Spray-Lock®

CONCRETE PROTECTION

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SCP TECHNOLOGY

Concrete is the most frequently used building component for structures and infrastructures all over the world. Historically, water curing over 28 days was the best method to optimize concrete performance. Today's demand for fast-track construction, however, has led to quicker, temporary methods of protection that require frequent maintenance. Fortunately, Spray-Lock Concrete Protection (SCP) offers spray-applied treatments that meet the industry's demands for curing, waterproofing and protection throughout the service life. SCP uses colloidal silica that chemically reacts with the available alkali in the void space of concrete pores and capillaries, creating a stabilized gel to block the pores and chemically stabilize the pH within concrete. First used in the petroleum industry over 35 years ago, SCP is now reducing maintenance expenses over the service life of concrete in all industries.

More than concrete treatments,
SCP offers superior concrete solutions.

Time-Saving Technology

Excellent Concrete Cure

Chemical Stabilization

Superior Concrete Performance

Quality Tech Support

Time-Saving Technology

With SCP's time-saving technology, contractors see our treatments as a cost savings, not a cost factor. SCP provides excellent curing and waterproofing, while keeping your project on or ahead of schedule. Apply coatings on roof decks and begin finishing on lower levels in half the time.

EXCELLENT CURE

Start installs in as little as 14 days with SCP vs. 28 days with other curing methods.

- Ideal for fast-track construction
- Avoid or limit dehumidifying or acclimatizing environments before beginning work

WATERPROOFS

Avoid time and cost installing temporary roofing systems.

- Dry-in areas the day after treating concrete
- Work on lower levels without fear of damage from above

ON SCHEDULE

No more end-of-project surprises or expenses.

- Avoid moisture-related issues that add time to projects
- Complete projects on or even ahead of schedule

Excellent Concrete Cure

BENEFITS TO PROPER CURE

- Improved Volume Stability (Shrinkage and Expansion)
- Optimum Strength Development
- Lower Permeability
- Increased Resistance to Chemical, Environmental and Freeze-Thaw Damage
- Improved Abrasion and Scaling Resistance
- Reduced Shrinkage Cracking

SCP's Colloidal Silica **improves concrete performance.**

UP TO 78%	UP TO 20%	UP TO 64%	UP TO 58%	UP TO 31%	UP TO 92%
Freeze-Thaw Damage Reduction	Compressive Strength Increase	Chloride Content Reduction	Abrasion Loss Reduction	Carbonation (Dusting) Reduction	Drying Shrinkage Reduction

More test results available upon request.

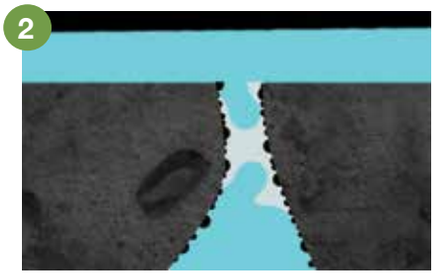
Chemical Stabilization

Unlike silicates and other traditional sealers, SCP's colloidal silica particles penetrate deep into concrete capillaries and pores, chemically reacting with the concrete to become a part of the structure. After treatment, moisture migration can no longer carry chlorides within the concrete matrix and the pH has been stabilized. By raising the pH of older concrete and stabilizing the pH of new concrete, SCP can help reduce corrosion, increase durability and improve the bond of coatings and flooring.

1

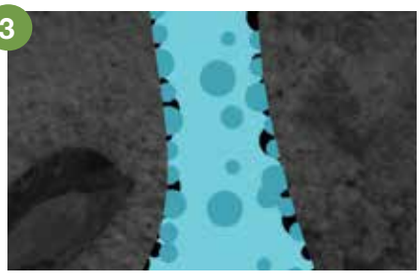
SCP is spray-applied to concrete.

2



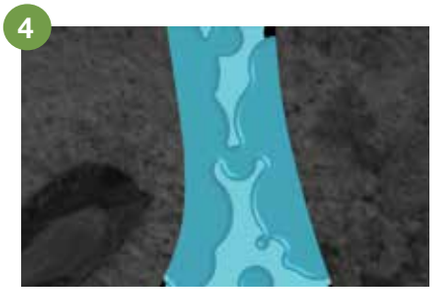
Open capillaries and pores in the concrete are filled with SCP.

3



Colloidal silica in SCP reacts with the available alkali found in concrete to form Calcium Silicate Hydrate (C-S-H).

4



C-S-H fills capillaries and pores to prevent Carbon Dioxide (CO_2) in the atmosphere from reacting with concrete.

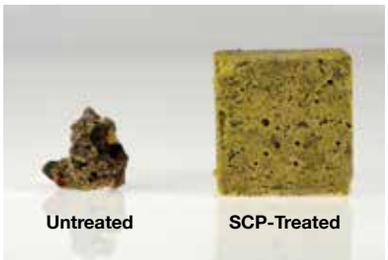
5

Capillaries filled with SCP enhance concrete curing, waterproofing and protection, while stablizing the pH.

SCP Increases Durability

Concrete cubes were placed in a 31% hydrochloric acid solution for a total of 2 hours. With SCP blocking the pores and capillaries of the cube on the right, the concrete withstood the chemical attack.

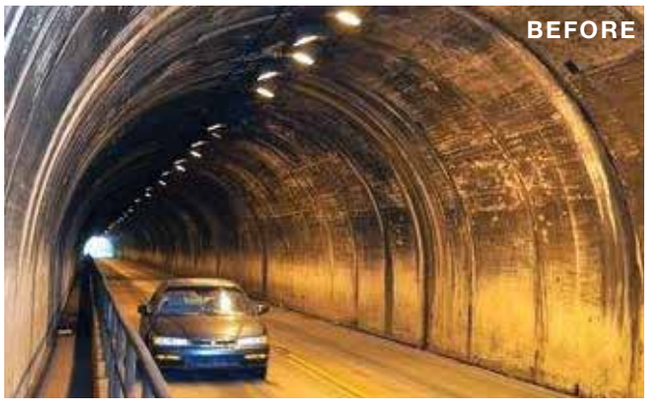
After 1 hour



After 2 hours

Superior Concrete Performance

All concrete takes abuse from its environment. Indoor concrete is damaged over time by traffic and chemical spills, while outdoor concrete is exposed to weather-related elements constantly. Whether it's preventing chemical deterioration or signs of aging, SCP can keep concrete looking newer, longer.



Wilcox Tunnel | Chattanooga, TN
Like many tunnels worldwide, water intrusion, cleaning and maintenance were major problems for Wilcox Tunnel. SCP was used as the base of a multicomponent waterproof liner system to ensure that subsequent layers did not experience adhesion failures due to moisture migration. SCP also helped the city reduce maintenance from one week of labor and traffic management to just one day. Maintenance savings with the liner upgrade is estimated to be $100,000 a year.

University of Washington Tacoma - YMCA Student Center | Tacoma, WA
UWT needed a waterproofing solution to prevent contaminated ground water issues in a new facility. They used SCP as a belt and suspenders system over a bentonite mat system, and after treatment, the 30,000 ft^2 shotcrete wall system showed no signs of leakage. SCP performed so well, UWT decided to treat everything but seismic shear walls, including sidewalks and planters.

Superior Concrete Performance

Mentone Life Saving Club | Mentone, Australia

Built in 1963, the Mentone Life Saving Clubhouse endured 50+ years of rainwater intrusion, salt attack and prolonged leaks. Tens of thousands of dollars were spent on various crack repair technologies, cathodic protection and other solutions – all without success. In 2010, the Club Council turned to SCP Technology. A single application of SCP 743 was applied to the entire roof before the structural cracks were filled with an elastomeric crack sealer. With SCP in the concrete, the water leaks ceased.

Parkland Memorial Hospital | Dallas, TX

Parkland Memorial Hospital's new Sterile Processing Center needed a solution for moisture problems in its concrete floor prior to installation of sheet vinyl. The hospital wanted a permanent waterproofing system that would be user and environmentally safe and deliver minimum disruption to the client during the application. SCP was the answer. After all previous floor coating had been removed from the concrete substrate, SCP was spray-applied. Foot traffic access was allowed in just 1 hour, and 24 hours later a skim coat was installed to remove any surface imperfections.

Quality Tech Support

When dealing with concrete, there are many technical questions and concerns that can cause delays or issues on job sites. Spray-Lock offers our customers valuable technical expertise through our in-house Technical Department. With on-site training and on-call information, we ensure your team is equipped for the job. Using a proactive approach, our technicians can solve problems before they have a chance to occur.

Mix Design Analysis
In order to provide you with the highest quality support, our technical team will analyze your mix design submittal to determine which SCP Treatment is best for you.

On-site Training and Assessments
Our knowledgeable technicians will provide training and education on-site. Your installers will learn what to look for, what to stay away from and how to apply our products.

Questions? We've got answers.
Whatever the issue may be, our team digs deep to understand your specific job to help answer the tough questions. Email your questions to **scptech@spraylock.com**.

Support from Our Tech Team

- Recommendations based on mix design submittal
- Troubleshooting over phone or by email
- Training and education for installers
- Review of test data for remediation jobs
- Job-specific advice you can trust

"We're with you from the **placement to application.**

SCP PRODUCTS

SCP 327 | Time of Placement

SCP 327 is a zero-VOC, spray-applied treatment designed for use at time of placement. Providing an excellent cure, 327 waterproofs slabs, allows for access in one hour, works with all coatings and membranes and reduces shrinkage cracking and slab curling.

Coverage: 140-180 ft^2 per gallon

SCP 578 | Premium Concrete Protection

SCP 578 is a zero-VOC, spray-applied treatment that penetrates and protects existing, non-coated concrete. 578 is formulated to rejuvenate and waterproof existing concrete capillaries and pores, enhance resistance to chemical and environmental attack and extend the service life of your structure.

Coverage: 140-180 ft^2 per gallon

SCP 743 | For High Performance Concrete

SCP 743 is a zero-VOC, spray-applied treatment that can be used as remediation or time-of-placement curing for reinforced concrete structures. Its unique technology penetrates concrete to protect embedded reinforcing steel and deter the development of corrosion conditions. It also waterproofs and protects the matrix of fit-for-purpose concrete.

Coverage: 70-90 ft^2 per gallon

SCP BENEFITS

All test results available upon request.

- **Provides excellent cure at time of placement** *(ASTM C157, ASTM C39, AS 1012.9)*
- **Reduces shrinkage and slab curl at time of placement** *(ASTM C157)*
- **Allows access to treated areas in as little as 1 hour** *(Testimonials)*
- **Waterproofs concrete from time of placement** *(DIN 1048, Part 5, Section 7.6)*
- **Waterproofs existing concrete** *(DIN 1048, Part 5, Section 7.6)*
- **Minimizes scaling and spalling** *(ASTM C666)*
- **Accepts all coatings and coverings** *(ASTM C1583/C1583M, ASTM E303)*
- **Enhances chemical and environmental attack resistance** *(ACID TEST, DIN 1048, Part 5, Section 7.6, ASTM C1543, ASTM C666, ASTM C876)*
- **Increases durability** *(ACID TEST, DIN 1048, Part 5, Section 7.6, ASTM C1543, ASTM C666, ASTM C876)*
- **Rejuvenates concrete capillary and pore structure** *(ACID TEST)*
- **Protects embedded reinforcing steel*** *(ASTM D4464, DIN 1048, Part 5, Section 7.6, ASTM C1543, ASTM C876)*
- **Minimizes mold and mildew** *(Testimonials)*
- **Protects permanently** *(Testimonials)*
- **Safe and easy to apply** *(EPA TEST METHOD 8260B)*
- **Zero VOCs** *(EPA TEST METHOD 8260B)*
- **Non-flammable** *(SDS)*

* SCP 743 only

INDUSTRY SOLUTIONS

In today's fast-paced construction world, the demand to stay ahead of schedule often leads contractors to skip the traditional curing process by using expensive high performance concrete and applying coatings. These alternatives increase the initial installation budget and cost building owners millions over a significantly shorter service life. SCP is a solution that does not require future applications and extends the service life of structures.

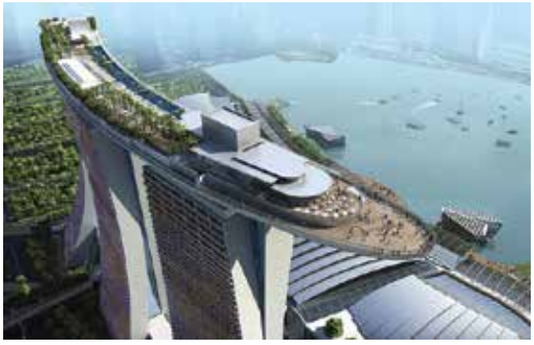
Commercial Construction • Concrete Walls • Precast Concrete Tanks • Parking Garages • Bridge Decks • Piers • Tunnels Flooring • Sidewalks • MSE Retaining Walls






Whether you need to save time, stay on budget or protect your investment from future failures, the solution is SCP Treatments. Our treatments cost far less than sealers or high performance concrete, work with all types of mix designs, provide permanent protection and save you money throughout the installation and for decades to come.

PROJECT HIGHLIGHTS



Marina Bay Sands Resort

The SkyPark sits atop the three hotel towers that make up The Marina Bay Sands Resort in Singapore. When planning the deck that features restaurants, gardens and the world's highest and largest infinity pool, Sands Casino Corporation chose SCP Technology to protect its investment.

- **Protection against ongoing chloride ion penetration**
- **Reduction in maintenance costs**
- **Prevention of chemical and environmental attacks**

Methodist Mansfield Hospital

Contractors for Methodist Health Systems' Mansfield Hospital needed a moisture mitigation solution that would help accelerate construction, and a local flooring firm recommended SCP. The hospital's four-floor expansion went up an estimated 12 weeks ahead of schedule with no moisture issues.

- **Elimination of need for curing blankets**
- **Reduction in shrinkage cracking**
- **Security against future flooring complications**

Dick's Sporting Goods

A national retail construction company needed to complete a 20,000 ft^2 expansion of Dick's Sporting Goods quickly. They used SCP to protect the concrete floor from moisture, as well as Spray-Lock Adhesives for a sustainable flooring solution.

- **Acceleration of construction and install schedules**
- **Reduction in slab curling and shrinkage cracking**
- **Additional warranty coverage with Spray-Lock Adhesives**

FAQs

When working with SCP Technology, questions often come up. Here are answers to some of our frequently asked questions. If you have further questions, our sales agents and technical team are always available to assist you.

Q: Is a concrete sealer needed with SCP?

A: We will never negate the need for a sealer on concrete if you don't want staining from spills. We protect the matrix of the concrete, not the surface.

Q: Is SCP a type of densifier?

A: Yes, it fills the capillaries.

Q: Could a densifier be used after SCP has been applied?

A: Adding a densifier to concrete properly treated with SCP will not densify the concrete further since the capillaries are already filled.

Q: Which product is the best choice for my project?

A: It always depends on the mix design. Please contact the SCP Technical Department and our experts will analyze the full mix submittal and give a product recommendation.

Q: Does SCP still work if there is a future renovation in the building where they rip up the flooring system?

A: Yes, SCP will continue to work. It's warranted for 15 years, but as a product that chemically completes inside the concrete matrix, it will continue to work as long as the slab is fit for purpose.

Q: Do accelerators have an effect on SCP?

A: Yes. It accelerates the action of SCP which can cause it to gel on the surface of the concrete. It also adds additional salts into the concrete which may be purged out of the concrete after applying SCP. (These purged salts should be easily removable by sanding prior to flooring installation.) Prior to application, we recommend several small test applications be done to ensure SCP can remain on the surface of concrete for a minimum of 15 minutes without reacting.

Superior Concrete Solutions

Time-Saving Technology

Excellent Concrete Cure

Chemical Stabilization

Superior Concrete Performance

Quality Tech Support

Spray-Lock Concrete Protection cares about our customers and their structures. We look forward to working with you on your next project!

Contact Us

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CONCRETE PROTECTION

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