

TECHNICAL DATA SHEET No. 229

LawiDox Epoxidharz-Beschichtung

Solvent-free and self-spreading industrial coating with OS 8 approval

colour matching with **einZAmix**

I. Product

einZA LawiDox Epoxidharz-Beschichtung is a high quality EP-coating for mechanically and chemically stressed coatings and coverings on concrete and flooring cement, for example production halls, warehouses, facilities, parking decks, garages and on transport equipments like loading platforms etc. Solvent-free and self-spreading industrial coating with a balanced product profile for versatile applications, applicable as thin-film covering (up to 1,5 mm) with slight mechanical stress up to liquid-tight thick coating (3 to 4 mm) with high resistance, top coat for anti-skid sprinkle floorings and as OS 8-coating for accessible, mechanically highly stressed areas.

Application purpose	solvent-free 2-K-Epoxi-industrial coating with universal application
Application	highly stressed coating with a generally good chemical resistance for mineral surfaces made of concrete and floor pavement. Applicable as anti-skid surface protective system with OS 8 approval.
Colour shade (standard)	Kieselgrau RAL 7032
Colour shades (tinted with einZA mix)	Beige RAL 1001, Hellelfenbein RAL 1015, Oxidrot RAL 3009, Taubenblau RAL 5014, Resedagrün RAL 6011, Silbergau RAL 7001, Schiefergrau RAL 7015, Anthrazitgrau RAL 7016, Betongrau RAL 7023, Steingrau RAL 7030, Lichtgrau RAL 7035, Achatgrau RAL 7038, Fenstergau RAL 7040, Verkehrsgrau A RAL 7042 (tinted with einZA mix L "Industrie" with the base colours 1 and 3)
Gloss level	glossy
Specific weight	approx. 1.42 g/cm ³ (ready-to-use mixture)
Binder basis	2-component epoxide resin combination
Mixing ratio	master batch : hardener = 4 : 1 (weight %) master batch : hardener = 100 : 38 (volume %)
Package sizes	30 kg (only colour shade RAL 7032) 10 kg - 5 kg (master batch and hardener in unit packages)

II. Properties and working instructions

Chemical resistance	resistant to water, salts, saline solutions, alkalines and lye as well as thinned mineral acids like hydrochloric acid or acid sulphur. Good resistance to many solvents like benzine, fuels, greases, oils etc. Limited resistance to concentrated mineral acids. For concentrated and thinned organic acids like formic acid or acetic acid only a short-time resistance exists. No permanent resistance to chlorinated hydrocarbons, ester, concentrated nitric acid and other. In case of special demands regarding resistance please contact our application technique department.
Note	Depending on the chemical exposition colour changes may occur which do not affect the technical function of the coating. The protective function of the hardened einZA LawiDox Bodenbeschichtung is still given.

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Light resistance	good (inside). At UV- and weather influences epoxide resins are generally not permanently colour resistant. A yellowing, depending on the strength and duration of UV-exposure and an associated colour change are due to the system and can not be avoided.
Impact resistance	> 1.5 N/mm ² DIN EN ISO 1542
Pressure resistance	> 55 N/mm ² DIN EN 196/1
Bending tensile strength	> 45 N/mm ² DIN EN 196/1
Shore hardness D	80 DIN 53 505 (7 days)
Abrasion	55 mg ASTM D 4060
Water absorption	< 0.2 weight % DIN 53 495
Surface protective system OS 8	tested and approved with anti-skid-level R11/V4. Testing is based on the test program DIN EN 1504-2 regarding DIN V 18206 „Oberflächenschutzsysteme für Beton aus Produkten nach der DIN EN 1504-2“, depending on the test category „OS 8“ and is documented in the test report.
Compatibility	do not mix with other products
Dilution	do not dilute, only applicable in original condition
Consumption	approx. 0.550 - 0.900 kg/m ² as top coat and approx. 0.8 - 1.5 kg/m ² as thin-film coating approx. 1.3 - 1.5 kg/m ² per 1 mm coat thickness as standard coating
Establishing the ready-to-use composition	
	In case of combi-packages the material weighted in the factory will be delivered in the exact mixing ratio. The package of the master batch of the einzA LawiDox Epoxidharz-Beschichtung has enough volume to absorb the total amount of the hardener for the einzA LawiDox Epoxidharz-Beschichtung. 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 master batch/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 ratio.
Addition of siliceous sand	The addition will be effected after the mixing of master batch and hardener. Kiln-dried siliceous sand with graining 0.1/0.3 mm is suitable. Do not use quartz flour or sand mixes. The quantity to be added depends on the layer thickness, temperature and sand type. einzA LawiDox Epoxidharz-Beschichtung can usually be filled with up to 0.7 kg siliceous sand per kg coating material. In case of thin layers we do not recommend to add sand as the flow out characteristics will also be deteriorated.
Pot life (Processing time)	max. 70 to 90 minutes at 10 °C max. 30 to 35 minutes at 20 °C max. 15 to 20 minutes at 30 °C The processing of einzA LawiDox Epoxidharz-Beschichtung 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 a suitable processing temperature of einzA LawiDox Epoxidharz-Beschichtung of min. 10 - 15°C.
Drying resp. hardening times at a rel. air humidity of 65 %	walkable after approx. 24 - 36 hours at 15° C walkable after approx. 14 - 18 hours at 20° C walkable after approx. 10 - 14 hours at 30° C mechanically stressable after 2 - days complete hardening and chemically stressable after approx. 7 days

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Reworkable	after 18 - 24 hours, at the latest after 48 hours at 20 °C
Cleaning of tools	immediately after use with einZA Universal Nitroverdünnung A I. 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.

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 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. with „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. Suitable for coating are surfaces which fulfill the requirements of quality standard C20/25 for concrete floors resp. quality standard CT-C35-F5 for cement floor.

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).

Working methods

einZA LawiDox Epoxidharz-Beschichtung as coating:

The processing will be effected immediately after mixing with coating knife or notched trowel (for example Pajarito 48 for approx. 2 mm or Pajarito 7 for approx. 1 mm) by drawing up an even layer on the pre-treated surface. The product is adjusted to ideal air vent, nevertheless rolling over with a spike roller to improve the coating of the surface, the flow out and removing air pockets is recommended. The rolling over with the spike roller should be effected delayed after 10 - 20 minutes. To work smoothly always process „wet-on-wet“ and determine the work environment before starting. Because of the air vent do not start to grit too soon, the ideal moment at 20 °C is after 10 - 30 minutes. Grit until the whole surface is completely sanded.

In case of later grit an uneven surface and later bare spots may occur.

einZA LawiDox Epoxidharz-Beschichtung as top coat for sprinkle floorings:

For sprinkle floorings the surface has to be cleaned after hardening of the base coat from the surplus of grains by sweep off and vacuum off until no quartz grains dissolve. If the surface has to provide a slight anti-slip property resp. roughness the sand bed can be sanded easily to blunt the grain tips. Then deposit the fresh mixture portion wise on the floor. The spreading of the material is carried out depending on the requested material quantity with a flat rubber squeegee, Kaupp spatula or coating knife made of steel by drawing up and spreading on the surface. Take care for an even application and avoid ponding. Inflexible coating knives form more even coating surfaces, smooth coating knives form rougher coating surfaces. For an even equalisation of the surface and to avoid bare spots reroll with a velour roll. Application with a roll is possible which will result in more roughness. Join onto work environments „wet-on-wet“.

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System structures

einZA LawiDox Epoxidharz-Beschichtung as thin-film layer for normal mechanical stress:

- Priming with einZA LawiDox Epoxidharz-Grundierung
Consumption: approx. 0.3 - 0.4 kg/m², depending on the surface.
- Levelling compound to form an even surface with einZA LawiDox Epoxidharz-Grundierung and a sand mix consisting of 1 part *silicious sand 0.3 to 0.8* and 1 part *silicious sand 0.7 to 1.2* with a mixing ration 1 : 0.8 weight parts
Consumption of this mixture: approx. 0.8 - 1.3 kg/m², depending on the surface.
- Rolling over/Coating with a doctor knife of the einZA LawiDox Epoxidharz-Beschichtung with the notched trowel (Pajarito 7)
Consumption: 0.8 - 1.5 kg/m², depending on the surface.

einZA LawiDox Epoxidharz-Beschichtung as smooth coating with average layer thickness (2 mm):

- Priming with einZA LawiDox Epoxidharz-Grundierung
Consumption: approx. 0.3 - 0.4 kg/m², depending on the surface.
- Levelling compound to form an even surface with einZA LawiDox Epoxidharz-Grundierung and a sand mix consisting of 1 part *silicious sand 0.3 to 0.8* and 1 part *silicious sand 0.7 to 1.2* with a mixing ration 1 : 0.8 weight parts
Consumption of this mixture: approx. 0.8 - 1.3 kg/m², depending on the surface.
- Rolling over/Coating with a doctor knife of the einZA LawiDox Epoxidharz-Beschichtung with the notched trowel (Pajarito 48)
Consumption: 2.6 - 3.0 kg/m² for approx. 2 mm layer thickness.
The coating may be mixed with siliceous sand (0.1/0.3 mm) up to 1 : 0.7
- Optional: Grit with silicon carbide, plastorit or decor chips.

einZA LawiDox Epoxidharz-Beschichtung as homogeneous sprinkle floor regarding OS 8 with anti-skid level R11/V4:

- Priming with einZA LawiDox Epoxidharz-Grundierung (optional)
Consumption: approx. 0.3 - 0.4 kg/m², depending on the surface.
- Levelling compound to form an even surface with einZA LawiDox Epoxidharz-Grundierung and a sand mix consisting of 1 part *silicious sand 0.3 to 0.8* and 1 part *silicious sand 0.7 to 1.2* with a mixing ration 1 : 0.8 weight parts
Consumption of this mixture: approx. 0.8 - 1.3 kg/m², depending on the surface.
- Prime filling with einZA LawiDox Epoxidharz-Beschichtung by adding approx. 15 % silicious sand (0.3/0.8 mm)
Consumption: 0.8 kg/m².
- Grit completely with siliceous sand 0.3/0.8 mm.
Alternatively, with silicious sand 0.7/1.2 mm the anti-skid level R11/V6 will be reached.
- After hardening thoroughly sweep off, repel or vacuum off the the surplus of sand with an industrial vaccum system until no more sand grains dissolve.
- Application of einZA LawiDox Epoxidharz-Beschichtung as top coat with the rubber squeegee, spread with a velour roll in cross coat and draw up evenly. Consumption: 0.6 kg/m².
- The consumption recommendations for anti-skid are mandatory.

IV. Security advice and labelling

The product is subject to the Ordinance on Hazardous Substances.

All necessary advices are included in the Safety Data Sheet according to the CLP regulation (GHS) corresponding the regulation (EG) no. 1272/2008. At any time available at www.einzA.com or to be requested by sdb@einzA.com.

Labeling notes on the container labels 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. 500 g/l reg. level II (2010)

VOC-content of the ready-to-use mixture of einZA LawiDox Epoxidharz-Beschichtung: < 500 g/l

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CE-labelling regarding enclosure ZA 1 of the EN 13 813

CE	
einza Lackfabrik GmbH · 21109 Hamburg 12	
EN 13813-SR-B1,5-AR0,5-IR7 Kunstharzestrichmörtel/-Beschichtung für Innen, Aufbau gemäß Produktinformation	
Brandverhalten:	NPD
Freisetzung korrosiver Substanzen:	SR
Wasserdampfdurchlässigkeit:	NPD
Verschleißwiderstand nach BCA:	AR 0,5
Haftzugfestigkeit:	B 1,5
Schlagfestigkeit:	IR 7
Trittschallisierung:	NPD
Schallabsorption:	NPD
Wärmedämmung:	NPD
Chemische Beständigkeit:	NPD

NPD = No Performance Determined (Kennwert nicht festgelegt)

CE	
einza Lackfabrik GmbH · 21109 Hamburg 12	
1119	
1119-CPD-0942	
EN 1504-2	
Oberflächenschutzprodukte Beschichtung	



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 08/2016; with this, all previous specification sheets are invalid.