

KLB-SYSTEM EPOXID

EP 174

Rapid-setting, non-pigmented 2-component epoxy resin decorative binding agent

EP 175

Non-pigmented 2-component epoxy resin decorative binding agent

Mixing ratio	EP 174	A : B = 2 : 1 Parts by weight	A : B = 100 : 55 Parts by volume	
	EP 175	A : B = 2 : 1 Parts by weight	A : B = 100 : 55 Parts by volume	
Processing time		10 °C / 50 °F	20 °C / 68 °F	30 °C / 86 °F
	EP 174	60 minutes	30 minutes	15 minutes
	EP 175	70 minutes	40 minutes	25 minutes
Processing temperature		Minimum 10 °C / 50 °F (room- and floor-temperature)		
Curing time		10 °C / 50 °F	20 °C / 68 °F	30 °C / 86 °F
(Accessibility)	EP 174	18 - 22 hrs.	8 - 11 hrs.	6 - 8 hrs.
	EP 175	20 - 24 hrs.	10 - 13 hrs.	8 - 10 hrs.
Curing		2 - 3 days for mechanical load at 20 °C / 68 °F		
		7 days for chemical resistance at 20 °C / 68 °F		
Subsequent coatings		After curing, but not longer than 48 hours at 20 °C / 68 °F		
Consumption	Decorative pebble coatings	Approx. 1.0 kg/m ² for grain size 3 mm		
		Approx. 1.5 kg/m ² for grain size 4 mm		
	Clear resin coating	Approx. 0.6 - 0.8 kg/m ²		
	Scratch coat	Approx. 0.3 - 0.5 kg/m ²		
	Resination	Approx. 0.6 - 0.8 kg/m ² (for scattered coatings)		
Packaging		Bucket-Combi 5 kg, Bucket-Combi 10 kg,		
		Hobbock-Combi 30 kg, Combi-Barrel 600 kg		
Shelf life		12 months (originally sealed)		

Usage and Properties

KLB-SYSTEM EPOXID EP 174 and **KLB-SYSTEM EPOXID EP 175** are reliable epoxy resin systems, suitable as binding agent for decorative quartz coatings. Both products consist of a pale, 2-component epoxy resin with medium adjusted viscosity and a high quality polyamine hardener.

The resins are used for coloured quartz sand and for decorative floor coatings. Decorative quartz mortar will usually be bound with 8 - 12 % of binding agent. The viscosity of the resin is adjusted so that even larger grain size is sufficiently imbedded. Furthermore the resins are used for sealing small grain sized decorative- and mortar-coatings (terrazzo-coatings).

The resins are generally suitable as a non-pigmented top sealer for coloured sand scattered coatings. **KLB-SYSTEM EPOXID EP 175 Spezial** is especially recommended as the more robust product though.

Both resins cure to a non-pigmented glossy surface. The resins show very light yellowing. This may become visible on pale coatings and thicker layers.

The resins differentiate mainly in processing- and curing times. Choose the more rapid **KLB-SYSTEM EPOXID EP 174** or the slower reacting **KLB-SYSTEM EPOXID EP 175**.

Product Features

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

Testing

External test certificates are available:

EP 175

- Classification of the fire behaviour according DIN EN 13501-01:2010-01: B_{fl}-s1.

Note: Please ask for the tested system structure!

Area of Application

- **EP 174** and **EP 175** are used for binding decorative natural- and coloured quartz pebble coatings for interior areas.
- **EP 174** and **EP 175** are used for binding sealed decorative sand- and natural sand- mortar coatings for the interior.
- For sealed pore priming of small grain sized coatings, often in combination with **EP 177** and matt sealers **EP 705 E**, **PU 880** and others.

Build-up of Coats

Decorative Coating 3 - 6 mm

- Prime with the recommended KLB-Base Coats like **EP 50**. Scatter with fire dried quartz sand 1 - 2 mm.
- Apply the decorative coating with **EP 174** or **EP 175** with 8 - 12 kg/m² mortar.
- For coatings with an increased demand to the resistance, an additional lacquer with approx. 0.250 kg/m² **EP 174 / EP 175** is recommended.
- For sealed-pore coatings use **EP 177** (grain size 4 mm) with a consumption of 0.4 - 0.6 kg/m². Sealing with e.g. **EP 705 E** is recommended.

Industrial coating with a smooth surface

- Prime with the recommended KLB-Base Coats like **EP 50**. Scatter with fire dried quartz sand 1 - 2 mm.
- Apply the decorative- or industrial mortar with **EP 150**.

- For a smooth coating seal pores either by applying **EP 174 / EP 175**, **EP 175 Spezial** 3 times or apply 1 coat of **EP 179** and **EP 174 / EP 175** or **EP 175 Spezial**, as well as a subsequent matt sealer using **EP 705 E**, **EP 860** or **PU 880**.

Substrate / Surface

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 like e.g. **EP 30**, **EP 50**, **EP 51 RAPID S**, and **EP 52 Spezialgrund**. 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/m² quartz sand 1 - 2 mm to improve adhesion. If the material is used for the resination of mortar surfaces or as top sealer for scattered coatings with coloured sand it needs to be ensured that the coating hasn't been applied no 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. To avoid mixing errors it is recommended to empty the resin/hardener-mixture into a clean container and mix briefly once again (to repot).

Producing mortar: For a consistent mortar quality mix synthetic resin mortar generally with a compulsory mixer. Premix any additives in the mixer first. Then add the resin/hardener-mixture into the running mixer. **Important:** Mixing time has to be identical and conform with the mixture. Increased mixing time may lead to colour deviations. Then process the complete mixture.

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. 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. Roll on binding agent on the surface once again if necessary.

Scattered coatings: Sweep and vacuum off the surface after the base coat has cured. Grind subsequently if the surface calls for less roughness. Pull off the area with a rubber coating knife without any ponding. Re-roll with a lint free nylon-roller using criss-cross strokes. Application is also possible with a roller using criss-cross strokes, resulting in an increased roughness of the surface. For a very smooth surface grind in between and apply a filling coat or matt sealer afterwards.

Resinating 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 when applying only **EP 174 / EP 175**. Using **EP 179** in combination can reduce the amount of applications. After complete resinating apply a matt sealer like e.g. **EP 705 E**.

Floor- and air-temperature must not fall below 10 °C / 50 °F and humidity must not exceed 75 %. The difference in floor- and room-temperature must be less than 3 °C / 37.4 °F so the curing will not be disturbed. If a dew-point situation occurs adhesion may malfunction, curing may be disturbed, and spotting may occur. Exposure to water should be avoided within the first 7 days. Curing time applies to 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the curing and processing time.

If working conditions are not complied with, deviations in the described technical properties (surface and carrying capacity) may occur in the end product.

Special remark: In specific light and weather conditions and after long and intensive use, color variations, loss of gloss and yellowing may occur.

Cleaning

To remove fresh contamination and to clean tools, use thinner **VR 24** or **VR 33** immediately. Hardened material can only be removed mechanically.

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.

EP 174

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
13	
EP174-V1-022013	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR5	
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 5

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. In addition, our „General Terms and Conditions“ apply.

EP 175

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
13	
EP175-V1-022013	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4	
Fire behaviour	B _f -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 1.5
Impact resistance	IR 4

EP 175

	
1119	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
13	
EP175-V1-022013	
DIN EN 1504-2:2004	
Surface protection products-coating DIN EN 1504-2: ZA.1d,ZA.1f,ZA.1g	
Abrasion resistance	complied with
CO ₂ -permeability	SD > 50m
Water vapour permeability	Class III
Capillary water absorption and water permeability	< 0.1 kg/m ² *h0.5
Resistance to increased chemical excavation	complied with
Resistance to impact	Class I
Tear-test for adhesive strength evaluation	> 1.5 N/mm ²
Fire behaviour	B _f -s1

Technical Data*

		EP 174	EP 175		
Viscosity	Components A + B	600	650	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content		> 99	> 99	weight-%	KLB-Method
Density	Components A + B	1.07	1.08	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Water absorption		< 0.2	< 0.2	weight-%	DIN 53495
Bending tensile strength		> 25	> 25	N/mm ²	DIN EN 196/1
Compressive strength		> 70	> 70	N/mm ²	DIN EN 196/1
Shore-hardness D		75	78	-	DIN 53505 (after 7 days)

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