

KLB-SYSTEM EC 450 DECOR



Coloured, low-emission 3-component design trowel coating for jointless, decorative wall and floor coverings

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6987-51	Combo packaging	13.40 kg	30



Product characteristics

Mixing ratio parts by weight	A : B : C = 4.4 : 1.0 : 8.0
Processing time	15 °C / 59 °F : 50 - 60 min. 20 °C / 68 °F : 30 - 40 min. 25 °C / 77 °F : 15 - 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 : 18 - 20 hrs. 20 °C / 68 °F : 14 - 16 hrs. 25 °C / 77 °F : 10 - 12 hrs.
Curing	2 - 3 days until mechanical load at 20 °C / 68 °F approx. 7 days until chemical load at 20 °C / 68 °F
Further coatings	After 14 - 16 hours, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	1st trowelling layer: approx. 0.5 - 0.7 kg/m ² 2nd trowelling layer: approx. 0.25 - 0.4 kg/m ²
Packaging	Bucket combo 13.4 kg, bucket/bag combo 26.8 kg
Colours	See colour chart!
Shelf life	12 months (originally sealed) – Protect from frost!

Product description

KLB-SYSTEM EC 450 DECOR is a high-quality, coloured, low-emission 3-component design trowel coating for producing visually appealing, jointless, smooth or slightly non-slip coverings for floors and walls.

KLB-SYSTEM EC 450 DECOR allows a high degree of design freedom in stone, marble and stucco Veneziano looks. A wide variety of colours and structures can be used to create very interesting coverings.

The polymer-bound product is supplied in 3 components that are matched to each other. The mixed resin has a slightly thixotropic, easy-to-process consistency and can be applied or structured with a trowel or spatula.

KLB-SYSTEM EC 450 DECOR is spread in two or more trowel coats of the same or different colour tones onto the prepared substrate. The polymer-bound covering dries quickly and can therefore be recoated within a short time. It can be transparently sealed with or without intermediate grinding using **PU 811 E** or **PU 811 E Wall**. Sealing gives the coating a robust, moisture-resistant surface that is easy to clean and less susceptible to stains.

Importante note: the colours specified for Component A are decisive. However, they may vary with the addition of the other components. If in doubt, we highly recommend to carry out trial surfaces.

All materials are low in emissions and odour, which makes them suitable for recreation rooms.

KLB-SYSTEM EC 450 DECOR is mainly used where the visual design of floors and walls is a priority, not only in public areas like commercial spaces, shops, exhibitions, museums, sales rooms, practices and offices, foyers or reception areas – but also for private surfaces such as bathrooms, staircases, lofts and much more.

Due to the good adhesion and low layer thickness, **KLB-SYSTEM EC 450 DECOR** can also be applied in renovation, e.g. on ceramic coverings, after intermediate priming and application of a scratch coat with **KLB-SYSTEM EPOXID EP 724 E Haftgrund Super**.

Coverings made with **KLB-SYSTEM EC 450 DECOR** have a good mechanical strength, but are not suitable for industrial applications (e.g. where industrial trucks or motor vehicles are used). They are very easy to clean and resistant to possible stains caused by many household chemicals. Please refer to the resistance tables of **PU 811 E** respectively **PU 811 E Wall**.

The DECOR layer can be realised in a wide range of colours, see separate colour chart for this. In case of any further questions, please contact us for advice.

Area of application

- Decorative trowel coating for highly representative surfaces; an eye-catching and individual colouring is possible in Veneziano, Rustico or Loft style.
- Suitable for both floor and wall.
- Manifold areas of use, e.g. for private or commercial surfaces, shops and exhibitions, museums, entrance areas, foyers, stairs, private living, lofts, and many more.
- Wet-loaded areas such as private bathrooms, showers and other sanitary facilities.
- For renovations, for example on existing subfloors like firmly adhering tile coverings or old floorings and wall coatings.
- Can be used on polyurethane coatings or waterproofings.

Product features

- decorative, appealing surface
- low-grade yellowing
- suitable for renovations
- low susceptibility to staining
- good cleanability
- environmentally friendly
- tested, low-emission quality
- very economical
- easy application

Technical data

Solid content	approx. 78	%	KLB method
Density - Component A+B+C	approx. 1.66	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)

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

Included in systems

- System G14 - KLB DECOR DESIGN LOW-VOC EC
- System N4 - KLB DECOR LOW-VOC Wall EC

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

Tests

The following external test certificates are available:

- Certified as low-emission according to "Eurofins Indoor Air Comfort Gold".
- Classification of the fire behaviour according DIN EN 13501-01:2018: B_{fl}-s1.

Note:

Please ask for the tested system build-up!

Build-up of coats

Decorative floor covering on concrete or cement screed

- The substrate must be prepared for the application of **EC 450 DECOR** depending on its type, see "Substrate".
- Prime the surface with **EP 724 E Haftgrund Super** while adding 10 - 15% of water using a velours roller, consumption approx. 0.2 - 0.4 kg/m².
- Optional: scratch coat with **EP 724 E Haftgrund Super**, 5% of water and 20% of quartz sand 0.1/0.3 mm + optionally, another 5% of support grain with quartz sand 0.3/0.8 mm to be applied using a smoothing trowel, consumption of the mixture approx. 0.6 - 0.8 kg/m².
- Openly scattering with quartz sand, grain size 0.3/0.8 mm, consumption 0.5 - 1.0 kg/m².
- After curing, apply the first trowelling coat with **EC 450 DECOR** using a flexible stainless steel trowel; the material is trowelled thinly onto the surface and smoothed until it is as smooth as possible, consumption approx. 0.5 - 0.7 kg/m².
- After hardening which is after approx. 12 - 16 hours, apply another trowelling layer with **EC 450 DECOR** using a stainless steel trowel for decorative use, consumption approx. 0.25 - 0.4 kg/m². This can be done individually either in the same or a different colour shade. The surface is modelled according to the desired structure or colouring using the stainless steel trowel. Alternatively, another contrasting colour can be applied fresh in fresh. Follow the processing instructions.
- Finally, the non-pigmented top sealer **PU 811 E** is applied in an even layer thickness using a lint-free velour or microfibre roller, consumption approx. 0.100 - 0.150 kg/m².
- Optionally, a second sealing layer with **PU 811 E** can be rolled up in an even layer thickness, consumption approx. 0.100 - 0.150 kg/m².

Decorative floor covering on old synthetic resin or ceramic subfloors

- The substrate must be prepared for the application of **EC 450 DECOR** depending on its type, see "Substrate".
- Prime the surface with **EP 724 E Haftgrund Super** while adding 10 - 15% of water using a velours roller, consumption: approx. 0.2 - 0.4 kg/m².
- If the existing smooth, old synthetic resin coatings do not have any defects or cavities, they can be primed and coated with **EC 450 DECOR** directly after diamond grinding.
- For tile coverings, the joint grid must be levelled by applying one or two layers of scratch coat until complete levelling with the tiles is achieved. For each trowelling layer, the application of a scratch coat is suitable with **EP 724 E Haftgrund Super** while adding 5% of water and 20% of quartz sand 0.1/0.3 mm + optionally, another 5% of support grain with quartz sand 0.3/0.8 mm using a smoothing trowel, consumption of the mixture approx. 0.6 - 0.8 kg/m². Openly scattering with quartz sand 0.3/0.8 mm.
- After curing, apply **EC 450 DECOR**, as detailed above.

Decorative wall covering on gypsum plasterboards, gypsum/cement fibreboards, OSB chipboards

- The boards generally need to be filled and joined at their joints.
- Drywall constructions must be permanently strong and torsion-resistant.
- Clean the area and prime it with **EP 724 E Haftgrund Super** while adding 10 - 15% of water using a velours roller, consumption approx. 0.2 - 0.4 kg/m². To increase adhesion, openly scattering with quartz sand 0.3/0.8 mm is possible.
- For subsequent trowelling coats, it is generally recommended to apply an elastic intermediate layer with **CW 512** and, if necessary, using reinforcement fleece **VA 1044** – or alternatively, as two-layered waterproofing.
- After curing, thinly trowel and smooth the first layer of the wall coating **EC 450 DECOR** using a flexible stainless steel trowel until the surface is as smooth as possible, consumption approx. 0.5 - 0.7 kg/m².
- Apply the second layer of the wall coating **EC 450 DECOR** in the same or a different colour shade using a flexible stainless steel trowel for decorative use. The material is trowelled thinly onto the surface and smoothed until it is as smooth as possible, consumption approx. 0.25 - 0.4 kg/m².
- Finally, the non-pigmented top sealer **PU 811 E - Wall** is applied in an even layer thickness using a lint-free velour or microfibre roller, consumption approx. 0.090 - 0.120 kg/m².
- Optionally, a second sealing layer with **PU 811 E - Wall** can be rolled up in an even layer thickness, consumption approx. 0.090 - 0.120 kg/m².

Substrate

Floor covering

The substrate to be coated must be dry, permanently load-bearing and suitable for the subsequent covering system. The notes given in the product information of the primers must be observed. The substrate to be coated should be prepared mechanically, preferably by shot-blasting or for smaller areas, by diamond grinding, then vacuumed off. Release agents must be completely removed by suitable measures. The coverings must adhere firmly and have no cavities. Joints in tiled coverings must be intact; any loose joints or tiles need to be removed and grouted with epoxy resin. Moisture underneath old ceramic coverings must be excluded. The substrate must be trowelled in a way that the joint grid is levelled. Seek advice if necessary.

Wall covering

The substrates to be coated must be sufficiently solid, dry and suitable for the subsequent covering system. The notes given in the product information of the primer **EP 724 E Haftgrund Super** must be observed. The substrate to be coated should be prepared mechanically, for example by grinding, preferably with diamond, and then vacuumed off to be dust-free. Especially in the case of ceramic wall coverings, the surfaces must be ground until they are blunt. They need to be thoroughly cleaned to remove any release agents or limescale residues. The coverings must adhere firmly and have no cavities. Joints in tiled coverings must be intact; any loose joints or tiles need to be removed and grouted with epoxy resin.

As a general rule, materials reducing adhesion, e.g. grease, oil and paint residues, must first be removed with suitable measures. The notes given in the product information of the recommended KLB primers must be observed. Surfaces suitable for coating are concrete, cement or lime-cement plasters, firmly adhering tile coverings or cement pavement slabs. The substrate has to have adequately high strength for the intended subsequent use. The surface strength must be at least 0.5 N/mm² in the wall area. In addition, gypsum plasterboards can be coated according to DIN E 520, as long as they are suitable for damp rooms. A prerequisite for this is proper installation. Gypsum plasters and firmly screwed, torsionally rigid gypsum-bonded drywall panels are also suitable as substrates if the subfloor remains permanently dry and moisture penetration, e.g. due to dew point shifting in the area of exterior walls, can be ruled out. For other substrates, we recommend seeking advice. The substrates to be coated should be prepared mechanically, preferably by grinding. The prepared area must be saturated, pore-free and primed carefully. Existing unevenness may become visible on the surface, therefore ensure

sufficient levelling. Roughness depths may have to be evened out with additional trowelling layers. In case of doubt, we recommend testing on a trial surface.

Note: it is very important that the areas do not become dirty or contaminated with substances that would impair adhesion. The surface should only be walked on by the coating installer, wearing clean, light-coloured shoes and clean clothing. Any machinery such as grinders or vacuum cleaners must have white cables.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. Shake the container of Component A vigorously before use, then pour approx. 3/4 of the content into the mixing container. Shake the remaining part of Component A again really well to incorporate all the pigment into the mixture. Then empty the rest into the mixing container as well, which should have sufficient volume for the entire packaging unit. Before adding Component B, stir Component A again briefly (for approx. 30 seconds) and mix it thoroughly. Empty all of hardener compound B into the resin component A. Partial quantities need to be weighed out in the right mixing ratio. The two liquid components are mixed mechanically with a slow speed mixer (200 - 400 r/pm) for approx. 1 minute. Then gradually add Component C. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes until a homogeneous, streak-free and creamy compound forms. To prevent mixing errors, it is recommended to scrape down the coating compound cleanly at the edges and corners of the mixing container, then mix once again briefly.

Processing

Apply the material onto the prepared surface immediately after mixing. The processing steps for the different substrate types on walls and floors are described in the section "Build-up of coats". It is important to obtain a carefully trowelled, pore-free substrate.

For light colour tones and/or high-contrast substrates, it is recommended to apply a levelling layer in the following tone beforehand (using **PU 806 E** or **PU 806 E Wall**).

Application is done with a suitable stainless steel trowel for decorative use (see our tool recommendation). The right smoothing trowel must be chosen carefully, as metal abrasion leads to visually desirable/or undesirable changes in the covering. The lightly structured material is applied homogeneously onto the substrate in the recommended consumption quantity, and modelled or smoothed into an even structure when still fresh. It is important to always work "fresh in fresh". Divide the working areas beforehand. Do not allow the edges of each applied layer to dry. Applying the smooth, stable resin compound requires some practice at first to obtain the desired surface look. We highly recommend to carry out trial and test surfaces to ensure that the result turns out as desired.

2nd trowelling layer after hardening

The second layer is applied after the first one has hardened, which is after approx. 12 - 16 hours. To achieve an attractive, marbled design, a further trowelling coat is applied in the defined contrast colour. Apply the material in the same trowelling technique as the first layer. The modelling of the surface can be done during trowelling, which will then show the final appearance. This also requires some practice, if necessary carry out test areas beforehand.

Marble look type wet-in-wet

A variety of interesting decorative effects can be achieved by using another colour tone for the application of the second layer into the wet surface. To do so, the first colour is applied over the entire area; then another shade is applied in portions at regular intervals with the trowel. The entire surface is then smoothed with the stainless steel trowel for decorative use. The colours can be blurred into each other to create the desired marbling look. Such application requires manual skill. The marbled trowel technique (wet-in-wet) can lead to an uneven visual appearance and should therefore only be done by experienced applicators on smaller surfaces. The

resulting coverings are each one unique and may differ from their respective processing. It is recommended to apply a trial or test surface.

Floor and air temperature must not fall below 15 °C / 59 °F and humidity should not exceed 75 %. The difference in wall 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 curing will not be possible with hardening problems and spotting to occur. Exposure to water and chemicals should be avoided during the first 7 days. The specified curing times apply for 20 °C / 68 °F; temperatures below this require longer processing and curing times, while higher temperatures require shorter times. If working conditions are not complied with, the technical properties of the end product may deviate from those specified.

Cleaning

To clean tools or equipment and to remove fresh contamination, use water immediately. Hardened material can only be removed mechanically.

Storage

Store at frost-free conditions at minimum 10 °C / 59 °F. Ideal storage temperature is between 15 - 20 °C / 59 - 68 °F, do not store above 25 °C / 77 °F. Bring to a suitable working temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

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: PU10

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.

Accessories

- Stainless steel trowel for decorative use, flexible - Art. no. WZ3091-01

CE marking

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 89335 Ichenhausen, GERMANY	
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EC450-V1-022026	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B2,0-AR0,5-IR10	
Fire behaviour	B _{ff} -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0,5
Adhesive tensile strength	B 2,0
Impact resistance	IR 10

VOC content

The product complies with the high requirements to low VOC contents, as required for sustainable construction. Therefore, these values are well below the limits set by the European Union directive 2004/42/EG (Decopaint Directive).

	Limit value	Actual content	
Decopaint Directive 2004/42/EG - Component A	< 140	0	g/l
Decopaint Directive 2004/42/EG - Component B	< 140	0	g/l
DGNB - Components A + B	< 3	0	%
klima:aktiv – Components A + B	< 3	0	%
LEED - Components A + B	< 100	0	g/l
Minergie ECO® - Components A + B	< 1(< 2)	0	%

(According to the Decopaint directive, single components are used for calculation. In the sustainable building rating systems, the mixture of both components in the correct mixing ratio is the determining factor.)



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.