

Dye & Seal System

PDS-DS-030420

These instructions are not intended to show product recommendations for specific service. They are issued as an aid in determining correct surface preparation, mixing instructions and application procedure. These instructions should be followed closely to obtain the maximum service from the product.

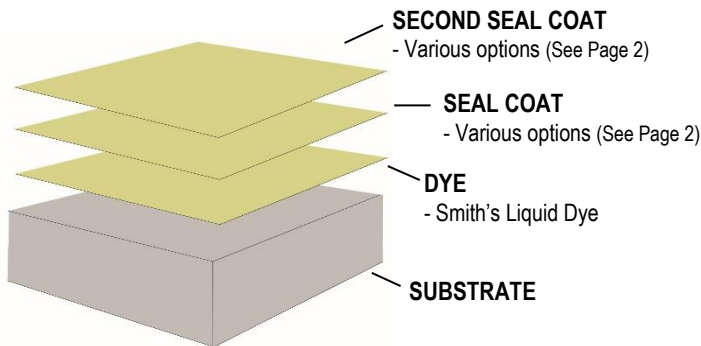
DESCRIPTION: Smith's Dye & Seal System is a decorative concrete coloring and sealer system consisting of Smith's Liquid Dye concentrate which is mixed with either water, for low odor requirements, or Acetone, for fast cure applications, then sealed with a variety of Smith Paint Products sealer or topcoat options depending on the type of traffic, durability, chemical resistance and desired appearance.

Smith's Dye & Seal System is ideally suited for use over interior concrete substrates in commercial, retail, warehouse, showrooms and residential settings. Unlike acid staining, Smith's Dye & Seal System does not require extensive neutralizing, dry time for the stain to react nor the hazardous clean-up waste water saving application time and cost as well as reducing waste.

HIGHLIGHTS:

- Decorative
- Available both as a Fast Cure or Low Odor system
- Resistant to Hot Tire Pick-up
- 13 Standard Colors Available
- Economical

SMITH'S DYE & SEAL SYSTEM



NECESSARY TOOLS and EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Paint Stir Sticks
- Low speed 1/2" drill (Variable Speed 450 rpm or less)
- Jiffy mixing paddle (for mixing 2-component sealers/topcoats)
- Measuring Cups
- Masking Tape
- White Rags (for clean-up)
- 5 gallon Plastic Mixing Buckets
- Sprayer (Solvent Resistant)
- 18" wide, Premium, Non-Shed 3/8" Nap Paint Roller Covers
- 18" wide, non-metallic Paint Roller Frames
- Multiple Extension Poles
- Paint Tray (for select topcoats and sealers)
- Acetone (Solvent for both fast cure Liquid Dye dilution & clean-up)
- Water (for low odor dilution & clean-up of water-based products)

SURFACE PREPARATION: The surface preparation phase should be viewed as the most important. Proper preparation results in the product's longevity, minimizes potential failures and creates the best environment for an aesthetically pleasing work of art.

SURFACE PREPARATION WITH GREEN CLEAN PRO:

- 1) New concrete must be fully cured (28 days)
Existing concrete – Thoroughly remove paint, adhesives, sealers, oil and loose particulates from the intended application surface
- 2) Liberally apply Smith's Green Clean Pro to a 20x20 feet section of the substrate or smaller with a pump up sprayer or dip and roll method with a 1/2 inch nap roller cover
- 3) Allow the Green Clean Pro to remain on the substrate for 20 minutes. Do not allow material to dry on the substrate. Mist water via hose or pump up spray to keep treated area from drying
- 4) Agitate Smith's Green Clean Pro utilizing a floor buffer (small area) or an auto-scrubber (large area) equipped with brush attachments while rinsing with clean water
- 5) Extract the water utilizing a wet/dry vacuum or by lowering the squeegee uptake bar on the auto-scrubber. Continue to flush and agitate the substrate until the rinse water is clear

SURFACE PREPARATION – DIAMOND GRINDING:

- 1) 1st Pass = 40 grit metal bonded diamonds (or comparable) if the surface requires (e.g. adhesives, profile irregularities)
- 2) 2nd Pass = 150 grit metal bonded diamonds (or comparable)
Inspect the substrate for scratch patterns created by the grinding process. If a scratch pattern exists, continue the grinding process by increasing the grit of the diamond

Dry Grinding:

- 3) Remove excess dust and debris with vacuum
- 4) Remove remaining dust and particulate with microfiber pad. A minimum of 3 - 4 passes over the substrate with a new/clean micro-fiber mop per pass will remove residual dust. The use of an auto-scrubber with brush attachment in conjunction with clean water may also be used to extract particulate. Continue to clean substrate until extracted water is clear

Wet Grinding:

- 3) Remove slurry from floor via wet vacuum or auto-scrubber with brush attachment in conjunction with clean water
- 4) Continue to clean substrate until extracted water is clear



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AREA PREPARATION: Be sure to mask or cover all areas that are not intended to be colored or sealed; including, but not limited to; door frames, doors, walls and windows.

The mix station and all application equipment should be ready for immediate use prior to mixing any product. Higher temperatures and humidity will shorten pot life.

MIXING – LIQUID DYE: Mix Smith's Liquid Dye with either water or Acetone as follows:

DILUTION RATIO:

- Smith's Liquid Dye 8 ounce bottle
- Acetone or Potable Water 1 gallon

No dwell time is required before application of the diluted system.

DYE APPLICATION: A pump up sprayer provides an easy, economical method of application. Spray a fine, fog pattern in a circular pattern massaging the floor with a micro-fiber mop until dry.

Additional Smith's Liquid Dye may be applied to more porous substrates. Once system has dried, remove excess dye from application area via tack cloth, wet mop or auto-scrubber with white pad. It is always recommended to conduct a test area to insure desired results.

SEALER OR TOPCOAT APPLICATION: Smith Paint Products manufactures several different sealers and topcoat options depending on the aesthetic, traffic, stain and chemical resistance as well as budget and longevity needs. Below are select sealer and topcoat options available (see individual product data sheets for installation instructions):

- Smith's Epoxy FW38 (Fast Cure, Water-based Primer) *Not U.V. Stable
- Smith's Epoxy U100 (100% Solids, Chemical Resistant, Gloss) *Not U.V. Stable
- Smith's Hi-Wear 90S (90% Solids, High Traffic CRU, Low Sheen)
- Smith's MCU-60 (High Solids, CRU, Gloss)
- Smith's Polyaspartic 1000 (Fast Cure, Solvent-based, Gloss)
- Smith's Polyaspartic 2000 (Regular Cure, Solvent-based, Gloss)
- Smith's Polyaspartic 3000 (Fast Cure, Spray Grade, Gloss)
- Smith's Polyaspartic 3550 (Fast Cure, Spray Grade, Low Sheen)
- Smith's Royal Seal (25% Solids, Solvent-based Acrylic, Gloss)
- Smith's Royal Seal LS (23% Solids, Solvent-based Acrylic, Low Sheen)
- Smith's Poly-SEAL (Natural Look, Water-based Acrylic/Urethane, Gloss)
- Smith's Poly-SEAL/LS (Natural, Water-based Acrylic/Urethane, Low Sheen)
- Smith's Poly-SB/G (Wet Look Primer, Fast Cure, Solvent-based)

Concrete must be dry prior to sealing. Sealing damp or incompletely cured concrete may cause a hazy appearance or loss of adhesion once sealed or topcoated. Moisture Vapor Testing is always recommended when coating directly over concrete and is especially important when sealing with high solids sealer or topcoat such as epoxy, polyaspartic or polyurethane. *See "Moisture /Alkalinity" section on page 3 for more details

ROLLER APPLICATION: Use a 3/8 inch non-shed chemical resistant roller cover.

BRUSH APPLICATION: Utilize traditional bristle brush application for corners and edges.

NOTE: With the exception of Smith's Hi-Wear 90S (single coat at greater than 534 sq.ft. gallon yield direct to concrete or applied as a finish coat over MCU-60 or an Epoxy or Polyaspartic product), all sealers should be applied in 2 coats to ensure an even, uniform surface film. Low Sheen sealers are not recommended for the first coat directly applied over concrete and should be applied only as the final wear surface coat over their equivalent gloss formula.

MAINTENANCE: The coating system must be allowed to cure for no less than one week before using any mechanical cleaning equipment on the surface and no less than 24 hours before neutral cleaner or water exposure. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust and wet mopping may occur the first week.

Dust mopping, removal of debris and regular cleaning is crucial to maintaining the aesthetics of the coating and obtaining the maximum life span of the floor coating system. Cleaning cannot occur too often and inefficient cleaning will cause the floor to wear out prematurely and possibly stain or discolor depending on what comes in contact with the floor. Spills should be removed quickly. Avoid the use of Polypropylene or abrasive bristle (Tynex®) brushes as these brushes will cause the development of scratch patterns and lessen the sheen.

To maximum your investment with proper floor care and maintenance, remove all particles that may scratch and/or dull the floor coating using the least aggressive method necessary to clean the floor.

It is good practice to develop a floor maintenance schedule to be performed at the end of each shift and a set day per week or month for heavy cleaning:

- Daily = Sweep and dust mop or water only mopping/auto-scrubbing; spot clean spills and oils
- Weekly or Monthly = Scrubbed once per week or month depending on the amount and type of soils present.

Health Department or DEA regulations may necessitate more frequent and stringent cleaning practices as will areas more prone to oils, inks, chemicals, etc. on the floor surface.

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DETERGENT: Always use the least aggressive detergent necessary to remove the residue. [Smith's Neutral Detergent](#), or similar, may be used for general purpose cleaning. Use [Smith's Oil Clean](#), or similar degreaser, for more degreasing and heavy duty weekly or monthly cleaning.





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CAUTION:

- Do not drag or drop heavy objects across any floor, including coatings as scratching, gouging or chipping may occur to the concrete or the coating itself. This includes the tip of the forks on a forklift, nails protruding from a pallets, etc.
- Avoid spinning tires on the surface of a coated floor. The heat created from the friction of a spinning tire will quickly soften the coating causing permanent damage to the finish.
- Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid chemical or water intrusion to the concrete which could create additional damage. A thin layer of clear nail polish to the damaged area will provide some minimal protection until the area can be properly repaired.
- Rubber tires are prone to plasticizer migration, especially aviation tires and high performance car tires. Plasticizer will stain coating and commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where aircraft or vehicles are stationary for longer period of time, more so in non-climate controlled environments such as aircraft hangar with lighter colored floors. To avoid plasticizer staining, use a piece of Plexiglas® or LEXAN® panels, cut a few inches in diameter larger than the tires that will rest on the panels, between the floor and the contact point of the tire when storing rubber tired vehicles on any floor, including floor coating systems. Some tire stains can be removed is cleaned before a set-in stain occurs using a d-Limonene based degreaser and some mild agitation using an orbital, low speed floor machine.
- **Material is combustible** when mixed with Acetone. Extinguish all flames, pilot lights and electric motors until all vapors are gone and the coating is hard. Keep away from sparks, heat and open flame. Use with adequate ventilation when mixing, applying and curing. Product emits harmful solvent and isocyanate vapors which can cause respiratory irritation. Individuals with chronic lung or breathing problems or negative reaction to isocyanates, should not use this product. The use of a self-contained respiratory equipment (TC 19C NIOSH/MESA) is recommended. Prevent all contact with skin. Use impermeable gloves and chemical resistant eye protection.

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SLIP RESISTANCE: Smith Paint Products recommends the use of angular slip-resistant aggregate in all coatings that may be exposed to wet, oily or greasy conditions as well as any condition where increased traction may be necessary. It is the contractor and end users' responsibility to determine the appropriate traction needs and footwear necessary for the conditions as well as setting performance parameters prior to beginning the application, testing to determine parameters have been met upon completion to achieve the end users documented safety standards.

Mock-ups are highly recommended as part of the evaluation process to determine the appropriate amount of slip-coefficient necessary for the environment.

MOISTURE/ALKALINITY: The absence of an effective moisture vapor barrier may create an environment for moisture vapor transmission as well as high levels of alkalinity in concrete slabs. Blistering, delamination, flaking, etc. may occur in these environments when a non-breathable coating is applied over the surface of the concrete. Moisture testing is extremely important has part of the investigation process prior to quoting a project and should occur following the most current industry accepting testing methods, such as, a Calcium Chloride test (ASTM F-1869) and/or Relative Humidity probe (ASTM 2170). It is the contractor's responsibility to determine the moisture vapor transmission and pH of a floor. It is the contractor's responsibility to determine whether or not a substrate is sound, solid and suitable.

Never use silicate based products as a means of moisture remediation as these products may crystallize in the pores of the concrete surface and impede on the adhesion of the coating system and are highly discouraged for use under any circumstance. This includes products containing Lithium, Potassium or Sodium Silicate based products, such as Smith's Base Boost or Smith's Crete Boost.

Smith Paint Products is not responsible for failures due to the presence of moisture vapor emissions nor high levels of alkalinity.

LIMITED LIABILITY: Liability is limited to replacement of defectively manufactured product with same type and cost of the original purchased product upon presentation of a valid, fully paid invoice at the time of a claim. No warranty shall be granted for outstanding invoices or for accounts with unpaid balances until paid in full. No damages, whether consequential, liquidated or other, shall be provided under this Limitation of Liability and Limited Warranty. Should a product defect be suspected at the time of application, cease use of the product immediately and notify Smith Paint Products for investigation otherwise you will be responsible for the cost to repair or replace any work performed with product(s) suspected of defect. Record batch codes and save all products you purchased in order for any warranty to occur allow with the invoice that matches said quantity. Defects determined after installation must be reported to Smith Paint Products within 10 business days of discovery.

Upon information, belief and to the best of our knowledge, the information contained herein is true accurate as of the date of issuance of this particular document and any and all information conveyed, whether expressed or implied. Is subject to change without prior notice. We guarantee our products to conform to Smith Paint Products quality control standards, but not to any other standards unless specifically stated in written documentation. Smith Paint Products assumes no liability for coverage, performance, injury results from use, misuse or usage not described in any promotional materials or regulatory infraction determined by using our products. The applicator assumes all liability for use and local regulatory compliance. Promotional materials are not a supplementation to any product purchase agreement, nor should such documents be considered a type of contract, if any is reduce to writing.

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