



Division of Sierra Corporation
ISO 9001:2008 Certified

TK-590-100

Meets Federal EPA, OTC, and LADCO VOC Requirements.

Technical Data

1. PRODUCT NAME:

TK-590-100

2. MANUFACTURER

TK PRODUCTS
DIVISION OF SIERRA CORPORATION
11400 West 47th Street
Minnetonka, MN 55343
952-938-7223
952-938-8084 (FAX)
E-mail: tksales@tkproduct.com
Website: <http://www.tkproduct.com>

3. PRODUCT DESCRIPTION:

TK-590-100 is a clear, one-component, 100% active, silane sealer that works as a high performance, breathable, deep penetrating, non-darkening treatment for concrete. TK-590-100 may be used on either new or existing concrete surfaces to deeply penetrate the surface, thereby sealing out water, preventing the intrusion of waterborne salts, chloride ions and acids, and discouraging damage caused by freeze/thaw cycles.

TK-590-100 is designed to surpass the performance criteria of NCHRP #244 for protection of concrete against the intrusion of chlorides. TK-590-100 works by chemically bonding a silicon atom to a water repellent alkyl group and organophilic water sensitive ester groups. Through this chemical reaction the substrate becomes hydrophobic and therefore molecularly structured within the cementitious surface.

TK-590-100 uses the moisture present in concrete to produce the hydrophobic substrate. Through this reaction, the silanol groups chemically bond themselves to the concrete, thus eliminating the ever present moisture that had previously engulfed the cementitious material. Therefore TK-590-100 is chemically bonded within the substrate, not just physically bonded like other surface penetrating sealers.

BASIC USES:

TK-590-100 can be used to protect and seal any clean and dry cementitious surface, above ground, vertical or horizontal, interior or exterior.

APPLICATIONS:

- A. Parking Structures
- B. Bridge Decks and Substructures
- C. Commercial Buildings and Warehouses
- D. Concrete Highways
- E. Ramps and Barriers
- F. Stadiums

TK-590-100 is not suitable for use on gypsum.

TYPICAL PROPERTIES:

TK-590-100 has been carefully designed for use on above grade exterior surfaces and is characterized by the following properties:

- Excellent penetration and chemical reaction within the substrate provides long lasting protection that extends the life of the surface.
- High alkali resistance
- Provides resistance against abrasion due to traffic.
- Low volatility
- Dries tack free
- Provides early water repellency while allowing interior moisture to escape without damaging the sealer
- Exhibits droplet effect
- Suitable for alkaline & neutral substrates
- Will not etch glass

LIMITATIONS:

TK-590-100 should not be used below grade, under hydrostatic pressure, or when wet or inclement weather are anticipated within 12 hours of application. Only apply to structurally sound surfaces as TK-590-100 will not prevent water penetration fully when applied to unsound or cracked surfaces. Cover adjacent surfaces with a drop cloth or tarp to prevent damage. A mock-up panel should always be applied to determine compatibility with substrate and application coverage rate. The usable temperature range for this product is between 35°-90°F. At the time of curing, the temperature must be above 35° F for this product to cure properly.

4. TECHNICAL DATA:

TK-590-100 is a 100% silane by weight.

% Actives:	100%
Penetration - Broom Grooved: (Oklahoma DOT OHD L-40)	.50 inch (12.7 mm)
Flash Point:	125°F
Drying Time @ 70°F*:	1 hour

*Cooler temperatures and high humidity levels can extend this time.

- ASTM 672-76 freeze/thaw cycle
- ASTM 642-75 Water absorption test
- AASHTO T260-78 Chloride penetration
- A.I.M. Category: Waterproofing Sealer and Treatment - maximum VOC 600 g/l.
- A.I.M. Definition: A coating formulated and recommended for application to a porous substrate for the primary purpose of preventing the penetration of water.

TK-590-100 was evaluated as a protective penetrant on portland cement concrete. Tests were conducted by Wiss, Janey and Elstner Associates, Inc. using the techniques recommended in NCHRP Report No. 244. NCHRP 244 Report Series II Test.

5. APPLICATION PROCEDURES AND INSTRUCTIONS

SURFACE PREPARATIONS:

All surfaces to be treated must be clean and structurally sound. Thoroughly clean surfaces to remove all grease, oil, form oils, or other contaminants using waterblast, sandblast or shotblast methods. Air and surface temperatures must be above 35°F during application. A mock-up panel should always be applied to determine compatibility with substrate and application coverage rate.

OLD CONCRETE:

Remove unsound concrete and repair deteriorated areas and cracks. Surfaces may need to be mechanically abraded to get maximum penetration.

TK-590-100
Concrete Sealer and Water Repellent

TK
3&7
PRODUCTS

TK
3&7
PRODUCTS

TK-590-100
Concrete Sealer and Water Repellent

NEW CONCRETE:

Water cure fresh concrete. As a standard procedure, fresh concrete should be allowed to thoroughly cure, typically between 14 and 28 days after application, before applying TK-590-100.

Best results are obtained by applying TK-590-100 on dry substrates. A test patch should always be applied to determine proper results and coverage rates. Before using this product, read the Material Safety Data Sheet for complete safety information. Material Safety Data Sheets are available from TK Distributors, the TK Office, or the TK Website.

APPLICATION:

TK-590-100 should be used directly from the container. Do not dilute. Application can be made with a roller, brush, or an industrial sprayer. When applying TK-590-100, the surface must stay moist briefly to assure complete coverage and saturation. Any puddles should be broomed out.

For vertical surfaces, apply a light spray to break the surface tension of the wall. Follow immediately with a flood coat. Apply horizontally, with plenty of overlap and enough material to cause a 6 to 8 inch run-down. Fully saturate all mortar joints.

COVERAGE RATE

TK-590-100 will yield a coverage rate between 250 - 500 ft²/gallon for most surfaces. This rate is provided as a guideline only; the texture and absorption characteristics of the surface will determine actual coverage rates.

For resealing bridge decks, TK-590-100 will yield a coverage rate between 350 - 500 ft²/gallon.

CLEAN UP

Clean up tools with TK-00 solvent or xylene.

FIRST AID

Ingestion: Do not induce vomiting. GET MEDICAL HELP. *Inhalation:* Remove person to fresh air, give artificial respiration if not breathing. GET MEDICAL HELP. *Eye and Skin Contact:* Wash with large quantities of clean water for 15 minutes. Use with adequate ventilation.

PRECAUTIONS

TK-590-100 will react with water vapor. To insure maximum effectiveness, keep containers tightly sealed when not in use. Do not use or store near heat or open flame. All safety precautions must be adhered to at all times. Only apply in well ventilated areas, do not smoke in the area, and turn off all pilot lights. Wear protective

goggles, gloves, and respirator.

MAINTENANCE

If wear patterns do occur, TK-590-100 can be reapplied to the affected area(s).

6. AVAILABILITY

TK-590-100 is available through TK Distributors. Contact TK Products for the nearest distributor.

Packaged in 55-gallon drums, 5-gallon pails, and one gallon cans.

7. CONDITIONS OF SALE/ LIMITED WARRANTY

TK Products, division of the Sierra Corporation, warrants that its products conform to the label descriptions, are free from manufacturing defects, and are fit for the ordinary purposes for which such goods are used. Inasmuch as the use of TK Products' product by others and other factors affecting product performance are beyond TK Products' control, TK Products does not guarantee the results to be obtained. There are no warranties except as stated herein, either express or implied, including implied warranties of merchantability or fitness for a particular purpose. **SHOULD ANY TK PRODUCTS' PRODUCT FAIL TO GIVE SATISFACTORY RESULTS, TK PRODUCTS WILL REPLACE THE PRODUCT, OR AT ITS OPTION, REFUND THE PURCHASE PRICE. THIS IS THE SOLE AND EXCLUSIVE REMEDY FOR ANY FAILURE OF TK PRODUCTS' PRODUCTS TO PERFORM AS WARRANTED AND SHALL ALSO CONSTITUTE LIQUIDATED DAMAGES IN CASE OF LOSS. UNDER NO CIRCUMSTANCES SHALL THE BUYER BE ENTITLED TO ANY OTHER REMEDY OR DAMAGES. REMEDIES FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE SPECIFICALLY EXCLUDED. TK Products does not authorize any person to assume for it any other liability in connection with the sale or use of its products unless specifically authorized by TK Products in writing.**

8. TECHNICAL SERVICES

The TK office offers assistance with specifications, performance test data and field services.

9. FILING SYSTEMS

Information Handling Services
PO Box 1213
Englewood, CO 80150
Information Marketing Services
13271 Northend
Oak Park, MI 48237

TK DISCLAIMER:

Every effort has been made to ensure the accuracy of the above information and to avoid infringement of any patent or copyright. The information is based on field tests by government and private agencies, as well as lab tests, and on technical data from raw material manufacturers. The person(s) specifying or requesting the use of these products is responsible for assuring

their suitability for a specific use, as well as the proper application of the products. Where there is any question as to the suitability of a particular product, a small test patch is recommended. See also CONDITIONS OF SALE/ LIMITED WARRANTY (Section 7) above.

FOR INDUSTRIAL USE ONLY

05/12