Technical Data Sheet No. 264

VOC-frei
Emissionsarm
AgBB-geprüft

LawiPen 2-K-PU-Siegel

Silky-matt, transparent 2-K-PU-sealing for inside

I. Product

einzA LawiPen 2-K-PU-Siegel is a high-quality, transparent 2-K-Polyurethan-sealing which is used for the matting final sealing of epoxide resin and polyurethane flooring. System product for the einzA LawiPen 2-K-PU-Beschichtung. Results in even, matt surfaces with a pleasant, beautiful appearance. “Mirror effects” of glossy coatings will be reduced because of the light scattering of the surface; therefore the usage of this product is prior for visually appealing areas.

While hardening by physical drying and chemical cross linking einzA LawiPen 2-K-PU-Siegel shows a resistant, robust coating. The product results in a hard and tough, abrasion resistant, light stable coating with low affinity to dirt and good cleanability.

Within the system with einzA LawiDox Epoxidharz-Grundierung and einzA LawiPen 2-K-PU-Versiegelung einzA LawiPen 2-K-PU-Siegel is classified as VOC and SVOC free and has been tested corresponding to the AgBB (German Committee for Health-Related Evaluation of Building Products) test principles and been certified being low-emission.

Application purpose	high-quality transparent 2-K-PU-sealing for inside application and average demands
Characteristics	• UV-stable and resistant to yellowing • low-emission quality for interior space (tested corresponding to the AgBB scheme) • environmentally sound • low odour emission, easy to process • excellent adhesion • even matt up to silk-matt surface • solvent-free
Test corresponding to the AgBB scheme	Test certificate is available at www.einzA.com
Gloss level	matt up to silk matt (depending on the layer thickness)
Specific weight	approx. 1.06 g/cm³ (ready-to-use mixture)
Binder basis	2-component polyurethane
Mixing ratio	master batch : hardener = 100 : 13.6 weight % (resp. 7.35 : 1) master batch : hardener = 100 : 12.4 volume % (resp. 8.1 : 1)
Package sizes	5 kg - 1 kg (master batch and hardener in unit packages)

II. Properties and working instructions

Chemical resistance	resistant to hydrous solutions, thinned lye and acids as well as motor and heating oil. Furthermore, the product shows low drift to spots of household chemicals resp. to strong dyeing foodstuffs and luxury food like beer, red wine or Coca-Cola. In case of special requirements please contact our application technology.
Light resistance	very good (inside)
Abrasion resistance	< 13 mg according to ASTM D4060
Compatibility	do not mix with other products

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Dilution	do not dilute, only to be applied in original condition
Consumption	approx. 0.120 - 0.160 kg/m^2

Establishing the ready-to-use composition

The material has the right mixing ratio. The package of master batch of einzA LawiPen 2-K-PU-Siegel has enough volume to absorp the total amount of the hardener for the einzA LawiPen 2-K-PU-Siegel.

Fill the hardener completely into the package of the master batch.

The mixing will be effected mechanically by a slow stirrer with a number of revolutions of 200 - 400 U/min and shall take 2 - 3 minutes till a homogenous compound free of streaks arises. To avoid mixing faults we recommend to decant the resin/hardener composition basically into a clean container and to mix again briefly („Umtopfen“). In case of partly removal the components have to be stirred and weighted in the mixing ration.

Please note	To receive an optimum of technical characteristics einzA LawiPen 2-K-PU-Siegel has to be mixed 10 minutes before processing. Then mix again for a short time to ensure a complete homogenization and process.
Pot life (processing time)	max. 180 minutes at 10 °C max. 120 minutes at 20 °C max. 50 minutes at 30 °C The processing of einzA LawiPen 2-K-PU-Siegel within this time is mandatory. We recommend to check the processing time with a watch. Exceeding the pot life will cause gloss and colour shifting as well as lower firmness and crawling with the surface.
Processing temperature	min. 10 °C (air and object temperature) and max. 30 °C
Processing regulations	The object temperature (floor) and room (air) may not be below 15 °C and/or the air humidity may not be more than 75 %. The temperature difference between floor and room temperature has to be lower than 3 °C so that the hardening will not be disturbed. In case of a dew point situation a regular drying is not possible and hardening disturbances and staining will occur.
Processing properties	Before processing assure the suitable processing temperature of einzA LawiPen 2-K-PU-Siegel of min. 10 - 15 °C. As for all reaction resin products the processing of einzA LawiPen 2-K-PU-Siegel should be effected immediately after homogenization. The application will be effected with a lintless velour sealing roller. Generally, working areas should be determined to avoid multiple coatings and disarranged overlapping. In case of overlapping or multiple coatings an uneven appearance of the surface and streaks could occur. In case of bigger areas we recommend two or more workers to apply the coating. One or more workers apply the material in one direction and another worker takes care for spreading the fresh sealing material in cross coats (90°-angle). For bigger areas a roll with 50 cm width should be used for final reroll. The roll for spreading should be saturated/coated with material and be used only for spreading and not for application of the sealing. Always work „wet-on-wet“ and take care for the ideal spreading. Ponding has to be avoided necessarily as blooming is possible.

Drying resp. hardening times at 65 % rel. air humidity

dust-free after approx. 2 - 3 hours at 20 °C

walkable after approx. 14 - 18 hours at 10 °C

walkable after approx. 12 - 14 hours at 20 °C

walkable after approx. 8 - 12 hours at 30 °C

mechanically stressable after approx. 2 - 3 days at 20 °C

complete hardening and chemically stressable after approx. 7 days at 20 °C

Reworkable	after 12 - 18 hours, at the latest after 48 hours at 20 °C
Cleaning of tools	immediately after use with water. Dried material can only be removed mechanically.
Storage	dry and protected against frost. Ideal storage temperature 10 - 20 °C. Close opened containers tightly and use at short notice.

P.T.O.!

III. Coating and/or applying technique

Preparation of surfaces and processing regulations

The surface to be coated has to be even, dry, free of dust, sufficiently impact and pressure resistant and free of weak adhesive components and scaps. Adhesion lessening substrates like grease, oil and colour residues have to be removed accordingly beforehand.

Loose and separative acting substrates like for example laitances, sinter layer and rubber abrasion have to be removed mechanically accordingly with suitable tools. Provided by the customer it has to be assured that the surface is isolated against ascending humidity.

Notices of professional associations like for example Bundesverband Estrich und Belag e.V. die „BEB-Arbeitsblätter“ KH-0/U and KH-0/S in the current copy have to be regarded. Surfaces have to be prepared mechanically.

Concrete and floor pavement surfaces have to be hardened at least for one month and confirm to the requirements of the minimum concrete strength classes B 25 according to DIN 1045 resp. ZE 30 according to DIN 18 560, part 1. Surfaces which fulfill the requirements of quality standard C20/25 in case of concrete floor resp. quality standard **CT-C35-F5** in case of cement floor are suitable.

The surface stability (separation stability of the surface) has to be at least 1.5 N/mm (AGI-process sheet A 80).

The cementitious floor pavement has to be dried up to the so called household dampness, that means that the moisture content may be max. 2 - 5 %. This content is normally reached after drying the surfaces for one month. In case of doubt a moisture measurement with a CM-indicator has to be made. The surface residual moisture may not exceed 4 CM% for concrete and cement floor pavements and 0.5 CM% for anhydrite floors (calcium sulfate floor pavement).

Adjoining coating surfaces of iron and steel, zinc or light metal will be, after pre-treating accordingly, primed with einzA Lawirostal 2-K-Epoxi-Primer before coating (please request the Technical Data Sheet and consider).

System structure for elastic floor coatings (inside) without intermediate sanding

<u>Pre-treat surfaces like for example concrete, cement floor pavements or similar mechanically, for example by shot peening.</u>

Priming with einzA LawiDox Epoxidharz-Grundierung. Consumption: approx. 0.3 - 0.4 kg/m².

Levelling compound with einzA LawiDox Epoxidharz-Grundierung and siliceous sand with the grain-size distribution curve of 0.1 to 0.3 mm in the mixing ratio 1 : 0.8 (weight parts). Consumption of mixture approx.. 0.8 - 1.2 kg/m².

Coating with a doctor knife of einzA LawiPen 2-K-PU-Beschichtung for example with a toothed strip like Pajarito 48, Storch R2.

Consumption 2.3 - 2.6 kg/m².

After 10 - 20 minutes vent with spiked roller.

<u>Pre-treating of melted asphalt</u>

Pre-treat the surface by shot peening.

Directly afterwards a levelling compound with einzA LawiPen 2-K-PU-Beschichtung by adding approx. 20 - 30 % siliceous sand with the grain-size distribution curve of 0.1/0.3 mm. Consumption approx.. 0.8 - 1.0 kg/m².

For the following coating the surface has to be non-porous.

Coating with a doctor knife of einzA LawiPen 2-K-PU-Beschichtung for example with a toothed strip like Pajarito 48, Storch R2.

Consumption 2.3 - 2.6 kg/m².

After 10 – 20 minutes vent with spiked roller.

<u>Decorative, low-emission final sealing</u>

In case of elastic pavements inside the transparent sealing will be effected with einzA LawiPen 2-K-PU-Siegel.

Consumption 0.140 - 0.160 kg/m².

With einzA Strukturmittel the anti-slip property can be adjusted up to R10.

The scattering of einzA DekorChips is possible with a following transparent sealing.

The sealing of einzA LawiPen 2-K-PU-Beschichtung has to be made using clean overshoes.

Spikes may not be used.

P.T.O.!

IV. Security advice and labelling

The product is subject to the Ordinance on Hazardous Substances. Necessary details are included in the DIN Material Safety Data Sheet regarding CLP regulation (GHS) according to the regulation (EC) no. 1272/2008. Available at www.einzA.com at any time or to be requested using sdb@einzA.com. Labelings on the packaging have to be considered!.

VOC-content regarding enclosure II of the VOC guideline 2004/42/EG

VOC limit value enclosure II A (sub-category j): Lb: max. 140 g/l reg. level II (2010)
VOC-content of the ready-to-use mixture of einzA LawiPen 2-K-PU-Siegel: < 140 g/l

CE-labeling regarding enclosure ZA 1 der EN 13 813

CE	
einzA gmbh & co. kg 30179 Hannover	
13	
72716	
DIN EN 13813:2003-01	
Kunstharzestrichmörtel DIN EN 13813: SR-B1,5-AR0,5-IR5	
Brandverhalten	C_{fl}-s1
Freisetzung korrosiver Substanzen	SR
Verschleißwiderstand BCA	AR 0,5
Haftzugfestigkeit	B 1,5
Schlagfestigkeit	IR 5

The previous information has been conscientiously compiled according to the present state of knowledge of test technology and should serve as a guideline. Due to the multitude of uses and working methods, it is non-binding, does not establish any contractual legal relationship and does not release the consumer from his own responsibility of checking our products himself. Otherwise, our conditions of delivery and payment apply.

Issued 05/2016; with this, all previous specification sheets are invalid.