

# KLB-SYSTEM EPOXID

## EP 51 RAPID S

Rapid-setting 2-component epoxy resin for base and scratch coats or as repair mortar

### Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK1070-92	Combo can	1.00 kg	240
AK1070-50	Bucket combo	10.00 kg	30
AK1070-30	Hobbock combo	30.00 kg	12
AK1070-06	Drum combo	560.00 kg	0,5

### Product characteristics

Mixing ratio parts by weight	A : B = 100 : 40
Mixing ratio parts by volume	A : B = 100 : 43
Processing time	10 °C / 50 °F : 30 min. 20 °C / 68 °F : 15 min. 30 °C / 86 °F : 10 min.
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature) Curing up to 0 °C / 32 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F : 4 - 8 hrs. 20 °C / 68 °F : 2 - 3 hrs. 30 °C / 86 °F : 2 hrs.
Curing	10 - 20 hours until mechanical load at 20 °C / 68 °F 3 days until chemical load at 20 °C / 68 °F
Further coatings	After curing, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	Base coat: approx. 0.3 - 0.4 kg/m <sup>2</sup> Scratch coat: approx. 0.4 - 0.6 kg/m <sup>2</sup> Mortar: approx. 0.150 - 0.300 kg/m <sup>2</sup> for each mm of layer
Shelf life	12 months (originally sealed)

### Product description

**KLB-SYSTEM EPOXID EP 51 RAPID S** is a 2-component, solvent-free epoxy resin, setting at lower temperatures and rapid-setting at regular temperatures. Suitable for base and levelling coats - whenever a quick reusability is needed.

**KLB-SYSTEM EPOXID EP 51 RAPID S** may usually be accessed after only 2 - 4 hours for subsequent coating work. Therefore, the material offers a considerable time advantage against other base coats. The time savings of **KLB-SYSTEM EPOXID EP 51 RAPID S** are especially considerable on small areas and for reconstruction with a short installation and curing times.

**KLB-SYSTEM EPOXID EP 51 RAPID S** cures even at lower temperatures above 0 °C / 32 °F reliably, which is beneficial during the cold season.

### Area of application

- Rapid-setting base and scratch coats before subsequent coating work.
- Scratch coat for pore-closure and levelling.
- When used in combination with **KLB-SYSTEM EP 216 RAPID** accessible after 48 hours.
- Cures at temperatures above 0 °C / 32 °F.

#### Product features

- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")
- rapid-setting
- quickly reworkable
- quickly accessible
- consistent to hydrolysis and saponification
- time-saving
- free of deleterious substances against varnish

#### Technical data

Viscosity - Component A+B	900	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 99	%	KLB method
Density - Component A+B	1.09	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Weight loss	0.3	weight-%	after 28 days
Water absorption	< 0.2	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
Adhesive tensile strength	> 1.5	N/mm <sup>2</sup>	DIN EN 1542
Shore-hardness D	85	-	DIN 53505 (after 7 days)

The values established in tests are average values. Deviations from the product specification may occur.

#### Included in systems

- System A2 - KLB INDUSTRIAL EP Rapid
- System G6 - KLB INDUSTRIAL PU RX Rapid

Please visit our website to get more information about our KLB systems: [www.klb-koetztal.com](http://www.klb-koetztal.com)

#### Tests

The following external test certificates are available:

- Classification of the fire behaviour in combination with **EP 216 RAPID** according to DIN EN 13501-01:2010-01: C<sub>fl</sub>-s1.

#### Note:

Please ask for the tested system build-up!

#### Substrate

The substrate to be coated must be even, dry, free of dust, sufficiently resistant to tension and compression as well as be free from weakly-bonded components or surfaces. Materials impairing adhesion such as grease, oil, and paint residues should be removed with suitable measures. Surfaces suitable for coating are concrete C20/25 (B 25), cement screed CT-C35-F5 (ZE 30), as well as other sufficiently solid substrates. The substrate has to have adequately high strength for the intended occupational use. Coating mastic asphalt with epoxy resin is not recommended. The substrates to be coated should be prepared mechanically, preferably by shot-blasting. The surface strength must then be at least 1.5 N/mm<sup>2</sup>. For concrete, moisture content must not exceed 4.5 CM-%, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. Observe the information issued by the trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S. Reconstructing floors may require special procedures. Obtain technical advice.

## Mixing

If the components are packed individually, they should be weighed out exactly in the specified mixing ratio. Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component A has sufficient volume to contain the entire packaging unit. Empty all of the hardener compound B into the resin. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes until a homogeneous, streak-free compound forms. To prevent mixing errors, empty ("repot") the resin/hardener mixture into a clean container and mix it once again briefly. Reconstruction beyond the regular requirements demands a monitoring of the result, e.g. by conducting a tensile bonding test.

### Producing scratch coats and mortar:

#### **Scratch coats:**

1.0 kg **KLB-SYSTEM EPOXID EP 51 RAPID S**  
0.5 - 0.8 kg mixed sand **KLB-Mischsand 2/1**

#### **Epoxy resin mortar:**

1.0 kg **KLB-SYSTEM EPOXID EP 51 RAPID S**  
8.0 - 12.0 kg mixed sand **KLB-Mischsand 1**

Before adding any additives, the binding agent must be premixed, only then is added the supplement. The amount of mixed sand depends on the necessary consistency and stability. **Note:** Processing rapid-setting mortars is quite difficult. Our recommendation is for small area repairs only.

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## Processing

**Base coat:** process the material as a base coat immediately after mixing with a squeegee, trowel, or nylon roller. Apply an evenly sealed coat on the substrate. To achieve a dense surface, apply a second layer or a saturated scratch coat if the substrate is highly absorbent. Scatter the fresh coating with quartz sand (grain size 0.3/0.8 mm) for optimum adhesion. This is mandatory if the subsequent coating will be applied later than 18 hours after the primer.

**Scratch coat:** apply a scratch coat before any further coatings to level the substrate - but also for full pore-closure. Use a trowel, metal or rubber squeegee. The consistency has to be adjusted according to the substrate absorbency, for a material that runs true.

**Trowelling base coat:** primers can be applied as smoothing filler at the same time if it is ensured that a sufficient sealing is achieved in one layer for subsequent coatings. Usually, prime filling coats may be filled with 0.5 kg of mixed sand **KLB-Mischsand 2/1**. Apply with a rubber squeegee, with a consumption of 0.7 - 1.0 kg/m<sup>2</sup>, depending on the depth of roughness of the substrate.

**Epoxy resin mortar: EP 51 RAPID S** may be used as mortar for repair work. The special resin **EP 150** is recommended for industrial mortar coatings. Process immediately after mixing. Pull over a lath, then compact and smooth with a trowel. Processing temperature should not fall below 5 °C / 41 °F.

During hardening, the floor and air temperature must not fall below 0 °C / 32 °F, and humidity should not exceed 75 %. Very often, a high temperature change causes dew-point situations, which may lead to disturbances in curing. The specified curing times apply for 20 °C / 68 °F; temperatures below this require longer processing and curing times, while higher temperatures require shorter times.

**Special remarks:** we advise against the "resinification" of screed/flat joints and break-outs in the screed or concrete with pure epoxy resin or set with suspending agent. For the application, always use the KLB primer resin in combination with quartz sand e.g. **KLB-Mischsand 1** or **KLB-Mischsand 2/1**. For this, we recommend adding at least 1 - 3 parts by weight of filler to 1 parts by weight of primer; if necessary, 0.2 - 2 % of suspending agent can be added to adjust the consistency. Intermediate grinding should be carried out to improve adhesion to subsequent coats.

**Cleaning**

To remove fresh contamination and to clean tools, use thinner **VR 24** or **VR 33** immediately. Hardened material can only be removed mechanically.

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**Storage**

Store in dry and if possible, at frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable processing temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

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**Special remarks**

The product is regulated by the German Ordinance on Hazardous Substances (GefStoffV), the German Ordinance on Industrial Safety and Health (BetrSichV), and transport regulations for hazardous goods. The necessary information is contained in the DIN Safety Data Sheet. Observe all identification information on the container label!



GISCODE: RE55

**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.

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## CE marking

			
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 89335 Ichenhausen, GERMANY		1119 KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 89335 Ichenhausen, GERMANY	
13		EP51RAPIDS-V1-022013	
DIN EN 13813:2003-01		DIN EN 1504-2:2004	
Synthetic resin screed mortar DIN EN 13813: SR-B1,5-AR0,5-IR5		Surface protection products-coating DIN EN 1504-2: ZA.1d,ZA.1f,ZA.1g	
Fire behaviour	B <sub>ff</sub> -s1	Compressive strength	complied with
Emission of corrosive substances	SR	CO <sub>2</sub> -permeability	S <sub>D</sub> > 50m
Wear resistance BCA	AR 0,5	Water vapour permeability	Class III
Adhesive tensile strength	B 1,5	Capillary water absorbtion and water permeability	w < 0,1 kg/m <sup>2</sup> *h0,5
Impact resistance	IR 5	Resistance to increased chemical excavation	complied with
		Resistance to impact	Class I
		Fire behaviour	B <sub>ff</sub> -s1



Please consider the latest version of this product information on our website.

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 in individual cases. With the publication of this new KLB product information, all prior information loses validity. The latest version is available electronically on our website [www.klb-koetzta.com](http://www.klb-koetzta.com). In addition, our "General Terms and Conditions" apply.