

KLB-SYSTEM EPOXID

EP 54 RAPID U

Rapid-setting 2-component epoxy resin for primers, scratch coats and repair mortar

Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK1075-50	Bucket combo	10.00	30
AK1075-30	Hobbock combo	30.00	12
AK1075-01	Drum combo	800.00	0,5

Product characteristics

Mixing ratio parts by weight	A : B = 3 : 1
Mixing ratio parts by volume	A : B = 100 : 36
Processing time	0 °C / 32 °F : 20 - 25 min. 5 °C / 41 °F : 12 - 15 min. 10 °C / 50 °F : 10 - 13 min. 20 °C / 68 °F : 5 - 8 min. 25 °C / 77 °F : 2 - 4 min.
Processing temperature	Minimum 0 °C / 32 °F - Maximum 25 °C / 77 °F (room and floor temperature)
Curing time (accessibility)	0 °C / 32 °F : 22 - 26 hrs. 5 °C / 41 °F : 10 - 14 hrs. 10 °C / 50 °F : 3 - 6 hrs. 20 °C / 68 °F : 1.5 - 2.5 hrs. 25 °C / 77 °F : 60 - 75 min.
Curing	10 - 20 hours for mechanical load from 10 °C / 50 °F 48 hours for chemical resistance from 10 °C / 50 °F
Further coatings	After curing, but not longer than 24 hours at 10 °C / 50 °F
Consumption	Primer: approx. 0.3 - 0.4 kg/m ² Scratch coat: approx. 0.4 - 0.6 kg/m ²
Shelf life	12 months (originally sealed)

Product description

KLB-SYSTEM EPOXID EP 54 RAPID U is a very rapid-setting 2-component epoxy resin for producing primers, scratch coats and mortars for small repair works. As fast curing epoxy resin, it is suitable for any coatings that require a rapid recoatability and usability. The pot life is correspondingly short, which is why a well-coordinated installation team is recommended for processing.

KLB-SYSTEM EPOXID EP 54 RAPID U can be used down to 0 °C / 32 °F and cures even at such low temperatures. When applied in combination with rapid-setting coatings like **KLB-SYSTEM EPOXID EP 216 RAPID** or **KLB-SYSTEM EPOXID EP 296 RAPID**, it is possible to carry out renovations within 48 hours until usability.

With 2 - 5 minutes, the working time is already very short at 25 °C / 77 °F; then a very fast application is required. The material is not recommended to be applied above 25 °C / 77 °F because of the extremely short processing times in these cases.

KLB-SYSTEM EPOXID EP 54 RAPID U combines very fast reaction with excellent wettability and adhesion properties, thus allowing to be used together with many epoxy or polyurethane resin coatings.

Area of application

- Rapid-setting epoxy resin for base and scratch coats before subsequent coating work.
- Cures at low temperatures down to 0 °C / 32 °F.
- When used in combination with **KLB-SYSTEM EPOXID EP 216 RAPID** or **KLB-SYSTEM EP 296 RAPID** for fast renovations.
- For renovations where rapid usability is required.

Product features

- highly reactive
- fast curing for further reworking
- usable from 0 to 20 °C/32 °F to 68 °F
- consistent to hydrolysis and saponification
- chemically resistant
- very high adhesion
- short curing times

Technical data

Viscosity - Component A+B	approx. 1500	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Density - Component A+B	1.12	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Weight loss	0.3	% w/w	after 28 days
Water absorption	0.2	% w/w	DIN 53495
Adhesive tensile strength	> 1.5	N/mm ²	DIN EN 1542
Shore-hardness D	80	-	DIN 53505 (after 7 days)

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

Build-up of coats

Smooth coatings

- Check and prepare the substrate, e.g. by shot-blasting and thoroughly vacuum off.
- Prime with **EP 54 RAPID U**, consumption approx. 0.3 - 0.4 kg/m² (depending on the substrate) using a nylon roller, rubber coating knife or trowel.
- Apply a scratch coat with **EP 54 RAPID U** and **KLB-Mischsand 2/1** for producing an even surface (mixing ratio approx. 1 : 0.5 - 0.8 parts by weight, consumption approx. 0.5 - 1.0 kg/m²)
- Apply the coating **EP 216 RAPID** with the notched trowel (**Zahnleiste RS4** or **Pajarito 48**), consumption approx. 2.5 - 3.0 kg/m² for a layer thickness of 2 mm.

Rapid-setting coating with slip-resistance grade R 11/12

- Check and prepare the substrate, e.g. by shot-blasting and thoroughly vacuum off.
- Prime with **EP 54 RAPID U**, consumption approx. 0.3 - 0.4 kg/m² (depending on the substrate) using a nylon roller, rubber coating knife or trowel. Optional: openly sanding with quartz sand 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².

- If necessary: apply a scratch coat with **EP 54 RAPID U** and **KLB-Mischsand 2/1** for producing an even surface, mixing ratio approx. 1 : 0.6 parts by weight, consumption approx. 1.0 kg/m². Optional: openly sanding with quartz sand 0.3/0.8 mm, consumption approx. 0.5/1.0 kg/m².
- Apply the base layer **EP 216 RAPID** in a thickness of 1.5 - 2.0 mm (notched trowel **Zahnleiste S8** or Pajarito TKB-S3), consumption approx. 2.5 - 3.0 kg/m².
- Scatter completely with quartz sand 0.3/0.8 mm or 0.7/1.2 mm. After curing, sweep off the excess sand and vacuum thoroughly until no more grain or sand are being released.
- Apply **EP 216 RAPID** as top sealer with a rubber squeegee, then distribute evenly using a velours roller in a crosswise motion, consumption approx. 0.55 - 0.90 kg/m².
- Always adhere to the consumption quantities for obtaining the required degree of slip-resistance.
- Optional: additional mat sealers can be applied to improve the surface quality or chemical resistance.

Note: the coats can be applied within 1.5 to 12 hours, depending on the temperature. At temperatures below 10 °C / 50 °F the times may be longer. At good temperatures, up to 3 coats can be applied in one working day. Coatings can be used again after 36 to 48 hours after the start of renovation. In case of extended times and when applying polyurethane coatings, it is necessary to apply an open/intermediate sanding (quartz sand 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m²).

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 traces of paint should be removed with suitable measures. Surfaces suitable are concrete C20/25, 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 of 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/mm². 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.

Old substrates must be cleaned before any mechanical preparation. If old synthetic resin surfaces need to be sealed, it must be ensured that sufficient adhesion is achieved. In case of doubt, we recommend testing on a trial surface. Reconstruction beyond the regular requirements demands a monitoring of the result, e.g. by conducting a tensile bonding test.

Mixing

The resin and hardener compounds should be adapted to the corresponding processing temperatures. 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.

Producing scratch coats and mortars:

Scratch coats:

1.0 kg **EP 54 RAPID U**
0.5 - 0.8 kg mixed sand **KLB-Mischsand 2/1**

Epoxy resin mortars:

1.0 kg **EP 54 RAPID U**
8.0 - 12.0 kg mixed sand **KLB-Mischsand 1**

Premix the binding agent before adding any additives. 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.

Processing

Base coat: process the material as a base coat immediately after mixing with a coating knife, trowel, or nylon roller. Apply an evenly sealed coat on the substrate. To achieve a compact 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 12 hours after the primer.

Scratch coat: apply a scratch coat before any further coatings to level the substrate - but also for pore-sealing. Use a trowel, metal, or rubber coating knife. The consistency of the filling compound has to be adjusted according to the substrate absorbency, for a material that runs true.

Special remarks: we advise against the "gumming" of screed/flat joints with pure or with epoxy resin-filled thixotropic agent. In the course of time, these areas will begin to show on the surface. For the application, always use EP 54 RAPID in combination with quartz sand e.g. **KLB-Mischsand 1** or **KLB-Mischsand 2/1** (mixing ratio from 1 : 1 to 1 : 4 parts by weight).

Floor and air temperature must not fall below 0 °C / 32 °F and humidity should not exceed 75 %. The difference in floor and room temperature must remain less than 3 °C / 3 K / 5.4 °F so as not to impede the curing process. If a dew-point situation arises, regular curing will not be possible with hardening problems and spotting to occur. 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. If working conditions are not complied with, the technical properties of the end product may deviate from those specified.

Cleaning

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

Storage

Store in dry and 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.

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.

CE marking

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen	
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EP54RAPIDU-V1-112018	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B2,0-AR0,5-IR6	
Fire behaviour	E _{fl} -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 2.0
Impact resistance	IR 6



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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. With appearance of this new KLB product information, all prior information loses validity. The updated version is available on our website www.klb-koetztal.com. In addition, our "General Terms and Conditions" apply.