TECHNICAL DATA SHEET

ShieldSeal SCP-578

ShieldCrete®

Permanent Protection for Existing Concrete

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Product Description

ShieldSeal SCP-578 stabilises the chemistry of concrete, which is constantly influenced by environmental conditions that contribute to durability issues such as carbonation and/or efflorescence. Spray applied, ShieldSeal SCP-578 penetrates concrete capillaries and pores, reacts with free alkali in the concrete, and forms a Calcium-Silicate- Hydrate (C-S-H) reaction in the capillaries and pores to waterproof and protect the concrete. This results in waterproofed concrete that has been tested to withstand over 250-feet of Head Pressure (75-meters). This technology enhances the resistance to contaminants that contribute to short and long-term concrete deterioration.

Depending on the concrete porosity, slabs can be accessed in as little as 1-hour after ShieldSeal SCP-578 application. Therefore, this contributes to fast-track construction.

Because ShieldSeal SCP-578 does not change the surface characteristics of concrete substrates, coatings and coverings can typically be applied in as little as 24-hours. The C-S-H formation ensures that capillaries are constricted or blocked – permanently – thus turning the concrete surface into a suitable substrate that prevents pinholes in common surface coatings.

Non-flammable, and easy and safe to apply. Since it has a zero VOC content, it helps eliminate air quality management issues in interior construction sites Non-flammable with zero VOCs, ShieldSeal technology is a unique colloidal nano silica technology with over 35 years proven performance.

It is a spray-applied, penetrating portland cement concrete treatment. It provides benefits that include waterproofing, densification and surface hardening, resistance to salt and chemical attack, freeze-thaw damage and reinforcing steel corrosion prevention in new concrete or arresting corrosion in older concrete.

Properties

Colour	Cloudy White (dries clear)
Odour	None
Specific Gravity	1.10
pH	11.5
Flammability	0 (non-flammable)
Toxicity	None
VOC/VOS Content	0.0 g/ml
Surface Bond Quality	100% of Untreated Concrete
Paintability	100% of Untreated Concrete
Clean-up Solvent	Water
Environmental Impact	None/Neutral
User Status	Friendly

Installation Advantage

- Allows foot traffic in as little as 1-hour for most slabs. Up to 3-hours for really dense concrete and/or extremely high moisture conditions
- Ready to accept coatings and/or coverings in as little as 3 days on existing concrete
- Purges and/or encapsulate contaminants in concrete
- 0.0 g/ml VOC content
- Water-based
- Non-flammable
- Non-toxic
- Odourless

Product Benefits

- ✓ Protects embedded reinforcing steel – old or new
- ✓ Rejuvenates concrete capillary & pore structure
- ✓ Ready to accept all coatings & coverings (improves pull off strength for coatings)
- ✓ Increased surface hardness
- ✓ Improves resistance to chemical & environmental attack
- ✓ Permanent protection - Apply only once
- ✓ Increases durability
- ✓ Increased resistance to corrosion for a LIFETIME
- ✓ Saves time & money
- ✓ Reduces surface abrasion/dusting
- ✓ Zero VOC
- ✓ Recommended for high density concrete
- ✓ Simple and Safe to apply

Where To Use

ShieldSeal SCP-578 may be applied on any portland cement concrete element that requires superior protection. It contains a slower acting polymer which are more beneficial for certain applications.

Packaging & Storage

ShieldSeal SCP-578 is packaged in 20-liter pails. Product shall ideally be stored in a location that is dry and between 2°C to 38°C ambient temperature. Optimal storage is at the middle of the temperature range. Protect from freezing. 5-year shelf life under proper storage conditions.

Surface Preparation

1. Do not apply on frozen substrate or when temperature can fall below 0°C within 24 hours of application.
2. Curing membranes, wax, paint, or foreign deposits of any kind restricting access to concrete's internal pore structure must be mechanically removed for ShieldSeal SCP-578 to penetrate (i.e.- surface grinding, shot blasting, bush hammering, etc.).
3. Test porosity by applying a few drops of clean water on the surface. Water should absorb within 1½ - 3 minutes. If unsure, contact ShieldCrete® representative for guidance.
4. Sweep and/or vacuum the surface thoroughly prior to application.

Note: It is very important to contact ShieldCrete® for job specific advice regarding correct application before commencing use of this product.

Application

1. Use a low to medium pressure sprayer complete with an extension wand and 0.019 - 0.031 inch (0.48-0.79 mm) fan tip spray jet. Hold wand and spray 6 inches (15 cm) from the surface of the substrate at a 90º angle.

   IMPORTANT: Product MUST be applied using an overlapping spray pattern of 50% on the previous run.

2. For slab applications, product should hold a flooded appearance (swimming pool effect) for approximately 15 minutes. There are inherent variations in concrete density; some areas will absorb faster than others. Any area that absorbs product faster than 15 minutes will need to be reapplied until the product no longer absorbs faster than 15 minutes. This is called spraying to the "point of rejection".
   a) If an area is re-applied more than 3 times, contact the ShieldCrete® technical department for additional information.
   b) If product has absorbed thoroughly in most of the area, but there is pooling in the low areas, use a broom to spread additional product into the areas already penetrated. Do not allow product to dry in pools. Remove excess with a damp mop.
   c) After liquid absorption, treated area can be opened to foot traffic.
   d) In the event of product drying on the surface, lightly and quickly sand the entire surface to remove any of the dried product. Remove dust with broom or vacuum.
   e) Process is complete.
3. For vertical and overhead applications, work from lowest to highest elevation. Very light and repeated spray passes should be made on the same area until the concrete surface no longer accepts product. Move onto next area after achieving "point of rejection". Please contact your nearest ShieldCrete® representative for additional technical support and/or training.

Notes:

- Use of a dust mask or screen while applying the product is recommended.
- ShieldSeal SCP-578 may be used as a superior curing medium for patches on existing concrete. Apply to newly placed and finished concrete as soon as it is hard enough for foot traffic or upon form removal. If placing on concrete after form removal, ensure that there is no form release oils or membranes on the concrete surface that could impede the penetration of ShieldSeal SCP-578. Do not allow excess product to dry on the surface before leaving the site. Remove any excess by broom sweeping.
- Areas of high porosity have a faster absorption rate and may dry immediately after spraying. It is important that the product is applied to achieve surface saturation. For slabs, it should appear as total flooding (swimming pool effect) over the entire surface with a thickness of approximately 1/16 - inch (1.5mm). Frequently check coverage rates. Surface saturation should hold that appearance for approximately 15 minutes. If absorption continues to be excessive, contact the ShieldCrete® representative.
- If applying coatings and/or coverings, wait a minimum of 24-hours from the time of final application of ShieldSeal SCP-578 for existing concrete or until new concrete is fit for service. Then lightly sand and thoroughly vacuum the surface to remove any contaminants that may be on the surface. Do not flush with water as mechanical removal allows faster access to the surface.
- Like fresh concrete itself and other alkaline materials, ShieldSeal SCP-578 may etch glass, shiny aluminium and brass if left to dry on the surface. Simply remove while wet.
- If considering application of this product over precast concrete products, contact ShieldCrete® before use as precast concrete products vary widely in porosity and construction.
- Application rates and methods differ when applying overhead and vertically. Contact ShieldCrete® for additional information.
- DO NOT apply on frozen substrate or when temperature is near freezing.
- DO NOT apply when substrate is 32°C or higher. If surface temperature is higher than 32°C, then pre-wetting with water is required. Be sure to remove any puddles before applying of ShieldSeal products.

General Information

For safe handling information on this product, see the Safety Data Sheet (SDS).

Storage

Product shall ideally be stored in a location that is dry and between 35° to 100°F (2° to 38°C), ambient temperature. Optimal storage is at the middle of the temperature range. 5-year shelf life under proper storage conditions.

Warranty

See ShieldCrete® Concrete Protection limited warranty.

Coverage Guide

- 4.5 – 5.5 m^2 per 1 litre
- 185 - 225 ft^2 per 1 gallon

Coverage rates are a guide and figures may increase or decrease depending on the porosity of the concrete and spray technique for more info visit **www.shieldcreteinternational.com**.

DISCLAIMER

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products regarding the required processes and applications. This data sheet is provided free of charge, and we do not accept any liability regarding the above information or regarding any verbal recommendation, except for cases where we are liable of gross negligence or false intention.