



KLB-SYSTEM EPOXID EC 610 C

Quick-hardening, self-levelling 3-component epoxy cement levelling layer (ECC) for producing and renovating commercial and industrial floors, and as a vapour-venting interlayer on critical substrates prior to coating with reactive resin coverings in areas subject to medium and high loads. Low-emission and cures with low shrinkage.

Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK3001-26	Combo packaging	28.00 kg	40
AK3001-16		56.00 kg	40

Product characteristics

Mixing ratio parts by weight	A : B : C = 0.8 : 4.5 : 22.7 kg per 28 kg packaging unit
Processing time	10 °C / 50 °F : 35 minutes 20 °C / 68 °F: 30 minutes 28 °C / 82.4 °F: 20 minutes
Processing temperature	Minimum 10°C / 50 °F – Maximum 28 °C / 82.4 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 16 - 24 hrs. 20 °C / 68 °F: 12 - 16 hrs. 28 °C / 82.4 °F: 10 - 14 hrs.
Curing	1 - 2 days until mechanical load at 20 °C / 68 °F
Further coatings	with reactive resin: 15 - 24 hours, 24 - 48 hours at > 75 % rel. humidity
Consumption	6 - 8 kg/m ² at 3 - 4 mm layer thickness Approx. 2 kg/m ² per mm layer thickness
Layer thickness	3 - 15 mm
Colours	Grey
Shelf life	6 months (originally sealed) – Store Components A + B protected from frost, and all packages in a dry location!

Product description

KLB-SYSTEM EPOXID EC 610 C is a quick-hardening, self-levelling 3-component epoxy cement mortar (ECC) which is used as a levelling and temporary expansion layer, primarily on concrete subfloors. The 3-component flow mortar is used to smooth unevenness on commercial and industrial floor surfaces.

In the case of floors that are subject to rising damp and those substrates that are not yet sufficiently dry, **KLB-SYSTEM EPOXID EC 610 C** can be used as a temporarily osmosis-inhibiting intermediate layer.

KLB-SYSTEM EPOXID EC 610 C consists of a mineral component and two liquid components (Component A and Component B).

KLB-SYSTEM EPOXID EC 610 C contains an epoxy resin binding agent that cures by chemical reaction, as well as cement-based, mineral-hardening components that are carefully aligned to one another. Mixing the mineral and liquid components creates a mechanically highly resilient, robust levelling layer, which can subsequently be covered with the recommended coatings.

The mortar mixture is self-levelling, has a sufficiently long processing time and can be applied with a trowel. It is typically processed in layer thicknesses of approx. 3 - 15 mm onto the prepared substrate. The mortar cures quickly and with low shrinkage to form a high-strength base for subsequent reactive resin coverings.

Suitable for commercial and industrial loads, as well as for industrial trucks with soft tyres. The cured layer is waterproof and resistant to diluted chemicals with good temperature resistance (50 °C / 122 °F).

KLB-SYSTEM EPOXID EC 610 C is certified by EUROFINS and EMICODE® EC 1^{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.

Area of application

- For levelling of milled, raw or very uneven concrete surfaces in layer thicknesses of up to a maximum of 15 mm.
- Renovation of old substrates.
- Osmosis-inhibiting intermediate layers.
- Coating of green concrete.
- As a base layer for slip-resistant scattered coatings in underground garages that are in contact with the soil.
- As a levelling layer under epoxy resin and polyurethane coatings/sealers.
- For commercial and industrial use with medium to higher load exposure.
- As a repair mortar for reprofiling deep layer thicknesses, with the addition of coarse quartz sand as necessary.

Product features

- tested, low-emission quality
- self-levelling
- rapid-setting
- quickly reworkable
- as an osmosis-retarding expansion layer
- coatable with reactive resins
- resistant to impacts
- with temporarily increased residual moisture
- good processing properties
- EMICODE® EC 1PLUS certified

Technical data

Density - Component A+B+C	Fresh mortar approx. 2.05	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Flexural strength	Approx. 11	N/mm ²	DIN EN 13892-2 (after 28 days)
Compressive strength	Approx. 55	N/mm ²	DIN EN 13892-2 (after 28 days)
Adhesive tensile strength	(with EP 724 E Haftgrund Super) > 1.5	N/mm ²	DIN EN 1542

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

Tests

The following external and internal test certificates are available:

- Determination of the mechanical parameters and elongation during curing at IBF in Troisdorf ("Institute for Building Materials Testing and Flooring Research").
- Certified low-emission according to EMICODE® EC 1^{PLUS} label.
- Slip-resistant scattered coating grade R11 or R11/V4 according to DIN EN 16165 and DIN 51130.

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

Note:

Please ask for the tested system build-up!

Build-up of coats

Roughness depth levelling and expansion layer

- Prepare raw, worn and contaminated substrates by milling and subsequent shot-blasting.
- Other sufficiently stable substrates can be prepared by shot-blasting or diamond grinding; then vacuum thoroughly.
- For screeds, it is important to ensure that the compound does not run into the edge joints. Edge insulation strips are to be applied, also to built-in elements.
- Prime with **EP 724 E Haftgrund Super** with the addition of 10 - 15% of water. Consumption approx. 0.200 - 0.400 kg/m². The substrate must no longer be absorbent; if it is, give it another coat of primer.
- Once it is accessible, apply **EC 610 C** with the pin screed scraper in a layer thickness of at least 3 mm; consumption approx. 6 kg/m² at 3 mm and approx. 2 kg/m² for every additional 1 mm of layer thickness. Promptly ventilate with the spiked roller.
- Once it is accessible, or after 15 - 24 hours, **EC 610 C** must be primed with **EP 724 E Haftgrund Super** while adding 10 - 15% of water, for the subsequent use of reactive resin coatings, consumption approx. 0.200 - 0.300 kg/m². In case of pores in the surface, an alternative scratch coat is applied with a smoothing trowel using **EP 724 E**, to which 5% water and 20% quartz sand 0.1/0.3 mm + optional 5% of supporting grain quartz sand 0.3/0.8 mm have been added, consumption approx. 0.6 - 0.8 kg/m² (mixture).
- Once cured, a top coating of e.g. **EP 216 Universal**, **PU 420** or **PU 410** can be applied within three days. At this point, observe the notes provided in the respective product information.
- Alternatively, with reduced loads, it is also possible to use sealers such as **EP 742 E**. After 15 to 24 hours, these can be applied directly onto a pore-free coating made of **EC 610 C**.
- PMMA coverings cannot be directly applied! Please ask for advice if required!

Slip-resistant coating R11 or R11 V4

- Prepare raw, worn and contaminated substrates by milling and subsequent shot-blasting.
- Other sufficiently stable substrates can be prepared by shot-blasting or diamond grinding; then vacuum thoroughly.
- For screeds, it is important to ensure that the compound does not run into the edge joints. Edge insulation strips are to be applied, also to built-in elements.
- Prime with **EP 724 E Haftgrund Super** with the addition of 10 - 15% of water. Consumption approx. 0.200 - 0.400 kg/m². The substrate must no longer be absorbent; if it is, give it another coat of primer.
- Once it is accessible, apply **EC 610 C** with the pin screed scraper in a layer thickness of at least 3 mm; consumption approx. 6 kg/m² at 3 mm and approx. 2 kg/m² for every additional 1 mm of layer thickness. Promptly ventilate with the spiked roller.
- After 10 to 15 minutes, scatter the entire surface with quartz sand 0.3/0.8 mm.
- After curing, sweep off the excess sand and vacuum thoroughly until no more grains are being released..
- Apply a suitable top sealer such as **EP 296 Kopfsiegel**, **EP 202** or **EP 740 E** with a rubber squeegee, then re-roll in crosswise motion using a velours roller. Consumption depending on the product used: approx. 0.550 kg/m² with **EP 296 Kopfsiegel** and **EP 202**; with a two-layer application of **EP 740 E** it is at first approx. 0.250 kg/m², then approx. 0.200 kg/m². 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 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. Substrates suitable for coating are concrete C25/30 or cement screed CT-C30-F5. Other substrates such as magnesia or anhydrite screeds are not generally suitable for coating; in case of doubt, please ask for consultation. The substrates must have a sufficiently high strength for the intended use. The substrates to be coated must be prepared mechanically, preferably by milling and/or shot-blasting. The surface strength must then be at least 1.5 N/mm². 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 **EP 724 E Haftgrund Super**.

As a result of rising air, pores in the substrate will lead to bubbles and, in turn, to pores in the respective subsequent coatings. It is therefore important that the primer is applied carefully and that it saturates the substrate. Under certain circumstances, extremely absorbent substrates may require an additional base layer.

Cracks in the substrate must be professionally closed in advance.

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. Further addition of water is not permitted. At first, empty all of component A into the container with component B. Blend with a slow speed mixer (200 - 400 r/pm) for at least 1 to 2 minutes until a homogeneous, streak-free emulsion forms. Then the liquid mixture of components A and B is poured into the clean compulsory mixer without any residues and mixed lump-free after the complete addition of component C.

When using a manual mixing device, mixing times of approx. 1 - 2 minutes are required to achieve a compound free of lumps. This is followed by a maturing time of approx. 2 - 3 minutes. This time can be used to prepare the next mixture. The matured mixture is mixed again briefly (approx. 1 minute) and then processed.

When using dissolver mixers, there is no need for another maturing time after a sufficient mixing time. The mixing time therefore depends on the mixing device used. Then keep all mixing times consistent.

For mixing, in particular volumes for larger areas, a dissolver mixer, e.g. UEZ or similar, is recommended, in order to achieve an optimal blend. For small areas for which a dissolver mixer seems too involved, we recommend mixing in a mortar bucket or suitable Hobcock with a mixer at a minimum speed of 300 rpm. The required mixing time is 1 - 2 minutes and depends on the mixer used and the respective on-site climate conditions. In the case of fast-running and high-performance mixers, the mixing time will lie at the lower end of the range.

Important: pay attention to consistent mixing times. Process complete packaging units only! Inaccurate mixing ratios of the different components will lead to useless results.

Processing

Before starting work, divide up the work areas. Distribute the mortar mixture onto the area evenly and without any delay, then pull off with a pin screed scraper in a layer thickness of 3 to 15 mm. Adjust the length of spikes according to the material before starting to work. Subsequently, after a short waiting period of about 5 minutes, vent with a spiked roller in crosswise motion parallel to the installation strips. The method of working should be chosen so that the material is applied in strips. We recommend maximum track widths of 10 to 15 m, depending on the room geometry. As the processing times are short due to the system, adherence to the specified working rhythm is particularly important for the end result. By scattering with 0.1/0.5 mm quartz sand, an optimal adhesive bond for subsequent reactive resin layers can be achieved. For the creation of slip-resistant surfaces, scatter with fire-dried quartz

sand 0.3/0.8 mm over the entire surface. Once the self-levelling mortar is fully cured as described above, it can be processed further.

For working on declines (2.5 - 4 %) up to a maximum of 5 mm, we recommend the addition of approx. 30% of quartz sand 0.3/0.8 mm.

The floor and room temperatures must not fall below 10 °C / 50 °F. Avoid strong sunlight and draughts during installation.

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 water immediately. If necessary, clean with thinner **VR 24**. Hardened material can only be removed mechanically.

Storage

Store Components A + B protected against frost, and all packages in a dry location. Ideal storage temperature: 15 - 20 °C / 59 - 68 °F. Bring to the correct processing temperature before handling. Only process complete packaging units!

Special remarks

This product is regulated by the German Ordinance on Hazardous Substances (GefStoffV), 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 product label!

GISCODE: ZP1

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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EC610C-V1-072020	
DIN EN 13813:2003-01	
Cement screed mortar DIN EN 13813: CT-C50-F10	
Fire behaviour	E _f -s1
Emission of corrosive substances	CT
Compressive strength	C50
Bending tensile strength	F10



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.