TECHNICAL DATA SHEET

KEIM CONCRETAL® BLACK

SOL-SILICATE PAINT FOR CONCRETE AND MASONRY

1. PRODUCT DESCRIPTION

KEIM CONCRETAL® BLACK High-Performance Sol-Silicate Finish for Concrete is a protective concrete paint system that penetrates, forming covalent chemical crystalline bonds with concrete. KEIM CONCRETAL 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 weatherproof and water repellent finish
- Nano-binder penetrates even the densest cast concrete
- 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, even the deepest black
- Extremely weather and pollution resistant
- Water-repellent
- Extremely vapor permeable—allows concrete and masonry to breathe naturally
- Environmentally friendly and sustainable
- Hinders fungal and algal growth thanks to ideal moisture balance—no pesticides added
- Mineral matte, natural appearance

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. May be applied directly to reinforced polymer modified cementitious patches that are fully cured. For use on interior or exterior surfaces where added protection is needed.

3. PRODUCT PROPERTIES

KEIM CONCRETAL BLACK is based on a sol-silicate, or waterglass binding agent. It delivers excellent hiding and working properties and combines a unique combination of inorganic black pigments and fillers to provide the blackest finish for concrete. Plus, it protects concrete substrates from harsh weather and is available in a smooth or texture finish.

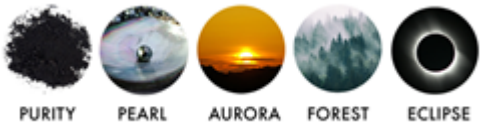
Technical data

Specific Weight	1.3 - 1.5 g/cm³
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 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 Black applied at 300—350 SF/GAL and 14-day cure @ 77°F & 50% RH	

Colors

The deepest and most absolute black for interior and exterior concrete and masonry. Black purity is free of any shading. Special orders of Pearl, Forest, Aurora, and Eclipse.



Environmental Compliance

EPA	YES
LEED	YES
CARB	YES
SCAQMD	YES
UL Greenguard Gold	Certified
EPD	YES
Sustainability Data Sheet	YES
Cradle to Cradle Certified	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 diluted up to 10%)
1 coat CONCRETAL (full strength)

CMU Block
For new, extremely porous block:
1 coat CONTACT-PLUS Block Filler
1 coat CONCRETAL (diluted up to 10%)
1 coat CONCRETAL (full strength)

Waterproofing System
Pretreat: KEIM Silan 100 Silane Water Repellent
1 coat CONCRETAL (diluted up to 10%)
1 coat CONCRETAL (full strength)

Fiber Cement Board/Siding (bare)
1 coat CONCRETAL (diluted up to 10%)
1 coat CONCRETAL (full strength)

Gunite/Shot-Crete (bare)
1 coat CONCRETAL (diluted up to 10%)
1 coat CONCRETAL (full strength)

Previously Acrylic Painted Surfaces
1 coat CONCRETAL (diluted up to 10%)
1 coat CONCRETAL (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 GROB Texture Base may be applied to level surfaces and to fill non-moving hairline cracks.

Provide appropriate protection for surfaces which are not to be coated (e.g., glass, natural stone, ceramics, metal, etc.).

6. APPLICATION

KEIM CONCRETAL BLACK 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
  - Remove mesh filters from manifold and gun to minimize clogging

First coat
KEIM CONCRETAL may be diluted up to 10% with KEIM Concretal Dilution depending on the surface absorbency. Allow to dry 12 hours or overnight before recoating.
Top coat
Apply KEIM CONCRETAL undiluted. There is no recoat window after the first coat has dried.
NOTE: For extreme weather conditions it is recommended to apply a three-coat system.

Application conditions
Ambient and substrate temperature: 40°F and rising and below 86°F. 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 8 hours.

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 Grob Texture Base (subtract 75—100 SF/GAL) from cast concrete figures above. Texture base coats must be finished with a minimum of 1 coat of Concretal.**

Cleaning
Clean spills, spatters, hands, and tools immediately after use with soap and warm water. Tools should be kept in the paint material or in water during work breaks. Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. Once dried, paint is very difficult to remove from mineral surfaces.

Mixing with other products
Do not mix Concretal products with additives. DO NOT THIN WITH WATER

7. PACKAGING

Gallon and 4 Gallon plastic pails

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 BLACK 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

CAUTION! SKIN OR EYE CONTACT MAY CAUSE TEMPORARY IRRITATION
Use proper protective equipment and clothing. Avoid breathing spray mist. Open windows and doors or use other fresh air supply during application indoors or wear respiratory protection (NIOSH Approved). Wash hands and skin after handling. Keep container closed when not in use.
FIRST AID: If swallowed, give two glasses of water. Do not induce vomiting. Call for medical help immediately. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. In case of skin irritation, consult a physician. In case of contact, immediately flush eyes and skin with plenty of water; get medical help if needed.

Keep out of reach of children.
Do not take internally.

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 aid in the selection of our products and do not establish a contractual relationship. 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.

12. CONTACT

Keim-usa.com
info@keim.com
orders@keim.com