TECHNICAL DATA SHEET
PoreShield Part Nos. 87910 & 87920

PORESHIELD™ SME-PS IS A LONG-TERM CONCRETE DURABILITY ENHANCER

- PoreShield with patented SME-PS technology is a cost effective, high performance, nonhazardous concrete durability enhancer for all densities of concrete, new or old.
- Can be applied topically in place of common penetrating sealers, however, it performs very differently.
- PoreShield is absorbed into the pores to block fluid penetration from the inside. It is self-sealing, filling, and protects additional cracks as they form.
- It is a long-term (10+ years) durability enhancer protecting concrete from premature damage caused by moisture, salt, deicing & freeze/thaw conditions. PoreShield fills pores & creates a hydrophobic barrier that is both preventative & curative.

PRODUCT HIGHLIGHTS

- Easy one-step application for 10+ year protection
- Defends concrete from moisture ingress
- Blocks ion transfer into concrete: Ca, Cl, Mg, etc.
- Prevents calcium oxychloride formation
- Arrests ARS (alkali-silica reaction) deterioration
- Inhibits staining and rebar corrosion
- Non-toxic, non-flammable, environmentally safe
- No PPE required
- Inhibits spalling, scaling, efflorescence
- Impedes FOG (fat/oil/grease) buildup in pipes which, in turn, prevent early concrete deterioration
- Extends the service life of concrete
- Replacement cost savings
- Reduces downtime associated with repair/replacement

APPLICATIONS

- Suitable for a wide range of applications like roads, bridges, driveways, sidewalks and other concrete structures.
- New or old concrete
- Horizontal or vertical structures
- Above or below grade
- Exterior/interior
- High-density or low-density concrete
- Precast or prestressed concrete
- Mortar/blocks/pavers

TECHNICAL DATA

Chemical name: soy methyl ester-polystyrene

FORM	pale yellow liquid
SPECIFIC GRAVITY	0.88
WEIGHT	7.3 lbs/gal
ACTIVE CONTENT	100%
TOTAL SOLIDS	negligible
VOC	43.3 g/L
BOILING POINT	>200°C
FLASH POINT	130°C
VISCOSITY	8.5 cps at 23°C
SHELF LIFE	12 months, store out of direct sunlight above 5°C
BIOCONTENT	93%
GHS HAZARDS	none
ECOTOXICITY	The product is not classified as environmentally hazardous
SOLVENCY	59 KB (kauri-butanol value)
PACKAGING	5 gal, 55 gal, 275 gal
WATER SOLUBILITY	insoluble

REGULATORY COMPLIANCE

- Low VOC (43.3 g/L): meets national standards for EPA VOC, as well as CARB, SCAQMD, OTC, and AIM

CERTIFICATIONS

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 93%

Build America Buy America

www.poreshield.com | email: info@poreshield.com

COVERAGE

SURFACES

- Coverage varies with the porosity of the concrete.
- For high-density concrete coverage averages 250 sq ft/gal.
- For low-density concrete, coverage averages 180-200 sq ft/gal.
- Perform test sections to ensure desired results and coverage rates.

JOINT TREATMENT

- Treating saw cut highway joints with a 3-inch overspray on each side, coverage averages 179 linear ft/gal.
- PoreShield will darken concrete after one application, therefore, no pigment indicator is required. Once dry, the concrete will return to its original color.

EQUIPMENT

- PoreShield can be applied in a variety of ways:
  - Truck spray bar
  - Controlled wheel line sprayer
  - Tote-fed pressure sprayer
  - Backpack sprayer
  - Paint roller
  - Squeegee
  - Paint brush
- If using a spray bar, replace rubber seals with silicone seals. PoreShield over time will soften rubber seals, impeding spray performance.

TEST FOR EXISTING SEALER

- If the concrete surface has been previously sealed and the seal is intact, PoreShield should NOT be applied.
- However, previous sealer applications do break down over time, at which point it is safe and recommended to apply PoreShield.
- To determine the presence of a sealer, perform a simple “water test”.
  - Pour several ounces of water in several test areas; you will notice that the water “beads up”, i.e., forms droplets, or it could just spread out on the surface.
  - “Beading up” is an indication that the concrete has an intact seal. DO NOT APPLY PoreShield to this surface.
  - If the water simply spreads and does not bead up, then it is safe to apply PoreShield.

PLANTINGS/TRIM

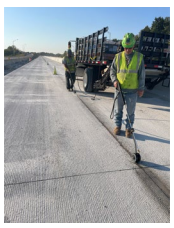
- PoreShield is non-toxic, but if turf and/or decorative plantings are heavily coated with this oil-based product they can be damaged.
  - Use a roller instead of a sprayer for walkways near turf and decorative plantings.

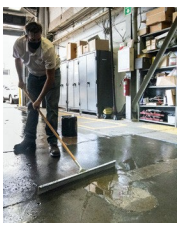
DILUTION & MIXING

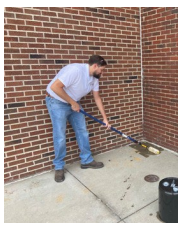
- Do not dilute or alter. Use as supplied.

APPLICATION TEMPERATURE

- Ideal temperature for applying PoreShield is between 41°F and 120°F.





PREPARATION

- **Surface should be dry; typically at least 24 hours after last exposure to water.**
- **Do not apply to new concrete that has not properly cured. (See guidance at right for new concrete.)**
- Do not apply to surfaces which are frozen, dirty, or have standing water. Surfaces must be clean, dry, and absorbent.
- Do not apply over fully painted concrete surfaces (lane lines are not a concern).
- Cleaning: The treatment surface should be cleaned of dirt and loose debris. For best results, blow the treatment area clean using compressed air.
- If there are stains or marks on the surface that are unwanted, these should be power washed away prior to treatment (and then allowed to dry). If not removed prior to treatment, the stain will pull into the pores with the PoreShield and become difficult to remove in the future.
- **Surface should remain dry after application until PoreShield has absorbed fully.**

NEW CONCRETE

- Verify substate has properly cured. Concrete should obtain 80% of design strength, typically achieved in 14-28 days.
- Clean surface of sand, dust, or debris. Use blower to create clean surface.

EXISTING CONCRETE

- Verify concrete is **free of existing coatings**, such as old sealer or paint.
- Clean surface of sand, dust, dirt, oil, and grease using methods necessary to leave a clear surface for PoreShield absorption.

JOINTS

- To prepare new or existing pavement joints for treatment, remove any existing joint fillers or debris buildup.
- For best application, joint faces should be fully exposed and dry.

RUBBER JOINTS/PLASTIC TRIM

- Rubber expansion joints and trim (like the PVC edging on pools) should be covered with painters' tape or other material to protect from spray. Remove when done.

GENERAL APPLICATION

- Ideal temperature for applying PoreShield is between 41°F and 120°F.
- PoreShield can be applied by using a sprayer, roller, or brush.
- Using a sprayer, apply a single coat sufficient to wet the surface. Avoid producing puddles.
- Pooled areas or puddles should be redistributed with a painter's roller brush.
- Over application could extend absorption rate and dry time.
- Allow treated surfaces to dry (See ABSORPTION & DRY TIME).

JOINT APPLICATION

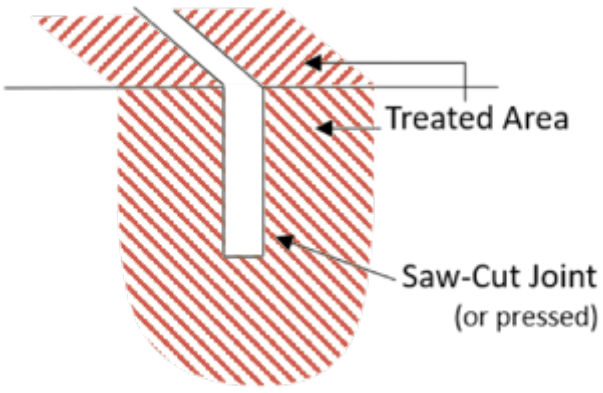
- To prepare new or existing pavement joints for treatment, remove any existing joint fillers or debris buildup.
- For best application, joint faces should be fully exposed and dry.
- Joint fillers can be added/replaced after PoreShield is absorbed.

HOW TO APPLY

- When applying to joints, use two passes:
- The first with spray pattern perpendicular to joint to create overspray of 3-6" on each side.
- The second with the spray pattern parallel to the joint to spray as directly as possible on interior joint faces.
- PoreShield will create a reservoir within the joint, providing deep penetration in the critical areas at the base of the joint.

SURFACE & AIR TEMPERATURES

- Do not apply when the temperature is consistently at or near the dew point to avoid condensation in the pores which will slow absorption of PoreShield.



SURFACE APPLICATION

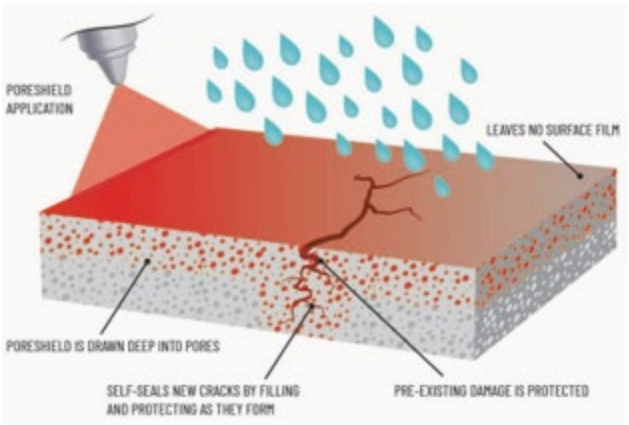
- To prepare new or existing concrete surfaces for PoreShield application, ensure the area is dry and free of debris.
- If there are existing stains, it is recommended that they be removed prior to application. If PoreShield is applied over stains, they can become difficult to fully remove.

HOW TO APPLY

- When applying to surfaces, application can be done in a single coat if even coverage is monitored.
- PoreShield will pool in any low spots. These areas will be the last to fully absorb.

SURFACE & AIR TEMPERATURES

- Do not apply when the temperature is consistently below the dew point to avoid condensation in the pores which will slow absorption of PoreShield.



ABSORPTION & DRY TIME

OVERVIEW

- When applied topically, PoreShield is absorbed into concrete pores. It does not undergo a chemical reaction or solidify; it remains fluid and does not leave a film on the surface once absorbed.
- Immediately after application, the surface may appear blotchy as the PoreShield finds areas with more voids/pores. This diminishes over time. It can take 2-3 weeks to fully even out.

ABSORPTION/DRY TIME

- Absorption begins immediately upon application.
- **After application, surface is slick and should be closed to traffic until fully absorbed.**
- Concrete is highly variable in it's composition. Therefore, absorption time will vary widely.
- Typically, full coverage is absorbed within 24 hours. In some very dense (less porous) concrete, the absorption may take 36-48 hours (dependent on concrete pore structure).
- Area treated should be closed to traffic until absorbed.
- Joints with 3-6" overspray absorb in 4-6 hours, on average.
- Contractors typically close one lane, apply PoreShield, and then 24 hours later repeat with the other lane.
- Because application is very fast and cleanup is simple, the full process is efficient.

VERTICAL APPLICATION

- PoreShield works on vertical and overhead concrete surfaces.
- PoreShield application method is the same as on horizontal surfaces.
- Capillary suction draws PoreShield into the concrete. This same capillary pull continues to fill the pore network.
- PoreShield technology has an affinity to the concrete interior, latching on, and creating a protective barrier to water and ion ingress.
- Even under vacuum-force suction, PoreShield cannot be pulled out of the concrete.

TRACTION

- Immediately after application, surfaces will become slick until product is fully absorbed.
- If over-applied, or in certain environmental and concrete conditions, absorption can stretch beyond 24 hours.
- If absorption is prolonged, excess material can be removed by washing with water, without influencing performance.
- If absorption is prolonged beyond the 24-hour waiting period, sand can be broadcast on the surface to provide friction for low-speed traffic.
- Once absorbed, the coefficient of friction of the concrete returns to pre-application measurement because PoreShield is absorbed below the very top layer.

POST-APPLICATION

- Concrete surfaces may have a mottled appearance for up to 14 days after application.
- Once absorbed, the concrete has no visible change in color or appearance. The surface texture and form are as they were pre-application.
- Once absorbed, the coefficient of friction of the concrete returns to pre-application measurement because PoreShield is absorbed below the very top layer of the concrete.
- After application, PoreShield is not visible on the surface and there is no hydrophobic beading effect. Fluids spread thin and evaporate. PoreShield blocks the driving force of capillary action stopping sorption cycles, preventing damage.

MAINTENANCE

- Clean surface as routinely done.
- Feedback from the field indicates that cleaning is faster and easier because PoreShield prevents dirt from absorbing into the concrete.

PAINT & ADHESION

- Once absorbed, the concrete has no visible change in color or appearance. The surface texture and form are as they were pre-application.
- PoreShield is absorbed below the very top layer of the concrete.
- Paint or other coatings may be applied. PoreShield will not affect adhesion.

CLEANUP

- Use soap and water to clean equipment, hands, and surfaces.
- No petroleum-based solvents needed.

DISPOSAL

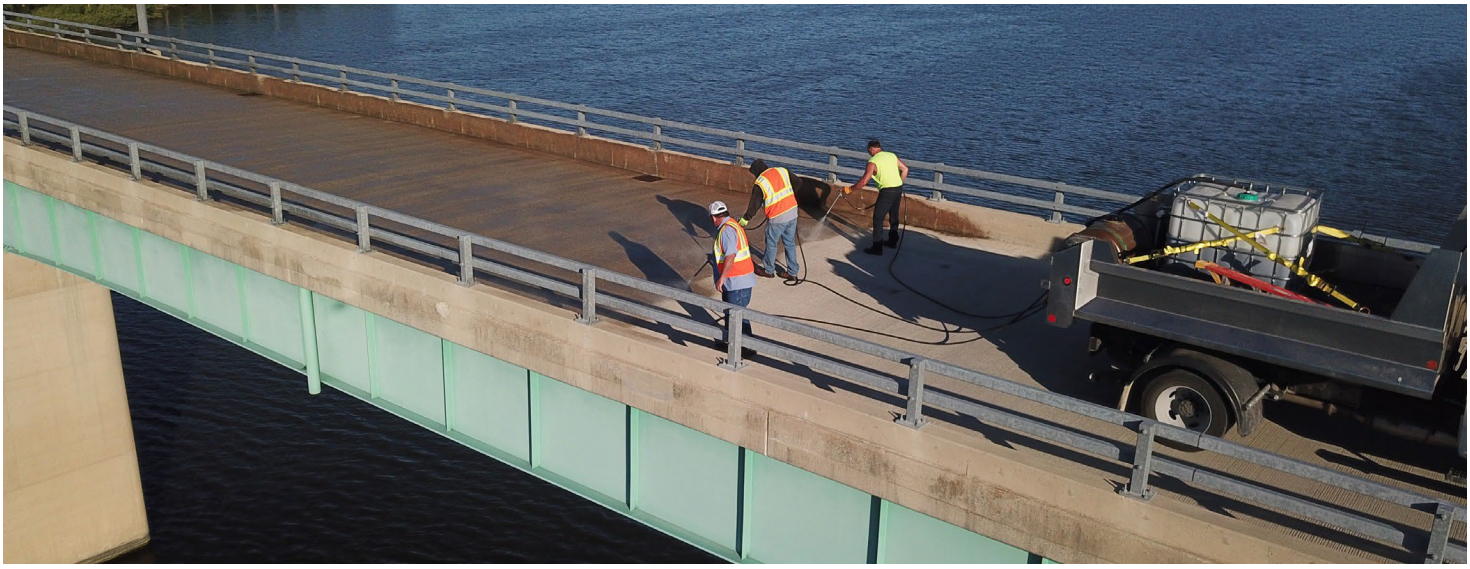
- PoreShield is non-hazardous, but excess quantities should be disposed of responsibly per state and/or federal guidelines.

LONGEVITY

- To maintain best results, reapply every 10 years.

STORAGE

- Close container securely after use.
- Do not store below 41°F.



TEST DATA

Freeze/Thaw Durability (Relative Dynamic Modulus)	96% after 300 cycles (Failure threshold 60%)	ASTM C 666
Salt Scaling Resistance (VRI, mass loss)	VRI: 0 Mass loss: 0.01 lb/sq ft	ASTM C 672
Water Absorption (%)	84% reduction in initial absorption 79% reduction in secondary absorption	ASTM C 1585
Chloride Ion Diffusion (% Reduction vs. untreated)	64% Cl- reduction 0.0625"-0.5“ 84% Cl- reduction 0.5"-1.0"	AASHTO T 259

SAFETY INFORMATION

- Non-toxic profile keeps workers safe (no PPE required).
- Safe for the environment (land, air, and water). No concern for overspray into waterways, or land.
- TSCA-listed materials; hazard-free SDS.
- Provides environmental/public health benefits by replacing traditional toxic products and reducing VOCs by 83-93%.

CONTACT INFORMATION

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