

# S-4000 Acid Stain

TECHNICAL DATA SHEET

## DESCRIPTION:

S-4000 Acid Stain is an acidic coloring solution which chemically reacts with concrete and other cementitious substrates to create translucent and variegated color effects. The coloration becomes a permanent part of the substrate and cannot crack or peel.

S-4000 Acid Stain gives a unique look that cannot be achieved with conventional polymer and pigment type stains. The material reacts individually with each substrate depending upon its available cement content, age, and porosity. Considerable variations in color and tone normally result from the use of S-4000 Acid Stain, and many special color effects can be achieved using different methods of application.

S-4000 Acid Stain is used in a variety of interior and exterior architectural concrete applications. It is most commonly used to provide a distinctive look to floors and other horizontal concrete surfaces. Special beauty is added to color hardened concrete and textured polymer concrete when S-4000 Acid Stain is used as the coloring medium. Stained surfaces that are exposed to pedestrian or vehicle traffic must be protected by the appropriate Super-Krete sealer system. These sealers may be acrylic or polyurethane materials depending upon service requirements. Both high gloss and satin finishes are available.

## USES:

- Coloring medium for concrete
- Interior and exterior applications
- Intensify and enhance existing colored concrete

## CHEMICAL COMPOSITION:

Acidic solutions of metallic salts

## COLORS:

Available in 10 standard colors.



## MOISTURE VAPOR EMISSIONS PRECAUTIONS:

All concrete floors not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission that may lead to blistering and failure of the coating system. It is the coating applicator's responsibility to conduct calcium chloride testing in compliance with ASTM F1869, or relative humidity probe testing in compliance with ASTM-F2170, to determine if excessive levels of vapor emissions are present before applying any coatings. Arizona Polymer Flooring offers **S-1300 Pene-Krete®** for cementitious overlay products and **VaporSolve® Moisture Remediation** systems for resinous floor coatings. Consult our technical service department. Arizona Polymer Flooring and its sales agents will not be responsible for coating failures due to undetected moisture vapor emissions.

## SURFACE PREPARATION:

Concrete must be cured enough to become reactive with the stain, usually 14-21 days. Concrete must be free of all contaminants such as grease, plaster, adhesives and previously applied sealers. A good test for detecting the presence of a sealer is to wet the surface with water. If the water is not immediately absorbed and the surface darkened, a sealer is present and must be removed by sanding or shot-blasting. Do not acid wash the surface. The most effective method of surface preparation is scrubbing with a heavy duty degreaser such as S-12000 Heavy Duty Degreaser using a floor machine and nylogrit brush.

Super-Krete® Products is a Division of Arizona Polymer Flooring, Inc.

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## APPLICATION RECOMMENDATIONS & COVERAGE:

Because the material is corrosive, all adjacent areas must be protected from incidental contact. Protective gloves and eyewear should be worn. The acid stain may be applied "as is" or reduced with up to four parts water depending upon the depth of color and overall desired effect. The most common dilution is 1:1. Use a wide mouth plastic container for stain reduction. For application to small areas, pour stain into a plastic dishpan and apply with an 8"-12" bristle brush. Apply the stain liberally, rotate brush with a circular motion keeping it in contact with the surface. Work the material until the fizzing stops. Do not spread the material to a new area after fizzing has stopped. Apply more material and work back up into the area previously done. Keep a wet edge. Avoid dripping.

For larger areas, a plastic Hudson type sprayer should be used. Apply the material to the floor to achieve full wetting, just short of puddles. Remember that more volume of liquid left on the surface creates more depth of color. Material may be left alone after spraying for more variegated tones or lightly scrubbed with a stiff bristled broom to even out the material for a more uniform look.

Allow the stain to dry thoroughly. Dry time depends upon conditions, but is usually 2-5 hours. After surface has dried, scrub a small area with a black pad and water to determine the depth of color. If more color is desired, repeat the stain application one or two more times. A point will be reached where no fizzing will occur and no additional color can be deposited. Allow to dry thoroughly.

Remove the residue from the floor by scrubbing with water using a stiff bristled broom or floor machine with a soft brush. Remove the water/residue mixture with an acid-resistant wet vacuum. Neutralize the floor by scrubbing with Super Base Neutralizer – 8 oz. to 4 gallons of water. Apply with a plastic sprinkling can. Rinse again with clean water and allow to dry.

## COLORING TIPS:

Special color effects using S-4000 Acid Stain may be achieved using a variety of methods. The actual liquids may be mixed together to achieve intermediate colors. Reduction with water lightens the color. Different colors may be applied in succession either when the stain is still wet or after it has dried. Uneven applications produce more variations in tone. Spotted color effects can be achieved by sprinkling an iron soil supplement (such as Miracle Grow) onto the surface during the staining procedure. Interesting effects occur if a darker stain is sprayed out of a plastic spray bottle over a lighter color. Actual experimentation must be done to learn the effects of different application methods.

## SEALER OPTIONS:

There are several ways to seal acid stained surfaces and special methods for achieving effective slip-resistant surfaces. Please refer to the **Super-Krete Products Sealer Selection Guide** for specific recommendations.

## SHELF LIFE:

S-4000 Acid Stain has a shelf life of 1 year when properly stored in an unopened container. Materials should be stored at 55°-90° and no greater than 50% humidity. Ensure all packaging is tightly sealed to ensure the longest lasting shelf-life.

## PRECAUTIONS:

- *Handling Precautions:* Use only with adequate ventilation. Avoid contact with skin; wear protective gloves. Read Safety Data Sheet before using.
- *Slip and Fall Precautions:* OSHA and the American Disabilities Act (ADA) have now set enforceable standards for slip-resistance on pedestrian surfaces. The current coefficient of friction required by ADA is .6 on level surfaces and .8 on ramps. Arizona Polymer Flooring recommends the use of angular slip-resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards. Arizona Polymer Flooring or its sales agents will not be responsible for injury incurred in a slip and fall accident.

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## LIMITATIONS:

- The coloring effect is dependent on the individual substrate and application methods.
- Different concrete pours within a given job site will react differently. The stain will not hide surface irregularities or defects.
- The stain will not be effective if the concrete is excessively worn, old, or has been previously sealed.
- Testing on the individual substrate is required to determine the specific stain effect prior to beginning the project.

## WARRANTY:

Arizona Polymer Flooring guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. ARIZONA POLYMER FLOORING MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. Arizona Polymer Flooring shall not be liable for damages caused by application of its products over concrete with excessive moisture vapor transmission or alkalinity. Arizona Polymer Flooring shall not be liable for any injury incurred in a slip and fall accident. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product.

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