



**KLB
KÖTZTAL**

Lacke + Beschichtungen GmbH

KLB-SYSTEM EPOXID EP 200 EL+

Electrically conductive Epoxy Resin self-flow coating

Mixing Ratio	Parts by weight:	A : B =	100 : 20
	Parts by volume:	A : B =	100 : 37
Application	Temperature	10°C	20°C
	Time	60 mins.	25 mins. 20 mins.
Working temperature		minimum 10°C (room- and floor- temperature)	
Setting	Temperature	10°C	20°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 resistance to chemicals at 20°C	
Further coatings		after 14 - 18 hours, but not later than 48 hours at 20° C	
Consumption		1.90 - 2.30 kg/m ²	
Electrical conductivity		approx. 10 ⁸ Ohms (in conjunction with EP 799 conductive primer)	
Test standards		DIN IEC 61340-4-1, DIN IEC 61340-5-1/2	
Minimum Thickness		1.3 - 1.5 mm	
Quartz sand gritting		not required	
Colours		12 KLB standard colours, other colours on request	
Colour variation		due to the conductive property, colour variation is possible	
Packaging		Combi-can 12 kg, Combi-Hobbock 30 kg	
Shelf life		6 months (in original, sealed packaging)	

Description and Properties

KLB-SYSTEM EPOXID EP 200 EL+ is a solvent-free, electrically conductive, self-flow coating based on 2-component epoxy resin. Due to the special conductive fibre technology, the product can be manufactured in light, pleasant colours instead of the otherwise usual dark colours of conductive coatings. The hardened coating is suitable for use in commercial and industrial areas in which an antistatic or electrically conductive flooring is required. Uses range across many industrial and commercial situations, e.g. warehouses with fork-lift traffic, for avoiding static loading in equipment and personnel, flooring where explosion protection is required, e.g. in areas with flammable materials such as laboratories, chemical production and storage areas and for flooring applications in the electronics and electro-technical industries, etc. In electronics production areas (ESD areas), there are special requirements which require special additional measures and very careful application. Also, special aspects may need to be taken into account according to the particular requirements. Obtain advice.

EP 200 EL+ has good resistance to mechanical wear and exposure to chemicals, e.g. alkalis, oils, grease, water, slat solutions and various acids.
Due to the conductive properties, some variation in colour is possible for technical reasons.

Product Features

- electrically conductive
- bright, coloured surface finish
- good range of resistance
- solvent-free
- resistant to hydrolysis and saponification
- also for ESD areas when used in combination with other products
- hard-elastic and wear-resistant

Areas of Use

- Electrically conductive, commercial areas with medium mechanical wear, e.g. production areas, warehousing in many industrial sectors
- Electro / electronics industries also for ESD areas when used in combination with special seal-coat products
- In areas with a demand for explosion protection for avoidance of static loading

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 hardener B 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

Construction

- Primer and scratch-coat to produce a **flat** surface, e.g. with **EP 50**
- Bond **copper-strip**, approx. 1 – 2 m into the area in the specified grid at 6 - 8 m centres, for connection to earth-points. Earth connection must be by a qualified electrician according to VDE regulations
- Apply a laterally conductive coating with approx. 0.15 kg/m² of **EP 799 Ableitgrund**
- Trowel-apply the conductive wear-layer of **EP 200 EL+** with a notched trowel (Pajarito 48), consumption 1.9 – 2.3 kg/m²

Substrate

The surface to be coated must be flat, dry, dust-free, have adequate tensile- and compressive- strength and be free from weakly bonded constituents or surface sections. Materials that would impair adhesion, such as grease, oil and paint residues, must be removed in advance using suitable methods. Refer to the recommendations of the trade associations, e.g. the current issues of BEB work-sheets KH-0/U and KH-0/S as well as the notes in the Product Information Sheets of the recommended KLB primers, e.g. **EP 50, EP 51 S** and **EP 52**.

The surface to be coated must be mechanically prepared, preferably by shot-blasting. The prepared surfaces must be carefully and completely primed until fully sealed. Substrates are often very difficult to assess with regard to the necessary sealing of the surface and it is therefore recommended, also for smoothing the surface, to apply a scratch-coat.

If the primed surface is not fully sealed, bubbles and pinholes can occur in the coating caused by rising air from the substrate. If in doubt, prepare a test area. Conductive coatings must be applied in the recommended thickness and, therefore, careful surface preparation is absolutely essential.

Application

Application should be carried out immediately after mixing using a rake or notched trowel (Pajarito 48), by spreading a coat of consistent thickness onto the prepared surface. To achieve consistent conductivity, the coat thickness must be strictly maintained. The product is produced for optimum flow but rolling with a spike-roller is absolutely necessary to improve adhesion to the substrate, to maximise the flow properties and to remove air bubbles. Rolling with the spike-roller should be delayed for approx. 10 - 15 minutes. To ensure joints do not show, always work "fresh-in-fresh" and determine the working bays before commencing. Scatter materials with conductive coatings are not recommended as the conductivity will be reduced.

The temperature of floor and air must not fall below 10°C and the air humidity must not be above 75%. The temperature difference between floor- and room- temperature must be less than 3°C so that drying is not affected. In the event of a dew-point situation, correct drying cannot take place, the setting process will be affected and spots will form. Exposure to water should be avoided during the first 7 days. The prescribed setting times apply at 20°C; at lower temperatures, the working- and setting- times are extended and, at higher temperatures, they are shortened. If the working conditions are not maintained, there can be variation in the prescribed technical properties, especially in the conductivity, of the final product. For cleaning equipment, Thinners **VR 28** or **VR 33** are recommended.

Storage / Transport

Store in dry and, as far as possible, frost-free conditions. Ideal storage temperature is 10 – 20 °C. Before application, bring to a suitable working temperature. Tightly resealed 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. The relevant notes are in the DIN Safety Data Sheet. Refer to the label notes on the container!

GISCODE: RE 1

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Technical Data*

Viscosity	Comp. A+B	2600	mPas	DIN EN ISO 3219 (23°C)
Solid state		> 99	%	(KLB factory standard)
Density	Comp. A+B	1.65	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
Tensile bending strength		27	N/mm ²	DIN EN 196/1
Compressive strength		60	N/mm ²	DIN EN 196/1
Shore-hardness D		85	-	DIN 53505 (after 7 days)
Abrasion resistance (Taber)		40	mg	ASTM D4060
Electrical resistivity		10 ⁶	Ohms	DIN IEC 61340-4-1 / -5-1/2

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