KLB-SYSTEM POLYURETHAN
PU 427

Elastic, solvent-free, low-viscosity 2-component mortar binding agent for producing flexible reactive resin screeds and mortar

Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK6067-50	Bucket combo	10.00	30
AK6067-30	Hobbock combo	30.00	12

Product characteristics

Mixing ratio parts by weight	A : B = 100 : 40
Mixing ratio parts by volume	A : B = 100 : 33
Processing time	10 °C / 50 °F : 55 min. 20 °C / 68 °F : 40 min. 30 °C / 86 °F : 25 min.
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F : 36 - 48 hrs. 20 °C / 68 °F : 24 - 28 hrs. 30 °C / 86 °F : 12 - 14 hrs.
Curing	2 - 3 days until mechanical load at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Further coatings	After 24 - 28 hours, but after 48 hours at the latesat at 20 °C / 68 °F
Consumption	17 - 19 kg/m² mortar for each 10 mm of layer
Addition of filling material	Repair mortar: 1 : 4 up to 1 : 8 with KLB-Mischsand 1 Levelling mortar: 1 : 2 up to 1 : 3 with KLB-Mischsand 1
Colours	Non-pigmented
Shelf life	12 months (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 427 is a flexible, solvent-free 2-component polyurethane binding agent for deformable repair and levelling mortar which are preferable used on substrates susceptible to deformation, such as mastic asphalt screeds with thermoplastic properties.

Repair and levelling mortar produced with the binding agent **KLB-SYSTEM POLYURETHAN PU 427** show good processing and smoothing properties and cure with very small shrinkage. Due to its low-viscosity, **KLB-SYSTEM POLYURETHAN PU 427** can be filled highly without loosing its good processing. Depending on the filling degree, the elasticity and consistency of the cured mortar is adjustable.

The cured coating has flexible to viscoplastic properties and is suitable for light to medium mechanical load. Because of the flexibility, the binding agent is especially suitable for substrates which are susceptible to deformation (mastic asphalt, bituminous cold screeds). For hard substrates like concrete and so on, levelling work can be carried out with mortars made of epoxy resins like **KLB-SYSTEM EPOXID EP 150**.

KLB-SYSTEM POLYURETHAN PU 427 is supplied unpigmented. It is, however, not resistant to yellowing due to its chemical structure.

Area of application

- Elastic polyurethane binding agent for flexible mortar, repair, and levelling coats.
- For commercially and industrially used areas with low to medium mechanical load, and constant exposure to chemicals or water.
- Especially suitable for substrates with increased deformation and light to medium mechanical load like mastic asphalt, bituminous cold screeds.

Product features

- solvent-free
- lower viscosity
- filling and levelling coats
- elastic and deformable
- extended processing time
- especially for screed repair and renovations
- free of deleterious substances against varnish

Technical data

Viscosity - Component A+B	550	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	100	%	KLB method
Density - Component A+B	1.02	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Water absorption	0.2	weight-%	DIN 53495
Bending tensile strength	(Mortar) 35	N/mm²	DIN EN 196/1
Compressive strength	(Mortar) 40	N/mm²	DIN EN 196/1
Breaking strain	(Binding agent) 82	%	DIN EN ISO 527-3
Shore-hardness D	51	-	DIN 53505 (after 7 days)
Abrasion (Taber Abraser)	22	mg	ASTM D4060 (CS10/1000)

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

Build-up of coats

- Prepare the substrate, like concrete, cement screed or other mechanically, e.g. by shot-blasting, grinding or mortising.
- On mastic asphalt and bituminous substrates, the mixed binding agent **PU 427** may be used as primer, if necessary also type "wet-in-wet".
- On mineral screeds, prime with one of the recommended KLB priming resins, like **EP 50**, **EP 55**, **EP 51 RAPID S**, or **EP 52 Spezialgrund**, consumption approx. 0.3 - 0.4 kg/m².
- For the subsequent use of PU mortar, scatter the surface with quartz sand 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Apply, distribute and compact the mortar coat with **PU 427** and mixed sand **KLB-Mischsand 1**.
- Depending on the subsequent processing, fill or apply KLB polyurethane coatings.

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. Observe the information issued by the

trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S as well as the notes provided in the product information for the recommended base coats, like **EP 50, EP 51 RAPID S** and **EP 52 Spezialgrund**. The substrates to be coated should be prepared mechanically, preferably by shot blasting. The prepared area must be saturated, pore-free and primed carefully. To improve adhesion, scatter the surface completely with 0.5 - 1.0 kg/m² quartz sand, grain size 0.3/0.8 mm.

Mixing

If the components are packed individually, they must 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 1 - 2 minutes until a homogeneous, streak-free compound forms.

To achieve a constant quality of the mortar, use a compulsory mixer for mixing the screed mortar. First put the additives into the compulsory mixer (suitable is e.g. **KLB-Mischsand 1**), then add the premixed binding agent completely into the already running mixer. **Important**: mixing time is 3 minutes and should be at a constant speed. Process the material immediately.

Processing

The mortar mixture should always be processed immediately in order to keep the change in consistency due to the reaction progress to a minimum. This gives the most even surfaces; partially reacted material is more difficult to work with and can lead to altered surface structures and visible working transitions. Apply the material in portions on the substrate and distribute evenly, e.g. with a gauge. Compact and smooth manually or mechanically. Always work “fresh-in-fresh” to avoid any shoulders. Working areas must be separated in accordance with the installation process. The mortar installation requires an experienced and trained staff. Mortar coatings made of **PU 427** should generally be sealed. The number of coats and choice of material depends on the finish requirements and the mortar system.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 75 %. The material to be applied must be at room temperature during application. Within the recommended processing conditions, the floor temperature may be a maximum of 3 °C / 3K / 5.4 °F colder than the ambient room air temperature to exclude a dew point on the surface to be coated and the fresh coating. Otherwise, regular curing may be disrupted with hardening problems and foaming to occur. Technical properties might deviate.

Do not work in strong sunlight or on strongly heated surfaces, as the working time will be greatly reduced and bubble formation is possible. Polyurethane coatings are sensitive to moisture when fresh, so the humidity specifications must be strictly observed.

The coating of dew-damp substrates and the use of damp sand as well as sweat lead to foaming of the material and must be avoided.

The specified hardening times apply for 20 °C / 68 °F. Lower temperature may increase; higher temperature may decrease the curing and processing times. During curing, the recommended working conditions must be ensured. Otherwise, the technical properties of the end product may deviate from those specified.

Cleaning

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

Storage

Store in dry and frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened containers and use 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: PU40

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

CE

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13

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DIN EN 13813:2003-01

Synthetic resin screed mortar
DIN EN 13813: SR-B1.5-AR0.5-IR7

Fire behaviour	E_{fl}-s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 1.5
Impact resistance	IR 7

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