

KLB-SYSTEM EPOXID EP 99

2-component coating resin, solvent-free

Mixing ratio	Parts by weight	A : B	=	2 : 1
	Parts by volume	A : B	=	100 : 55
Processing time	Temperature	10 °C / 50 °F	20 °C / 68 °F	30 °C / 86 °F
	Time	55 minutes	30 minutes	20 minutes
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 - 36 hrs.	14 - 18 hrs.	10 - 14 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 14 - 18 hours,			
	but not longer than 48 hours at 20° C / 68 °F			
Consumption	1.3 - 1.5 kg/m ² resin (at 2 mm thickness) + additives			
Layers	1.7 - 5.0 mm			
Addition of quartz sand	Recommended starting at layers of above 2 mm thickness, with up to 1.5 kg additive for each 1.0 kg resin (see „Mixing“)			
Packaging	Bucket-Combi 10 kg, Hobbock-Combi 30 kg			
Colours	KLB-Standard Colours – see colour chart. Other colours on request!			
Shelf life	12 months (originally sealed)			

Usage and Properties

KLB-SYSTEM EPOXID EP 99 is a pre-formulated, 2-component epoxy resin binding agent. An economical coating for commercially and industrially used floors in combination with additives.

KLB-Mischsand 2/1 will be added on site to the unfilled coating depending on the particular application and thickness of layers. The unfilled binding agent combination is economically fillable. The mixture is easy to process and may be applied with a coating knife and offers very good technical properties.

The cured coating offers a very high durability and very good resistance to a wide range of chemicals.

KLB-SYSTEM EPOXID EP 99 is resistant to water, salts, salt solutions, alkalis and bases, as well as diluted mineral acids like hydrochloric acid and sulfuric acid, as well as

benzene, fuel, grease, oil, and so on. Conditionally resistant to concentrated mineral acids, organic acids, such as formic acid, acetic acid, and concentrated lactic acid, etc. Not permanently resistant to chlorinated hydrocarbons, esters, concentrated nitric acid. For any special requirements to resistance please obtain advice!

The coating resin can be supplied non-pigmented or pigmented. Refer to the special notes on colours!

Product Features

- “total solid” according to Giscode (test method of the Deutsche Bauchemie, German construction chemistry association)
- very economical
- good filling capacity
- good resistance range
- resistant to hydrolysis and saponification
- hard, abrasion-resistant finish
- reliable quality

Testing

External test certificates are available:

- Scattered coating with slip resistance grade R11/V4, R11/V6, R11/V8, R12/V4, R12/V6, R13/V8 producible, according to DIN 51130 and BGR 181.
- Slip resistance grade R9 and R10 possible, according to DIN 51130 and BGR 181.
- Suitable for use in foodstuffs according § 31 para. 1, German Food and Feed Code (German law LFGB).

Note: Please ask for the tested system structure!

Area of Application

- Commercially used areas with medium mechanical load, e.g. production and storage areas for many economic areas (2 mm coating).
- Commercially used areas with high mechanical load, e.g. production and storage areas for many economic areas (3 - 5 mm coating).
- Areas with increased exposure to chemicals and water.
- Base coats for scattered coatings in layers of 3 - 5 mm (top coat finish possible with different products, depending on the requirements, like e.g. with **EP 296 Kopfsiegel** or **EP 175 Spezial** or others).
- Pigmented wear coats for decorative, colour-sand scattered coatings and subsequent sealing coats, e.g. with **EP 175 Spezial**, **EP 174**, **EP 860**.

Build-up of Coats

Smooth coating

- Prime with the recommended KLB-Base Coats, like e.g. **EP 30**, **EP 50**, **EP 51 RAPID S**, **EP 52 Spezialgrund**, or **EP 52 RAPID**. Consumption approx. 0.3 - 0.4 kg/m² depending on the substrate.
- Apply a scratch coat for a planar substrate, with e.g. **EP 30**, **EP 50**, **EP 51 RAPID S**, and **KLB-Mischsand 2/1**, mixing ratio approx. 1 : 0.8 parts by weight, consumption approx. 0.8 - 1.0 kg/m².
- Apply **EP 99** filled with **KLB-Mischsand 2/1** with a trowel (Pajarito 48), consumption approx. 2.7 - 2.9 kg/m² for 2 mm layers.
- Optional scattering with silicium carbide, delustering agent, or decorative flakes.
- Seal the surface with a suitable silky-, glossy- or matt sealer, like e.g. **EP 705 E**, **PU 805 E**, **PU 880**, or **PU 882**.

Coating with slip resistance grade R11/12

- Prime with the recommended KLB-Base Coats, like e.g. **EP 30**, **EP 50**, **EP 51 RAPID S**, **EP 52 Spezialgrund**, or **EP 52 RAPID**. Consumption approx. 0.3 - 0.4 kg/m² depending on the substrate.
- Apply a scratch coat for a planar substrate, where necessary, with e.g. **EP 30**, **EP 50**, **EP 51 RAPID S**, and **KLB-Mischsand 2/1**, mixing ratio approx. 1 : 0.8 parts by weight, consumption approx. 0.8 - 1.0 kg/m².
- Apply the filled **EP 99** in layers of 1.5 - 2.0 mm and scatter completely with quartz sand 0.3/0.8 mm or 0.7/1.2 mm.
- After curing, sweep and vacuum off any excess sand until no more sand is released.
- Apply **EP 296 Kopfsiegel** or **EP 296 RAPID** with a rubber squeegee and distribute with a velour roller using criss-cross strokes. Consumption 0.6 - 0.7 kg/m². It is mandatory to stay within the recommended amounts of consumption for the slip resistance.
- Optionally, additional sealers for matting, increasing the surface finish, or the chemical resistance may be applied.

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 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 accurately, saturated, and free of pores. Estimating the substrate according to the necessary sealed state may be difficult, so a scratch coat is recommended for smoothing the surface. If the substrate hasn't been sealed completely bubbles and pores may appear because of rising air. Conduct a trial if in doubt. To improve adhesion, scatter the surface with approx. 0.5 - 1.0 kg/m² fire-dried quartz sand, grain size 0.3/0.8 mm.

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 compound

B 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. Additives should be stirred in with a compulsory mixer. Stir up the single components for partial withdrawals and weigh in the exact mixing ratio.

Addition of Additives: depending on the thickness of layers different sand types may be added. Use a compulsory mixer.

Outline formula for a flow-coating 2 - 3 mm

1.0 parts by weight **KLB-SYSTEM
EPOXID EP 99 (A+B)**

1.2 - 1.5 parts by weight **KLB-Mischsand 2/1**

Consumption for 2 mm: 3.2 - 3.4 kg/m² mixture
Consumption of **EP 99** for 2 mm: 1.3 - 1.5 kg/m²

The amount of additive depends on the thickness of layers, temperature, and kind of sand. For thin coatings use more of the quartz flour and altogether less additive. Conduct a trial and seek advice if in doubt.

Processing / Handling

Process the material immediately after mixing with a coating knife or notched trowel (e.g. Pajarito 48) by pulling out an even layer on the prepared substrate. Compared to ready-to-use coatings the material has to be processed more rapidly to avoid any deposits on the bottom. The product is adjusted with an optimum of air venting. To upgrade the moistening of the substrate, optimizing the flow-properties, and removing any air blows, it is recommended to roll with a spiked roller. Roll time-delayed after 10 - 20 minutes with a spiked roller. Divide working areas before starting work and always work "fresh-in-fresh" to avoid any shoulders. Do not scatter too early because of air venting, optimum point of time is after 20 - 30 minutes at 20 °C / 68 °F.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity must not exceed 75 %. Curing time applies to 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the curing and processing time.

Cleaning

To remove fresh contamination and to clean tools use **VR 24** or **VR 28** 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 labelled on the 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.

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
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EP99-V1-022013	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR5	
Fire behaviour	B _{fi} -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.

Technical Data*

Viscosity	Components A + B	750	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content		100	%	KLB-Method
Density	Components A + B	1.10	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Weight loss		0.25	weight-%	(after 28 days)
Water absorption		< 0.2	weight-%	DIN 53495
Bending tensile strength		35	N/mm ²	DIN EN 196/1
Compressive strength		80	N/mm ²	DIN EN 196/1
Shore-hardness D		78	-	DIN 53505 (after 7 days)
Abrasion (Taber Abraser)		55	mg	ASTM D4060

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