

# KLB-SYSTEM EPOXID EP 172

Low-emission, non-pigmented 2-component epoxy resin binding agent for decorative quartz, scattered and coloured terrazzo coatings, tested and accredited according to AgBB.



Mixing ratio	Parts by weight	A : B	=	2 : 1
	Parts by volume	A : B	=	100 : 58
Processing time	Temperature	10 °C / 50 °F	20 °C / 68 °F	30 °C / 86 °F
	Time	90 min.	50 min.	25 min.
Processing temperature		Minimum 10 °C / 50 °F (room- and floor-temperature)		
Curing time (Accessibility)	Temperature	10 °C / 50 °F	20 °C / 68 °F	30 °C / 86 °F
	Time	24 - 26 hrs.	12 - 15 hrs.	10 - 12 hrs.
Curing		2 - 3 days for mechanical load at 20 °C / 68 °F		
		7 days for chemical resistance at 20 °C / 68 °F		
Further coatings		After curing, but not longer than 48 hours at 20 °C / 68 °F		
Consumption	Decorative pebble coatings	Approx. 1.0 kg/m <sup>2</sup> for grain size 3 mm		
		Approx. 1.5 kg/m <sup>2</sup> for grain size 4 mm		
	Clear resin coating	Approx. 0.4 - 0.8 kg/m <sup>2</sup>		
	Scratch coat	Approx. 0.3 - 0.5 kg/m <sup>2</sup>		
	Resin-coating	Approx. 0.6 - 0.8 kg/m <sup>2</sup>		
Packaging		Bucket-Combi 5 kg, Bucket-Combi 10 kg, Hobbock-Combi 30 kg, Barrel-Combi 600 kg		
Shelf life		12 months (originally sealed)		

## Usage and Properties

**KLB-SYSTEM EPOXID EP 172** is a newly formulated, solvent-free and low-emission 2-component epoxy resin binding agent. Tested according to AgBB and accredited by the DIBt® (German Institute for Structural Engineering) for coatings in recreation rooms.

KLB-SYSTEM EPOXID EP 172 is certified according to the „Indoor Air Comfort Gold“, and meets the emissions criteria for the building certification according to DGNB (Germany), LEED (United States) or BREEAM (Great Britain). „Indoor Air Comfort Gold“ sets the highest requirements for the emission of volatile organic compounds, and it does not only fulfill the German standards of AgBB or ABG, but also the emission standards of many other European Countries.

Due to its innovative consistency the binding agent is free of emission and suitable for decorative coatings made of decorative and coloured sand. Especially suitable for open

porous decorative pebble coatings complying with the legal German requirements for recreation rooms.

The high-quality binding agent may be used for decorative quartz coatings. Results in an inelastic, fixed bondage with values above the usually used binding agents. The product consists of a medium-visco, pale, high-quality epoxy resin and a newly created polyamine hardener. Free of any benzyl alcohol and alcyphenol.

The resin is used for coloured and natural quartz sand and for decorative pebble floor coatings. Decorative quartz mortar will usually be bound with 8 - 10 % of binding agent. The viscosity of the resin is adjusted so that even larger grain size is sufficiently surrounded.

Furthermore **KLB-SYSTEM EPOXID EP 172** is used for sealing small grain sized decorative- and mortar-coatings (terrazzo) as well as for top-sealing and scattered coatings. **KLB-SYSTEM EPOXID EP 172** may be used as base coat as well.

The resin cures to an unpigmented, tough synthetic with a glossy surface. **KLB-SYSTEM EPOXID EP 172** shows only very light yellowing. This may become visible on pale coatings.

## Product Features

- “total solid” according to Giscode (test method of the Deutsche Bauchemie, German construction chemistry association)
- all-purpose
- non-pigmented, glossy
- low-grade yellowing
- tested, low-emission quality
- Compliant with AgBB, suitable for recreation rooms
- good interlayer adhesion
- resistant to hydrolysis and saponification
- resistant to water and chemicals
- free of deleterious substances against varnish

## Testing

External test certificates are available:

- Classification of the fire behavior in combination with EP 202 according to DIN EN 13501-01:2010-01: Bfl-s1.
- Certified low emission according to „Eurofins Indoor Air Comfort Gold“. Compliant with AgBB and suitable for recreation rooms.

**Note:** Please ask for the tested system structure!

## Area of Application

- **EP 172** is suitable for open porous, decorative natural- and coloured quartz pebble coatings for interior areas and recreation rooms.
- Low-emission terrazzo-coatings: use in combination with **PU 805 E** for coloured sand and sealed finely grained coloured sand scratch coats.
- Use as base coat and top coat for scattered coatings and slip resistant surfaces.
- Suitable as primer.

## Build-up of Coats

Decorative coating, low-emission, open porous

- Prime with the recommended KLB-Base Coats like **EP 55**, **EP 57** or **EP 172**. Scatter with fire dried quartz sand 1 - 2 mm.
- Apply and smooth the decorative coating with **EP 172**.
- For coatings with increased demands to the resistance an additional lacquer with approx. 0.250 kg/m<sup>2</sup> **EP 172** is recommended.

Industrial coating with a smooth surface

- Prime with the recommended KLB-Base Coats like e.g. **EP 55**, **EP 57** or **EP 172**. Scatter with fire dried quartz sand 1 - 2 mm.
- Apply the decorative- or industrial mortar with **EP 172**.
- Apply coatings with **EP 172** three times until completely smooth.
- Use **PU 805 E** matt sealer as finish.

## Substrate

The substrate to be coated has to be levelled, dry, free of dust, has to have adequate tensile and compressive strength and be free from weakly-bonded components or surfaces. Materials impairing adhesion, such as grease, oil and paint residues must be removed using suitable methods. Please refer to the advice issued by the trade associations, e.g. the current edition of BEB-worksheets KH-0/U and KH-0/S as well as the product information data sheets of the recommended KLB-Base Coats. The surface to be coated should be prepared mechanically, preferably by shot-blasting. The prepared area has to be primed thoroughly, saturated and free of pores. Scatter the surface with approx. 0.5 - 1.0 kg/m<sup>2</sup> quartz sand 1 - 2 mm to improve adhesion. If the material is used as resin-coating for mortar surfaces or as top sealer for scattered coatings with coloured sand it needs to be ensured that the surfaces haven't been applied not longer than 48 hours. It is just as much important that the area hasn't been soiled or contaminated with anything that reduces adhesion.

## Mixing

Combi-trading units will be supplied in the correctly measured mixing ratio. Component A has sufficient volume for the entire trading unit. Decant the hardener B completely into the resin. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes, for a material that is homogeneous and free of streaks. When using the material from barrels make sure to weigh in the correct amount in clean containers. To avoid mixing errors it is recommended to empty the resin/hardener-mixture into a clean container and mix briefly once again („to repot“).

**Use as mortar:** Always use a compulsory mixer for reactive-resin mortars. Fill in the sand mixture first, then add the resin. Please note for consistent time of blending and process the material immediately after mixing.

## Processing / Handling

**Decorative mortar:** Process the mortar mixture immediately after mixing. Apply the material in small quantities on the substrate with a smoothing trowel. Compact and smooth for an even layer. A separating agent can be used for smoothing. Structural disturbances may appear when using too much. Smoothing requires constant testing for shoulder free application, e.g. with a powerful light source.  
**Note:** Adjust the amount of binding agent according to the used grain size! Note the demand to the surface. Apply binding agent once again if necessary.

**Scattered coatings:** Recommends mechanical skills. Sweep and vacuum the surface after the base coat has cured. Grind subsequently if the surface calls for less roughness. Note that the surface is not greying when grinding. Pull off the area with a rubber rake without any ponding. For an increased abrasiveness a roller may be used.

**Resin角度 of the mortar:** Application has to be carried out very thoroughly. Apply the mixed binding agent straight on the prepared surface. Use suitable trowels. Pull off hard along the grain. It is recommended to pull off the surface evenly with two trowels running in the opposite direction. Always work "fresh-in-fresh" to avoid shoulders. Observe the complete covering in overlapping areas. Several coatings for full sealing may be necessary. After complete resinification apply a matt sealer like **PU 805 E**.

Floor- and air-temperature must not fall below 10 °C / 50 °F and humidity must not fall below 25 % or exceed 75 %. Material has to have room temperature for processing. The difference in dew-point temperature and the temperature of the substrate has to be more than 3 °C / 37.4 °F during processing and curing. If a dew-point situation occurs adhesion may malfunction, curing may be disturbed and spotting may occur. Avoid processing at increased solar radiation or when surfaces are heated-up because processing time will decrease and blistering may occur. Curing time applies to 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the curing and processing time. Note the recommended conditions for processing to avoid any dew point condensation. Exposure to water and chemicals should be avoided within the first 7 days. If working conditions are not complied with, deviations in the described technical properties may occur in the end product.

## Cleaning

To remove fresh contamination and to clean tools, use thinner **VR 24** or **VR 33** immediately.

## 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. Tightly re-seal opened containers and use the content as soon as possible.

## Special Remarks

The product is subject to the hazardous material-, operational safety-, and transport-regulations for hazardous goods. Refer to the DIN-Safety Data Sheet and the information on the labelled containers!


GISCODE (05/2018 modification): RE 30

### Indication of VOC-Content:

(EG-Regulation 2004/42)

Maximum Permissible Value 500 g/l (2010,II,j/lb):

Ready-for-use product contains < 500 g/l VOC.

	
<b>KLB Kötztal Lacke + Beschichtungen GmbH</b> <b>Günztalstraße 25</b> <b>FRG-89335 Ichenhausen</b>	
<b>15</b>	
EP172-V2-042015	
<b>DIN EN 13813:2003-01</b>	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4	
Fire behaviour	B <sub>f</sub> -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 1.5
Impact resistance	IR 4

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. With appearance of this new KLB product information all prior information loses validity. The updated version is available on our website [www.klb-koetztal.com](http://www.klb-koetztal.com). In addition, our „General Terms and Conditions“ apply.

## Technical Data\*

Viscosity	Components A + B	1000	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content		100	%	KLB-Method
Density	Components A + B	1.08	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Water absorption		< 0.2	weight-%	DIN 53495
Bending tensile strength		> 25	N/mm <sup>2</sup>	DIN EN 196/1
Compressive strength		> 70	N/mm <sup>2</sup>	DIN EN 196/1
Shore-hardness D		80	-	DIN 53505 (after 7 days)

(\* Values achieved in sampling are average values. Variation in product specification is possible.)

## VOC-Contents

The product complies with the high requirements to low VOC-contents, as required for sustainable construction. Therefore these values exceed by far the European Union directive 2004/42/EG (decopaint-directive).

	Reference to*	Max. Value	Actual Content	
<b>Directive 2004/42/EG</b>	Component A	≤ 500	0	g/l
Decopaint-directive	Component B	≤ 500	0	g/l
<b>DGNB</b> German Sustainable Building Council	Components A + B	< 3	0	%
<b>climate:active</b> Climate protection initiative of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water	Components A + B	< 3	0	%
<b>LEED</b> Leadership in Energy and Environmental Design	Components A + B	< 100	0	g/l
<b>Minergie Eco®</b> Quality standard of the "Minergie society", Switzerland	Components A + B	< 1 (< 2)	0	%

(\* According to the decopaint-directive single components are used for the calculation. For the quality rating system for sustainable construction the mixture of both components in the correct mixing ratio is the determining factor.)