



TECHNICAL DATA SHEET

KEIM CONCRETAL® W

SOL-SILICATE HIGH PERFORMANCE FINISH FOR CONCRETE AND MASONRY

1. PRODUCT DESCRIPTION

KEIM CONCRETAL® W High Performance Sol-Silicate Finish for Concrete is a protective concrete paint system that penetrates, forming covalent chemical crystalline bonds with concrete. KEIM CONCRETAL W offers the highest level of water repellency and weather protection coupled with outstanding application properties. It contains only lightfast inorganic pigments and mineral fillers so colors will stay true, without fading. It is highly alkali and efflorescence resistant and can be applied to concrete surfaces with a pH of 6–13.

- Apply directly to fresh concrete (at least 7 days old) and Shotcrete/Gunite after 3 days
- Prevents penetration of Chloride salts and other pollutants
- Outstanding application properties and final appearance
- No primer required—2 coat system
- Excellent moisture vapor diffusion while providing a weather proof and water repellent finish

2. FIELD OF APPLICATION

Expressly formulated for use on cast-in-place and precast concrete surfaces, CMU, lightweight, GFRC and high performance concrete, asbestos cement and fiber cement boards. For use on interior or exterior surfaces where added protection is needed.

3. PRODUCT PROPERTIES

KEIM CONCRETAL W is based on a sol-silicate, or water-glass binding agent. It delivers excellent hiding and working properties, is non-yellowing and contains only absolutely light-resistant inorganic color pigments. Plus, it protects concrete substrates from harsh weather and is available in a smooth or texture finish.

- Mineral matte, natural appearance
- Non film forming—penetrates and forms chemical bonds with concrete—won't peel or lose adhesion
- Incombustible and safe to use—Class A Building Material
- Self-cleaning and anti-static—dirt won't cling and washes off naturally with rainfall
- Lightfast pigments—colors will not fade
- Extremely weather and pollution resistant
- Water-repellent

- Extremely vapor permeable—allows concrete and masonry to breathe naturally
- Hinders fungal and algal growth thanks to ideal moisture balance—no pesticides added
- Extremely low VOC—environmentally friendly

Technical data

| | |
|---|---|
| Specific Weight | 1.3 - 1.5 g/cm ³ |
| pH Value @ 20°C | 11 |
| Wind Driven Rain ASTM E 514 | Passes—no water leaked through |
| Water Vapor Permeability ASTM E 96 | 77 Perms |
| Accelerated Weathering Test ASTM G 154 | Passes—No change after 2016 hours |
| Alkali Resistance ASTM D1308 | Passes—no visible change at 24 hours |
| Mildew Resistance ASTM D3273/D3274 | Rating 10 (no fungal growth) |
| Chloride Ion Permeability | Permeability Class: Very Low |
| Thermal Expansion | Comparable to the concrete substrate |
| Gloss at 85° | 2.0 Mineral Matte Flat |
| Flashpoint | Non-Flammable |
| Surface Burning Characteristics ASTM E 84-08 | Class A Building Material Flame Spread Index = 0; Smoke Developed Index = 0 |
| Color Stability Color code acc. To BFS Tech. No 26 | A1 Best in class rating No color change after 4 years |
| VOC | < 1 g/liter |
| All test results performed on 2 coats Concretal W applied at 300–350 SF/GAL and 14 day cure @ 77°F & 50% RH | |

Colors

White and all colors of KEIM's Palette exclusiv color collection. Custom color matches available.

Environmental Compliance

| | |
|--------|-----|
| EPA | YES |
| LEED | YES |
| CARB | YES |
| SCAQMD | YES |

4. SPECIFICATIONS/SYSTEMS

For proper waterproofing and weather resistant performance, two coats of KEIM CONCRETAL W must be applied at recommended coverage rates. Surface should be fully coated, with no pinholes, runs or holidays.

Cast or Pre-cast Bare Concrete

Pretreat: KEIM Concrete Cleaner
 1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

CMU Block

For new, extremely porous block:
 1 coat CONTACT-PLUS Block Filler
 1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

Waterproofing System

Pretreat: KEIM Silan 100 Silane Water Repellent
 1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

Fiber Cement Board/Siding (bare)

1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

Gunite/Shot-Crete (bare)

1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

Previously Acrylic Painted Surfaces

1 coat CONTACT-PLUS Bonding Primer
 1 coat CONCRETAL W (diluted up to 15%)
 1 coat CONCRETAL W (full strength)

Do not apply to aged, oil base, epoxy or urethane coatings.

5. SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800- 424-LEAD (in US) or contact your local health authority.

The substrate must be sound, dry, absorbent, clean and free from dust and grease. Loose areas, dirt, oily substances, release agents, curing compounds, moss and algae must be completely removed.

Existing film-forming coatings which are not sound or which impair the vapor diffusion must be removed with paint stripper or by mechanical means.

Highly absorbent, sanding surfaces:

Pretreat by saturating surface with KEIM Fixativ, mixed with 3 parts water, and allow to dry for 12 hours.

New Portland Stucco:

Sinter layers on new Portland stucco or stucco repairs should be pretreated with KEIM Lime Remover, rinsed and allowed to dry.

New Concrete Surfaces:

Remove all release, form or curing oil residues with KEIM Concrete Cleaner, rinse and allow to dry. In some cases sandblasting may be necessary to remove sealers, release compounds, and to provide an anchor pattern. Concrete and mortar must be cured at least 7 days at 75°F. Clean, strong and sound concrete requires no pre-treatment.

Filling Concrete Imperfections:

Fill bug holes, air pockets, non-moving cracks, and other voids with CONCRETAL Fine Filler. Rough surfaces can be filled to provide a smooth surface. One or two base coats of CONCRETAL W Texture Base Coat may be applied to level surfaces and to fill non-moving hairline cracks.

6. APPLICATION

KEIM CONCRETAL W may be applied by brush, roller or airless spray.

- Brush - Use a nylon/polyester brush
- Roller - Use a ½" to ¾" nap synthetic roller cover
- Airless Spray
 - Pressure: 3000 psi, minimum
 - Tip: .031 in, minimum

First coat

KEIM CONCRETAL W may be diluted up to 15% with KEIM Concretal Dilution depending on the substrate's absorbency. Allow to dry 12 hours or overnight before recoating.

Top coat

Apply KEIM CONCRETAL W undiluted. There is no re-coat window after the first coat has dried.

NOTE: For extreme weather conditions or critical, intensive color shades it is recommended to apply a three-coat system.

Application conditions

Ambient and substrate temperature: 40°F and rising. Do not apply in direct sunlight or on sun-heated substrates. Protect coated surfaces from direct sunlight, wind and rain during and after application for a minimum of 12 hours.

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Drying times

Drying times are temperature, humidity and coverage dependent.

| | @ 40-50 °F | @ 50 °F + |
|---------|-------------|-----------|
| Touch: | 4-6 hour | 2-4 hours |
| Recoat: | 24-48 hours | 24 hours |

Coverage*

| Substrate | Coverage* |
|-----------------------------------|----------------|
| Cast or Pre-Cast Concrete | 300–350 SF/GAL |
| Fiber Cement Siding | 275–325 SF/GAL |
| Portland Stucco | 150–200 SF/GAL |
| CMU Block (smooth) | 100–150 SF/GAL |
| CMU Block (split faced or fluted) | 50–100 SF/GAL |
| Gunite/Shotcrete | 100–150 SF/GAL |
| Brick/Masonry | 250–300 SF/GAL |

* Stated values are based on our experience on smooth surfaces. Surface texture, porosity, application conditions and type of equipment used will all vary consumption. Only a test application, using desired mixing ratio and under production conditions will fore-cast consumption of the system components accurately. **Concretal W is available in Sand Finish (subtract 50–75 SF/GAL) and Coarse Base Coat (subtract 75–100 SF/GAL) from cast concrete figures above. Coarse Base Coat must be finished with Concretal W.**

Cleaning

Clean spills, spatters, hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with a compliant cleanup solvent to prevent rusting of the equipment. Tools should be kept in the paint material or in water during work breaks.

Mixing with other products

In order to maintain the specific features of CONCRETAL W and the related system products, they must not be mixed with other products or additives nor must they be diluted with water.

7. PACKAGING

Quart, Gallon and 4 Gallon

8. STORAGE

Approx. 12 months in tightly closed container under cool, frost-free conditions. Protect from heat and direct sunlight.



9. DISPOSAL

Dispose of completely emptied containers in accordance with local, state and federal waste regulations.

HAZARDOUS SUBSTANCE CLASS

n/a

10. LIMITATIONS

KEIM CONCRETAL W is a façade paint finish and should not be used on floors, roofs or decks or where water will collect. Not for use below grade.

11. SAFETY INSTRUCTIONS

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.

The information and recommendations set forth in this Technical Data Sheet are based upon tests conducted by or on behalf of KEIM Mineral Coatings. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult <http://www.keim-usa.com/Technical-Data-Sheets> for the latest in product technical information.