

KLB-SYSTEM EPOXID EP 99

2-Component Self-Flow Resin

Mixing Ratio	Parts by weight:	A : B = 2 : 1		
	Parts by volume:	A : B = 100 : 55		
Application	Temperature	10°C	20°C	30°C
	Time	55 mins.	30 mins.	20 mins.
Working temperature		minimum 10°C (room- and floor- temperature)		
Setting	Temperature	10°C	20°C	30°C
	Time	24 - 36 hrs.	14 - 18 hrs.	10 - 14 hrs.
Hardening	Mechanical	2 -3 days for exposure to mechanical forces at 20°C		
	Chemical	7 days for exposure to chemicals at 20°C		
Further coatings		after 14 – 18 hours, but not later than 48 hours at 20° C		
Consumption		1.0 - 1.2 kg/m ² resin (at 2 mm thickness) +aggregates		
Thickness		1.7 – 5.0 mm		
Quartz Sand Aggregate		recommended for a thickness of 2 mm. with up to 1.5 kg aggregate per 1.0 kg resin (see Mixing)		
Packaging		Combi-can 12 kg, Combi-Hobbock 30 kg		
Colours		12 KLB standard colours, other colours on request!		
Shelf life		12 months (in original, sealed packaging)		

Description and Properties

KLB-SYSTEM EPOXID EP 99 is a formulated, 2-component epoxy-resin binding agent that combines with aggregates to produce an economical coating for industrial and commercial flooring. The product is mixed on site with graded aggregates for the particular application and coating thickness. Since it is supplied as a filler-free binding agent, the product can be economically extended with the desired aggregate. Mixing allows easy application using a rake and produces coating of very high technical quality.

The cured coating is very hard and has high resistance, especially against a wide range of chemicals. **EP 99** is resistant to water, salts, salt solutions, alkalis and bases, as well as dilute mineral acids such as benzene, fuel oils, grease, oils, etc. It has some resistance to concentrated mineral acids, organic acids such as formic acid, acetic acid and concentrated lactic acid, etc.

It has no lasting resistance to chlorinated hydrocarbons, esters, concentrated nitric acid. Where there are particular requirements for resistances, obtain special advice! The coating can be supplied colourless or pigmented. Refer to the special notes on colours!

Product Features

- solvent-free
- very economical
- good filling capacity
- good resistance range
- resistant to hydrolysis and saponification
- hard, abrasion-resistant finish
- proven quality

Areas of Use

- commercially used surfaces with medium mechanical wear, e.g. production and storage areas in many commercial locations (2 mm coating)
- commercially used surfaces with high mechanical wear, e.g. production and storage areas in many commercial locations (3 - 5 mm coating)
- surfaces that have high exposure to chemicals and water.
- base-coats for scatter finishes in 3 – 5 mm thickness (top-coat with EP 296)
- pigmented wear-coats for decorative coatings, scattered with coloured sand and with a subsequent top seal-coat, e.g. with EP 175 Spezial, EP 174, EP 860

Testing

- tested for tensile and compressive strength

Floor finish construction

- prime with the recommended KLB primer
- apply a skim-coat with a mix of resin base-coat and sand
- trowel or rake application of the wear-coat of **EP 99**

Substrate

The surface to be coated must be flat, dry, dust-free, have adequate tensile and compressive strength and be free from constituents and finishes that would impair adhesion. Remove contaminants such as grease, oil and paint residues using suitable methods. Refer to the notes issued by the trade associations, e.g. the current versions of BEB worksheets KH-0/U and KH-0/S, as well as the notes in the Product Information for the recommended KLB primers such as, e.g. EP 30, EP 50, EP 51 S and EP 52.

The surface to be coated must be mechanically prepared, preferably by shot-blasting. The prepared surface must be carefully and fully primed to ensure it is sealed. Substrates are often very difficult to assess with regard to the necessary sealing of the surface and, also for smoothing of the surface, a scratch-coat is therefore recommended. If the surface is not completely sealed, bubbles and pin-holes can occur in the coating caused by rising air from the substrate. If in doubt, prepare a test area. To improve the bond, broadcast the surface with 0.5 – 1.0 kg quartz sand 0.3/0.8.

Mixing

With combi-cans, factory-measured material in the precise mixing ratio is provided in one package. The can containing Component A is large enough to accept the total mix quantity. Fully decant the hardener into the can of resin. Blend mechanically with a slow-speed mixer (200 – 400 rpm) and for 2 – 3 minutes until a homogeneous, streak-free mixture is achieved. To avoid mixing errors, we recommend to pour the mixed resin into a clean drum and briefly mix again, or add the aggregate in a forced-action mixer and measure out the mixing ratio required.

Addition of aggregate:

different amounts of sand aggregates can be added according to coating thickness and these are best prepared using a forced-action mixer.

Outline mix for a self-flow coating at 2 – 3 mm:

1.0 part by weight of KLB System EPOXID EP 99 (A+B)
1.2 – 1.5 parts by weight of KLB mixing sand 2/1

Alternatively, it is possible to add a mixture of quartz sand 0.1/0.3 and quartz flour 6400, using 30-50% of the total mixture as quartz flour 6400.

The amount of aggregate depends on the coating thickness, temperature and type of sand. For thin coatings, use more quartz flour and overall slightly less aggregate. If in doubt, conduct a test and obtain advice.

Application

Application is carried out immediately after mixing using a rake or notched trowel (e.g. Pajarito 38) and by pulling out a coat of even thickness onto the prepared surface. Compared with coating materials that are ready to apply, application must be faster to avoid sedimentation. The product is formulated to allow air to expel, though rolling with a spike roller is recommended to improve contact with the substrate, maximise flow and remove bubbles. Rolling with the spike roller should be after a delay of 10 – 20 minutes. To ensure joints do not show, always work "fresh-in-fresh" and determine the working bays before commencing. As the material must expel air, do not apply the scatter material too early – optimum timing at 20°C is after 20 – 30 minutes.

The temperature of floor and air must not fall below 10°C and the air humidity must not be above 75%. The quoted setting times apply at 20°C; at lower temperatures, the working- and setting- times are lengthened and at higher temperatures they are shortened.

For cleaning tools, Thinners **VR24** or **VR28** are recommended.

Storage / Transport

Store in dry and, if possible, frost-free conditions. Ideal storage temperature is 10 – 20 °C. Before application, bring to a suitable working temperature. Tightly re-seal opened containers and use the contents as quickly as possible.

The product falls outside the hazardous materials-, operational safety- and transport- regulations for hazardous goods. Refer to the DIN Safety Data Sheet and label notes on the container!

GISCODE: RE 1

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2-Component Epoxy-Resin Flow-Mortar

Technical Data*

Viscosity	Comp. A	850	mPas	DIN EN ISO 3219 (23°C)
	Comp. B	650	mPas	DIN EN ISO 3219 (23°C)
	Comp. A+B	750	mPas	DIN EN ISO 3219 (23°C)
Solid state		> 99	%	(KLB factory standard)
Density	Comp. A	1.16	kg/litre	DIN EN ISO 2811-2 (23°C)
	Comp. B	1.05	kg/litre	DIN EN ISO 2811-2 (23°C)
	Comp. A+B	1.10	kg/litre	DIN EN ISO 2811-2 (23°C)
Weight loss		0.25	% by weight	(after 28 days)
Water absorption		< 0.2	% by 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 resistance [Taber]		55	mg	ASTM D4060

(* values achieved in sampling are average values. Variations from the product specification are possible)



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