

Technical Data Sheet

KEIM Concretal®-W KEIM Concretal®-W-Grob

Protective concrete finish



1. Product description

Sol-silicate protective concrete paint as per DIN EN 1504-2/2.2. KEIM Concretal-W-Grob (for base coats only) is a coarse textured variant of KEIM Concretal-W.

2. Field of application

KEIM Concretal-W is typically a 2 or 3 coat system used to protect concrete surfaces on exterior facades and interior concrete surfaces subjected to severe loads, e.g. in multi-story car parks, high-rise construction with a protective action providing protection from water and weathering by silicification and protection from environmental pollutants. Water protection may be further enhanced by providing the substrate with a water repellent pretreatment using KEIM Silangrund or KEIM Silan-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-W-Grob is applied as a base coat or as a base and intermediate coat for equalizing differences in structure and filling hairline cracks up to 0.3mm. KEIM Concretal-W and Concretal-W Grob are not suitable for horizontal and slightly inclined surfaces exposed to weathering or floor surfaces.

3. Product properties

KEIM Concretal-W protects concrete from weathering and penetration of liquid water and, while simultaneously providing very good water vapor diffusion from inside to outside, it prevents water formation in the concrete and thus corrosion of the reinforcement steel (corrosion protection by keeping the concrete dry).

At the same time it prevents penetration of chloride salts and other pollutants. KEIM Concretal-W has a matt mineral finish and preserves concrete surface textures, such as cladding structures. Immobile hairline cracks can be filled in combination with KEIM Concretal-W-Grob. KEIM Concretal-W is non-flammable according to DIN 4102-A2. In the event of fire, no toxic combustion gases are released into the surroundings.

- Lightfast, will not fade
- Weather resistant
- Resistant to environmental influences
- Mineral matt finish that lasts

Color shades

Shades from KEIM's Palette Exclusiv or a custom match to your color selection within our natural mineral range.

Technical data

Density: Concretal-W	approx. 1.65 g/cm ³
Concretal-W-Grob	approx. 1.65 g/cm ³
VOCs (white or tinted) ASTM D6886:	<1g/l
Water vapor Diffusion resistance:	
DIN EN 1504:	$s_d (H_2O) = <0.01 \text{ m}$
Water absorption coefficient: $W = 0.07 \text{ [kg/m}^2\text{h}^{0.5}]$	
Tensile strength T_{standard} :	2.1 N/mm ²
Vapor Permeability ASTM E96:	77 Perms
Accelerated weathering ASTM G154 2016 hours:	Pass
	No change, no deterioration of any type.
Wind driven rain ASTM E514:	Pass - No water leakage
Light fastness of color pigment:	A1
(Fb-Code acc. to BFS technical bulletin No. 26)	

4. Application instructions

Substrate preparation

The substrate must be sound, solid, dry, clean and free of dust, grease, oils, salts, moss, algae and other substances that would prevent bonding. Old resin coatings, loose substrate layers and organically bound coats must be removed. Repair



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damaged areas using the KEIM Concretal concrete repair system.

For new concrete structures; Concrete should be at least 28 days old and any formwork oil for Concrete, mold lubricating oil, shuttering oil, mold release oil, concrete form oil residues and curing compounds should be removed with KEIM Concrete Cleaner or by other methods.

Clean, strong concrete without a sinter layer requires no pre-treatment.

Before KEIM Concretal-W or KEIM Concretal-W-Grob is applied, highly absorbent substrates or surfaces exposed to severe weather may be treated with a water-repellent substrate treatment using KEIM Silangrund or KEIM Silan-100 (tested to ZTV-ING) to enhance waterproofing. A subsequent base coat of KEIM Concretal-W must be applied after approx. 4 hours for KEIM Silangrund and after 4 to 12 hours for KEIM Silan-100.

Soft, porous concrete surfaces or existing mineral coats may be stabilized by pre-treatment with KEIM Concretal-Dilution (Fixativ).

One or two base coats of KEIM Concretal-W-Grob may be applied to help level surfaces or to fill immobile hairline cracks up to 0.3mm.

Application

KEIM Concretal-W-Grob may be applied by brush, roller or spraying (airless nozzle 537: 0.94 mm/0.037 in.).

KEIM Concretal-W may be applied by brush, roller or spraying (airless nozzle 527: 0.68 mm/0.027 in.).

For the finish coat it is important to work swiftly wet-in-wet and to maintain a wet edge work corner to

corner or use an architectural feature as a starting and stopping point.

Coating system

Two-coat-system:

Base coat: KEIM Concretal-W or KEIM Concretal-W-Grob diluted up to maximum of 10% (12.8 oz/gallon) with KEIM Concretal-Dilution.

Finish/Top coat: KEIM Concretal-W undiluted.

Three-coat-system:

Base coat: KEIM Concretal-W or KEIM Concretal-W-Grob diluted up to maximum of 10% (12.8 oz/gallon) with KEIM Concretal-Dilution.

Intermediate coat: KEIM Concretal-W or KEIM Concretal-W-Grob diluted up to maximum of 5% (6.4 oz/gallon) with KEIM Concretal-Dilution.

Finish/Top coat: KEIM Concretal-W undiluted.

Stir diluted KEIM Concretal-W and KEIM Concretal-W-Grob before and during application. Neither water nor any other materials may be added. For the finish coat it is important to work swiftly wet-in-wet maintaining a wet edge. Work corner to corner or use an architectural feature as a starting and stopping point.

Application conditions

From 41°F up to max. 86°F (+5°C - 30°C) air and substrate temperature. Below 80% relative atmospheric humidity and below 40% humidity in the substrate.

Only apply in dry weather conditions. Do not apply under direct sun or on sun-heated substrates or in strong wind. After application, surfaces must be protected from strong wind and direct sun until dry (3-6 hours) and from rain until they are cured (12-36 hours). Times depend on temperature and humidity.



Drying times

Dry to touch in 1-3 hours.

For recoating, at least 12 hours between coats.

For the finish coat, allow 12-36 hours.

If a pretreatment of one of the following water repellencies was applied allow drying before base coat is applied. Approx. 4 hours after KEIM Silangrund or 4 - 12 hours after KEIM Silan-100.

Consumption

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 using tools and techniques that will be used for the final application.

KEIM Concretal-W

300 - 350 sq.ft./gallon

KEIM Concretal-W-Grob

275 - 325 sq.ft./gallon

Dry thickness

150 µm ≈ 6 mils with two coats of Concretal-W on a smooth substrate.

Cleaning of tools

Clean with water immediately after use

5. Packaging

1 gallon

and

4 gallon (packaged in a 5 gal pail)

6. Storage

In a sealed container under cool, frost-free conditions, KEIM Concretal-W, KEIM Concretal-W-Grob and KEIM Concretal Dilution 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 etc.). Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of 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 supersedes all earlier editions.

