KLB KÖTZTAL
Lacke + Beschichtungen GmbH

KLB-NaturaPUR
PU 435

Decorative, low-emission floor coating made from bio-based raw materials with the special characteristics of linoleum.

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6225-50	Hobbock combo	12.00 kg	30
AK6225-30	Hobbock combo	26.00 kg	12

Product characteristics

Mixing ratio parts by weight	A : B = 3 : 1
Mixing ratio parts by volume	A : B = 100 : 29,3
Processing time	10 °C / 50 °F : 45 - 50 min. 20 °C / 68 °F : 25 - 30 min. 30 °C / 86 °F : 12 - 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 : 14 - 20 hrs. 30 °C / 86 °F : 10 - 12 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 18 - 24 hours, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	Approx. 2.5 - 3.0 kg/m²
Layer thickness	Approx. 2.5 - 3.0 mm
Packaging	Combo packaging 12 kg, Hobbock combo 26 kg
Colours	Available in different RAL tones – see colour chart!
Shelf life	12 months (originally sealed)

Product description

KLB-NaturaPUR PU 435 is a decorative, elastic and low-emission 2-component floor coating with a proportion of bio-based raw materials based on vegetable oils, wood and cork granulates as well as a share of natural mineral fillers and pigments, which are cross-linked with a low-emission, light-stable polyisocyanate.

KLB-NaturaPUR PU 435 can be applied in liquid form and without joints, is sustainable and low-emission and cures to a slightly structured covering with linoleum-like characteristics. The liquid application enables the economical production of decorative and jointless floorings in commercial areas with high requirements on appearance and durability.

The coating is particularly suitable for private or commercial projects, such as exhibitions, schools, recreation rooms and other public spaces where a high-quality flooring with pleasant walking comfort and a decorative look is desired.

The comfortable floor coating is applicable in layer thicknesses of 2.5 to 3 mm and results in homogeneous, coloured surfaces with high flexibility and impact sound reduction. The coating is yellowing-resistant to a large extent.

KLB-NaturaPUR PU 435 is certified by EUROFINS and EMICODE® EC 1^{PLUS}; thus meets the requirements for a sustainable building certification according to DGNB, LEED or BREEAM; not only the German requirements of AgBB or ABG, but also the emissions regulations of many other European countries.

KLB-NaturaPUR PU 435 is generally sealed with our **KLB-SYSTEM POLYURETHAN PU 817 Flex.** This transparent top sealer gives the surface a uniformly matt appearance and makes it highly resistant to chemicals or stains. The flooring is then suitable for areas that are walked on, as well as for light rolling traffic, e.g. when using swivel chairs/office swivel chairs with soft tyres.

The surface is smooth, but can also be equipped with a slip-resistance up to grade R10, e.g. using **KLB-SYSTEM POLYURETHAN PU 817 Flex-R10**. The covering is hygienic, easy to clean and to disinfect.

Area of application

- In private or commercially used areas with pedestrian traffic and low loads from chair castors.
- As decorative, low-emission floor coating for recreation rooms with high walking comfort and impact sound-absorbing features.
- In areas with swivel chairs/office swivel chairs with soft tyres according to DIN 12528 and DIN EN 12529
- Suitable for sales or office rooms, exhibitions and showrooms, kindergartens, doctor's offices, hospitals or schools.
- Suitable on concrete, cement screed and similar.

Product features

- tested, low-emission quality
- EMICODE® EC 1PLUS certified
- jointless coating
- decorative, appealing surface
- made from renewable raw materials
- sustainable
- insulating impact sound
- suitable for heated floor constructions
- good cleanability
- good resistance to water and chemicals
- low susceptibility to staining
- easy-care
- wear-resistant
- disinfectable
- elastic

Technical data

Viscosity - Component A+B	approx. 6700	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 99.0	%	KLB method
Density - Component A+B	1.04	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Weight loss	0.2	weight-%	KLB method after 28 days
Water absorption	< 0.2	weight-%	DIN 53495
Adhesive tensile strength	> 2	N/mm²	DIN EN 1542
Shore-hardness A	approx. 78	-	DIN 53505 (after 28 days)
Abrasion (Taber Abraser)	approx. 100	mg	ASTM D 4060 (CS 17/1500)

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

Tests

The following external and internal test certificates are available:

- Slip resistance grade R9 and R10 possible, according to DIN 51130 and BGR 181.
- Product is compliant with DIN EN 13813: 2003-01
- Chair castor test according to DIN EN 425:2002-08
- Water absorption according to DIN EN 1062-3, Class W3
- Certified as low-emission according to EMICODE with the EC 1^{PLUS} label. Compliant with AgBB for recreation rooms.
- Reduction of impact sound according to DIN EN ISO 717-2: 9dB; in combination with PU 430: 13dB.
- Classification of the fire behaviour according to DIN EN 13501-01:2019-05: B_{fl}-s1

Note:

Please ask for the tested system build-up!

Build-up of coats

Preparation of mineral substrates

- Prepare the substrate like concrete, cement screed, etc. mechanically, e.g. by shot-blasting.

Low-emission system build-up with intermediate scattering

- Prime with a low-emission KLB primer, e.g. **EP 58, EP 53 Spezialgrund AgBB** or **EP 54 RAPID U** using a rubber squeegee or velours roller, consumption approx. 0.35 - 0.5 kg/m².
- Openly scattering the fresh surface with quartz sand 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- 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!
- The surface must be pore-less for any subsequent coating.
- Upon accessibility of the area (within the reworking time frame of 24 hours), apply the coating **PU 435** in a layer thickness of 2.5 to 3 mm, e.g. with a **toothed trowel Toothed Blade S1** or Pajarito 92, consumption approx. 2.5 - 3.0 kg/m². After 15 to 20 minutes, roll out with a steel spiked roller (metal needle roller).
- Apply the colourless top sealer **PU 817 Flex** using a trowel with rubber blade (toothing 2 mm) or a lintfree velours roller (6 to 8 mm pile height) in crosswise motion, consumption 0.160 - 0.200 kg/m². By using **PU 817 Flex-R10**, the slip resistance can be adjusted up to grade R11.

Substrate

To achieve a homogeneous surface appearance, the substrate must be carefully prepared. To do so, it must be as flat as possible by thorough and uniform preparation.

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. For concrete, moisture content must not exceed 4.5 CM-% and 2.5 CM-% for cement screed, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. 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 KLB base coats, like **EP 58**. The substrates to be coated should be prepared mechanically. The prepared area must be saturated, pore-free and primed carefully. 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. The surface can be scattered openly with approx. 0.5 - 1.0 kg/m² of quartz sand 0.3/0.8 mm in order to improve adhesion.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component A has sufficient volume for the entire packaging unit. Empty all of the hardener compound B into the resin A package. 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 entire 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.

Processing

Before starting work, divide up the work areas. Process the material immediately after mixing and spread it over the prepared surface with a toothed trowel in a uniform layer. To achieve a homogeneous appearance, apply along the wet edge in even strokes. Always work “fresh-in-fresh”. Rolling the fresh coating with a steel spiked roller (metal needle roller) is recommended to achieve an even and visually appealing surface structure. This should be carried out time-delayed after 15 - 20 minutes.

Attention: with polyurethane coatings, moisture in any form must be avoided, especially drops of perspiration.

Note: to ensure that the subsequent top sealer can be applied without introducing any dirt or shoe marks, the surface may only be walked on with overshoes. Steel or nail shoes are not suitable in this context. Tools, hoover wheels and electric cables must be clean. If necessary, this must be ensured by cleaning them. Black cables can cause discolouration and should be checked beforehand or replaced by others.

For the application of the top sealer, it is absolutely necessary not to enter the soft **PU 435** with nail shoes. We therefore recommend wearing shoes with a larger contact surface for sealing, such as cleated shoes.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 75 %. The material to be processed must be at room temperature during processing. Within the recommended processing conditions, the floor temperature may be a maximum of 3 °C colder than the ambient room air temperature 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 direct sunlight or on strongly heated surfaces, as the processing time is greatly reduced and bubble formation is possible. Polyurethane coatings are sensitive to moisture when fresh, the humidity specifications must therefore be observed.

Coating dew-damp substrates and the use of damp sand as well as perspiration will cause the material to foam and must be avoided. Exposure to water and chemicals must 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 the working conditions are not complied with, the technical properties of the end product may deviate.

Special remarks: coloured products should always belong to the same batch and be used on the same surface, as slight colour deviations in different batches cannot be excluded due to the raw material. The batch number is indicated on the container labels.

Colour changes, loss of gloss or yellowing may occur with certain light and weather influences and with prolonged and intensive use.

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 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: 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.

CE marking

CE

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PU435-V2-122025

DIN EN 13813:2003-01

Synthetic resin screed mortar
DIN EN 13813: SR-B2,0-AR0,5-IR20

Fire behaviour	B_{fl}-s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0,5
Adhesive tensile strength	B 2,0
Impact resistance	IR 20

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	1,1	g/l
Decopaint Directive 2004/42/EG - Component B	< 500	0	g/l
DGNB - Components A + B	< 0,5	0,09	%
klima:aktiv – Components A + B	<3	0,09	%
LEED - Components A + B	<100	1,1	g/l
Minergie ECO ® - Components A + B	<1(<2)	0,09	%

(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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