KLB-SYSTEM POLYURETHAN PU
PU 881 EL+ - R10

Electrically conductive, pigmented 2-component polyurethane matt sealer in slip resistance grade R10

Packaging units

Article no.	Inhalt	Units/pallet
AK6626-51	10.00 kg	30



Product characteristics

Mixing ratio parts by weight	A : B = 4 : 1
Mixing ratio parts by volume	A : B = 100 : 32
Processing time	60 minutes at 20 °C / 68 °F
Processing temperature	Minimum 10 °C / 50 °F (room and floor temperature)
Curing time (accessibility)	10 °C / 50 °F : 14 - 18 hrs. 20 °C / 68 °F : 12 - 14 hrs. 30 °C / 86 °F : 8 - 12 hrs.
Curing	2 - 3 days until mechanical load at 20 °C / 68 °F 7 days until chemical load at 20 °C / 68 °F
Consumption	Approx. 0.120 - 0.150 kg/m²
Colours	KLB standard colours – see chart. Other colours upon request!
Shelf life	6 month (originally sealed)

Product description

KLB-SYSTEM POLYURETHAN PU 881 EL+ -R10 is a solvent-based 2-component polyurethane sealer forming silk-matt surfaces. **KLB-SYSTEM POLYURETHAN PU 881 EL+ -R10** contains solvents but offers a high solid content as well. The product is used for producing even, matt surfaces on electrically conductive industrial and commercial flooring.

KLB-SYSTEM POLYURETHAN PU 881 EL+ -R10 offers high coverage and even application properties. The sealer is always used in combination with the conductive coatings, **KLB-SYSTEM EPOXY EP 200 EL+** or **KLB-SYSTEM POLYURETHAN PU 413 EL+**.

The cured sealer is suitable for commercially and industrially used areas that require an anti-static or electrically conductive flooring. The special conductive additives enable very uniformly dissipative coatings that are particularly suitable for applications in electronics or electrical engineering. Accurately applied floors can be used for electronic engineering (ESD areas). Note the special features with regard to the requirements. Ask for advice!

KLB-SYSTEM POLYURETHAN PU 881 EL+ -R10 is a special sealer for producing slip-resistant surfaces. It has been tested according to DIN 51130/BGR 181 and rated with slip resistance grade R10. As an alternative, K**LB-SYSTEM POLYURETHAN PU 881 EL+** is available as conductive version without any slip-resistance.

Note: the processing information and the technical data of the slip-resistant sealer do not differ from the standard product **KLB-SYSTEM POLYURETHAN PU 881 EL+**.

The sealer offers good adhesion on many substrates. It is hard and tough, abrasion-resistant, and features a special adjusted electrical conductivity.

KLB-SYSTEM POLYURETHAN PU 881 EL+ -R10 is resistant to yellowing and available in different colour shades. However, very light colours cannot be produced, colour deviations due to the conductive additives are possible. The product is resistant to water, diluted acids and alkalis, solutions of salts and also to various solvents for a short time.

Area of application

- For electrically conductive, commercially used areas with medium mechanical load, e.g. production or storage areas in many economic sectors.
- In the sector of electronics or electrical engineering in combination with **EP 200 EL+** or **PU 413 EL+** also for ESD areas.
- For areas with requirements to explosion protection to prevent electrostatic charging.

Product features

- electrically conductive
- light, coloured surfaces
- optically appealing
- silk-matt
- in combination also for ESD coverings
- hard-elastic and wear-resistant
- free of deleterious substances against varnish
- slip-resistant (R10)

Technical data

Viscosity - Component A+B	175	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 65	%	KLB method
Density - Component A+B	1.31	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Abrasion (Taber Abraser)	50	mg	ASTM D4060 (CS10/1000)
Flashpoint	25 °C / 77 °F	-	DIN EN ISO 1523 / ISO 2719
Gloss level	10 - 30 (85°)	-	DIN 67530
Electrical resistance	approx. 10^6 - 10^7 Ohm (in combination with EP 799 / EP 200 EL+)	-	DIN EN 61340-4-1

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

Suitable coatings

The following self-levelling coatings can be sealed with **PU 881 EL+ -R10**:

EP 200 EL+, **EP 202 EL+**, **EP 202 Clean EL+**, **EP 285 EL+**, **PU 413 EL+**.

With other coatings, adhesion must be tested. The adhesion can anyway be improved by grinding the surface.

Tests

- Meets ESD requirements in combination with **EP 200 EL+** and **EP 799 Ableitgrund.**

- Slip-resistance grade R10 possible according to DIN 51130 and BGR 181.

Note:

Please ask for the tested system build-up!

Build-up of coats

- Apply a base and scratch coat for obtaining a level surface, e.g. using **EP 50**.
- Glue copper bands for discharge in an imagined grid-pattern in place into the room – every 6 - 8 m, up to 1 - 2 m. Earth connection by an electrician based on VDE regulations.
- Apply the conductive coat **EP 799 Ableitgrund**, consumption approx. 0.150 kg/m².
- Apply the conductive wear layer **EP 200 EL+** with a toothed trowel (**Toothed blade RS4** or Pajarito 48), consumption approx. 1.9 - 2.4 kg/m².
- Apply the sealer **PU 881 EL+ -R10** with a solvent-resistant velours roller in crosswise motion, consumption approx. 0.120 - 0.150 kg/m².

Substrate

The substrate to be coated must be dry and free from any dirt. Usually, the sealer is applied as the last layer in the course of processing. Watch that prior coats are not soiled already. The optimum time for sealing is reached when the previously applied epoxy resin layer has hardened to a sufficiently stable film, but not yet cured completely. In common systems, this is the case after 18 hours at the earliest and after 72 hours at the latest at 20 °C / 68 °F air and soil temperature. Even hardened layers may be sealed because of the good adhesion of **PU 881 EL+ -R10**. Required is an accurate cleaning and grinding of the entire surface. If old substrates need to be sealed, it must be ensured by testing that sufficient adhesion is achieved. The conductivity can be improved by approx. one power of ten by intermediate sanding after the coating has been applied for approx. 24 - 36 hours.

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 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. Withdrawing partial units calls for particularly accurate handling. Deviations will lead to an altered electrical conductivity.

Processing

Process immediately after mixing with a lint-free and solvent-resistant velours sealing roller. Divide working areas before starting to avoid duplicate application and overlaps. For larger areas it is recommended that 2 or more persons carry out the application. One or more workers apply the material in one direction, then another person distributes the fresh sealing material in a crosswise motion (90° angle). Use a 50 cm wide roller on larger surfaces for the final re-rolling. Roller should be impregnated/wetted with material. Use only for distribution and never for application. Always work “fresh-in-fresh” and watch for an even distribution. Adhere exactly to the processing quantities, as deviations in consumption or uneven application will lead to altered conductivity values.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 75 %. The difference in floor and room temperature must remain less than 3 °C / 3 K / 5.4 °F so that curing will not be disturbed. If a dew-point situation arises, regular curing and adhesion may be disrupted with spotting to occur. Exposure to water should be avoided during the first 7 days. The specified hardening times apply for 20 °C / 68 °F. Lower temperature may increase; higher temperature may

decrease the curing and processing times. If working conditions are not complied with, the end product's technical properties may deviate from the description - also regarding conductivity.

Cleaning

To remove fresh contamination and to clean tools, use thinner **VR 28** immediately after use. 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 frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable processing temperature before application. Observe storage regulations for products containing solvents.

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: PU50

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
KLB Kötztal Lacke + Beschichtungen GmbH Günztalstraße 25 FRG-89335 Ichenhausen
13
PU881EL+-V1-022013
DIN EN 13813:2003-01
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR18

Fire behaviour	E_{fl}-s1
Emission of corrosive substances	SR
Wear resistance BCA	AR 0.5
Adhesive tensile strength	B 1.5
Impact resistance	IR 18

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