



## Product Data Sheet & Application Guide

# POLYASPARTIC SERIES 1000-2000-3000

## GLOSS, ALIPHATIC 2-COMPONENT POLYASPARTIC

POLYASPARTIC-PDS-120718

### DESCRIPTION:

Dual component, Aliphatic Polyaspartic topcoat with a gloss finish and a 30 or 45 minute pot life.

Smith's Polyaspartic Series are a high performance coatings that offers a UV stable, hard, resilient and abrasion resistant film with exceptional splash and chemical spill properties for application to a variety of substrates including, but not limited to concrete, wood and metal. Smith's Polyaspartic also serves as an excellent system for color chip, quartz, pigmented applications for commercial and industrial installations.

### RECOMMENDED USES:

- Fast Return-to-Service Applications
- Food & Beverage Floors
- Forklift traffic areas
- Manufacturing Areas & Aisleways
- Decorative Concrete Systems & Stains
- Loading Docks
- Institutional, Retail, Commercial & Residential Environments
- Schools & Universities
- Pharmaceutical Floors

### HIGHLIGHTS:

- For Interior and Exterior Use
- Low VOC's – Less than 2 g/L
  - Meets Source Specific Standards Rule 1113 established by AQMD in California
- Highly Durable
- Easy to clean
- Overnight return to service
- Resistant to Hot Tire Pickup
- Meets FDA Food Code - Physical Facilities 6-101.11 Surface Characteristics. Not tested for CFR 21 Direct food contact.

### STORAGE:

Indoors between 40°F (4.4°C) - 90°F (32.2°C)

### INSTALLATION TEMPERATURE RANGE:

40°F (4.4°C) to 85°F (29.4°C) with less than 80% Ambient Humidity

### SHELF LIFE:

12 Months in original, unopened containers

### POLYASPARTIC SERIES PRODUCT CODE & KIT SIZES

<b>Polyaspartic 1000</b>	Brush/Roller application - 30 minute pot life*
SCS-ASP1000-256	Gloss, 2 Gallon Kit
SCS-ASP1000-1280	Gloss, 10 Gallon Kit
<b>Polyaspartic 2000</b>	Brush/Roller application - 45 minute pot life*
SCS-ASP2000-256	Gloss, 2 Gallon Kit
SCS-ASP2000-1280	Gloss, 10 Gallon Kit
<b>Polyaspartic 3000</b>	Spray application - 30 minute pot life*
SCS-ASP1000-256	Gloss, 2 Gallon Kit
SCS-ASP1000-1280	Gloss, 10 Gallon Kit

\*Approximate pot life at 72°F with 40% Humidity

### COLORS:

Industrial Solid Colorant Packs - 16 Standard Colors available separately

### POTLIFE & CURE TIMES (72°F / 50% Relative Humidity):

\*Higher temperatures and humidity will shorten pot life.

	1000 Series	2000 Series	3000 Series
<b>Pot Life</b>	30 minutes	45 minutes	30 minutes
<b>Working Time</b>	30 minutes	45 minutes	30 minutes
<b>Tack Free</b>	1 – 2 hrs.	2 – 3 hrs.	2 – 3 hrs.
<b>Recoat</b>	2 – 24 hrs.	3 – 24 hrs.	3 – 24 hrs.
<b>Foot Traffic</b>	4 hours	8 hours	8 hours
<b>Heavy Traffic (Vehicular/Forklift)</b>	24 hours	36 hours	36 hours
<b>Full Chemical Resistance</b>	3 days	3 – 4 days	3 – 4 days

### CURED COATING PROPERTIES (DRY FILM):

Property	Test Method	Results
<b>Abrasion Resistance, mg/loss* Taber Abraser</b>	ASTM D4060	50 mg loss
<b>Volatile Organic Compounds (VOC'S)</b>	ASTM D3960	<2 g/L
<b>Hardness (Pencil)</b>	ASTM 3363	F
<b>Impact</b>	ASTM D2794	160 in.lbs. Direct & 120 in.lbs. Reverse
<b>Tensile Strength, psi (MPa)</b>	ASTM D2370	6,526 psi (45 mPa)
<b>Conical Mandrel Elongation</b>	ASTM D522	50% (Pass)
<b>Gloss</b>	60 degree	90 (±5)
<b>Viscosity (Mixed)</b>	ASTM 2196	148 cPs
<b>Flash Point (Liquid State)</b>	ASTM 3278	145°F (62.8°C)

\*CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions Results are based on conditions at 77°F (25°C), 50% relative humidity.

### APPLICATION CHARACTERISTICS:

Coverage varies due to application thickness, floor profile and absorbency of concrete.

A one gallon mixture of Polyaspartic will cover:

Coverage Equation:  $1604 \div \text{millage} = \text{Wet Film Thickness} \times 0.76 = \text{Dry Film Thickness}$

Mil Thickness DFT (WFT)	Approximate Coverage per mixed gallon
3 mils DFT (3.9 mils WFT)	407 sq.ft./gal
4 mils DFT (5.2 mils WFT)	305 sq.ft./gal
5 mils DFT (6.5 mils WFT)	244 sq.ft./gal
6 mils DFT (7.9 mils WFT)	203 sq.ft./gal
7 mils DFT (9.2 mils WFT)	174 sq.ft./gal
8 mils DFT (10.5 mils WFT)	152 sq.ft./gal
10 mils DFT (13.1 mils WFT)	122 sq.ft./gal
12 mils DFT (15.7 mils WFT)	101 sq.ft./gal
15 mils DFT (19.7 mils WFT)	81 sq.ft./gal



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### Typical Chemical & Stain Resistance

Covered Spot Test - 3 mil film at 7 day cure:

**E** - Excellent; **G** - Good (slight sign of exposure, coating recovers);

**NR** - Not Recommended (Permanent Damage)

	1000 Series	2000 & 3000 Series
<b>ACIDS</b>		
Acetic Acid 25% (Vinegar)	E	E
Citric Acid 10%	E	E
Lactic Acid 88%	G	G
Phosphoric Acid 85%	G	G
Sulfuric Acid 25% (Battery Acid)	E	E
Sulfuric Acid 98%	NR	NR
Hydrochloric Acid 32% (Muriatic)	E	E
Nitric Acid 67%	NR	NR
<b>BASES</b>		
Ammonium Hydroxide 10%	E	E
Sodium Chloride 20%	E	E
Sodium Hydroxide 50%	E	E
Sodium Hypochlorite (Bleach)	E	E
Trisodium Phosphate 10%	E	E
<b>ALCOHOLS</b>		
Ethylene Glycol (Antifreeze)	E	E
Isopropyl Alcohol 91%	E	E
Methanol	E	E
Hand Sanitizer (Purell)	G	G
<b>SOLVENTS</b>		
Acetone	G	G
d-Limonene	E	E
MEK	E	G
Methylene Chloride	G	G
Mineral Spirits	E	E
PGMEA	G	G
<b>HYDROCARBONS</b>		
Brake Fluid	G	G
Transmission Fluid	E	E
Motor Oil	E	E
Kerosene	E	E
Hydraulic Fluid	E	E
Skydrol - LD-4	NR	NR
<b>MISCELLANEOUS</b>		
Windex	E	E
Dish Detergent (Dawn)	E	E
Betadine Solution	E	E
Coffee	E	E
Coke	E	E
Ketchup	E	E
Monster Energy Drink	E	E
Mustard	E	E
Wine - Red	E	E

Coke® is a registered trademark of Coca-Cola. Monster Energy® is a registered trademark of Monster Energy Co. Skydrol® is a registered trademark of Eastman Chemical. Purell® is a registered trademark of GOJO Industries, Inc. Dawn® is a registered trademark of Procter & Gamble

**INSPECT THE SUBSTRATE:** Ensure the concrete is structurally sound and solid as well as free of any contaminants that may act as a bond breaker, such as oil, paint, densifier/sealers, curing compounds, wax, silicone, etc.

**TEMPERATURE and HUMIDITY:** Substrate temperature and materials must be maintained between 40°F (4.4°C) and 85°F (29.4°C) with less than 80% Ambient Humidity for 24 hours prior to and 24 hours after installation. Do not install coatings when the Dew point is within 5° of the temperature.

**CHECK FOR MOISTURE:** Testing concrete moisture via both the Calcium chloride (ASTM F1869) and In-situ Relative Humidity (ASTM F2170) methods is highly recommended to accurately determine both the Moisture Vapor Emission Rate (ASTM F1869) and the available Moisture Content (ASTM F2170) at the time of testing. Using only one test method will only give all of the necessary information and may not indicate other potential risks such as contaminates, etc. that may pose a risk for delamination, chemical attack, etc. which are not caused by moisture vapor emissions or high alkalinity.

Smith's Epoxy MAC100 or Epoxy MAC125, in conjunction with proper testing and mechanical preparation, will reduce the moisture vapor emission rate to a level within the tolerance of subsequent coatings and traditional floor covering needs.

Follow the testing manufacturer's instructions precisely or visit [www.astm.org](http://www.astm.org), see ASTM F1869 or F2170, to purchase the test methods. Testing MUST occur within an acclimated, interior environment for the results to be valid and conclusive. In cases where environmental conditions cannot be made to achieve acceptable moisture vapor readings or for exterior applications, a 1 year standard product defect warranty shall be extended for those applications, no moisture vapor suppression warranty shall exist in these circumstances.

Smith Paint Products is strictly a product manufacturer and does NOT offer any testing or analysis but may be able to offer guidance to an appropriate testing lab or third party inspector. When in doubt, hire a qualified third party testing firm.

For Wooden substrates, no greater than 12% is recommended prior to coating when using a wood substrate moisture meter.

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

**CONTAMINATION OF SUBSTRATE:** Concrete is porous and can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Determine if a potential bond breaker exists and a proper course of remediation.

**OIL CONTAMINATION:** [Smith's Oil Clean](#) may be used to remove oils, such as petroleum, synthetic and food oils, from the surface of the concrete prior to mechanical preparation. Wood substrates contaminated with oil may require removal and replacement of the oil contaminated area with new wood to ensure proper adhesion.

**CHEMICAL CONTAMINATION:** Chemical contamination should be determined and may require additional testing. Once the type of contaminant is determined, contact Smith Paint Products for recommendations while following local regulations regarding contaminant and disposal.

**CAUTIONS/WARNING:** Material is combustible. 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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### NECESSARY TOOLS and EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Jiffy mixing paddle
- Self-contained respiratory equipment/mask (TC 19C NIOSH/MESA)
- Low speed ½" drill (Variable Speed 650 rpm or less)
- 5 gallon Plastic Mixing Buckets
- Premium, Non-Shed 3/8" Nap Paint Roller Covers
- Several 18" wide, non-metallic Paint Roller Frames
- Multiple Extension Poles
- Spiked shoes or Cleats
- Cleaning Solvent (Acetone, MEK, Xylene)

**NOTE:** 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.

### SUBSTRATE PREPARATION

**CLEANING:** Detergent scrub with Smith's Neutral Detergent, or similar, and rinse with clean, potable water to remove surface dirt, light surface grease/oil and contaminants prior to mechanical preparation. Heavy grease and oil should be removed using Smith's Oil Clean. If a densifier or dissipative curing compound is believed to have been present, use Smith's Green Clean Pro biodegradable etching gel after mechanical preparation methods.

**NOTE:** Methyl Methacrylate (MMA) is NOT an acceptable substrate and delamination will occur if topcoated.

**Diamond Grind:** Use 25 to 80 grit metal bond diamonds with an appropriate industrial, weighted head floor grinder to thoroughly remove the concrete surface until uniformly white. Do NOT use resin bond diamonds to prepare concrete to be sealed due to the risk of resin residue transfer to the concrete surface and potential for fisheyes or a bond breaker.

**\*Etching Compound:** Smith's Green Clean Pro buffered etching compound may be used as follows:

- Preparation method for new concrete that has NOT been previously sealed, to include curing compounds for light or residential traffic applications.
- Remediation method for removing densifiers/silicates

When using Smith's Green Clean Pro, ensure an even, dull appearance with a uniform sandpaper like finish with no patterning or dis-similar appearance. Shiny areas should not exist and will need further treatment. Thoroughly rinse.

### NOTE:

- DO NOT USE MURIATIC / HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR
- When etching, ensure all Green Clean Pro has been thoroughly removed with potable water with no remaining soapy residue or cement slurry
- DO NOT USE on "Green" concrete (less than 30 days old), Hard Trowel Finished concrete or previously sealed/coated/painted concrete to including any type of curing compound.

**\*Key in all termination points using a diamond cutting blade prior to any above preparation method.**

Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.

**JOINTS, CRACKS & PATCHING:** Cut all joints and moving cracks open with a Diamond cutting blade and fill with an appropriate semi-rigid epoxy joint filler prior to priming the substrate. Honoring of the joint at the surface after the coating is applied then fill with an appropriate joint filler can lessen joint telegraphing. Patching of chips, gouges, etc. may be repaired with a variety of different, compatible coating materials, to include Smith's Epoxy U100 mixed with Silica Fume or similar. Ensure patching products are hard enough to walk on without the risk of damage before proceeding with subsequent coatings. Should the surface of the concrete require extensive resurfacing or repairs, please contact Smith's for more recommendations for crack repairs, joint wall rebuilding, etc. based on the conditions.

**MIXTURE:** Premix the Part A for approximately 1 minute using a clean, paint mixing paddle on a low RPM drill (<650 RPM). If part mixing, measure equal parts by volume (1 Part A to 1 Part B) and mix in a clean 5 gallon plastic pail using a paint mixing paddle attached to a slow speed drill (≤650 RPM) for 1-2 minutes. If a solid color is desired, add 1 unit of Smith's Industrial Solid Colorant Packs to 2 gallons of mixed Polyaspartic Series and mix for an additional minute.

**NOTE:** DO NOT TURN THE MIXING VESSEL UPSIDE DOWN ON THE SUBSTRATE TO ALLOW THE RESIDUAL PRODUCT TO DRAIN ONTO THE FLOOR TO AVOID THE RISK OF ANY UNMIXED OR NON-THOROUGHLY CATALYZED PRODUCT FROM THE SIDES AND BOTTOM OF THE MIXING VESSEL FROM REACHING THE FINISHED FLOOR. Best practice is to pour the mixed contents into a paint tray then dip and roll onto the substrate.

**SMITH'S POLYASPARTIC SYSTEMS:** Reference published system application guides for Vinyl Chip, Quartz, Solids Color, Metallic & Luster and Grind & Seal installations

**TOPCOAT OVER A NEW COATING SYSTEM:** Ensure the previous layer has cured enough to receive another layer, shows no indication of blushing and has NOT exceeded the recoat window. Correct any surface imperfections in the previous layer prior to topcoating with Smith's Polyaspartic. If the previous layer has cured beyond the recoat window, the surface must be mechanically abraded using 80 to 100 grit sand paper or screens to a uniformly dull surface with no remaining shiny areas then cleaned to remove all dust/debris prior to receiving a topcoat of Smith's Polyaspartic.

**TOPCOAT EXISTING FLOOR COATING SYSTEMS:** Adhesion to any existing coating system is only as good as the adhesion the existing coating system has to its substrate. Always test to determine the suitability of an existing substrate and mock-ups are highly encouraged. Allow the mock-up to cure for no less than 1 month before performing adhesion testing, such as a tape test or using an Elcometer to verify the existing coatings bond strength to its substrate (ASTM D 4541) greater than 250 psi (1.7 MPa) to pass the test.

**OVER SMITH'S COLOR FLOOR STAIN:** Once Smith's Color Floor stain has cured overnight, Smith's Polyaspartic may be applied directly over the stain. For best results, apply 3-6 mils or a spread rate of 200-400 square feet per mixed gallon.





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**SPRAY APPLICATION:** Smith's Polyaspartic 3000 (gloss) and 3550 (low sheen) are formulated to be applied via a dual component sprayer (preferred) or gravity feed spray gun. Atomize material with roughly 20 lbs. of pressure in conjunction with 1.8 mm tip. Other tips can be used, decrease pressure if excess overspray occurs. Material may be thinned up to 10% by volume with Oxsol. Clean gun with solvent immediately.

**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.

**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.

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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.

**LIMITED LIABILITY:** Liability, if any, is limited to replacement of defectively manufactured product of the same type and cost of the originally 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. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SMITH PAINT PRODUCTS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SHOULD YOU NOT AGREE WITH ANY OF THE ABOVE TERMS, DO NOT PURCHASE THE PRODUCT(S). Should a product defect be suspected at the time of application, cease use of the product immediately and notify Smith Paint Products for investigation as 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 along with the invoice that matches said quantity. Defects determined after installation must be reported to Smith Paint Products within 10 business days of discovery.

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