

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



1. Product description

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

2. Field of application

KEIM Concretal-W is used to protect concrete surfaces on exterior facades and interior concrete surfaces subjected to severe loads, e.g. in multi-story car parks, with a protective action providing protection from water and weathering by silicification and protection from chloride. Water protection may be further enhanced by providing the substrate with a hydrophobic treatment 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 is not suitable for horizontal and slightly inclined surfaces exposed to weathering. 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.

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.

Color shades

Shades from KEIM's Palette Exclusiv and custom colors can also be ordered.

Binder

Binder formulated with silica sol, potassium water glass and pure acrylate.

Technical data

Density: Concretal-W	approx. 1.65 g/cm ³
Concretal-W-Grob	approx. 1.65 g/cm ³

DIN EN 1504: Water vapor

Diffusion resistance:	$s_d (H_2O) = 0.011 \text{ m}$
Water absorption coefficient: $W = 0.07 \text{ [kg/m}^2\text{h}^{0.5}]$	
Tensile strength T_{standard} :	2.1 N/mm ²

ASTM E96 Water Vapor Transmission: 77 Perms

ASTM G154 Accelerated weathering 2016 hr: No change, no deterioration of any type.

ASTM E514 Wind driven rain: No water leakage.

Light fastness of color pigment: B1
(Fb-Code acc. to BFS technical bulletin No. 26)

4. Application instructions

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



In the case of new concrete structures, any shuttering oil residues should be removed with KEIM Concrete Cleaner.

Clean, strong concrete requires no pre-treatment. Before Concretal-W 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-ING) to enhance water protection. A subsequent base coat of Concretal-W or Concretal-W-Grob may be applied after approx. 4 hours in the case of KEIM Silangrund, and after 4 hours but before 24 hours in the case of KEIM Silan 100.

Soft, porous concrete surfaces or mineral old coatings may be stabilized by pre-treatment with KEIM Concretal Dilution.

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

Application

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

Coating structure

Two-coat-system:

Base coat: 25 kg of KEIM Concretal-W or KEIM Concretal-W-Grob diluted with max. 2.5 l (0.66 gal) of KEIM Concretal Dilution.

Top coat: KEIM Concretal-W undiluted.

Three-coat-system:

Base coat: 25 kg of KEIM Concretal-W-Grob diluted with max. 2.5 l (0.66 gal) of KEIM Concretal Dilution.

Intermediate coat: 25 kg of KEIM Concretal-W-Grob diluted with max. 1.25 l (0.33 gal) of KEIM Concretal Dilution.

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.

Application conditions

From +5°C up to max. 30°C (41-86°F) 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.

Drying times

At least 12 hours between coats; base coat approx. 4 hours after KEIM Silangrund or approx. 4-24 hours after KEIM Silan 100.

Consumption

Two coats of KEIM Concretal-W per m² (10.8 sq.ft):

0.35 kg KEIM Concretal-W
0.02 l (0.7 fl oz) KEIM Concretal Dilution

Base coat with KEIM Concretal-W Grob, top coat with KEIM Concretal-W per m² (10.8 sq.ft):

0.20 kg KEIM Concretal-W-Grob
0.20 kg KEIM Concretal-W
0.02 l (0.7 fl oz) KEIM Concretal Dilution



Three coats of KEIM Concretal-W per m² (10.8 sq.ft):

0.45 kg KEIM Concretal-W

0.03 l (1 fl oz) KEIM Concretal Dilution

Base and intermediate coat with KEIM Concretal-W-Grob, top coat with KEIM Concretal-W per m² (10.8 sq.ft):

0.35 kg KEIM Concretal-W-Grob

0.20 kg KEIM Concretal-W

0.03 l (1 fl oz) KEIM Concretal Dilution

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 thickness

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

Cleaning of tools

Clean with water immediately after use

5. Packaging

KEIM Concretal-W:

5 kg and 25 kg containers

KEIM Concretal-W-Grob:

5 kg and 25 kg containers

KEIM Concretal Dilution:

5 l and 20 l (1.3 and 5.3 gal) containers

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

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