KLB-SYSTEM POLYURETHAN
PU 811 E

Transparent, low-emission and 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	Inhalt	Units/pallet
AK6525-40	Combo packaging	10.00 kg	60
AK6525-70	Combo packaging	5.00 kg	90

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 For application on EC 450 DECOR: approx. 0.100 - 0.150 kg/m²
Shelf life	12 months (originally sealed) – **Protect from frost!**

Product description

KLB-SYSTEM POLYURETHAN PU 811 E is a high-quality, colourless, polyurethane-based 2-component universal sealer that is used to top seal polyurethane and epoxy resin coatings. Thanks to its water vapour permeability, it can also be used as a top sealer for diffusible coverings, such as **KLB-SYSTEM EPOXID EP 785 HS**.

KLB-SYSTEM POLYURTEHAN PU 811 E 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 meets the sustainable construction criteria, e.g. DGNB, LEED or Minergie ECO.

KLB-SYSTEM POLYURETHAN PU 811 E is an excellent alternative to solvent-based sealers, and can replace them in many aspects..

KLB-SYSTEM POLYURETHAN PU 811 E hardens by physical drying and chemical cross-linking 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 excellent curing capacity, it has a very 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 under all conditions cannot be guaranteed, please consider additional technical information in this regard.

KLB-SYSTEM POLYURETHAN PU 811 E has good resistance to water, cleaning products, aqueous solutions, saline solutions, diluted acids and bases, as well as motor or heating oils.

KLB-SYSTEM POLYURETHAN PU 811 E has good adhesion to various substrates and can therefore also be used – after laying trial surfaces and checking of the interlayer adhesion – on old epoxy and polyurethane resin surfaces.

With **KLB-SYSTEM POLYURETHAN PU 811 E Wall**, a colourless matt sealer for the wall area is available as similar product. Due to its special formulation, it is mainly used for decorative wall coverings in combination with, e.g. **EC 450 DECOR.**

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 that are frequently wet with high loads, and areas in which certain chemicals are used, **PU 811 E** can be applied as an equivalent chemical-resistant alternative to many solvent-based top sealers.

Area of application

- As a colourless matt sealer for high-quality epoxy and polyurethane resin coverings.
- Specially designed for recreation rooms.
- Decorative commercial areas, with or without decorative chips scattering, e.g. showrooms, exhibition spaces, retail stores, offices etc., on decorative terrazzo coverings as a top sealer, usually without or with minimal industrial truck traffic.
- As a finish for high-quality, light-stable, elastic decorative coatings, e.g. **PU 410** and **PU 405**.
- As a matt sealer on water vapour-permeable coatings, e.g. **EP 785 HS**, with or without chips scattering.
- Top sealing and re-coating of existing surfaces subject to appropriate preliminary examination.
- Suitable for interior use.

Product features

- matt and optically appealing surfaces
- odorless
- environmentally friendly
- abrasion-resistant
- very high adhesion
- water vapour-permeable
- very low-emission
- EC 1 plus tested
- easy application

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	1.08	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	15 at 85°	-	DIN 67530
Diffusion resistance rate	7500	-	DIN EN ISO 12572
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 C4 KLB LOW-VOC PHARMA EP Screed

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 811 E**:

PU 405, **PU 410**, **PU 425**, **EP 216 Universal**, **EP 785 HS**

With other coatings, a trial surface must be applied to check adhesion, or KLB Technical Division consulted regarding suitability. Adhesion can be improved, if required, by lightly grinding the surface e.g. with a diamond pad.

Tests

External test certificates are available for the following:

- Certified as low-emission according to EMICODE with the EC1 plus label.
- Chair castor test according to DIN EN 425:2002-08
- Paint wetting disorders according to PV 3.10.7. (VW test)
- Product is compliant with DIN EN 13813: 2003-01
- Ease of decontamination in combination with **PU 662** and **PU 806 E-Wall** according DIN 25415-1: excellent.

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.

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. 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: W1/DD

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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PU811E-V1-112019

DIN EN 13813:2003-01

Synthetic resin screed mortar
DIN EN 13813: SR-B2.0-AR0.5-IR16

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 16

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	< 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.

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-koetztal.com. In addition, our "General Terms and Conditions“ apply.

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