Smith's Poly-SB Gloss or Low Sheen

Product Data Sheet & Application Guide

PSB-PDS-04302021

Aliphatic 2-Component Acrylic Modified Solvent-based Polyurethane Sealer

DESCRIPTION: Smith's Poly-SB is a 2-component, low viscosity, Acrylic-Modified Solvent-borne Polyurethane primer/ sealer used as a protective or maintenance wear surface over decorative concrete, pavers, concrete stains, etc. with superior adhesion, abrasion resistance, gloss retention, stain resistance versus typical low solids single component solvent based acrylic sealers. Available in both Gloss & Low Sheen finishes.

Smith's Poly-SB achieves a wet-look to boost color & depth of stains (i.e. Color Floor, Color Accents, Color Wall). Yields an easy to clean, hard film finish that is Fast Curing, Ultra Violet Light Stable, Stain & Hot Tire Pick-up Resistant with easy recoatability for future maintenance recoats.

Smith's Poly-SB/G Gloss may be used as a fast curing primer in higher traffic exterior commercial applications, such as shopping centers, hotels, university campuses, airport pedestrian walkways, etc. prior to other topcoats, such as, Smith's Poly-WB (Waterborne Polyurethane), Smith's Polyaspartic products (i.e. 1000, 2000, 5000), or Smith's MCU-60 or over surfaces subject to pH shift, such as acid stained concrete.

RECOMMENDED AS A FINAL TOPCOAT FOR:

- Commercial & Residential:
  - Stained Concrete
  - Decorative & Stamped Concrete
  - Pavers

HIGHLIGHTS:

- Fast Curing but Good Pot-life
  - Recoat in 90 minutes at 75°F / 50% Humidity
  - 2 hour Pot-Life at 75°F / 50% Humidity
- U.V. Stable
- Stain Resistant
- More Durable than traditional solvent based Acrylic Sealers
- Easy to Clean & Maintain
- Wet Look – Enhances Colors
- Hot Tire Pickup Resistant
- Low VOC's – Meets Source Specific Standards Rule 1113 established by AQMD in California

STORAGE:

Indoors between 50°F (10°C) to 95°F (35°C)

INSTALLATION TEMPERATURE RANGE (surface temp):

50°F (10°C) to 100°F (38°C) with up 80% Humidity

SHELF LIFE:

24 Months (original, unopened containers); 30 days (once opened)

AVAILABLE KIT SIZES:

Gloss:

SCS-SBPG-192kit	Clear	1.5 gallon kit
SCS-SBPG-1920kit		15 gallon kit

Low Sheen:

SCS-SBPLS-192kit	Clear	1.5 gallon kit
SCS-SBPLS-1920kit		15 gallon kit

COLOR:

Clear; Tint with Smith's Royal Tint color packs (sold separately)

POT LIFE & TRAFFIC TIMES (75°F / 50% Relative Humidity):

*Temperature & humidity affect cure rate	Poly-SB/G Gloss	Poly-SB/LS Low Sheen
Pot Life	2 hours	2 hours
Working Time	30 minutes	30 minutes
Tack Free	60 minutes	60 minutes
Light Foot Traffic	4 hours	4 hours
Heavy Foot Traffic	12 to 16 hours	12 to 16 hours
Vehicle Traffic	3 days	3 days
Full Chemical Resistance	7 to 10 days	7 to 10 days

RECOAT – CURE TIMES BETWEEN COATS:

HUMIDITY	TEMPERATURE (Cure Rate in Hours)		
	55°F (12.7°C)	75°F (24°C)	90°F (32.2°C)
≥35%	6 hrs	3 hrs	2 ½ hrs
50%	5 hrs	2½ hrs	2 hrs
≤75%	4 hrs	2 hrs	1½ hrs

CURED COATING PROPERTIES (DRY FILM):

PROPERTY	TEST METHOD	RESULTS
Abrasion Resistance *mg/loss* *Taber Abraser	ASTM D4060	65 mg (Poly-SB/G) 95 mg (Poly-SB/LS)
Flexibility	ASTM D2794	160 in.lbs. Direct & 120 in.lbs. Reverse
Impact Resistance	ASTM D2794	passes 0.375 inch-lbs direct impact
Hardness (Pencil)	ASTM D2370	F (Poly-SB/G) 2H (Poly-SB/LS)
Tensile Strength, psi (MPa)	ASTM D2370	4,000 psi (22 MPa)
Adhesion to Concrete	ASTM D4541	Concrete Fails
VOC's (Mixed)	ASTM D3960	35 g/L (Poly-SB/G) 41 g/L (Poly-SB/LS)
Gloss (60°)	ASTM 1455	±85 (Poly-SB/G) ±50 (Poly-SB/LS)
Viscosity (Mixed) – @ 77°F	ASTM 2196	≥150 cP (Poly-SB/G) ≥50 cP (Poly-SB/LS)
Flammability (Cured)	ASTM D635	Self-Extinguishing
Volume Solids	ASTM D2196	±39% (Poly-SB/G) ±39% (Poly-SB/LS)

*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.

APPROXIMATE COVERAGE (DRY FILM):

Varies depending on application thickness, floor profile & substrate absorbency.

Dry Film Thickness Coverage Equation: 1604 ÷ milage x 0.61 = DFT

Mil Thickness DFT (WFT)	Approximate Coverage per mixed gallon
2.4 mils DFT (4 mils WFT)	400 sq.ft./gal
3 mils DFT (5 mils WFT)	321 sq.ft./gal
4 mils DFT (6.5 mils WFT)	244 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/stains, coating recovers);*
***D** – Discolored / Stain;* ***NR** – Not Recommended (Permanent Damage)*

	24 hour Exposure	
ACIDS	**GLOSS**	**LOW SHEEN**
Acetic Acid 25% (Vinegar)	G	E
Citric Acid 10%	G	E
Lactic Acid (Milk)	G	G
Phosphoric Acid 85%	NR	G
Sulfuric Acid 25% (Battery Acid)	NR	G
Hydrochloric Acid 32% (Muriatic)	NR	NR
Nitric Acid 50%	NR	NR
BASES		
Ammonium Hydroxide 10%	E	E
Sodium Chloride 20%	E	E
Sodium Hydroxide 50%	G	E
Sodium Hypochlorite (Bleach)	NR	G
Trisodium Phosphate 10%	G	E
ALCOHOLS		
Ethylene Glycol (Antifreeze)	E	E
Hand Sanitizer	NR	G
Isopropyl Alcohol 91%	NR	E
Methanol	E	E
SOLVENTS		
Acetone	NR	G
d-Limonene	G	G
MEK	NR	NR
Methylene Chloride	NR	NR
PGMEA	E	E
HYDROCARBONS		
Brake Fluid	NR	NR
Transmission Fluid	E	E
Motor Oil	E	E
Gasoline	G	E
Kerosene	G	E
Hydraulic Fluid	NR	NR
Skydrol® – LD-4	D	D
MISCELLANEOUS		
Coffee	E	E
Coke®	G	E
Dish Detergent (Dawn®)	G	G
Hydrogen Peroxide 3%	D	D
Ketchup	G	G
Mustard	D	D
Povidone-iodine (BETADINE®)	D	D
Tide® 1%	E	E
Windex® (Ammonia Based)	G	E
Wine – Red	D	E

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PRECAUTIONS / WARNING:

Contains Solvent - Material is combustible.

- Avoid sparks, heat, open flames, pilot lights & electric motors until all vapors are gone
- Use with adequate ventilation when mixing, applying & curing
- Product emits harmful vapors which can cause respiratory irritation
  - Individuals with chronic lung or breathing problems or negative reaction to isocyanates, should not use this product

PERSONAL PROTECTION EQUIPMENT RECOMMENDED:

- Use of a self-contained respiratory equipment (TC 19C NIOSH/MESA) – Avoid inhaling atomized spray & fumes
- Wear Chemical Resistant Gloves – Avoid all contact with skin
- Wear Chemical Resistant Eye Protection – Prevent contact with eyes

LIMITATIONS:

- AVOID applying Smith's Poly-SB while humidity is greater than 90% during installation
- DENSE/SMOOTH SURFACES - Use over dense, minimally profiled surfaces requires scrubbing with a nylon bristle brush attached to an orbital floor buffer with *Smith's CT-8* and water followed by thorough water rinsing with a pressure washer
- HEAVY TEXTURE SURFACES - Use a ¾" nap roller cover when applying over heavy texture surfaces, such as knockdown overlays or heavy stamped patterns, while ensuring no puddling remain
- DO NOT APPLY Smith's Poly-SB/LS Low Sheen directly to bare concrete without first applying a primer layer of Gloss Poly-SB/G
- DO NOT PUDDLE – Maximum single layer thickness wet should not exceed 200 sq.ft. per gallon (8 mils WFT) to avoid solvent entrapment
- DO NOT INSTALL when the Dew point is within ±5° of the temperature

INSPECT THE SUBSTRATE: Ensure the substrate 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 & materials must be maintained between 50°F (10°C) & 100°F (38°C) with less than 80% Humidity for 24 hours prior to and 24 hours after installation. *Do not install when the Dew point is within 5° of the temperature.*

CHECK FOR MOISTURE: Exterior concrete must be dry at time of sealing.

Interior Concrete – NOT RECOMMENDED FOR INTERIOR USE

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. Contact Smith Paint Products for remedial recommendations while following local regulations regarding contaminant and disposal.

OIL CONTAMINATION: Use *Smith's Oil Clean* to remove oils, (i.e. 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.

NECESSARY TOOLS and EQUIPMENT:

- Paint Mixing Paddle attached to a low speed drill (≤450 RPM)
- Premium, Non-Shed Paint Roller Covers (nap size varies)
- Painters Tape
- Chip Paint Brushes
- Paint Roller Frames
- Extension Pole
- Cleaning Solvent (Use water while wet; Xylene or MEK if freshly cured)

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.

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.

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SUBSTRATE PREPARATION

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

Surface preparation should be viewed as the most important step in a successful application. Proper floor preparation results in the product's longevity, minimizes potential failures and creates the best environment for an aesthetically pleasing work of art. In short, the more detail and time allotted to this phase of the project will dramatically affect appearance and durability of the finished floor.

SEALER 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 top-coating. It is highly recommended to degloss the surface of epoxy and other prior layers to remove surface imperfections and to achieve ideal inter-coat adhesion between layers, especially in wheeled traffic environments or if the previous layer has cured beyond the recoat window.
**See Screen/Sanding below for instructions.*

TOPCOAT EXISTING SEALER or STAINED CONCRETE: Adhesion to any existing sealer is only as good as the adhesion the existing sealer has to its substrate. Always test to determine the suitability of an existing substrate and mock-ups are highly encouraged. Apply a test area then perform a tape test to determine whether the existing coating is a suitable substrate and if optimal adhesion to its substrate exists.

NEW CONCRETE: Ensure the bleed water has escaped new concrete surfaces and clean with *Smith's CT-8* / pressure wash prior to sealing with Smith's Poly-SB. When a low sheen is desired, always apply a primer coat of Smith's Poly-SB/G Gloss first to ensure a uniform finish film appearance with the topcoat of Smith's Poly-SB/LS Low Sheen.

NEW STAINED CONCRETE: Smith's Poly-SB can used to seal directly over *Smith's Color Floor* stain, Acid Stains, traditional stamped concrete, integrally colored concrete and cementitious overlays once the substrate has been properly prepared. *(See Smith's Color Floor and Smith's Green Clean Pro data sheets for more details.)*

Follow preparation method for the product used prior to Smith's Poly-SB (if applicable).

When sealing over *Smith's Color Floor*, *Color Wall* or *Color Accents*, allow to full cure* *(minimum 24 hours)* then remove all loose particulate utilizing a leaf blower. If standing water is present, remove excess water with cloth or squeegee. Allow substrate to dry before application of Smith's Poly-SB/G Gloss.

JOINTS, CRACKS & PATCHING: Honor expansion joints at the finish floor elevation. Follow ACI 224.3R-95: Joints in Concrete Construction guidelines for proper filling of construction and control joints. Clean out all joints and moving cracks open with a Diamond cutting blade prior to filling or patching as necessary. Honor joints at the surface after the coating is applied then fill will an appropriate joint filler to lessen joint telegraphing. DO NOT apply Smith's Poly-SB over joint fillers such as caulk, Polyurea, silicone, urethane or flexible joint fillers.

ACI recommends allowing a concrete slab to cure for a minimum of 60 to 90 days or longer to allowing the slab to shrink and acclimate to the intended joint width thus reducing the risk of joint wall separation from the joint filler. Cooler climate applications such as freezer and coolers must be brought up to and held at a minimum of 45°F substrate temperature for no less than 10 days prior to as well as 7 to 10 days after filling with an appropriate semi-rigid joint filler, such as Smith's Poly JF, longer if possible.

Patching of chips, gouges, etc. may be repaired with a variety of different, compatible coating materials, to include:

Patching for Decorative Concrete Applications – *Smith's 4in1 Overlay*. Should the surface of the concrete require extensive resurfacing or repairs, please contact Smith Paints for more recommendations based on the site conditions.

MIXTURE: *Premix the Part A for approximately 1 minute using a clean, paint mixing paddle on a low RPM drill (<450 RPM).* If part mixing, measure 2 Part A to 1 Part B by volume and mix in a clean 5 gallon plastic pail using a paint mixing paddle attached to a slow speed drill (≤450 RPM) for 1 to 2 minutes.

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 & BOTTOM OF THE MIXING VESSEL FROM REACHING THE FINISHED FLOOR.*

Best practice is to pour the mixed contents into a paint tray then dip & roll onto the substrate or spray apply & back roll out the puddles.

***Thinning*:** Supplied as a 2-component "ready-to-use" sealer.

***Tinting (Solid Color)*:** Tint Smith's Poly-SB as follows with Smith's Royal Tint or Smith's ISC Industrial Solid Color Packs to achieve a solid color. 2 to 3 coats are recommended to achieve full color hide with lighter colors:

Up to 10% by volume of Smith's Royal Tint to Smith's Poly-SB
1.5 gal kit = Add 19 oz. of Smith's Royal Tint
5 gal kit = Add full unit of Smith's Royal Tint

Up to 10% by volume of Smith's ISC to Smith's Poly-SB
1.5 gal kit = Add 1 unit of Smith's ISC Color Packs
5 gal kit = Add 5 units of Smith's ISC Color Packs

Tinting (Faux Stain): To rejuvenate stamped concrete with a mottled stain like appearance, add 1% by volume of Smith's Royal Tint to Smith's Poly-SB/G and spray apply with no back-rolling.

APPLICATION: Smith's Poly-SB may be applied via brush, pump sprayer or roller. Application rate must be kept above 200 square feet per gallon to avoid bubbles created from off gassing (resulting from thicker application).

NOTE: *DO NOT APPLY material if humidity is over 90% and ventilation is poor. Improper cure will result.*

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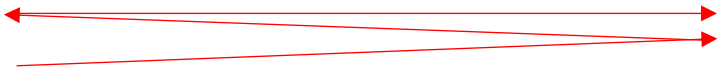
***Roller Application*:** Use a 3/4 inch (heavy texture) or 3/8 inch (minimal texture surfaces such as broom finishes) non-shed roller cover. Smith's Poly-SB can be roller applied onto Smith's Color Floor or Smith's Color Accents via the dip & roll method out of a paint tray. *DO NOT OVER-APPLY or PUDDLE Smith's Poly-SB as whitening and/or bubbles may occur.*

Best practice is to pour the mixed contents into a tall paint tray, such as a Wooster® Wide Boy™ 5 gallon paint tray then dip the paint roller into the mixture coat the roller head then roll off any excess into the paint tray avoiding liquid build-up on the sides of the roller caps and/or the frame. Then roll out evenly onto the surface in a V-shaped pattern working across the area while overlaying one side of the roller to connect and evenly place the Poly-SB ensuring a uniform film thickness.



Finish by extending the roller out to the furthest point of this area and pull back across the surface with light pressure in a straight line to remove roller marks overlapping each pass by 1/2" continuing across the entire section.

Occasionally use the roller cover to remix the filler into the liquid in the paint tray, ideally every 20 minutes, especially with Smith's Poly-SB/LS. Continue until the entire area desired is sealed.

If the appearance is less than unsatisfactory, repeat the finish roll process again until a satisfactory appearance is achieved.

***Brush Application*:** Utilize traditional bristle paint brush application for corners, edges, control joints and other hard to reach places.

***Recoating*:** Smith's Poly-SB may be recoated as soon as the film is tack-free and dry to the touch. When recoating existing Poly-SB, thoroughly clean with a mild detergent such as *Smith's Neutral Detergent*, Dawn® dish detergent or similar then pressure wash to rinse ensure no soap suds remain on the surface then allow to dry. Heavy soils or fungus build-up may require the use of Trisodium Phosphate with water and scrubbing with a soft bristle nylon brush head on a low speed floor machine (<300 RPM) followed by a thorough pressure wash rinse using a zero degree rotating nozzle.

COVERAGE: Smith's Poly-SB/G Gloss may be applied between 200 to 300 sq.ft. per gallon (2.5 to 5 mils WFT only) per coat, with 2 coats recommended for optimal aesthetics and performance.

Smith's Poly-SB/LS Low Sheen *must* be applied thin as the final wear surface and *requires* a primer layer of Smith's Poly-SB/G Gloss. When applying Smith's Poly-SB/LS Low Sheen, *DO NOT APPLY thicker than 300 to 400 sq.ft. per mixed gallon in a single layer to avoid fogging or a blotchy appearance in the film.*

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. The contractor & end user are responsibility to determine the appropriate traction needs & 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.

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 3 days before neutral cleaner. 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.

- 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.

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.

***Caution*:** Do not drag or drop heavy objects across any sealers as scratching, gouging or chipping may occur to the concrete or the sealer. This includes chairs and furniture metal feet, hard castors, tools and equipment, etc.

Avoid spinning tires on a decorative concrete surface as the heat created from the friction of a spinning tire will quickly soften the sealer causing permanent damage.

Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid stains 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 motorcycle, aviation, snow & high performance car tires. Plasticizer will stain coating & commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where tires are stationary for a longer period of time, more so in non-climate controlled environments with lighter colors. Some tire stains can be removed if cleaned before a set-in stain occurs using a d-Limonene based degreaser & some mild agitation using an orbital, low speed floor machine or try a Mr. Clean® Magic Eraser for small areas.

LIMITED LIABILITY: Liability 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. 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 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.

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