



# KLB-SYSTEM POLYUREA

## PU 469

Low-odour, coloured, elastic 2-component polyurea resin for scratch coats and top sealers on block joints

### Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6179-70	Combo packaging	6.00 kg	45



### Product characteristics

Mixing ratio parts by weight	A : B = 2 : 1
Mixing ratio parts by volume	A : B = 100 : 82,7
Processing time	10 °C / 50 °F: 18 - 20 minutes 20 °C / 68 °F: 12 - 15 minutes 30 °C / 86 °F: 8 - 10 minutes
Processing temperature	Minimum 5 °C / 41 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 3 - 6 hrs. 20 °C / 68 °F: 2 - 4 hrs. 30 °C / 86 °F: 1 - 3 hrs.
Curing	12 hours until mechanical load at 20 °C / 68 °F 3 days until chemical load at 20 °C / 68 °F
Consumption	Scratch coat: approx. 0.6 kg/m <sup>2</sup> while adding approx. 33% of mixed sand KLB-Mischsand 2/1 (PU 469 : KLB 2/1 = 3 : 1) Top sealer: approx. 0.4 - 0.8 kg/m <sup>2</sup>
Colours	RAL 7030 and RAL 7032, other RAL colours available upon request!
Shelf life	12 months (originally sealed)

### Product description

**KLB-SYSTEM POLYUREA PU 469** is a low-odour, yellowing-resistant, elastic and coloured 2-component polyurea resin, which is preferably used producing scratch coats and as top sealer on block joints. The product consists of a medium-viscous, pigmented resin component and a high-quality, non-pigmented hardener. The final product is rapid-setting, non-yellowing and results in uniform, glossy surfaces.

**KLB-SYSTEM POLYUREA PU 469** can be combined with mixed sand **KLB-Mischsand 2/1** for producing scratch coats onto previously ground block joints (e.g. made of **KLB-SYSTEM POLYURETHAN PU 466**, **KLB-SYSTEM ACRYL AC 353** and **KLB-SYSTEM ACRYL AC 356**). This is followed by the application of the coloured top sealer **KLB-SYSTEM POLYUREA PU 469** onto the scratch-filled surfaces. The resin is thus especially suitable for light-coloured and non-yellowing surfaces. It can be used indoors, but also outdoors.

The processing time of the mixed reactive resin is short, which allows a fast curing to form a coloured, hard and tough synthetic material. The resin is almost odourless during processing.

**KLB-SYSTEM POLYUREA PU 469** offers good resistance to chemicals and mechanical load. The surface is to a large extent resistant to wear and tear, hygienic, and very well cleanable, also for application in wet areas.

The top sealer is chemically resistant to water, de-icing salt, grease, diluted acids and bases, etc.. A conditional resistance is given for solvents, concentrated acids and bases, as well as for oxidizing chemicals.

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#### Area of application

- As top sealant and scratch coat for deformable block joints (made of **AC 353**, **AC 356**, **PU 466**) on accessible concrete slabs in industrial halls.
- As elastified repair mortar in combination with mixed sand **KLB-Mischsand 1**

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#### Product features

- solvent-free
- odorless
- light-stable
- elastic
- rapid-setting
- good resistance to water and chemicals
- coloured surface
- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")

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#### Technical data

Viscosity - Component A+B	approx. 2000	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 99.00	%	KLB method
Density - Component A+B	approx. 1.47	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Tensile strength	> 14	N/mm <sup>2</sup>	DIN 53504
Breaking strain	> 90	%	DIN EN ISO 527-3
Shore-hardness D	60	-	DIN 53505 (after 7 days)

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

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#### Build-up of coats

##### Forming a block joint with PU 466

- Chisel out the joint, remove profiles if necessary and prepare the concrete edge zones. Seek technical advice for this.
- Prime the concrete in the joint area with **PU 68 Rapid U**, consumption approx. 0.3 - 0.5 kg/m<sup>2</sup>. Openly scattering with quartz sand 0.7/1.2 mm, consumption approx. 0.5 - 1.0 kg/m<sup>2</sup>.
- If necessary, reprofile break-outs with a mortar made of **PU 68 Rapid U** and mixed sand **KLB-Mischsand 1** in a weight ratio of 1 : 10. Alternatively, a mortar made of **PU 469** and mixed sand **KLB-Mischsand 1** can be used in a mixing ratio of 1 : 4.
- When it is needed after the mortar has hardened, reopen the closed joint by a separating cut and insert a closed-cell **KLB round cord** or a similar cord of suitable width.
- Insert the grouting material **PU 466** filled with 33 % of mixed sand **KLB-Mischsand 2/1**, consumption approx. 1.90 kg/l by excess of 1 - 2 mm.
- After about two hours, grind the filled joint flat with the surface of the concrete slab/coating using a floor or concrete grinder; rough grinding with PCD cup; levelling or intermediate grinding with diamond cup. Alternatively, as the requirement may be, a floor stripper can be used, which is then followed by another intermediate grinding with a diamond cup. Vacuum afterwards.
- Optionally, for higher demands on visual appearance: fine grinding with an eccentric grinder (grit 80 - 120), which is followed by vacuuming.
- Application of a scratch coat or a pore-closure (if necessary diluted with **VR 28**) with **PU 466**, consumption 0.5 - 0.7 kg/m<sup>2</sup> using a Kaupp spatula or a trowel, then proceed with another fine grinding (grit 120 to 180). Optionally, application of a scratch coat or pore-closure with **PU 469**, filled with approx. 33% of mixed

sand **KLB-Mischsand 2/1**, consumption approx. 0.6 kg/m<sup>2</sup>. The consumption depends on the porosity of the substrate.

- Then, another fine grinding with an eccentric grinder (grit 120 to 180) is recommended.
- This is followed by a final sealing layer with **PU 469** using a velours roller, consumption approx. 0.40 - 0.8 kg/m<sup>2</sup>.

#### Forming a block joint with AC 353/AC 356

- Grouting of accessible joints
- Prime the joint flanks with **AC 20**, consumption approx. 0.35 - 0.45 kg/m<sup>2</sup>.
- Optional: openly scattering the fresh surface with quartz sand 0.7/1.2 mm, consumption approx. 0.5 - 1.0 kg/m<sup>2</sup>.
- If necessary, reprofile break-outs with a mortar consisting of **AC 353/Ac 356** and mixed sand **Mischsand 1** in a mixing ratio of 1 : 4 parts by weight. It is possible to lay the mortar wet-in-wet into the primer.
- After the mortar has hardened, the closed joint is opened again by a separating cut, and a closed-cell PE round cord of suitable width is inserted to prevent three-flank adhesion.
- After curing, the elastic grouting mortar of **AC 353/AC 356** filled with 50 - 75% of mixed sand **Mischsand 2/1** can be poured in (depending on driving load and joint movement), so that a slight excess of the material remains (for 1 - 2 mm).
- Important note: we do not recommend higher filling than 75%, as this reduces the mechanical properties of the block joint.
- Grind the filled joint flat with the surface of the concrete slab/coating after 1 - 2 hours using a floor or concrete grinder; rough grinding with PCD cup; levelling or intermediate grinding with diamond cup. Vacuum afterwards.
- Optionally, for higher demands on visual appearance: fine grinding with an eccentric grinder (grit 80 - 120), which is followed by vacuuming.
- Application of a scratch coat or pore-closure with **PU 469**, filled with approx. 33% of mixed sand **KLB-Mischsand 2/1**, consumption approx. 0.6 kg/m<sup>2</sup> using a Kaupp spatula or a trowel. The consumption depends on the porosity of the substrate.
- Then, another fine grinding with an eccentric grinder (grit 120 to 180) is recommended.
- This is followed by a final sealing layer with **PU 469** using a velours roller, consumption approx. 0.40 - 0.8 kg/m<sup>2</sup>.

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#### 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. Materials impairing adhesion such as grease, oil, paint residues, cement or other weakly-bonded or loose parts should be removed beforehand with suitable measures. Observe the information issued by the trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S, RiLi-SiB or the TR maintenance directive as well as the notes provided in the product information for the recommended KLB primers, e.g. **PU 68 RAPID U**. The substrates to be coated should be prepared mechanically, e.g. by chiselling out and grinding. Joint flanks must be cut at a 45° angle.

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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 compound B into the resin container A. Blend with a slow speed mixer (200 - 400 r/pm) for at least 1 - 2 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.

#### Producing scratch coats and mortar

##### **Scratch coat:**

6.0 kg **KLB-SYSTEM POLYUREA PU 469**  
approx. 2.0 kg of mixed sand **KLB-Mischsand 2/1**

**PU resin mortar:**

6.0 kg **KLB-SYSTEM POLYUREA PU 469**  
approx. 24 kg of 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.

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**Processing**

**Scratch coat/Pore-closure:** the fresh mixture of scratch coat made of **PU 469** and approx. 33% of mixed sand **KLB-Mischsand 2/1** (A : B : KLB 2/1 = 2 : 1 : 1), consumption approx. 0.6 kg/m<sup>2</sup>, is pulled sharply over the dust-free surface using a stainless steel smoothing trowel to close the open pores. Optionally, **PU 466** can also be used for the scratch coat. The consumption depends on the porosity of the substrate.

After the scratch coat has hardened and before the application of the sealer, we recommend grinding the joint with an eccentric grinder and sanding paper or grid (grit 80 to 120). Then remove dirt and dust from the surface by thoroughly vacuuming with an industrial vacuum cleaner. Any remaining dust particles can impair the surface appearance.

**Top sealer:** the surface can then be sealed with the coloured **PU 469**, consumption 0.4 - 0.8 kg/m<sup>2</sup>. The sealer is applied immediately after mixing. Watch out for rapid hardening, especially at higher relative humidities, and adapt your working method accordingly. Depending on the desired material quantity, the sealer is then distributed with a velours roller. Ensure uniform application. To avoid early-stage hardening, always work "fresh-in-fresh" and change rollers after 20 - 30 minutes.

**PU resin mortar:** for forming joints or necessary repair works, **PU 469** can be used as mortar. Apply the mortar with a smoothing trowel, then compact and smooth it.

Floor and air temperature must not fall below 5 °C / 41 °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. 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 the working conditions are not complied with, the technical properties of the end product may deviate.

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**Cleaning**

To remove fresh contamination and to clean tools, use thinner **VR 28** or **VR 33** immediately after use. Hardened material can only be removed mechanically.

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**Storage**

Store in a dry and if possible, frost-free location. Ideal storage temperature: 10 - 25 °C / 50 - 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: PU10

**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.



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

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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 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.