

### SprayLock Concrete Protection (SCP)

Spraylock Concrete Protection (SCP) technology is a unique, permanent, easily applied and VOC free suite of deep penetrating concrete protection products that delivers cost saving and time saving benefits in addition to its environmentally neutral qualities. Spraylock Concrete Protection products consist of two penetrative products, two additional feature products for deep anti microbial and steel protection, and two topically applied coatings. SCP concrete protection product suite is unique as it that has no direct competitive product in the worldwide marketplace.

After application of SCP technology the treated concrete maintains its protection for the lifetime of the concrete in all environments. This unique technology delivers specific solutions for existing and new concrete or, when applied to new concrete straight after concrete pour – delivering benefits that preserve the concrete, provide rapid curing, allow rapid application of screeds and floor coverings and result in significant time savings. SCP technology ensures that the entire concrete matrix, not just the surface, is treated and permanently protected.

#### **What is SCP?**

Spraylock Concrete Protection technology **Treat-Proof™** provides a wide range of concrete protection features such as rapid curing at time of pour, prevention of embedded steel rusting, densification, strengthening and surface hardening, permanent resistance to salt and chemical attack for the life of the concrete – but the primary application called for is typically waterproofing. **Treat-Proof™** is often confused with a large number of surface sealers based on sodium and lithium silicates and crystalline oxysilanes. **Treat-Proof™** – a colloidal silica - is completely different as a permanent, deep-penetrating concrete waterproofing product.

#### **How does SCP compare to other products?**

Conventional surface silicate products produce a thixotropic, sparsely distributed crystalline precipitate gel, which varies considerably and hinders or prevents further silicate solution penetration. The resultant hydroxide precipitated gel is not of uniform composition. It consists of variable-sized pores, ranging from very small to very large. This causes the precipitate to only be temporary at best. As water migrates through the gel's larger pores, the gel erodes and eventually will fail at a rate dependent on the volume of water and its driving force passing through the concrete.

The silicate solution's immediate surface reaction can also cause ineffective, incomplete thixotropic gel to be generated. Since the reaction begins immediately upon contact with the concrete's surface, there is a tendency for more silicate solution to be available in the application than there is hydroxide material in the concrete with which to react. This causes varying portions of the thixotropic gel deposited inside the concrete to not be completely reacted, becoming what is considered an incomplete gel – which contains sites that remain available for reactions. These unfulfilled reaction sites will eventually react with atmospheric carbon dioxide (Co2) and form carbonates. The carbonates then can eventually migrate to the surface and cause damage to the concrete that it was meant to protect.

Some silicate products form gel that will absorb internal moisture and begin swelling and continue swelling whenever moisture becomes available. This can produce extreme internal pressures and stresses, even to a point where concrete's integrity could be damaged quite severely (similar to an alkali-aggregate reaction).

Treat-Proof™ is successful in overcoming such problems. Since Treat-Proof™ goes into concrete as a unique precision-blended colloidal silica, it's internally generated compound or precipitate, is designed to be superior when compared to other products.

The Treat-Proof™ precipitate packing density is very precise and creates pore networks of extremely uniform-sized porosity with pore sizes smaller than a molecule of water, or free moisture.

As Treat-Proof™ precipitate is being formed, it involves special ingredients to cause polymer cross linking and branching, encouraging polymer particle and strand connection. It creates extremely strong polymer chains, which provide the extra strength and durability to truly become permanent and insoluble.

The polymer chain and pore configuration cause Treat-Proof gel compound's residual water or free moisture to remain in a stretched position with a density similar to that of ice. Should a hard freeze occur, this water or moisture does not expand further to cause freeze-thaw cycle damage, as does the gel compounds of some competitive sealer products.



**BEFORE**

**AFTER**

Treat-Proof Permanent Concrete Protection

- Permanently, integrally Waterproofs Concrete
- Premium curing solution at time of pour
- Prevents rusting of reinforcing steel in concrete
- Stops salt water attack PERMANENTLY
- Provides Internal Humidity Stability
- Further Restricts Vapour Transmission
- Preserves Matrix and Overall Integrity
- Increases Surface Abrasion Resistance
- Excellent as a coating or topping primer
- Densifies and strengthens concrete
- Improves Thermal Resistance (R-Factor)
- Prevents mould, fungus etc from ever forming
- Zero VOC & VOS Content
- Prevents Water or Free Moisture Migration
- Improves Dusting Resistance
- Improves Acid / Chemical Resistance
- Lowers Internal Chemical Reaction Potential
- Lowers Creep Deformation Potential
- Lowers Electrostatic Discharge Potential
- Improves Past Carbonation Effects
- Virtually Eliminates Hydrostatic Pressure
- Access concrete floor one hour after application

<http://spraylockcp.com/>