KLB-SYSTEM EPOXID
EP 790 EL+

Low-emission, electrically conductive 2-component epoxy resin matt sealer, water vapour-permeable

Packaging units

Article no.	Packaging	Content (kg)	Units/pallet
AK2743-50	Bucket combo	10.00 kg	30

Product characteristics

Mixing ratio parts by weight	A : B = 1 : 2
Mixing ratio parts by volume	A : B = 60 : 100
Processing time	15 °C / 59 °F : 90 min. 20 °C / 68 °F : 90 min. 30 °C / 86 °F : 40 min.
Processing temperature	Minimum 15 °C / 59 °F (room and floor temperature)
Curing time (accessibility)	15 °C / 59 °F : 24 - 36 hrs. 20 °C / 68 °F : 18 - 24 hrs. 30 °C / 86 °F : 14 - 18 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 14 - 18 hours, but after 48 hours at the latest at 20 °C / 68 °F
Consumption	0.150 - 0.180 kg/m²
Colours	KLB standard colours – see chart. Other colours upon request! (Due to the conductive adjustment, colour tone irregularities may appear)
Shelf life	12 months (originally sealed) – **Protect from frost!**

Product description

KLB-SYSTEM EPOXID EP 790 EL+ is a 2-component, water-dilutable epoxy resin emulsion sealer. Use as matt finish sealer for electrically conductive, water vapour permeable, **KLB-SYSTEM EPOXID EP 785 EL+** coatings. The product is convenient to work with due to its water-dilutable emulsion technology. Sealing results in an even silk-matt surface with an optically appealing surface. „Mirror effects" of glossy coatings disappear due to the light-refraction of the silk-matt surface. Because of the homogeneous electrically conductive adjustment of the sealer a consistent electrical conductivity is being achieved.

KLB-SYSTEM EPOXID EP 790 EL+ is certified according to the "Indoor Air Comfort Gold" and meet the requirements for a sustainable construction certification according to DGNB (Germany), LEED (United States) or BREEAM (Great Britain). The "Indoor Air Comfort" product certification sets the highest requirements of the emission of volatile organic compounds and meet not only the German requirements of AgBB or ABG, but also the emissions regulations of many other European countries.

Process the material with a roller in crosswise motion. Very even surfaces may be achieved due to the aligned curing. The material cures by drying and chemically cross-linking to a consistent, robust film with good adhesion. **KLB-SYSTEM EPOXID EP 790 EL+** is resistant to many chemicals, especially to water, salts, diluted acids and bases, oil, as well as different solvents.

KLB-SYSTEM EPOXID EP 790 EL+ is a product to be used in combination. Note the product informations for **KLB-SYSTEM EPOXID EP 799 Ableitgrund** and **KLB-SYSTEM EPOXID EP 785 EL+.**

Area of application

- **EP 790 EL+** is suitable as sealer for high-quality, electrically conductive, water vapour permeable **EP 785 EL+** industrial coatings with medium mechanical load and requirements to a permeable substrate.
- Suitable on magnesia substrate and substrate with ascending moisture. Use in combination with **EP 799 Ableitgrund** and **EP 785 EL+**.
- For areas within the electrical / electronics industry, in combination with **EP 785 EL+** even suitable for special adjustments, like e.g. ESD areas.
- For areas with special requirements to the explosion protection, to prevent electrostatic discharge.

Product features

- electrically conductive
- water vapour-permeable
- environmentally friendly
- odorless
- Total Solid according to GISCODE
- easy application
- even surface
- silk-matt

Technical data

Viscosity - Component A+B	550	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solid content	> 46	%	KLB method
Density - Component A+B	1.24	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Abrasion (Taber Abraser)	< 80	mg	ASTM D4060 (CS10/1000)
Gloss level	65 at 85°	-	DIN 67530
Electrical resistance	(in combination with EP 799 Ableitgrund) Approx. 10^6	Ohm	DIN EN 61340-4-1 DIN EN 61340-5-1

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

Included in systems

- System F9KLB CONDUCTIVE DIFFUSION LOW-VOC EP EX
- System F6KLB CONDUCTIVE LOW-VOC PU ESD Elastic

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

Suitable coatings

The following self-levelling coatings can be sealed with **EP 790 EL+**:

EP 200 EL+, **EP 202 EL+**, **EP 202 Clean EL+**, **EP 285 EL+**, **EP 785 EL+**, **PU 413 EL+**.

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

Tests

External test certificates are available:

- Certified low-emission according to “Eurofins Indoor Air Comfort Gold”. Compliant with AgBB for recreation rooms.
- Slip resistance grade R9, according to DIN 51130 and BGR 181.

Note:

Please ask for the tested system build-up!

Build-up of coats

- Apply the base coat **EP 727 E**, consumption approx. 0.140 - 0.160 kg/m².
- Apply a scratch coat using **EP 782 E Spachtelgrund**, consumption approx. 0.6 - 1.0 kg/m² dependent on the depth of roughness of the substrate.
- Glue in **KLB-Kupferbänder** copper bands for discharge in an imagined grid-pattern (every 6 - 8 m, up to 1 - 2 m into the room) in place. Earth connection by an electrician according to VDE-regulations.
- Cross-conductive coat with **EP 799 Ableitgrund**, consumption approx. 0.100 - 0.140 kg/m².
- Apply the conductive self-levelling coat **EP 785 EL+** with a toothed spatula (**Toothed blade RS4** or Pajarito 48). Consumption approx. 2.6 - 3.0 kg/m². Vent with a spiked roller.
- Seal with **EP 790 EL+**, consumption approx. 0.150 - 0.180 kg/m². Additionally, **PS 90** may be applied for easy maintenance.

Substrate

The substrate to be coated must be dry and free from any dirt. 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 previously applied layer has hardened to a sufficiently stable film, but is not yet cured completely. In standard systems, this is the case after 18 hours at the earliest and after 72 hours at the latest at 20 °C / 68 °F.

Due to the good adhesion of **EP 790 EL+,** cured coatings may be sealed subsequently, requiring that the surface has been treated according to the BEB-worksheets. Conduct a trial if the adhesion of the substrate is unknown.

Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. The package of Component B has sufficient volume for the entire packaging unit. Empty all of component A into the hardener compound B. 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 to ensure complete homogenisation. Withdrawing partial units calls for particularly accurate handling. Deviations will lead to an altered electrical conductivity.

Processing time max. 60 minutes at 20 °C / 68 °F (see chart “Processing time”).
Note: end of pot-life is not visible!

Processing

As with all reactive resin systems, processing should take place immediately after mixing using a lint-free velours sealing roller. Typically, work areas are divided up beforehand to avoid duplicate application and haphazard overlapping. 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 from wall to wall 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. Adhere exactly to the application quantity, as deviations in consumption or uneven application lead to altered conductivities of the sealing layer.

Floor and air temperature must not fall below 15 °C / 59 °F and humidity should not exceed 75 %. The recommended climate conditions must also be maintained during curing and drying. The difference in floor 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 poblems and spotting to occur. Exposure to water 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, especially the conductivity of the whole system.

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 floors produced with KLB coatings and sealers.

Storage

Store in dry and at frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened containers and use 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: RE20

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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EP790EL+/ESD-V1-022013
DIN EN 13813:2003-01
Synthetic resin screed mortar DIN EN 13813: SR-B1.5-AR0.5-IR4

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 4

Please consider the latest version of this product information on our website.

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