

## Technical Data Sheet

33.06.677E - 07/06

### ® KERAPLAN EP 1103

#### Solvent-free, two-component epoxy resin coating system

##### Product description

KERAPLAN EP 1103 is a pigmented, solvent and nonylphenol-free synthetic resin coating based on epoxy resins. A variety of different systems can be formulated on site (modular system) by adding aggregates to the mixed base components. The film thickness can range from approx. 1.5 – 3.0 mm.

- Primer
- Scratch coat (optional)
- Self-leveling floor coating
- Roller-applied coating
- Skid-resistant topcoat (R9-R10)
- Broadcast coating R12

Solvent free in acc. with LEK – recommendation

##### Typical use

KERAPLAN EP 1103 is recommended as a surface protection system for concrete and screed surfaces in a variety of applications, particularly in such cases where the surface and overall visual appearance must meet very exacting standards. This product is primarily applied as a floor coating in chemical process plants, warehouses and production halls, workshops, power plants, breweries, food and beverage plants, dairies, data processing centres and/or super-clean rooms in the electronics industry.

##### Properties

KERAPLAN EP 1103 is a floor coating that is fit for traffic, can be exposed to mechanical loads and has a broad spectrum of chemical resistance properties. The coating hardens without shrinkage and may be applied without seams.

KERAPLAN EP 1103 is available in a broad range of colours. Due to the modular system concept it is possible to create very dense, unstructured or structured as well as slip-resistant surfaces.

Visually attractive coatings can be achieved by interspersing colour chips.

- Slip-resistant (DIN 51 130) R9-R12
- VOC-concentration test (Polymer Institute)

##### Chemical resistance

Information on the chemical resistance properties will be provided on request.

##### Substrate

All concrete structures must meet the requirements given in DIN EN 14879-1.

##### Surface pre-treatment

If required, the concrete surface must be treated by means of blasting in such a way that it is free from cement slurries, cement skin, loose and brittle particles, defects and separating substances. The residual moisture of the concrete surface should measure <4%.

##### Application

KERAPLAN EP 1103 is packaged and shipped in pre-measured units.

##### Primer

The primer consists of the mixed KERAPLAN EP 1103 components, to which approx. 3 weight percent of KCH Diluent 17 is added.

Conductive primer	Standard packing unit (kg)	Parts by weight
<b>KERAPLAN EP 1103</b>		
Component A	20	100
Component B	5	25
KCH Diluent 17	9	3.75

After transferring the material to a different container, the compound is applied carefully to the substrate using a roller. Special care should be taken to avoid puddle that a solid surface is achieved.

Coverage: ca. 0.3 kg / m<sup>2</sup> (compound)

Coverage will depend on the temperature, absorbency and roughness of the substrate.

##### Scratch coat (optional)

If required, a levelling coat consisting of KERAPLAN EP 1103 mixed with KCH-Powder 7 should be applied to uneven surfaces with voids and larger pores.

Levelling coat (optional)	Standard packing unit (kg)	Parts by weight
<u>KERAPLAN EP 1103</u>		
Component A	20	100
Component B	5	25
KCH Powder 7	25	62.5

Coverage : approx. 1.5 kg / m<sup>2</sup> / mm

#### Sealer, roller-applied coating

Add approx. 1 % in weight of KCH-Diluent 17 to the compound KERAPLAN EP 1103.

Sealer, roller-applied coating	Standard packing unit (kg)	Parts by weight
<u>KERAPLAN EP 1103</u>		
Component A	20	100
Component B	5	25
KCH Powder 7	9	1.25

Apply the compound carefully to the substrate by means of a roller (Perlon wool) or a rubber squeegee. Special care should be taken to avoid puddles and to ensure that all voids are filled.

Coverage: approx. 0.4 kg / m<sup>2</sup> (compound)

#### Broadcast coating (approx. R 12)

While the mixed KERAPLAN EP 1103 coating material that has been applied in a film thickness of approx. 1 mm is still wet, broadcast a liberal amount of KCH-Powder 5 evenly over the wet surface.

Broadcast coating	Standard packing unit (kg)	Parts by weight
<u>KERAPLAN EP 1103</u>		
Component A	20	100
Component B	5	25

Coverage KERAPLAN EP 1103: approx. 1.4 kg / m<sup>2</sup>  
Coverage KCH-Powder 5: approx. 3.5 kg / m<sup>2</sup>

After removing the excess, non-incorporated broadcast material the next day, this coating is applied uniformly as a top sealer using a rubber float or a roller.

Coverage: approx. 0.6 kg / m<sup>2</sup> (compound)

#### Self-levelling Coating

Mix the pre-measured components thoroughly until a homogeneous compound is achieved

Coating	Standard packing unit (kg)	Parts by weight
<u>KERAPLAN EP 1103</u>		
Component A	20	100
Component B	5	25

KERAPLAN EP 1103 is spread evenly onto the substrate using a notched smoothing trowel or a rake, in a film thickness of approx. 1.5 – 3mm. Afterwards, roll the freshly applied coating crosswise with a spiked roller to eliminate air bubbles.

Coverage: approx. 1.4 kg / m<sup>2</sup> / mm (compound)

#### Skid-resistant top coat (approx. R9- R10)

Add approx. 3 % in weight of KCH-Diluent 17 and 15 % in weight of KCH-Powder 7 to the compound KERAPLAN EP 1103.

Skid-resistant top coat	Standard packing unit (kg)	Parts by weight
<u>KERAPLAN EP 1103</u>		
Component A	20	100
Component B	5	25
KCH Diluent 17	9	3.25
KCH Powder 7	25	18.75

Roll the compound evenly over the already applied and cured KERAPLAN EP 1103 roller-applied coating or floor coating. Stir the compound frequently as the powder has a tendency to precipitate.

Coverage: approx. 0,4 kg / m<sup>2</sup> / mm (Compound)

#### Pot life

Temperature	KERAPLAN EP 1103
15°C	approx. 40 minutes
20°C	approx. 30 minutes
30°C	approx. 20 minutes

#### Packing

The products are shipped in the following standard packing units:

KERAPLAN EP 1103 Component A	20 kg
KERAPLAN EP 1103 Component B	5 kg
KCH-Thixotropic Agent 1	1 kg
KCH-Powder 5	25 kg
KCH-Powder 7	25 kg
KCH-Cleaner 1	8.5 kg
KCH-Diluent 17	9 kg

#### Storage

The products shall be stored in a cool and dry place. With a storage temperature of 23°C the minimum shelf life is as follows:

KERAPLAN EP 1103 Component A	12 Months
KERAPLAN EP 1103 Component B	12 Months
KCH-Thixotropic Agent 1	24 Months
KCH-Powder 5	24 Months
KCH-Powder 7	24 Months
KCH-Cleaner 1	24 Months
KCH-Diluent 17	24 Months

Higher temperatures will shorten the shelf life of these products. Keep packing units tightly sealed and reseal each time materials have been removed.

**Safety**

Adequate ventilation is to be provided while work is in progress. Forced ventilation is compulsory for all work carried out in pits and enclosed areas.

All vapors produced while work is in progress must be continuously suctioned off at floor or bottom level.

Only such amounts of material as required for the uninterrupted execution of the works are to be stored at the work place.

All regulations relative to fire and explosion protection shall be complied with as required. Special care shall be taken to ensure that no amounts of the individual components and/or the mixed compounds are released into the drainage systems.

All regulations for the prevention of accidents stipulated by the employer's liability insurance association, the pertinent accident prevention regulations prescribed at the site of application and the TRGS 507 "Surface Treatment in Rooms and Tanks" as well as the safety precautions listed on the packages (label) pursuant to the provisions of the Hazardous Materials Ordinance shall be adhered to. The operating instructions as specified in § 14 GefStoffV (Hazardous Materials Ordinance) as well as the EC Safety Data Sheets are to be complied with.

Technical data	Test specification	Unit	Parameter
Density	DIN EN ISO 1183-1	g/cm <sup>3</sup>	1.4
Compressive strength	DIN EN ISO 604	MPa	65
Tensile strength	DIN EN ISO 527	MPa	20
Elongation at break	DIN EN ISO 527	%	3.2
Flexural strength	DIN EN ISO 178	MPa	25
Modulus of elasticity (flexural test)	DIN EN ISO 178	MPa	3.000
Adhesive strength to concrete/screed <sup>*)</sup>	DIN EN ISO 4624	MPa	> inherent strength substrate
Hardness	DIN 53505	Shore D	80
Leakage resistance to earth	DIN EN ISO 1081	Ω	> 10 <sup>6</sup>
Coefficient of linear thermal expansion	DIN 53752	K <sup>-1</sup>	70 · 10 <sup>-6</sup>
Maximum service temperature		°C	80

<sup>\*)</sup> compressive strength 25 MPa

The technical data contained herein represents the current state of our product knowledge and is intended to furnish general information regarding our products and their application spectrum. In view of the diversity and multitude of application possibilities, this information should be regarded as a guideline only, which does not guarantee any specific properties and/or suitability of these products for each concrete case of application. Consequently, prior to placing an order for a product, we recommend that you provide us with the specific properties required for a particular application. Upon request, our technical service will immediately draw up a detailed property profile for that concrete application case.

**KCH GROUP GmbH**

Postfach 11 63, D-56425 Siershahn

Telephone: +49 (0) 2623-600-518 / Fax: +49 (0) 2623-600-854 / eMail: info@kch-group.com

تلفن: ۰۴-۲۲۶۴۶۷۸۳ و ۰۱۰-۲۲۶۳۰۶۰۸

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