

# KLB-SYSTEM EPOXID EP 213

## 2-Component Epoxy-Resin Flow-Mortar

Mixing Ratio	Parts by weight:	A : B = 4 : 1		
	Parts by volume:	A : B = 100 : 38		
Application	Temperature	10°C	20°C	30°C
	Time	60 mins.	40 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		1.40 kg/m <sup>2</sup> per 1 mm thickness		
Thickness		1.3 – 5.0 mm		
Quartz Sand Aggregate		recommended for a thickness of 2 mm. up to 50 % according to usage and temperature		
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 213** is a self-levelling, solvent-free, 2-component, epoxy-resin coating for a hard and smooth surface finish as well as mixed or scatter-coat finishes, ideally for use in industrial locations. The material has excellent flow, smoothing and setting properties **EP 213** can be mixed with quartz sand, which is both beneficial and economical for thickness above 3 mm.

**EP 213**, for a standard coating product, has excellent resistance to chemicals.

The hardened finish is extremely resistant to mechanical wear and to various chemicals. The coating is resistant to water, salts, salt solutions, alkalis and bases, as well as dilute mineral acids such as hydrochloric and sulphuric acid – also resistant to solvents such as benzene, fuel oils, greases, oils, etc. Limited resistance to concentrated mineral acids, organic acids such as formic acid, acetic acid, lactic acid, etc. Not permanently resistant to chlorinated hydrocarbons, esters, nitric acid. Where particular resistance is required, please obtain special advice. **EP 213** can be supplied in a variety of colours. Note: slight colour variation may exist for technical reasons.

### 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 - 4 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**

## 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**
- A scatter finish and top seal-coat can be applied as an option.

## Substrate

The substrate to be coated must be level, dry, dust-free, have adequate tensile and compressive strength and be free from weakly-bonded components or surfaces. Materials that would impair adhesion, such as grease, oil and paint residues, must be removed using suitable methods. Please refer to the current recommendations of the trade associations, e.g. BEB work-sheets KH-0/U and KH-0/S as well as the recommendations in the Product Information Sheets for the appropriate KLB primers, e.g. EP 30, EP 50, EP 51 S and EP 52.

The surface to be coated should be prepared mechanically, preferably by shot-blasting. The prepared surfaces must receive a carefully applied, full primer-coat and be completely sealed. It can be difficult to assess surfaces to ensure they are adequately sealed and, therefore, when smoothing the surface, a base scratch-coat is recommended. If the surface is not adequately primed, the coating may have bubbles and pin-holes formed by air rising from the substrate. If in doubt, install a test area. To improve adhesion, the surface should be broadcast with 0.5 – 1.0 kg/m<sup>2</sup> of quartz sand, 0.3 / 0.8 grade.

## Mixing

With combi-cans, the material is measured at the factory in the exact mixing ratio and supplied in practical packaging. The can containing Component A has sufficient volume for the total mix quantity. Empty Hardener B completely into the can of resin. Mixing is by mechanical means using a slow-running drill-mixer (200-400 rpm) and should take at least 2 – 3 minutes until a uniform, streak-free mixture is achieved. To avoid mixing errors, it is recommended that the mixed resin is decanted into a clean container and briefly mixed again.

*Sand aggregation:* add sand after mixing the components. Suitable sand is grade 0.1 – 0.3. Do not use silica dust or mixed sands. The aggregate quantity depends on the coating thickness, temperature and the type of sand.

**EP 213** can normally be mixed with up to 0.5 kg quartz sand per 1 kg of coating material. For thin coatings, addition of sand cannot be recommended as the flow properties will be changed.

## Application

Application is carried out immediately after mixing using a rake or trowel (e.g. Pajarito 48) by pulling out a coat of consistent thickness over the surface. The product is formulated to give the optimum surface finish although it is recommended to use a spike roller to improve bond to the substrate, improve flow and to avoid air bubbles. Use of the spike roller should be after approx. 10 – 20 minutes. For a perfect and continuous finish, always work wet-in-wet and mark out the work areas before commencing. Leave until all air has left the freshly applied mix before using any scatter-materials, optimum time at 20° C being after 20 - 30 minutes.

The floor and air temperatures must not exceed 10° C and the air humidity must not be above 75%. The stated times apply at 20° C; at lower temperatures, the working and setting times are delayed and, at higher temperatures, they are shortened.

To clean tools, Thinners **VR 24** or **VR 28** 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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## Technical Data\*

Viscosity	Comp. A	4500	mPas	DIN EN ISO 3219 (23°C)
	Comp. B	630	mPas	DIN EN ISO 3219 (23°C)
	Comp. A+B	2600	mPas	DIN EN ISO 3219 (23°C)
Solid state		> 99	%	(KLB factory standard)
Density	Comp. A	1.55	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	1.48	kg/litre	DIN EN ISO 2811-2 (23°C)
Weight loss		0.3	% by weight	(after 28 days)
Water absorption		< 0.2	% by weight	DIN 53495
Bending tensile strength		30	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)
Abrasion resistance [Taber]		60	mg	ASTM D4060

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



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