



KEIM Concretal® KEIM Concretal® Grob

1. Product description

Ready-to-use protective sol/silicate-based concrete paint for opaque protective coats. KEIM Concretal® Grob is a filled variant of KEIM Concretal® for priming coats.

2. Area of application

KEIM Concretal® is used to protect concrete surfaces on exterior façades and interior concrete surfaces subjected to severe loads, e.g. in multistory car parks, with a protective action providing protection from water and weathering by silicification and protection from carbonation. Water protection may be further enhanced by providing the substrate with a hydrophobic treatment using KEIM Silangrund [silane primer] or KEIM Silan [silane] 100. The combination with KEIM Silan 100 provides "grade W protection" according to Rili-SIB (guidelines for the protection and renovation of concrete components published by the German committee on steel reinforced concrete (DAfStb)).

KEIM Concretal® is not suitable for horizontal and slightly inclined surfaces.

KEIM Concretal® Grob is applied as a priming coat or as a priming and intermediate coat for leveling surfaces and filling hairline cracks.

3. Product properties

KEIM Concretal® protects concrete from weathering and penetration of aggressive atmospheric pollutants while simultaneously providing very good outward water vapor diffusion.

KEIM Concretal® has a Matt mineral finish and preserves concrete surface structures, such as cladding structures.

Immobile hairline cracks can be filled in combination with KEIM Concretal® Grob.

KEIM Concretal® is non-flammable according to DIN 4102-A2. In the event of fire, no toxic combustion gases are released into the surroundings.

Color shades

Shades from KEIM's standard range only

Binder

Binder formulated with silica sol, potassium water

glass and pure acrylate resin.

Technical data

Density: Concretal®	1.60 g/cm ³
Concretal® Grob	1.65 g/cm ³

Diffusion values for use as carbonation protection:
Carbonation resistance: $S_d(\text{CO}_2) = 110 \text{ m}$
Water vapor diffusion resistance: $S_d(\text{H}_2\text{O}) = 0.18 \text{ m}$
Water absorption coefficient: $w = 0.18 \text{ [kg/m}^2\text{h}^{0.5}\text{]}$

Diffusion values for use as moisture protection:
Water vapor diffusion resistance: $S_d(\text{H}_2\text{O}) = 0.04 \text{ m}$
Water absorption coefficient: $w = 0.08 \text{ [kg/m}^2\text{h}^{0.5}\text{]}$

(The necessary level of protection should be established on a case by case basis.)

4. Application instructions

The substrate must be dust-free and dry. Loose parts, dirt, oily substances, moss and algae and any unsound organically bound prior coats must be completely removed.

In the case of new concrete structures, any shuttering oil residues should be removed with KEIM Betonschnellreiniger [rapid concrete cleaner].

Clean, strong concrete requires no pretreatment. Before Concretal® is applied, highly absorbent substrates or surfaces exposed to severe weather may be provided with a water-repellent substrate treatment using KEIM Silangrund or KEIM Silan 100 (tested to ZTV-SIB 90) to enhance water protection. A subsequent primer coat of Concretal® or Concretal® Grob may be applied after approx. 4 hours in the case of KEIM Silangrund and after 4 to 24 hours in the case of KEIM Silan 100. Soft, porous concrete surfaces or mineral prior coats may be stabilized by pretreatment with KEIM Concretal®-Fixativ [fixative].

One or two priming coats of KEIM Concretal® Grob may be applied to level surfaces and to fill immobile hairline cracks.

Application

KEIM Concretal® Grob must be applied by brush. KEIM Concretal® may be applied by brush, roller or spray gun (airless nozzle, 0.79 mm).

Coating structure



Two-coat structure:

Priming coat: 25 kg of KEIM Concretal® or KEIM Concretal® Grob diluted with max. 2.5 l of KEIM Concretal®-Fixativ.
Final coat: KEIM Concretal® undiluted.

Three-coat structure:
Priming coat: 25 kg of KEIM Concretal® Grob diluted with max. 2.5 l of KEIM Concretal®-Fixativ.

Intermediate coat: 25 kg of KEIM Concretal® Grob diluted with max. 1.25 l of KEIM Concretal®-Fixativ.

Final coat: KEIM Concretal® undiluted.

Stir diluted KEIM Concretal® and KEIM Concretal® Grob before and during application. Neither water nor any other materials may be added.

Application conditions

From +5°C up to max. 30°C air and substrate temperature, up to max. 80% relative humidity.

Only apply in dry weather conditions. Do not apply in strong sunlight, onto substrates heated by the sun or in strong wind. After application, protect surfaces from excessively fast drying, wind and rain.

Intercoat times

Approx. 24 hours between coats; before priming coat approx. 4 hours after KEIM Silangrund or approx. 4-24 hours after KEIM Silan 100

Consumption

Two coats of KEIM Concretal®:

0.35 kg/m² KEIM Concretal®

0.02 l/m² KEIM Concretal®-Fixativ

Priming coat with KEIM Concretal® Grob, final coat with KEIM Concretal®:

0.20 kg/m² KEIM Concretal® Grob

0.20 kg/m² KEIM Concretal®

0.02 l/m² KEIM Concretal®-Fixativ

Three coats of KEIM Concretal®:

0.45 kg/m² KEIM Concretal®

0.03 l/m² KEIM Concretal®-Fixativ

Priming and intermediate coat with KEIM Concretal® Grob, final coat with KEIM Concretal®:

0.35 kg/m² KEIM Concretal® Grob

0.20 kg/m² KEIM Concretal®

0.03 l/m² KEIM Concretal®-Fixativ

The stated consumption figures are guide values for a smooth substrate. Exact values can only be determined by painting test areas on the structure to be coated.

Dry film thickness

100-150 µm with two coats of Concretal®-Farbe on a smooth substrate.

Cleaning of tools

Clean with water immediately after use.

5. Packaging

KEIM Concretal®: 5 kg and 25 kg containers

KEIM Concretal® Grob: 5 kg and 25 kg containers

KEIM Concretal®-Fixativ: 5 l and 20 l containers

6. Storage

In a closed container and in cool, frost-free conditions, KEIM Concretal®, KEIM Concretal® Grob and KEIM Concretal®-Fixativ have a storage life of 12 months.

7. Hazardous Substances Ordinance class

n/a

8. Transport hazard class

n/a

9. Disposal

EC Waste Code no. 08 01 12

Any residues must be emptied out of containers before recycling.

10. Safety instructions

The mineral binder has an alkaline action. Provide appropriate protection for surfaces which are not to be coated (e.g. glass, natural stone, ceramics, wood etc.). Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with water. Protect the eyes and skin from splashes. Keep out of reach of children.

Product code: M-SK 01

The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release those purchasing and applying our products from the duty of establishing for themselves, with due care, the suitability of our products for the intended application. Standard building industry practices must be complied with. We retain the right to make modifications to improve the products or their application. This edition supercedes all earlier editions.