

# KLB-SYSTEM EPOXID

## EP 51 RAPID S

Rapid-Setting 2-Component Primer and Construction Resin

Mixing Ratio	Parts by weight:	A : B = 100 : 40		
	Parts by volume:	A : B = 100 : 43		
Application	Temperature	10°C	20°C	30°C
	Time	30 mins.	15 mins.	10 mins.
Working temperature		minimum 10°C (room- and floor- temperature)		
Setting	Temperature	10°C	20°C	30°C
	Time	4-8 hrs.	2-3 hrs.	2 hrs.
Hardening	Mechanical	10 - 20 hours for exposure to mechanical forces at 20°C		
	Chemical	3 days for exposure to chemicals at 20°C		
Further coatings		after the setting time, but not later than 18 hours at 20° C		
Consumption	Primer	approx. 0.3 – 0.4 kg/m <sup>2</sup>		
	Scratch-coat	approx. 0.4 – 0.6 kg/m <sup>2</sup>		
	Mortar	approx. 0.15 – 0.3 kg/m <sup>2</sup> per 1 mm of thickness		
Packaging		Combi-can 1 kg, Combi-can 10 kg, Combi-Hobbock 30 kg, Combi-Drum 200/160 kg		
Shelf life		12 months (in original, sealed packaging)		

### Description and Properties

**EP 51 RAPID S** is a solvent-free, 2-component epoxy resin that cures at low temperatures and, at normal temperatures, cures rapidly. It is used as a primer and smoothing coat in cases where a fast coating installation is required. **EP 51 RAPID S** can usually be over-coated after 2 – 4 hours and has, therefore, a great time advantage over other primers. The use of **EP 51 RAPID S** offers considerable time savings in small areas and in renovation work with short installation and setting times. **EP 51 RAPID S** cures reliably even at temperatures down to 0°C and this is a considerable advantage in the colder seasons of the year.

### Areas of Use

- rapid-setting primer and scratch-coat prior to coating application
- scratch-coat sealer and smoothing-coat
- in combination with EP 213 RAPID can be used after only 48 hours
- cures at temperatures down to 0°C

### Product Features

- solvent-free
- rapid-setting
- quickly ready for over-coating
- allows fast completion
- resistant to hydrolysis and saponification
- time-saving

## 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. Suitable for coating applications are concrete B25, cement screeds ZE 30 and other adequately sound substrates. The substrate must demonstrate an adequately high strength for the proposed use. The coating of mastic asphalt with epoxy resin is not recommended. The surface to be coated must be mechanically prepared, preferably by shot-blasting. The surface strength must then be at least 1.5 N/mm<sup>2</sup>. The moisture content for concrete must not exceed 4.5 CM-%. Subsequent moisture ingress must be permanently excluded. Refer to the notes issued by the trade associations, e.g. the current versions of BEB worksheets KH-0/U and KH-0/S. Floor surface refurbishment can require special procedures. Obtain special advice.

## Mixing

With individual packaging of the components, they must be exactly measured out in the prescribed mixing ratio. 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. The renovation of floors outside the normal scope of requirements requires monitoring of the results, e.g. by bond-testing.

*Producing scratch-coats and mortars:*

### Scratch-coat:

1.0 part by weight KLB System EPOXID EP 51 RAPID S  
0.5 – 0.6 parts by weight KLB mixing sand 2/1

### Resin mortar:

1.0 part by weight KLB System EPOXID EP 51 RAPID S  
8.0 -10.0 parts by weight KLB mixing sand 1

When adding aggregates, the resin should be mixed first and then the aggregate added. The quantity of mixing sand is according to the desired consistency and strength. Note: the application of rapid-setting mortars is difficult and the recommendation is intended for only small area repairs.

## Application

**Primer:** application as a primer is carried out immediately after mixing and using a rake, trowel or nylon roller. Apply the material as an even, fully sealed coat over the surface. On highly absorbent surfaces, a second coat, or a full scratch-coat are recommended to ensure a dense surface finish.

For maximum adhesion, broadcast the fresh surface with quartz sand (0.3 / 0.8 grain size). This must be carried out if the subsequent coating will be applied more than 24 hours after priming.

**Scratch-coat:** to smooth and to fully seal the surface, before applying the coating, application of a scratch-coat is recommended. This can be applied with a trowel, metal- or rubber- rake. The consistency should be according to surface absorbency and must be such that the material flows and is free from trowel marks.

**Trowel-applied primer:** priming and smoothing can be carried out at the same time, if it can be guaranteed that, in one coat, an adequately sealed surface finish can be achieved for the subsequent coating materials. Normally, trowel-applied primers can be filled with 0.5 kg KLB mixing sand 2/1 per 1 kg resin. Application is with a rubber squeegee rake and with a consumption of 0.7–1.0 kg/m<sup>2</sup>, dependent on the roughness of the surface.

**Epoxy resin mortar:** for repair work, mortars can be made from EP 51 RAPID S. To produce industrial mortars, special resins EP 150 and EP 157 are recommended. Apply immediately after mixing. Pull out the mortar with a screeding board and then compact and smooth with a trowel.

The installation temperature must not exceed 10°C. The temperature of both floor and air must not fall below 0°C during setting 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 extended and, at higher temperatures they are shortened.

To clean equipment, Thinners VR 24 is 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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## EP 51 RAPID S

Moisture-tolerant Special Primer

### Technical Data\*

Viscosity	Comp. A	700	mPas	DIN EN ISO 3219 (23°C)
	Comp. B	350	mPas	DIN EN ISO 3219 (23°C)
	Comp. A+B	700	mPas	DIN EN ISO 3219 (23°C)
Solid state		> 99	%	(KLB factory standard)
Density	Comp. A	1.12	kg/litre	DIN EN ISO 2811-2 (23°C)
	Comp. B	1.03	kg/litre	DIN EN ISO 2811-2 (23°C)
	Comp. A+B	1.09	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		> 25	N/mm <sup>2</sup>	DIN EN 196/1
Compressive strength		> 70	N/mm <sup>2</sup>	DIN EN 196/1
Shore-hardness D		88	-	DIN 53505 (after 7 days)
Adhesive tensile strength		> 1,5	N/mm <sup>2</sup>	DIN EN 1542

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



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