length or radius of 5 cm
Layer thickness	can be processed from 3.0 mm
Colours	Natural colours, beige, red, green, grey
Shelf life	12 months (originally sealed) – **Store dry and frost-free!**

Product description

CHEMORESIN PU-BETON 4012 is a high-quality, trowelable 3-component polyurethane mortar coating for chemical exposure to water, chemical substances and cleaning or disinfecting agents on heavy-duty floor surfaces. **CHEMORESIN PU-BETON 4012** is therefore primarily used in food processing, such as beverages, meat or dairy as well as other areas of the food sector or the chemical and technical industries.

CHEMORESIN PU-BETON 4012 is a system product that is used as a supplement to **CHEMORESIN PU-BETON 4004, 4006** and **4009** for the production of concave and triangular coving as well as plinths.

CHEMORESIN PU-BETON 4012 consists of 3 reactive components, which are carefully aligned and result in a very hard, robust and resistant covering. On very uneven substrates, **CHEMORESIN PU-BETON 4012** may also be used as mortar to fill larger holes, breakouts, defective areas, etc. The coating offers high resistance to mechanical loads and temperatures as well as very good stability to many chemicals, especially to aqueous saline solutions, acids, alkalis or solvents.

Compared to conventional synthetic resin coatings, **CHEMORESIN PU-BETON 4012** offers an increased glass transition temperature and cross-linking. This is why it provides a high temperature resistance. Due to its high impact strength, there is good resistance to impact loads.

CHEMORESIN PU-BETON 4012 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.

Due to its composition, yellowing may occur when exposed to UV rays, which may be more or less visible depending on the colour tone. However, this will not affect any of the material's chemical, mechanical or thermal properties. **CHEMORESIN PU-BETON** mortar coverings are functional and their optical appearance may not always be consistent. Differences in texture and traces of work areas or anchoring grooves may become visible, especially on smooth coatings.

Area of application

- Highly resistant mortar for plinths or covings, e.g. on adjoining coatings, respectively floor coverings based on **CHEMORESIN PU-BETON 4009** or **CHEMORESIN PU-BETON 4006** for high and **CHEMORESIN PU-BETON 4004** for medium thermal, chemical and mechanical loads. Suitable for food production and processing areas with high cleaning requirements (wet coatings), such as dairy farms, slaughterhouses and breweries.
- For filling holes and larger surface defects with a subsequent coating using **CHEMORESIN PU-BETON 4009, CHEMORESIN PU-BETON 4006** or **CHEMORESIN PU-BETON 4004**.

Product features

- low-emission formulation
- EMICODE EC 1 plus certified
- compliant with AgBB and suitable for recreation rooms
- PU-Beton system component
- stable setting
- rapid-setting
- resistant to hot water
- good processing properties
- high chemical resistance
- for renovations and repair works
- available in several colours

Technical data

Density - Component A+B+C	2.12	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	10	N/mm²	DIN EN 196/1
Compressive strength	45	N/mm²	DIN EN 196/1

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

- Saturated base coat with CHEMORESIN system primer **PU-BETON 4051**, consumption approx. 0.4 - 0.5 kg/m². On walls or vertical surfaces, the primer must be mixed with suspending agent (1.5 to 2 % based on the total amount) to prevent it from running off. Afterwards, also scatter the area.
- 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 4006** with a pin screed scraper in a layer thickness of approx. 6 mm, **PU-BETON 4009** in a layer thickness of approx. 9 mm or **PU-BETON 4004** in a layer thickness of approx. 4 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 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.

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. Suitable substrates are concrete C20/25 or cement screed CT-C35-F5-V60 in composite. Other substrates are not or not generally suitable. Seek advice if necessary. The substrates must have a sufficiently high strength for the intended use. Proper substrate preparation is a prerequisite here. 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**. On areas with increased thermal exposure, it is recommended to only use **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. Subsequently, it might be necessary to scatter openly with fire-dried quartz sand 0.7/1.2 mm. In case of doubt, we recommend testing on a trial surface.

Product components

CHEMORESIN PU-BETON 4012 consists of the following components:

1 packaging unit **PU 4012** Component A: 1.000 kg
1 packaging unit **PU 4012** Component B: 1.000 kg
1 packaging unit **PU 4012** Component C: 13.000 kg

Total quantity from one mixture: 15.0 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 and pigment should be carried out with a performing slow speed mixer (200 - 400 r/pm). Add the premixed binding agent into Component C (and the pigment), then mix for approx. 2 to 3 minutes until homogeneous.

Note: pay attention to consistent mixing times. Process complete packaging units only! Inaccurate mixing ratios will lead to useless results. Do not mix more than two packaging units per application.

Processing

Process the mortar mixture immediately. Spread it evenly onto the prepared and if necessary, primed surface, then shape it into the desired form using a suitable trowel. Compact and smooth with a little pressure. Always work “fresh-in-fresh” to avoid any shoulders. Seal with **CHEMORESIN PU-BETON 4080** within 48 hours after the covings have hardened.

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. 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 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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CHEMORESINPU4012-V1-082023
DIN EN 13813:2003-01
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR8

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 8

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

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