KLB-SYSTEM POLYURETHAN
PU 662

Low-emission, paste-like 2-component polyurethane wall coating for smooth surfaces on wall and ceiling

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6942-47	Bucket combo	12.00 kg	30

Product characteristics

Mixing ratio parts by weight	A : B = 100 : 20
Mixing ratio parts by volume	A : B = 100 : 24
Processing time	10 °C / 50 °F : 45 min. 20 °C / 68 °F : 30 min. 30 °C / 86 °F : 20 min.
Processing temperature	Minimum 10 °C / 50 °F - Maximum 30 °C / 86 °F (room and floor temperature)
Curing time (accessibility)	Further processing - grinding 10 °C / 50 °F : 16 - 18 hours 20 °C / 68 °F : 8 - 10 hours 30 °C / 86 °F : 6 - 8 hours
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 8 - 10 hours at 20 °C / 68 °F
Consumption	Standard coating: 1.3 - 1.5 kg/m² per mm of layer thickness
Colours	Standard colours: white, light ivory (approx. RAL 1015), light grey (approx. RAL 7035), other colours can be produced as special colours!
Shelf life	12 months (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 662 is low-emission, stable adjusted 2-component polyurethane resin coating system for walls and ceilings.

KLB-SYSTEM POLYURETHAN PU 662 is used for producing smooth, pore-free and jointless wall and ceiling coatings which are applied in several work steps. Depending on the requirements for durability and appearance, application is done in 2 - 4 layers with respective intermediate grinding. The coating material is characterised by rapid curing and grindability. The dyed material can be applied to the primed surface with a toothed trowel and then smoothed. To increase robustness and crack-bridging, the reinforcement fleece **KLB-Armierungsvlies VA 1044** is inserted into the freshly applied coating.

Within **SYSTEM N2 KLB Decor Low-VOC Wall PU**, the product is certified according to “Indoor Air Comfort Gold” and meets the requirements for a sustainable building certification according to DGNB, LEED or BREEAM. The “Indoor Air Comfort” product certification sets the highest requirements for the emission of volatile organic compounds and meets not only the German requirements of AgBB or ABG, but also the emissions regulations of many other European countries.

The product results in a smooth, non-porous surface that is particularly hygienic, easy to clean and well decontaminable. Due to the elastic setting, a static crack bridging of 0.5 mm is achieved.

KLB-SYSTEM POLYURETHAN PU 662 has well-balanced properties and can be combined easily with the coloured and emission-free 2-component polyurethane sealer **KLB-SYSTEM POLYURETHAN PU 806 E** or **PU 806 E - Wall.** The jointless surfaces look very appealing and are a good alternative to other wall coverings.

The hardened coatings are largely stable against mechanical stress and have good resistance to various chemicals. The coatings are resistant to water, salts, saline solutions, alkalis and alkaline solutions as well as diluted mineral acids, e.g. hydrochloric and sulphuric acid. Concentrated and diluted organic acids such as formic acid and acetic acid are only resistant for a short time. There is no permanent resistance to chlorinated hydrocarbons, esters, concentrated nitric acid and others. Similarly, there is only short-term resistance to solvents such as petrol, fuels, greases, oils, etc. If special resistances are required, please ask for separate advice.

PU 662 can be supplied in various colour tones, whereby special shades can be produced from a certain quantity. Please enquire if required! Polyurethane coatings such as **PU 662** are not colour-stable. In general, the coating should be protected against changes by a colour-stable sealer such as **PU 806 E - Wall** or **PU 812.** The recommended sealers are colour-stable.

Area of application

The application can be done in different variants, which are adapted to the respective requirement.

- As a jointless, decorative wall coating in combination with **PU 806 E - Wall** or **PU 812,** the system can be used as a decorative alternative for wall tiles or precast surfaces.
- As a crack-bridging wall coating for substrates at risk of cracking, e.g. precast concrete elements, etc.
- In combination with fabric or fleece as a robust, hygienic wall and ceiling covering.
- In areas frequently exposed to moisture, e.g. as splash protection, etc.
- In the food industry or clean rooms with increased cleanliness and decontamination requirements.
- As a thin coating with approx. 1 mm of layer thickness with the **PU 806 E - Wall** top sealer for light mechanical stress.
- As a smooth coating in commercially used areas with medium mechanical stress, e.g. in the production of many commercial areas (2 to 3 mm coating).
- In case of requirements for low-emission coatings in recreation rooms.
- In toilets for coating wall surfaces, if necessary with an additional solvent-based and chemical-resistant sealer **PU 883.**

Product features

- coloured surface
- even surface
- tested, low-emission quality
- optically appealing
- solvent-free
- jointless coating
- crack-bridging
- high mechanical resistance
- good processing properties
- stable setting
- good resistance to water and chemicals
- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")

Technical data

Viscosity - Component A+B	structural viscose paste	-	
Solid content	> 99.8	-	KLB method
Density - Component A+B	1.42	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Water absorption	< 0.3	% w/w	DIN 53495
Tensile strength	Approx. 5	N/mm²	DIN EN ISO 527
Breaking strain	100	%	DIN EN ISO 527
Shore-hardness A	90	-	DIN 53505 (after 7 days)
Shore-hardness D	30	-	DIN 53505 (after 7 days)

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

Included in systems

- System N2 - KLB DECOR LOW-VOC WALL PU

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

Tests

The following external test certificates are available:

- Within the system **N2 KLB Decor Low-VOC Wall PU** certified as low-emission according to "Eurofins Indoor Air Comfort Gold“. Compliant with AgBB for recreation rooms.
- Ease of decontamination in combination with **PU 806 E-Wall** and **PU 811 E** according DIN 25415-1: excellent.

Note:

Please ask for the tested system build-up!

Build-up of coats

Smooth wall and ceiling coating

- The substrate must be prepared mechanically, e.g. by diamond grinding. It must be sufficiently absorbent and tension-resistant.
- Depending on the requirements, prime the prepared substrate with the recommended KLB primer resins such as **EP 727 E** (consumption approx. 0.120 kg/m²), without additional scattering after approx. 4 hours of curing (at 20 °C / 68 °F).
- Alternatively, prime with epoxy resin primers such as **EP 57, EP 58,** consumption approx. 0.200 to 0.250 kg/m² (without scattering) or **EP 53 Spezialgrund AgBB**, consumption approx. 0.200 to 0.250 kg/m², by scattering with quartz sand, grain size 0.3/0.8 mm, in each case after approx. 18 hours of curing (at 20 °C / 68 °F). Further recoating with **PU 662** see below.
- **Optional**: for uneven substrates and mandatory for substrates of tile and slab coverings with joint grid: apply a levelling layer to even out the joint pattern/ roughness depths with **PU 662**. In doing so, the material is applied to surfaces with a stainless steel trowel and sharply drawn off over the joint pattern, so that later shining through of the joint pattern can be excluded. Consumption is variable depending on the size of the joint pattern/roughness depths.
- Apply the first layer of the wall coating **PU 662** with a toothed trowel (rectangular toothing 4 mm, e.g. **Toothed blade R4** or TKB-C1), consumption approx. 2.0 kg/ m². Immediately after application, the transitions of the fresh material are spread and smoothed with a smoothing trowel or surface spatula to create a closed, smooth surface.
- The reinforcing fleece **Armierungsvlies VA 1044** is laid into the fresh wall coating and pressed in evenly with a smoothing trowel or spatula without bubbles or creases until the fleece is fully incorporated in **PU 662.** The sheets are overlapped end-to-end in the joint area; alternatively, a double cut can be made.

- Subsequently, the **PU 662,** which has been pressed through the fleece, is smoothed. If material is still needed for smoothing, **PU 662** can be applied "fresh in fresh" in a thin layer of approx. 0.2 - 0.3 kg/m² and trowelled until the surface is as smooth as possible.
- The first intermediate grinding is carried out after hardening, but after approx. 14 to 18 hours at the earliest, using an eccentric sander (grit sandpaper 80 to 120) or a grinding grid. For reasons of work safety, the grinding device must be connected to an extraction system.
- **Optional:** to increase the layer thickness, a further layer of **PU 662** can be applied in a consumption of approx. 0.6 to 1.2 kg/m² using a smoothing trowel. Ensure a bubble-free application. After 14 to 20 hours, a further intermediate grinding with an eccentric sander (grain size 80 to 120) is carried out in the same way.
- Finally, apply a fine trowelling coat made of **PU 662** to smooth the surface. The application is carried out by even, sharp trowelling using a Kaupp or Japan spatula, consumption approx. 0.250 to 0.400 kg/m².
- After hardening, but after approx. 14 to 20 hours at the earliest, the final fine grinding is carried out with an eccentric sander (grain size 100 to 180). Before sealing, the surface must be prepared to be dust-free.
- Finally, apply the coloured top sealer **PU 806 E - Wal**l in an even layer thickness with a lint-free velour or microfibre roller, consumption approx. 0.100 to 0.130 kg/m². In case of colour changes, it may be necessary to apply a second coat of sealer for light and pastel shades.
- **Optional:** in wall areas with high wet loads or cleaning intensity, you can additionally apply a transparent sealing coat with solvent-based **PU 882**, consumption approx. 0.130 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 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 coat **EP 57, EP 58** and **EP 53.** Subtrates suitable for coating are concrete surfaces as well as waterproof cement screeds. The substrate has to have adequately high strength for the intended subsequent use. A surface strength of at least 0.8 N/mm² is recommended. In addition, gypsum plasterboards according to DIN E 520 can be coated, as long as they are suitable for damp rooms. A prerequisite for this is proper installation. For other substrates, we recommend seeking advice. The substrates to be coated should be prepared mechanically, preferably by grinding. The prepared area must be saturated, pore-free and primed carefully. Existing unevenness may become visible on the surface, therefore ensure sufficient levelling. Roughness depths may have to be evened out with additional trowelling layers. In case of doubt, we recommend testing on a trial surface.

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. Before adding Component B, stir Component A briefly (for approx. 30 seconds) and mix it thoroughly. Empty all of the hardener compound B into the resin compound. Partial quantities need to be weighed out in the right mixing ratio. Blend with a slow speed mixer (200 - 400 r/pm), that has no sharp edges on the stirring unit, e.g. using Collomix Xo 4R with KR stirrer or equivalent equipment. Mixing should be at least 2 - 3 minutes until a homogeneous, streak-free compound forms. To prevent mixing errors, it is recommended during mixing to scrape down the coating compound cleanly at the corners of the mixing container once or twice with a trowel, in order to stir in the material not mixed in the edge area. Alternatively, to prevent mixing errors, empty ("repot") the mixed coating compound into a clean container and mix it once again briefly.

Processing

Process the material immediately after mixing. The work steps, tools and consumption quantities are indicated under "Build-up of coats".

After application, the surface is smoothed with a trowel. The application of the supple, stable material initially requires some practice, which is why trial areas are recommended. To work seamlessly, always work "fresh in fresh" and define working areas before starting. The hardened layer can be sanded after approx. 14 to 20 hours. This is done with an eccentric sander in the recommended grain size. For reasons of work safety, the grinding device must be connected to an extraction system. If necessary, remove dust from the surfaces after each work step. The fine trowelling is done with a flexible steel spatula (type Kaupp or Japan) by evenly scraping the surface. The smoothing result is immediately apparent after application.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity must not exceed 75 %. The difference in wall 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. 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. 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 28** or **VR 33** immediately. 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 within three days.

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.

VOC content

The product complies with the high requirements to low VOC contents, as required for sustainable construction. Therefore, these values exceed by far the European Union directive 2004/42/EG (decopaint directive).

	Limit value	Actual content	
Decopaint Directive 2004/42/EG - Component A	< 500	0	g/l
Decopaint Directive 2004/42/EG - Component B	< 500	0	g/l
DGNB - Components A + B	< 0,5	0	%
Klima:aktiv - Components A + B	< 3	0	%
LEED - Components A + B	< 100	0	g/l
Minergie ECO ® - Components A + B	< 1 (< 2)	0	%

(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.

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