

KLB-SYSTEM POLYURETHAN

PU 429



Low-emission, viscoplastic 2-component polyurethane scratch coat compound and intermediate layer for preparing high-quality decorative polyurethane coatings, such as PU 414 FLAIR or KLB-NaturaPUR PU 435

Packaging units



Article no.	Packaging	Content (kg)	Units/pallet
AK0029-47	Bucket combo	12.00 kg	30
AK0029-30	Hobbock combo	30.00 kg	12

Product characteristics

Mixing ratio parts by weight	A : B = 5 : 1
Mixing ratio parts by volume	A : B = 100 : 25
Processing time	10 °C / 50 °F: 45 min. 20 °C / 68 °F: 25 min. 30 °C / 86 °F: 15 min.
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 24 - 36 hrs. 20 °C / 68 °F: 18 - 24 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 accessibility, approx. after 18 - 24 hours, but after 72 hours at the latest at 20 °C / 68 °F
Consumption	Scratch coat: approx. 0.8 - 1.2 kg/m ² depending on the roughness For self-levelling layers approx 1.3 - 1.5 kg/m ² and 1 mm
Addition of quartz sand	For scratch coats: 15-30% of quartz sand 0.1/0.3 mm For higher layer thicknesses 20-30% of quartz sand 0.3/0.8 mm
Colours	non-pigmented, in natural colours
Shelf life	12 months (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 429 is a low-emission, non-pigmented, self-levelling 2-component polyurethane scratch coat compound and intermediate layer for preparing high-quality decorative PU coatings. With its efficient and shrink-free hardening, **KLB-SYSTEM POLYURETHAN PU 429** is particularly suitable as viscoplastic layer for decorative polyurethane coatings such as **KLB-SYSTEM POLYURETHAN PU 414 FLAIR** or **KLB-NaturaPUR PU 435**, where scattering of the scratch coat can lead to surface defects. Scratch coating with **KLB-SYSTEM POLYURETHAN PU 429** leads to a smooth surface, so the next layer will not be affected in its flow properties. It is therefore recommended to apply an epoxy-based primer first and scatter it openly, followed by the trowel coat using the polyurethane compound, so that scattering of the scratch coat is not necessary. The adhesion of subsequently applied polyurethane coatings remains excellent within the specified interval, even without intermediate scattering. Scratch coating with **KLB-SYSTEM POLYURETHAN PU 429** is also possible on all other polyurethane smooth coatings.

KLB-SYSTEM POLYURETHAN PU 429 can be applied on substrates susceptible to deformation, like mastic asphalt, chipboards, reconstruction surfaces or also on metal.

KLB-SYSTEM POLYURETHAN PU 429 has been tested by Eurofins and certified according to EMICODE® EC 1^{PLUS} and meets the requirements for certification according to DGNB, LEED and BREEAM. This makes it ideal for application in recreation areas.

The resistance to chemicals like water, saline solutions, diluted acids and alkalis, mineral oil, and diesel fuel is sufficient.

Area of application

- Scratch coat on an openly scattered epoxy resin primer prior to the application of a decorative polyurethane coating, such as **KLB-NaturaPUR PU 435, PU 414 FLAIR** or **PU 410** applied in wiping technique.
- For roughness depth compensation and as intermediate layer – generally recommended for elastic polyurethane coatings.
- As a base coat on mastic asphalt, remaining chipboard, raised floors, metal substrates and other renovation surfaces. Can be applied to mastic asphalt without any primer.
- As a base coat for scattered coverings with coloured top sealer.

Product features

- tested, low-emission quality
- EMICODE® EC 1PLUS certified
- viscoplastic
- deformable
- lower viscosity
- good processing properties
- suitable for renovations
- filling and levelling coats
- free of deleterious substances against varnish
- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")

Technical data

Viscosity - Component A+B	2400	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	100	%	KLB method
Density - Component A+B	1.5	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Weight loss	0.3	%	after 28 days
Water absorption	< 0,2	Gew.-%	DIN 53515
Flexural strength	> 40	N/mm ²	DIN EN 196/1
Compressive strength	55	N/mm ²	DIN EN 196/1
Tensile strength	25	N/mm ²	DIN EN ISO 527
Shore-hardness D	65	-	DIN 53505 (after 7 days)

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

Included in systems

- [System G16 - KLB DESIGN NATURAPUR LOW-VOC](#)
- [System G15 - KLB DESIGN FLAIR LOW-VOC](#)

Please visit our website to get more information about our KLB systems: www.klb-koetzal.com

Tests

The following external test certificates are available:

- Classification of the fire behaviour according to DIN EN 13501-01:2010-01: B_{fl}-s1
- Suitability with foodstuffs according to § 31 Abs. 1 of the Food and Feed Code (LFGB).
- Certified as low-emission according to EMICODE® EC 1^{PLUS}. Compliant with AgBB for recreation rooms.
- Product is compliant with DIN EN 13813: 2003-01

Build-up of coats

Preparation of mineral substrates

Prepare the substrate like concrete, cement screed, mastic asphalt etc. mechanically, preferably by shot-blasting. Other methods are possible, provided that the surface is sufficiently removed to create an open, absorbent structure.

System build-up with PU 429 as intermediate layer for decorative coatings

- Prime with one of the recommended KLB priming resins from the system, like **EP 58**, **EP 53 Spezialgrund AgBB** or **EP 54 RAPID U**, consumption approx. 0.35 - 0.5 kg/m². Openly scattering with fire-dried quartz sand 0.3/0.8 mm, consumption 0.5 - 1.0 kg/m². Scattering is always necessary!
- After hardening of the primer, apply a scratch coat with **PU 429** while adding approx. 20 - 30 % of quartz sand 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m². **NO SCATTERING!**
- Upon accessibility of the area (within the reworking time frame of 24 hours), a decorative coating, e.g. using **PU 414 FLAIR**, **KLB-Natura PUR PU 435**, etc. can be applied based on the information from the product data sheet, including the recommended layer thickness.

Important:

- We recommend this approach for all decorative flooring projects, as it allows to create very even, smooth surfaces.
- Our recommendation covers in particular the products **PU 414 FLAIR**, **KLB-Natura PU 435**, **PU 405** respectively **PU 410**, especially when the latter is used in wiping techniques. The same applies to other polyurethane coatings, like **PU 420**, **PU 425 Comfort**, **PU 426**.
- It's only with the primers **EP 50** or **EP 55**, that **PU 429** can be applied directly without scattering after a curing time of at least 14 to max. 48 hours (at 20 °C / 68 °F). Using **EP 51 RAPID S**, the application of **PU 429** can take place without scattering after at least 4 to max. 24 hours (at 20 °C / 68 °F), provided the surface is pore-free. In the case of other primers or changed time sequences, intermediate scattering must be carried out.

Substrate preparation of mastic asphalt

- Prepare the substrate mechanically, e.g. by shot-blasting.
- This is followed directly by the application of a scratch coat with **PU 429** and approx. 20 - 30 % of quartz sand 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m². The surface must be pore-less for any subsequent coating.
- An elastic polyurethane coating with a maximum layer thickness of 1.5 - 2 mm is suitable for being applied onto mastic asphalt.

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 57**, **EP 58**, **EP 53 Spezialgrund AgBB** or **EP 54 RAPID U**. The substrates to be coated should 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. In case of doubt, we recommend testing on a trial surface.

Mastic asphalt: After suitable substrate preparation, a scratch coat with **PU 429** may be applied straight on top. Please ensure that the build-up is uniformly elastic or viscoplastic and not too thick. Before coating the quality grade has to be checked. Only quality grade IC 10 or IC 15 are suitable for coating. No rolled asphalt!

Metal substrates, like those made of steel, must be grease-free, lightly ground and primed with **EP 53 Spezialgrund AgBB**, then scattered openly with quartz sand, grain size 0.3/0.8 mm.

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. 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. Partial quantities need to be weighed out in the right mixing ratio after having stirred up the single components.

Producing pigmented levelling layers: To do so, add the required amount of pigment in the colour tone matched to the top coat together with Component B into Component A, then mix the resin/hardener mixture in the mixing container. Blend mechanically with a slow speed mixer (200 - 400 r/pm) for 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. The mixing times must always be the same.

Processing

Process the material immediately after mixing, for scratch coats, using a squeegee and for levelling layers, using a trowel or toothed trowel by applying an even layer on the prepared surface. The product is adjusted for optimum deaeration, however, rolling with a spiked roller is recommended with levelling layers to improve the wetting of the substrate, to optimise levelling and to remove remaining air bubbles. This should be carried out time-delayed after approx. 10 - 15 minutes. To work seamlessly, always work "fresh-in-fresh" and define work areas before starting.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity must not exceed 75 %. The material to be processed must have room temperature. 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 in order to exclude a dew point on the surface to be coated and the fresh coating. If a dew-point situation arises, regular curing will not be possible with hardening problems and foaming to occur. 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 curing times apply for 20 °C / 68 °F; temperatures below this require longer processing and curing times, while higher temperatures require shorter 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**. Hardened material can only be removed mechanically.

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

Storage

Store in dry and if possible, at frost-free conditions. Ideal storage temperature is 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: 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

	
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 89335 Ichenhausen, GERMANY	
25	
PU429-V1-062025	
DIN EN 13813:2003-01	
Synthetic resin screed mortar DIN EN 13813: SR-B2,0-AR0,5-IR5	
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 5

VOC content

The product complies with the high requirements to low VOC contents, as required for sustainable construction. Therefore, these values are well below the limits set by the European Union directive 2004/42/EG (Decopaint Directive).

	Limit value	Actual content	
Decopaint Directive 2004/42/EG - Component A	< 500	1	g/l
Decopaint Directive 2004/42/EG - Component B	< 500	0	g/l
DGNB - Components A + B	GISCODE	PU40, EC 1PLUS	
klima:aktiv – Components A + B	< 3	0.05	%
LEED - Components A + B	< 100	0.8	g/l
Minergie ECO® - Components A + B	< 1 (< 2)	0.05	%

(According to the Decopaint directive, single components are used for calculation. In the sustainable building rating systems, the mixture of both components in the correct mixing ratio is the determining factor.)



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. In addition, our "General Terms and Conditions" apply.