

# CHEMORESIN CR 920

Innovative 2-component reactive resin self-levelling coating based on a special polyurethane with high chemical resistance

## Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK2001-50	Bucket combo	10.00 kg	30
AK2001-25	Hobbock combo	25.00 kg	12



## Product characteristics

Mixing ratio parts by weight	A : B = 100 : 120
Mixing ratio parts by volume	A : B = 100 : 170
Processing time	10 °C / 50 °F: 40 minutes 20 °C / 68 °F: 30 minutes 30 °C / 86 °F: 20 minutes
Processing temperature	Minimum 10 °C / 50 °F – Maximum 30 °C / 86 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 24-28 hrs. 20 °C / 68 °F: 18-22 hrs. 30 °C / 86 °F: 16-20 hrs.
Curing	3 days until mechanical load at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Further coatings	Only after sanding. Smooth coverings cannot be overlaid without intermediate grinding.
Consumption	Top sealer: approx. 0.6 - 1.0 kg/m <sup>2</sup> Top coat: approx. 1.8 - 2.2 kg/m <sup>2</sup> with a 1.5 mm layer thickness
Layer thickness	approx. 1.5 mm
Colours	Cream, curry, yellow, dark grey, medium grey, light grey, green, red, luminous red and black. Attention: RAL colours are not available.
Shelf life	6 months (originally sealed) – <b>Protect from frost!</b>

## Product description

**CHEMORESIN CR 920** is a new and innovative 2-component reactive resin self-levelling coating based on a special polyurethane with significantly higher chemical resistance than conventional epoxy resin or polyurethane coatings.

**CHEMORESIN CR 920** can be used to produce smooth or slip-resistant coatings, and as a top sealer. In combination with silicium carbide, it can be used to produce conductive coatings. **CHEMORESIN CR 920** is a suitable top sealer for increasing the chemical resistance of scattered polyurethane concrete or even epoxy resin coverings. Existing coverings of epoxy resin or polyurethane concrete can be given a top coat of **CHEMORESIN CR 920** after the necessary surface preparation. Seek advice if necessary!

The cured coating is particularly suitable for commercial and industrial areas with special requirements to chemical resistance. As **CHEMORESIN CR 920** is significantly more chemically resistant than conventional coatings, the product is especially useful in areas that are, among other things, subject to high chemical

loads in various industries: chemical industry, electroplating plants, paint strippers, sewage treatment plants, agricultural facilities and many other areas.

**CHEMORESIN CR 920** has excellent resistance to various concentrated acids and alkalis, organic acids, solvents, oils and greases. They are also resistant to a wide range of other chemicals. The tested chemicals can be found in the enclosed resistance lists. Other chemicals can be tested on request.

Due to its composition, the product can only be supplied in a limited range of colours. The colour stability of the coating cannot be guaranteed. The technical and chemical properties are not affected by any changes in colour.

**CHEMORESIN** coatings are special technical coatings and are not intended to provide a decorative appearance!

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#### Area of application

- Smooth and slip-resistant coating with excellent chemical resistance.
- For use as a top sealer to increase the chemical resistance of scattered polyurethane screed floorings (PU-BETON) and epoxy resin coatings.
- Can be combined with silicium carbide to create conductive coatings.

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#### Product features

- high chemical resistance
- consistent to hydrolysis and saponification
- good processing properties
- high mechanical resistance
- novel combination for technical applications
- resistant to abrasion and wear

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#### Technical data

Viscosity - Component A+B	1200-1800	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	approx. 76	%	KLB method
Density - Component A+B	approx. 1.34	kg/l	DIN EN ISO 2811-2 (23 °C / 73.4 °F)
Water absorption	< 0.2	weight-%	DIN 53515
Shore-hardness D	75	-	DIN 53505 (after 7 days)
Abrasion (Taber Abraser)	approx. 938	mg	ASTM D4060 (H22/1000)

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

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#### Tests

External test certificates are available for the following:

- Slip resistance test (according to DIN EN 16165 and DIN 51130) available for R10 V4, R12 and R13.
- Fire behaviour classification according to DIN EN 13501-01: 2010-01: B<sub>fl</sub>-s1
- LABS-compliant according to PV 3.10.7. (VW test)
- Product is compliant with DIN EN 13813: 2003-01

#### **Note:**

Please ask for the tested system build-up!

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#### Build-up of coats

##### Smooth coating

- Mechanically prepare the substrate, e.g. by shot blasting.

- Prime with **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 RAPID** or **EP 55**. Apply and distribute the freshly mixed material evenly with a scraper, trowel or nylon roller; consumption approx. 0.3 - 0.4 kg/m<sup>2</sup>.
- Scratch coat to produce an even substrate, e.g. with **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 Rapid** or **EP 55** and mixed sand **KLB-Mischsand 2/1** in a mixing ratio of 1 : 0.8 parts by weight; consumption of mixture approx. 0.8 - 1.3 kg/m<sup>2</sup>.
- If necessary, the concave or triangular coverings can now be installed. These can be made with **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 RAPID** or **EP 55** and mixed sand **KLB-Mischsand 1** in a mixing ratio of 1 : 5 - 8. The viscosity of the material is adjusted by adding 1 - 1.5% of suspending agent **KLB-Stellmittel 5 FT** (or optionally, suspending agent **KLB-Stellmittel 3 Super**). Alternatively, the ready-mixed product **EP 85 Fein** can be used.
- **CR 920** is applied once the primer has cured, or at the most after 48 hours. Process the material immediately after mixing and apply a uniform, thick layer with a scraper or notched trowel, e.g. with toothed blade S3; consumption approx. 1.8 - 2.2 kg/m<sup>2</sup>.
- After approx. 5-10 minutes, go over the fresh surface with the spiked or loop roller.
- Optional: uniformly blow on the structured granulate **Strukturgranulat RQX 10** with an airspray gun to increase the slip resistance grade to R9/R10. Consumption: 20 to 40 g/m<sup>2</sup>.

#### Slip-resistant scattered coating

- Prepare the substrate, e.g. by shot blasting.
- Prime with **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 RAPID** or **EP 55**. Apply and distribute the freshly mixed material evenly with a scraper, trowel or nylon roller; consumption approx. 0.3 - 0.4 kg/m<sup>2</sup>.
- Scratch coat to produce an even substrate, e.g. with **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 Rapid** or **EP 55** and mixed sand **KLB-Mischsand 2/1** in a mixing ratio of 1 : 0.8 parts by weight; consumption of mixture approx. 0.8 - 1.3 kg/m<sup>2</sup>.
- If necessary, the coverings (curved or triangular) can now be installed. These can be produced from **EP 51 RAPID S**, **EP 52 Spezialgrund**, **EP 52 RAPID** or **EP 55** and mixed sand **KLB-Mischsand 1** in a mixing ratio of 1 : 5-8. The viscosity of the material is adjusted by adding 1 - 1.5% thixotropic agent **KLB-Stellmittel 5 FT** (or optionally thixotropic agent **KLB-Stellmittel 3 Super**). Alternatively, the ready-mixed product **EP 85 Fein** can be used.
- Application of the base layer **CR 920** mixed with **mixed sand KLB-Mischsand 3/1**; mixing ratio 1.0 : 0.5 parts by weight; process with the smoothing trowel over grain immediately after mixing; consumption: approx. 1.0 - 1.3 kg/m<sup>2</sup>.
- Scatter immediately with quartz sand, grain size 0.3/0.8 mm or 0.7-1.2 mm; consumption: approx. 3 - 4 kg/m<sup>2</sup>.
- After curing, remove excess sand, sweep off and vacuum carefully until no more grains come loose.
- Apply the top sealer **CR 920** in the same colour as the base layer using a rubber squeegee or flexible trowel and go over crosswise with a nylon roller (6 mm pile height). Consumption 0.6 - 1.0 kg/m<sup>2</sup>.

#### Top sealing of scattered polyurethane concrete floorings

- The layer structures are produced to slip resistance grades R11/R12/R13 in accordance with the requirements specified in the product information for **PU 4006** and **PU 4009**. There is no need to apply top sealer **PU 4080**.
- After the scattered layer has cured, apply **CR 920** with a rubber squeegee or joint board; consumption 0.6-1.0 kg/m<sup>2</sup>. Finally, back roll crosswise with a nylon roller (6 mm pile height). When doing so, ensure that the final layer is applied in a single direction.

#### Conductive coating with silicium carbide

- Prime with **EP 50**, **EP 51 RAPID S**, **EP 52 Special Primer**, **EP 52 RAPID** or **EP 55**. Apply and distribute the freshly mixed material evenly with a scraper, trowel or nylon roller; consumption approx. 0.3 - 0.4 kg/m<sup>2</sup>.
- Apply the KLB copper strips every 6-8 m in a grid pattern, approx. 1-2 m from the earthing points into the room.

- Apply a cross-conductive layer of **EP 799 Ableitgrund** with the nylon roller (8 mm pile height) using approx. 0.100 - 0.140 kg/m<sup>2</sup>.
- Apply **CR 920** previously mixed with mixed sand **KLB-Mischsand 3/1** in a mixing ratio of 1 : 0.5 parts by weight using the smoothing trowel over grain. Consumption approx. 0.9 - 1.2 kg/m<sup>2</sup>.
- Scatter the fresh surface with silicium carbide, grain size 0.2/0.5 mm, 0.3/0.8 mm or 0.7/1.2 mm depending on the desired slip resistance. Consumption approx. 4 - 5 kg/m<sup>2</sup>
- After curing, sweep off the excess and vacuum carefully until no more silicium carbide comes loose.
- Apply **CR 920** uniformly as a top sealer using a rubber squeegee or flexible trowel; consumption approx. 0.6 - 0.8 kg/m<sup>2</sup> (with SiC 0.2/0.5 mm), 0.7 - 0.9 kg/m<sup>2</sup> (with SiC 0.3/0.8 mm) or 1.0 - 1.3 kg/m<sup>2</sup> (with SiC 0.7 - 1.2 mm). Finally, back roll uniformly with a nylon roller (8 mm pile height).

#### Functional wall coating

- Prime the wall area with **EP 51 RAPID S**, **EP 52 Special Primer**, **EP 52 RAPID**, **EP 55** or **PU 8350** (e.g. in silos or sewage treatment plants). Consumption approx. 0.2 - 0.35 kg/m<sup>2</sup> depending on the absorbency of the substrate.
- Pre-mix CR 920 with 0.5 - 1.5% thixotropic agent **Stellmittel 3 Super** to achieve a stable consistency and apply with the nylon roller (8 mm pile height) until a uniform layer is created; consumption: approx. 0.5 - 0.8 kg/m<sup>2</sup>.

#### Wall coating with fleece inlay

- Prime the wall area with **EP 51 RAPID S**, **EP 52 Special Primer**, **EP 52 RAPID**, **EP 55**, then scatter openly with quartz sand 0.1/0.5 mm.
- Cut the **reinforcement fleece VA 125 x 300** to the desired strip length. The fleece has a cut edge and a frayed edge. The seams have an approx. 2 - 5 cm overlap; the frayed edge is laid over the cut edge already laid. The seams are visible. A uniform seam pattern can be achieved by fraying the cut edge.
- Pre-mix **CR 920** with 0.5 - 1.5% thixotropic agent **Stellmittel 3 Super** to achieve a stable consistency and apply with the nylon roller (14 mm pile height) until a uniform layer is created; consumption: approx. 0.5 - 0.8 kg/m<sup>2</sup>.
- Lay the **KLB reinforcement fleece VA 125 x 300** in the fresh resin and roll it into it with a nylon roller (6 mm pile height).
- Once the reinforcement fleece has been secured in place "fresh-in-fresh", use a nylon roller (14 mm pile height) to apply the paste-like **CR 920** (with added 0.5 - 1.5% thixotropic agent **Stellmittel 3 Super**) and roll to a uniform thickness; consumption approx. 0.5 - 0.8 kg/m<sup>2</sup>. Optional: a further sealing layer can only be applied after an intermediate grinding until the white grain tips are visible.

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#### **Substrate**

The substrate to be coated must be even, dry, dust-free, sufficiently resistant to tension and compression, and free of weakly bonded components or surfaces. Materials reducing adhesion, such as grease, oil and paint residues, must first be removed with suitable measures. Observe the information issued by trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S, and the notes provided in the product information for the recommended KLB primer. The substrates to be coated must be prepared mechanically, preferably by shot blasting. The prepared area must be saturated, pore-free and primed carefully. It is often difficult to judge the necessary pore-free condition of substrates. It is therefore recommended that a scratch coat be applied to smooth the surface. If the substrate has not been primed to be pore-free, bubbles and pores can develop in the coating due to air rising from the substrate. If in doubt, we recommend processing a sample area.

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#### **Mixing**

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 B into the resin package. Blend with a slow speed mixer (200-400 rpm) for 2-3 minutes until a homogeneous, streak-free compound forms. To

prevent mixing errors, empty ("repot") the entire resin/hardener mixture into a clean container and mix it once again briefly.

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## Processing

### Coatings:

Process the material immediately after mixing and apply the product by skimming a uniformly thick layer with a scraper or notched trowel over the prepared substrate. The product is adjusted for optimum deaeration, however, rolling with a spiked roller/ loop roller is recommended to improve the wetting of the substrate, to optimise levelling and to remove remaining air bubbles. Rolling with the spiked roller should be done after a delay of 5 - 10 minutes. To work seamlessly, always work "fresh-in-fresh" and define work areas before starting.

### Scattering with quartz sand or silicium carbide:

For reasons of deaeration, do not scatter too late; optimum time at 20 °C / 68 °F is after 10 - 15 minutes. Continue scattering until the entire area is covered with sand. If the scattering is performed too late, this can lead to an uneven surface texture and subsequent formation of 'bald' patches.

### Applying top sealer to scattered coatings:

With scattered coatings, once the base layer has hardened, remove excess grains from the surface by sweeping or vacuuming until no more quartz grains come loose. If the surface is supposed to have only minimal slip resistance or roughness, the existing bed of sand can be ground lightly to blunt the tips of the grains. Place portions of the fresh mixture over the floor. The compound can then be distributed evenly across the surface with a smooth notched rubber squeegee, a Kaupp trowel or a steel scraper depending on the quantity of material. Ensure even coverage and avoid ponding. Rigid scrapers create smoother covering surfaces, while soft trowels create rougher surfaces. To ensure a uniform surface and prevent the formation of 'bald' patches, back roll with a velour roller. The product can also be applied with a roller, which will create a rougher surface. Process the work areas "fresh-in-fresh".

### Adding thixotropic agents

**Chemoresin CR 920** can be made paste-like by adding 0.5% - 1.5% thixotropic agent **Stellmittel 3 Super** or alternatively thixotropic agent **Stellmittel 5 FT**. Select a consistency that will enable the material to be processed with a nylon roller, but will not allow it to run down vertical surfaces.

**Chemoresin CR 920** is suitable for creating technical coverings. It is therefore possible for the tips of grains of sand to still be visible irrespective of the quantity applied, especially when using lighter colours.

The floor and air temperatures must not fall below 10 °C / 50 °F and the humidity must not exceed 75%. The material to be processed must be at room temperature during processing. During processing and hardening, the difference between the dew-point temperature and the temperature of the substrate must be greater than 3 °C / 3 K / 5.4 °F. If a dew-point situation occurs, regular drying will not be possible, and curing problems or spotting can result. Exposure to water and chemicals should be avoided during the first 7 days. 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. Ensure the recommended conditions during the curing time. If the working conditions are not complied with, the technical properties of the end product may deviate from those specified.

### Important note:

With scattered coverings, the tips of grains of sand remain more visible, especially when using lighter colours.

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**Cleaning**

To clean tools, use **VR 28** or **VR 40** immediately. Hardened material can only be removed mechanically.

Separate cleaning and care recommendations are available for cleaning floors produced with KLB coatings and sealers.

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**Storage**

Store in a dry, frost-free location. Ideal storage temperature: 15 - 25 °C / 59 - 77 °F. Bring to a suitable working temperature before application. Tightly re-seal opened packages and use up the content within 1 to 3 days.

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**Special remarks**

This 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: PU50

**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

	
<b>KLB Kötztal Lacke + Beschichtungen GmbH</b> Günztalstraße 25 FRG-89335 Ichenhausen	
<b>19</b>	
CR920-V1-092019	
<b>DIN EN 13813:2003-01</b>	
Synthetic resin screed mortar DIN EN 13813: SR-B2,0-AR0,5-IR4	
Fire behaviour	B <sub>1</sub> -s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 2.0
Impact resistance	IR 4



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-koetzal.com](http://www.klb-koetzal.com). In addition, our "General Terms and Conditions" apply.