KLB KÖTZTAL
Lacke + Beschichtungen GmbH

KLB-SYSTEM POLYURETHAN
PU 812 E

Coloured, low-emission, environmentally friendly 2-component sealer on the basis of polyurethane, light-stable, with appealing matt look and good stain resistance

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK6527-70	Combo packaging	5.00 kg	90
AK6527-40	Combo packaging	10.00 kg	60

Product characteristics

Mixing ratio parts by weight	A : B = 4 : 1
Mixing ratio parts by volume	A : B = 100 : 24
Processing time	10 °C / 50 °F: 120 minutes 20 °C / 68 °F: 60 - 90 minutes 30 °C / 86 °F: 30 - 45 minutes
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F: 20 - 26 hrs. 20 °C / 68 °F: 16 - 24 hrs. 30 °C / 86 °F: 12 - 18 hrs.
Curing	After 2 - 3 hours dust-dry at 20 °C / 68 °F 2 - 3 days until mechanical load at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Further coatings	After 16 - 24 hours, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	Approx. 0.180-0.200 kg/m²
Packaging	Combo packaging 5 kg, combo packaging 10 kg
Colours	RAL colours (limited to RAL 9000 colours); other colours available on request
Shelf life	12 months (originally sealed) – **Protect from frost!**

Product description

KLB-SYSTEM POLYURETHAN PU 812 E is a high-quality, coloured, polyurethane-based, 2-component universal top sealer that is used for the coloured top sealing of certain recommended epoxy resin and polyurethane coverings.

KLB-SYSTEM POLYURETHAN PU 812 E can be supplied in a variety of different colours (RAL and NCS) and produces attractive, matt surfaces that lend the floor a velvety appearance. The product comprises a water-emulsified, high-quality polymer dispersion that cures in a close mesh structure. This environmentally-friendly technology makes it possible to produce low-emission products that fulfil all current requirements, especially for applications in recreation rooms and other areas in which no emissions are desired.

The product is certified by EMICODE® EC 1^{PLUS} and “Indoor Air Comfort Gold”; thus meets the requirements for a sustainable building certification according to DGNB, LEED or BREEAM. “Indoor Comfort Gold” fulfills the highest requirements in regards to the emission of volatile organic compounds and respects not only the German limits of AgBB or ABG, but also of the emissions regulations of many other European countries.

In areas with high and frequent wet exposure and in which certain chemicals are used, **KLB-SYSTEM POLYURETHAN PU 812 E** can be applied as an equivalent chemical-resistant alternative to many solvent-based top sealers. Please refer to documents on chemical resistance and seek advice if necessary.

KLB-SYSTEM POLYURETHAN PU 812 E hardens by physical drying and chemical curing to form a resistant, robust film. The product creates an abrasion-resistant, light-stable film with low soiling tendency and good cleanability.

Thanks to its good cross-linking, it has a low susceptibility to staining for its product class.

It is highly resistant to discolouration caused by household chemicals or strongly staining foods and beverages, such as beer, red wine or cola. As resistance to staining by all substances cannot be guaranteed, please consider additional technical information in this regard.

KLB-SYSTEM POLYURETHAN PU 812 E has good resistance to water, cleaning materials, aqueous solutions, saline solutions, diluted acids and bases, and to motor or heating oils.

KLB-SYSTEM POLYURETHAN PU 812 E can also be used on other substrate types, such as old coverings made of polyurethane or epoxy resin. The substrates must then be sufficiently clean and ground with a diamond pad. Adhesion must be checked on test areas.

Note: sealed surfaces offer only limited resistance to mechanical load; material handling equipment may affect or destroy them Their use is therefore only suitable to a limited extent. In areas with high and frequent wet exposure and in which certain chemicals are used, **PU 812 E** can be applied as an equivalent chemical-resistant alternative to many solvent-based top sealers.

Area of application

- As a low-emission, pigmented matt sealer for certain recommended epoxy and polyurethane resin coverings, thus specially designed for recreation rooms.
- Decorative commercial areas, e.g. showrooms, exhibition spaces, retail stores, offices. etc.
- As a finish for high-quality, resilient decorative coverings, stable against light, e.g. **PU 410** or **PU 405**.
- As a matt sealer on water vapour-permeable coatings, e.g. **EP 785 HS**.
- Top sealing and re-coating of existing epoxy and polyurethane resin surfaces, subject to appropriate preliminary examination.
- Suitable to a limited extent for industrial trucks.
- As a top sealer for wall coatings.
- For the top sealing of wall coatings produced with **PU 662**. Alternatively, the product **PU 806 E - Wall** is recommended. Read the product information.
- Suitable for interior use.

Product features

- EMICODE® EC 1PLUS certified
- very low-emission
- odorless
- environmentally friendly
- water vapour-permeable
- high covering power
- even surface
- silk-matt
- very high adhesion
- easy application
- resistant to abrasion and wear

Technical data

Viscosity - Component A+B	Approx. 400 - 700	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 40	%	KLB method
Density - Component A+B	1.10	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Abrasion (Taber Abraser)	< 13	mg	ASTM D4060 (CS10/1000)
Flashpoint	Non combustible	-	DIN 51755
Gloss level	18 at 85°	-	DIN 67530
Diffusion resistance rate	7500	-	DIN EN ISO 12572
Water vapour diffusion-equivalent air layer thickness	(sd 0.1 mm) 0.75 m	-	DIN EN ISO 7783-2

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

Included in systems

- System G2 - KLB INDUSTRIAL LOW-VOC PU Sealed

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

Suitable coatings

The following coatings are suitable for sealing with **KLB-SYSTEM POLYURETHAN PU 812 E**:

PU 405, PU 410, PU 420, PU 421, PU 425, EP 216 Universal, EP 785 HS

Recoating with the top sealer depends on the curing time (accessibility) of the underlying coating; please refer to the product information of the respective coating. With other coatings, such as old coverings made of polyurethane or epoxy resin, a trial surface must be applied to check adhesion. The substrates must be sufficiently clean and lightly ground with a diamond pad.

Tests

The following external test certificates are available:

- Certified as low-emission according to EMICODE with the EC 1^{PLUS} label and based on Eurofins "Indoor Air Comfort Gold". Compliant with AgBB for recreation rooms.
- Classification of the fire behaviour according to DIN EN 13501-01:2010-01: B_{fl}-s1 when used in combination with **PU 425**.
- Chair castor test according to DIN EN 425:2002-08
- LABS-compliant according to PV 3.10.7. (VW test)
- Product is compliant with DIN EN 13813: 2003-01

Note:

Please ask for the tested system build-up!

Substrate

The substrate to be coated must be even, dry, dust-free, sufficiently resistant to tension and compression, and free of weakly bonded components or surfaces. Materials reducing adhesion, e.g. grease, oil and paint residues, must first be removed with suitable measures. Observe the information issued by trade associations, e.g. the most recent versions of BEB worksheets KH-0/U, KH-0/S and KH-2 . The sealer is typically applied as the last layer when creating a floor covering. It is therefore necessary to ensure that the previous layer is not already soiled. The

optimum time for sealing is reached when the previous layer has hardened to a sufficiently resistant film, but is not yet completely cured. In standard systems, this is at a temperature of 20 °C / 68 °F, at the earliest after 18 hours, and the latest after 72 hours. If a top sealer is to be applied later, a trial surface must be applied and tested to check that sufficient adhesion is achieved. Old substrates must be cleaned, and mechanically prepared if necessary. If old synthetic resin surfaces are being sealed, it is to be ensured that sufficient adhesion is achieved. If in doubt, we recommend processing a sample area.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. Allow the container of component A to come to processing temperature before use and shake well, then empty the contents into a clean, oval bucket. Add component B and mix immediately. 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.

Processing time max. 1 - 1.5 hours (see chart “Processing time”).
Note: end of pot life is not visible!

Processing

As with all reactive resin products, processing should take place immediately after mixing. Apply with a rubber blade (toothing 2 mm) or lint-free velour roller (6-8 mm pile height). Typically, work areas are divided up beforehand to avoid duplicate application and haphazard overlapping. Otherwise, an uneven surface appearance and streaking might appear. For larger areas, it is recommended that 2 or more people carry out the application. One or more persons apply the material in one direction, while another person takes over the re-rolling of the freshly applied sealing material in crosswise motion (90° angle). Use a 50 cm wide roller on larger surfaces. The distribution roller should be saturated/wetted with material and only be used for distribution, never for application. Always work “fresh-in-fresh” and ensure optimum distribution of the material. Make sure that e.g. puddles running off plinths are spread with the velour roller. Too thick an application (puddle formation) can lead to foaming during curing.

The floor and air temperatures must not fall below 10 °C / 50 °F and the humidity must not exceed 75%. The recommended climate conditions must be maintained during curing and drying. The difference between the floor and room temperatures must be less than 3 °C / 3 K / 5.4 °F so as not to impede the curing process. If a dew-point situation arises, regular drying and cross-linking 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 the working conditions are not complied with, the technical properties of the end product may deviate from those specified.

Special remarks: in wet rooms or permanently humid areas, coatings made of **PU 812 E** must be sealed with **PU 811 E** or **PU 811 E Wall** (for walls).

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. For certain colour shades - especially white, yellow and orange or pastel light shades - the recommended layer thicknesses must be observed to ensure opacity. The top sealer must always be applied in the same colour as the underlying coating. For other colour tone combinations, please consult us.

To prevent wear and tear, suitable chair castors or floor protection mats must be used with swivel chairs/office swivel chairs or other wheeled furniture.

Especially in the first 7 days, the sealant must be protected from dirt (e.g. by walking on the surface with shoe covers or appropriately clean footwear) or mechanical

damage from the moment it becomes accessible. Covering with a plasticizer-free fleece is recommended after 7 days at the earliest.

Long or improper (e.g. too hot or too cold) storage can lead to film formation inside the bucket, which in turn can cause skin flakes in the sealing material during mixing. In this case, we recommend sieving the sealer. The bucket sieve KLB-Eimersieb 15L (Art. N. WZ7050-01) is ideal for this purpose, as it enables quick sieving and thus a good sealing result.

Cleaning

To remove fresh contamination and to clean tools, use water immediately. Hardened material can only be removed mechanically.

Separate cleaning and care recommendations are available for cleaning sealed floors. Water-based sealers must only be cleaned at the earliest after 7 days and with KLB products to guarantee the interlayer adhesion at 20 °C / 68 °F.

Storage

Store in a dry, frost-free location. Ideal storage temperature 10 - 20 °C / 50 - 68 °F. Protect against direct sunlight. Do not store in overheated vehicles or temperatures above 25 °C / 77 °F. Bring to a suitable working temperature before application. There is a risk of clumping. Bring to a suitable working temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

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 140 g/l (2010,II,j/wb): Ready-for-use product contains < 140 g/l VOC.

CE marking

CE

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DIN EN 13813:2003-01

Synthetic resin screed mortar
DIN EN 13813: SR-B2,0-AR0,5-IR18

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 18

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	< 140	0	g/l
Decopaint Directive 2004/42/EG - Component B	< 140	0	g/l
DGNB - Components A + B	< 3	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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