

PS112 Colloidal Silica Densifier WB Penetrating Sealer

Zero VOC, Water Based Concrete Floor Densifier & Hardener Concentrate

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Product Description

PS112 is a state of the art residual free colloidal silica densifier concentrate designed to penetrate into most unsealed cementitious surfaces to densify, harden, and increase the strength of the top layer of a substrate while retaining its breathability. It is an electrostatically charged stable dispersion of 99.5% pure silica nanoparticles in an ultra low surface tension liquid solution. The low viscosity and 4-8 nm particle size allow it to penetrate deeply into a concrete surface and react rapidly and efficiently. The PS112 chemically reacts with calcium hydroxide within the matrix structure of concrete to form added Calcium Silicate Hydrate (CSH) which is the main binder in concrete. The PS112 also reacts with silica within the concrete surface as well as itself to further add density to the treated surface. It is easier and more efficient to apply than traditional sodium silicate densifiers, will not contribute to ASR (Alkali Silica Reaction), and will not leave behind stubborn mineral salt deposits with over application. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. The PS112 improves the abrasion resistance and durability of a surface, provides long term protection against wear and traffic, reduces dusting not caused by actual surface defects, and lowers the overall maintenance of a surface. It is environmentally friendly, zero VOC, non-flammable, non yellowing, and odorless. PS112 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. It can serve as a concrete polishing aid by producing better initial surface hardness that reduces polishing time and yields a smoother and denser burnished or polished surface. A polished appearance can normally be imparted to burnished or polished surfaces by applying with polishing pads and then buffing with a white pad. **1 gallon will yield 5 gallons when diluted 4:1 with clean water.**

Recommended Uses

PS112 was originally developed for commercial and industrial applications and is widely used throughout North America to this day for those applications. Concrete Sealers USA is now also making this professional grade sealer available to the residential market so small contractors, applicators, and do-it-yourselfers can enjoy the same superior benefits that architects, engineers, and large contractors have enjoyed for years. PS112 is recommended as a densifier and hardener for machine troweled concrete surfaces. It can also be used on other cementitious surfaces where densifying and hardening benefits are desired. It is also recommended as a polishing aid for burnished or polished concrete surfaces. It is ideal for sealing commercial and residential concrete floors such as distribution center floors, factory floors, warehouse floors, automotive garage floors, retail store floors, pole barn and shed floors, workshop floors, basement floors, garage floors, and other machine troweled, burnished, or polished concrete surfaces. PS112 makes for an excellent primer as it does not interfere with the subsequent application of penetrating sealers, the bonding of topical coatings, or the adhesion of glues or mastics used in floor coverings.

Product Characteristics

SDS Information / Physical and Chemical Properties

Boiling Point:	212° F	Viscosity:	10 cP
Vapor Pressure:	17 mm Hg at 20° C	pH:	9-10
Solubility in Water:	Soluble in Water	Flashpoint:	>212° F
Evaporation Rate:	Slow	Flammable Limits:	Lower Limit: N/A; Upper Limit: N/A
Appearance and Odor:	Clear w/ No Odor	Finish:	Flat/Clear
Specific Gravity:	(H ₂ O-1): 1.10	Drying Time**:	Dry for traffic 1-2 hours
% Volatile by Volume:	0 g/L	Shelf Life***:	1 year unopened
Coverage Rates*:	300-450 sq. ft./gal. for machine troweled concrete and 400-600 sq. ft./gal. for polished surfaces.		

*Coverage rates are approximate and for estimating purposes only. Application rate based upon porosity and absorption. Always test absorption prior to application.

**Drying times are for estimating purposes only. Actual drying time is based upon temperature, humidity, air flow.

***Store container upright indoors in a cool, dry place and maintain temperature of 55°F to 85°F.

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Color

PS112 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished concrete surfaces by applying with polishing pads and then buffing with a white pad.

Ordering & Shipping Information

Packaging: 1 gal. Jugs
5 gal. Pails
55 gal. Drums
Shipping: Normal package delivery and trucking

Surface Preparation

Substrates to be sealed ideally will be a minimum of 28 days old and/ or be fully cured. The surface must be porous enough to allow penetration into the substrate. If applied to freshly placed concrete, surfaces should be clean, dry, free of bleed water, final finishing process completed, and sufficient strength to be stood on without being marred. Added benefits can be obtained by waiting 7 days after placement when peak hydration and off gassing have slowed enough to allow better penetration of the sealer into the substrate. For existing surfaces, substrates should be clean and free of surface laitance, dust, dirt, debris, mildew, oil, grease, previous sealers, curing agents, paint or other surface coatings, and other contaminants. If acid or other cleaning compound is used for cleaning or etching the surface, neutralize the surface completely before application of PS112.

Application

Always test porosity prior to application, especially on very dense surfaces. Surface should be dry for proper penetration of the sealer. Should not apply to damp or wet surfaces. **Product is concentrated and should be mixed 4 parts of clean water to 1 part of product.** Shake product first before mixing with water. When mixing with water, stir material thoroughly before and during application. Do not apply below 40°F or above 95°F during the application or drying period. Apply uniformly with a low pressure sprayer. When applying material, work in small, manageable areas at a time in order to maintain a wet edge. Product should be applied to the point of rejection and be fully absorbed within 20 minutes without puddles. Use a broom, roller, or microfiber pad to evenly distribute product as well as disperse any puddles as excessive application may result in a dry powdery substance on the surface once dry. This residual material will not affect sealer performance and generally can be rinsed away with water or swept away 2 hours after final application of sealer. Generally, only one application is required. If additional coats are desired and more product can be absorbed, wait approximately 1-2 hours between coats. For a more polished appearance on burnished or polished surfaces, apply using polishing pads and then buffing with a white pad. Clean application materials with warm water.

Limitations

PS112 is designed to work only on porous concrete surfaces and is not intended for asphalt. This product may damage vegetation or may etch glass, vinyl, aluminum, plastic, and metal. Avoid contact with eyes and skin. Sealer may be damaged if frozen prior to use. Not intended to seal cracks. Will not remediate structurally unsound surfaces with defects such as chronic dusting or chalking. The use of high alkaline or acidic cleaners on the treated surface is not recommended and can be damaging. The Company does not warranty specific performance results or compatibility with products manufactured by others. The Company shall bear no liability, other than replacement of defective product. A small test must be conducted prior to application. Based upon this test, the purchaser shall determine for themselves the suitability of this product for the intended use.

Environmental & Regulatory

PS112 complies with EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds (VOC). This product is considered a non-hazardous chemical under OSHA Hazard Communication Standard (29CFR 1910.1200). Contact may cause skin or eye irritation. Using with adequate air ventilation, eye protection, and gloves is recommended.

Safety & First Aid Precautions

Eyes: Flush with water for at least 15 minutes.
Skin: Wash thoroughly with soap and water.
Inhalation: Move subject to fresh air.
Digestion: Consult physician immediately.