



TECHNICAL DATA SHEET

KEIM SILAN-100 WATER REPELLENT

1. PRODUCT DESCRIPTION

KEIM Silan-100 Water Repellent is a clear 100% Silane that deeply penetrates porous masonry and concrete surfaces. It provides high performance water repellent protection and is extremely vapor permeable so it does not reduce breathability of the substrate.

2. FIELD OF APPLICATION

KEIM Silan-100 Water Repellent is ideal for concrete, natural stone, stucco, CMU, brick and all absorbent masonry where added protection from surface water is required. KEIM Silan-100 works especially well on structures that are exposed to freeze/thaw loads and also to protect reinforcing steel from chloride corrosion due to salt penetration. Apply as a standalone finish or as a pre-treatment prior to applications of any KEIM stain or finish system in extreme environments. Recommended Uses:

- Interior and exterior
- Horizontal and vertical surfaces
- Above grade
- Parapet walls
- Cast and precast concrete
- Masonry and brick structures
- Natural stone
- Stucco surfaces
- Stadium concrete steps, risers and seating
- Concrete balconies

3. PRODUCT PROPERTIES

KEIM Silan-100 Water Repellent is a solvent-free alkylalkoxysilane with an active component content of 100% for maximum performance.

- Completely vapor permeable—allows substrate moisture vapor to freely escape without damaging water repellency
- Penetrates deeply and chemically reacts within pores of masonry and concrete for superior water repellency and durability
- Abrasion resistant
- Easy to use—brush, roll or pump-up sprayer
- Does not form residue on metal, glass windows or painted surfaces
- 100% active silane means no waste and highest performance
- Protects against chloride ion penetration
- Deep penetration into absorbent masonry ensures long-term durability

Technical data

Density (approx.)	0.9 g/cm ³
Penetration Depth	Class II:= 10 mm
Water absorption and alkali resistance:	Absorption coefficient < 7.5% compared to untreated sample < 10% in alkali solution
Mass loss after alternating stress (frost, deicing salt):	Mass loss 20 cycles later than untreated samples
ASTM E 514 Water penetration and leakage of masonry	Passes for both dampness and leaking
ASTM D 6532 Water absorption %	Brick 0.05% Concrete 0.96%
Chloride Ion Permeability	Permeability Class: Very Low
Flashpoint	> 40 °C (104 °F)
VOC	< 10 g/liter
All test results performed on Silan-100 applied at recommended coverage and after 14 day cure @ 77 °F & 50% RH	

Color: Clear

Environmental Compliance

EPA	YES
LEED	YES
CARB	YES
SCAQMD	YES

4. SPECIFICATIONS/SYSTEMS

For proper water repellent performance, porous surface must be thoroughly soaked and saturated with multiple, wet-on-wet applications until the surface can absorb no further Silan applications. Silan-100 can be used alone as a clear water repellent finish, or used as a water repellent pre-treatment beneath all Keim mineral stains, paints and finishes. See application guidelines for use beneath Keim finishes.

5. SURFACE PREPARATION

The mineral 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.

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 Heavy Duty Masonry 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.

6. APPLICATION

KEIM Silan-100 is ready-to-use and is applied to saturation by flooding with a low-pressure sprayer or by soaking with a brush or roller. Application may be repeated after approximately 4 hours to 1 day in order to enhance the water repellent performance. KEIM Silan-100 reacts with the moisture in the concrete, forming in conjunction with alkalinity, a water repellent zone. KEIM Silan-100 may be over coated after approx. 4 hours to 12 hours with stains and finishes from the KEIM system or may be used as the sole water repellent finish.

KEIM Silan-100 may be applied by brush, roller or pump-up sprayer. Do not apply by airless or air spray.

- Brush - Use a nylon/polyester brush
- Roller - Use a 1/2" to 3/4" nap synthetic roller cover

Application conditions

Ambient and substrate temperature: 40°F and rising. Do not apply in direct sunlight or on sun-heated substrates. Equipment and tools must be clean and dry. It is essential

to avoid contact with water before application. The surface of the building material must be clean, dry and absorbent and may have to be cleaned beforehand. The quantity to be applied by flooding depends on the absorbency of the substrate (apply onto trial area). Non-absorbent surfaces cannot be treated with KEIM Silan-100. Avoid direct sunlight and exposure to strong wind. Protect coated surfaces from direct sunlight, wind and rain during and after application for a minimum of 12 hours.

Drying times

Drying times are temperature, humidity and coverage dependent.

	@ 40-50 °F	@ 50 °F +
Touch:	4-6 hour	2-4 hours
Reapply:	10-24 hours	10-24 hours

Installing Keim stain or finish: Allow surface to dry to touch, (2-8 hours) then apply selected Keim finish per tech data instructions. NOTE: Silan-100 must not cure completely before finishing with stain or paints as water repellency will repel stain and finish. If this occurs, re-apply another coat of Silan-100 and allow to dry to touch followed by stain or paint finish application.

Coverage*

SUBSTRATE	COVERAGE*
Cast or Pre-Cast Concrete	275-325 SF/GAL
Fiber Cement Siding	275-325 SF/GAL
Portland Stucco	150-200 SF/GAL
CMU Block (smooth) and brick	100-150 SF/GAL
CMU Block (split faced or fluted)	50-100 SF/GAL
Gunitite/Shotcrete	100-150 SF/GAL
Brick/Natural Stone Masonry	225-275 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.

Cleaning

Clean spills, spatters, hands and tools immediately after use with mineral spirits or benzene.

Mixing with other products

In order to maintain the specific features of KEIM Silan-100 it must not be inter-mixed with other products or additives. Do not dilute with water.

7. PACKAGING

5 liter (1.3 gal) and 25 liter (6.6 gal) plastic jerry can

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

R 10: Flammable

R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S 23: Do not breathe gas/spray.

S 43: In case of fire never use water.

S 61: Avoid release to the environment. Refer to special instructions/safety data sheet.

10. LIMITATIONS

Do not apply over existing organic (acrylic or oil-based) painted surfaces. Not for use below grade.

11. SAFETY INSTRUCTIONS

Provide appropriate protection for surfaces which are not to be treated (e.g. glass, natural stone, ceramics etc.). Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. When using in confined spaces, keep container tightly closed. Keep away from sources of ignition.

Protect the eyes and skin from splashes. Do not eat, drink or smoke during application. Keep out of reach of children.

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.