

# Smith's

POLYURETHANE

# Poly-FLEX

100% Solids

## Product Data Sheet

POLYFLEX-PDS-122922

**2-COMPONENT, MOISTURE TOLERANT, 100% SOLIDS, LOW ODOR, SEMI-RIGID POLYURETHANE**

**DESCRIPTION:** Smith's Poly-FLEX is a 2-Component, Moisture Tolerant, Semi-Rigid 100% Solids Polyurethane Flowable Resurfacing Compound with good elongation characteristics to aid in suppressing minor cracks from telegraphing through yet rigid enough for traditional applications. Walkable in roughly 4 hours to accept subsequent layers/systems. Applies from a minimum of 30 mils up to 5 inches neat. Accepts Vinyl Chip broadcasts directly into the wet film.

Once cured, Smith's Poly-FLEX is freeze/thaw stable & moisture tolerant, allowing for use as a base for interior & exterior resinous or cement overlays (with a sand broadcast into Smith's Poly-FLEX surface). Also suitable over radiant floor heating systems.

### RECOMMENDED USES:

- Base for Quartz, CPR Cementitious Polyurethane, Vinyl Chip, Epoxy SLS100 Slurry, Epoxy HD-100 Mortar, 4in1 Overlay, Metallic & Luster systems and more
- Bonds to:
  - Ceramic, Porcelain, Stone & Quarry Tiles
  - Coatings (Cementitious Urethane, Epoxy, MMA, Polyaspartic, Polyurethane)
  - Concrete & Polymer Modified Overlays
  - Metal Floors (Stainless Steel, Iron, Steel, Copper, Treated Aluminum\*)
  - Terrazzo
  - Wood Subfloors (underlayment grade plywood or OSB)

### HIGHLIGHTS:

- Self-Leveling
- High Solids Content - Contains no Solvents nor Water
- Chemical Resistant
- Flexible yet High Strength
  - Reduces Shear Stress at bond line
  - Stronger than typical epoxy mortar systems
  - Suppresses Minor Cracks from Telegraphing to surface
  - Resists Aging & Elasticity Fatigue
- Tenacious Bond to a variety of substrates
- Low Odor & Zero VOC's
- Suitable for use over In-floor Radiant Heat systems
- Apply subsequent layers within in 4 hours (72°F & 50% Humidity)
- Withstands up to 15 lbs. (per ASTM F1869) & up to 90% In-situ Relative Humidity (per ASTM F2170)
- Accepts Heavy Forklift Traffic after overnight cure
- Performs well in areas of regular water exposure & submersion

### STORAGE:

Indoors between 50°F (10°C) to 85°F (29.4°C)

### SUBSTRATE INSTALLATION TEMPERATURE:

50°F (10°C) to 90°F (32°C) with less than 90% Ambient Humidity  
 \*Substrate temperatures between 32°F to 50°F will significantly extend the cure time

### SHELF LIFE:

1 Year in original, unopened containers. Once open, 30 days

### AVAILABLE KIT SIZES:

SDS-PolyFLEX-320KIT 2.5 Gallon kit

### COLORS:

Natural Beige - \*For Solid Colors - Use Smith's ISC Color Packs

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

\*Cure time is effected by temperature & humidity.

Pot-Life	20 minutes
Working Time (Self-Healing)	17 to 25 minutes
Gel Time	40 minutes
Tack Free	2 to 2 ½ hours
Recoat Window	4 to 24 hours
Foot Traffic	8 to 10 hours
Heavy Traffic (Full / Wheeled Traffic)	18 to 24 hours
Full Chemical Resistance	7 days

### CURED COATING PROPERTIES (DRY FILM):

Property	Test Method	Results
Compressive Strength, psi (MPa)	ASTM C109M	14,010 psi (96.6 MPa)
Shear Stress, psi (MPa)	ASTM D790	680 psi (4.68 MPa)
Elongation at break (cured for 7 days at 72°F)	ASTM D732	30%
Conical Mandrel – Resistance to Cracking	ASTM D522	Pass
Hardness – Shore D	ASTM D2240	66 (±5) neat
Tear Resistance, pound-force foot (Torque)	ASTM D1004	20,651 lbf. ft. (28 kN m)
Flammability	ASTM E648	Class 1 (Self Extinguishing)
Adhesion to Concrete - Pull Strength, psi (MPa)	ASTM D4541	Concrete Failure
Adhesion to Steel - Pull Strength, psi (MPa)	ASTM D4541	2,320 psi (16.0 MPa)
Viscosity – Mixed	ASTM 2196	5,740 cP
Volatile Organic Compounds (VOC'S)	ASTM D3960	Zero (0) g/L
Volume Solids (Mixed)	ASTM D2196	100%
Mix Ratio by Volume		5A to 1B

### APPROXIMATE COVERAGE (DRY FILM):

Coverage will vary depending on the application thickness, floor profile & absorbency of the substrate.

Coverage Equation:  $1604 \div \text{milage} = \text{Dry Film Thickness} \times 2.5$  (for full kit yield)

Thickness	Approximate Yield per Gallon	Approximate Yield per Full Kit
30 mils (1/32")	53 ft <sup>2</sup> (4.92 m <sup>2</sup> )	132 ft <sup>2</sup> (12.26 m <sup>2</sup> )
40 mils	40 ft <sup>2</sup> (3.72 m <sup>2</sup> )	100 ft <sup>2</sup> (9.29 m <sup>2</sup> )
50 mils	32 ft <sup>2</sup> (2.97 m <sup>2</sup> )	80 ft <sup>2</sup> (7.43 m <sup>2</sup> )
60 mils (1/16")	26 ft <sup>2</sup> (2.42 m <sup>2</sup> )	66 ft <sup>2</sup> (6.13 m <sup>2</sup> )
90 mils	17 ft <sup>2</sup> (1.58 m <sup>2</sup> )	44.5 ft <sup>2</sup> (4.13 m <sup>2</sup> )
125 mils (1/8")	12.5 ft <sup>2</sup> (1.16 m <sup>2</sup> )	32 ft <sup>2</sup> (2.97 m <sup>2</sup> )
175 mils (3/16")	9 ft <sup>2</sup> (0.84 m <sup>2</sup> )	22.5 ft <sup>2</sup> (2.09 m <sup>2</sup> )
250 mils (1/4")	6 ft <sup>2</sup> (0.56 m <sup>2</sup> )	16 ft <sup>2</sup> (1.49 m <sup>2</sup> )
425 mils (3/8")	3.75 ft <sup>2</sup> (0.35m <sup>2</sup> )	9.4 ft <sup>2</sup> (0.87 m <sup>2</sup> )
500 mils (1/2")	3.2 ft <sup>2</sup> (0.29 m <sup>2</sup> )	8 ft <sup>2</sup> (0.74 m <sup>2</sup> )



# Smith's

## POLYURETHANE

# Poly-FLEX

100% Solids

# Product Data Sheet

POLYFLEX-PDS-122922

**2-COMPONENT, MOISTURE TOLERANT, 100% SOLIDS, LOW ODOR, SEMI-RIGID POLYURETHANE**

### Typical Chemical & Stain Resistance

Covered Spot Test - 250 mil film at 7 day cure:

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

NR - Not Recommended (Permanent Damage)

#### ACIDS 24-hour Exposure

Acetic Acid 25% (Vinegar)	G
Citric Acid 10%	G
Lactic Acid (Milk)	G
Phosphoric Acid 85%	G
Sulfuric Acid 25% (Battery Acid)	NR
Sulfuric Acid 98%	NR
Hydrochloric Acid 32% (Muriatic)	G
Nitric Acid 50%	NR

#### BASES

Ammonium Hydroxide 10%	E
Sodium Chloride 20%	E
Sodium Hydroxide 50%	G
Sodium Hypochlorite (Bleach)	G
Trisodium Phosphate 10%	E

#### ALCOHOLS

Ethylene Glycol (Antifreeze)	E
Hand Sanitizer	E
Isopropyl Alcohol 91%	E
Methanol	G

#### SOLVENTS

Acetone	G
d-Limonene	G
MEK	G
Methylene Chloride	E
Mineral Spirits	E
PGMEA	G

#### HYDROCARBONS

Brake Fluid	NR
Transmission Fluid	G
Motor Oil	E
Gasoline	E
Kerosene	E
Hydraulic Fluid	E
Skydrol® - LD-4	NR

#### MISCELLANEOUS

Coffee	E
Coke®	E
Dish Detergent (Dawn®)	E
Ketchup	G
Monster Energy® Drink	G
Mustard	G
Tide® 1%	E
Windex® (Ammonia Based)	E
Wine - Red	G

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. Dawn® & Tide® are registered trademarks of Proctor & Gamble. Windex® is a registered trademark of S.C. Johnson & Son, Inc.

### LIMITATIONS:

- When applying Smith's Poly-FLEX in multiple layers, always allow to hard cure & sand previous layers to achieve optimal mechanical adhesion
- Avoid exposing freshly applied Smith's Poly-FLEX to air movement, direct sunlight, freezing, water & direct sources of heat (i.e. radiant in-floor heat)
- For exterior, water submersion, industrial & wheeled traffic/fork lift traffic conditions, a minimum of an ICRI CSP 3 profile is required for mechanical preparation
  - NOT U.V. Stable - Exposure to U.V. light will dull or chalk over time
- Apply a minimum 1/16" average depth over wooden substrates
  - Wood substrates must yield the correct deflection criteria of L / 360 per ASTM C 627 (i.e. Deflection from 300 lbs. concentrated load standard test method)
- DO NOT INSTALL when the Dew Point is within ±5° of the air temperature

**TEMPERATURE & HUMIDITY:** Substrate temperature, air & materials must be maintained between 50°F (10°C) to 90°F (32°C) with less than 90% Ambient Humidity during application.

**INSPECT THE SUBSTRATE:** Ensure substrate is sound/solid, free of any contaminants that may act as a bond breaker, such as oil/grease, loose paint, wax, silicone, weld scale, etc.

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

Smith's Poly-FLEX can suppress up to 90% Relative Humidity & 15 lbs. Moisture Vapor Transmission. Use [Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#) with moisture readings up to 100% RH & 25 lbs. with up to 14 pH but not greater, to reduce the moisture vapor emission rate to a level within the tolerance of subsequent coatings & 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 & conclusive.

Smith Paint Products is strictly a product manufacturer & 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.

**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 & a proper course of remediation. Contact Smith Paint Products for remedial recommendations while following local regulations regarding contaminant & disposal.

**OIL CONTAMINATION:** Use [Smith's Oil Clean](#) to remove oils, (i.e. petroleum, synthetic & food oils) from the surface of the concrete prior to mechanical preparation. Once oil & grease have been removed from the surface & thoroughly rinsed with clean, potable water, mechanically prepare the concrete as stated on the next page. If oil continues to "weep" out of the concrete after mechanical preparation, clean again with [Smith's Oil Clean](#) then encapsulate the oil/grease residue in the concrete while the substrate remains damp with water but ensure no standing water puddles exist prior to application of 10 to 12 mils of [Smith's Epoxy MAC125](#) primer. Allow Epoxy MAC125 to cure for a minimum of 5 hours or overnight then use a sanding screen under green pad with a low-speed floor machine to abrade the surface & remove any contaminants that may have floated to the surface of the epoxy before it hard set. Vacuum off the sanding dust then tag rag with Acetone (DO NOT USE Denatured Alcohol or Xylene for this application)

### NECESSARY TOOLS & EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Paint mixing paddle attached to a 1/2" drill (Variable Speed ≤450 rpm)
- Gauging tool:
  - 1/8" X 1/8" V-Notch Squeegee for 30 mil average
  - 1/4" X 1/4" V-Notch Squeegee for 60 mil average
  - Sled Style or CAM Gauge Rake with extension pole (greater than 60 mils)
- Magic Trowel, Flat Squeegee or Flex Steel Blade Smoother
- Premium, Non-Shed 3/4" Nap Paint Roller Covers
- Paint Roller Frame with Extension Pole
- Spiked Porcupine Roller with Extension Pole
- Spiked shoes or Cleats
- Masking Tape
- Measuring Cups (For Part Mixing Applications)
- Cleaning Solvent (Acetone, MEK, or Xylene)



Mixing Paddles



Smith Paint Products® • 2200 Paxton Street • Harrisburg, PA 17111 • 800-466-8781 • [www.smithpaints.com](http://www.smithpaints.com)

# Smith's

POLYURETHANE

# Poly-FLEX

100% Solids

## Product Data Sheet

POLYFLEX-PDS-122922

**2-COMPONENT, MOISTURE TOLERANT, 100% SOLIDS, LOW ODOR, SEMI-RIGID POLYURETHANE**

### SUBSTRATE PREPARATION

**NOTE:** During application in environments using temporary heat, make sure to exhaust emissions and toxic fumes from temporary heaters to the exterior of the building to prevent health hazards and damage to work. Many temporary heating methods emit unburned petroleum into the air which act as a bond breaker once it falls onto the surface of the substrate

- Precautions must be taken when using LP, gasoline, diesel, etc. fueled temporary heat
- Always shut off temporary heat at least 2 to 3 hours prior to application of Smith's Poly-FLEX to reduce risk of airborne petroleum contamination
- Always clean the mechanically prepared surface with [Smith's Oil Clean](#) or TSP using an auto-scrubber followed by a thorough clean water rinse when temporary heat has been in use
- Fisheyes are a result of surface contamination

**MECHANICAL PROFILE:** Achieve a CSP 3 to 6 (Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute) yielding a surface texture similar to 80 grit sand paper or more course in order to maintain long term adhesion to the substrate.

**NOTE:** Should verification of proper adhesion be desired or when applying Smith's Poly-FLEX over an existing coating, follow ASTM D 4541 using an Elcometer to determine a direct tensile pull-off strength greater than 250 psi (1.7 MPa) to pass the test. It is highly recommended that a 10 foot by 10 foot test area be applied of the entire desired floor system to perform an in-situ direct tensile bond test to determine adhesion strength values.

Recommended mechanical preparation methods for concrete:

- **Diamond Grind** – Use 16 to 25 grit metal bond diamonds or Roller Bush Hammer heads (on concrete substrates only) with an appropriate industrial, weighted head planetary floor grinder to thoroughly profile and remove the substrates surface until uniformly dull. Ideal preparation method for application of Smith's Poly-FLEX over solid, well-bonded existing coatings or ceramic tile systems over concrete if the final layer is intended to be a high solids floor coating system. Smith's Poly-FLEX is NOT recommended over tile over wooden substrates
- **Steel Shot Blast** (Shot size S-230 to S-330 grit recommended) – Uniformly profile and clean concrete substrates overlapping each pass until white, clean concrete exists. Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust. Avoid stationary blasting as micro-cracking the concrete surface may potentially causing future coating delamination
- **Scarify** – Sweep to remove large debris and vacuum to remove fine dust. Scarify to uniformly remove the concrete surface until white. Thoroughly vacuum all dust and debris. Ideal preparation method for weak concrete surfaces, previously coated floors, adhesive residues or thick build applications greater than 1/2" average thickness
- **\*Silica Contaminate Removal** – [Smith's Green Clean Pro](#) buffered acidic etching compound may be used ONLY as follows:
  - o Remediation method for removing densifiers/silicates AFTER one of the above-mentioned mechanical preparation methods

#### NOTE:

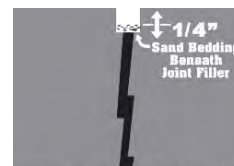
- DO NOT USE MURIATIC/HYDROCHLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION MAY OCCUR
- When etching, ensure all Green Clean Pro has been thoroughly removed with potable water with no remaining soapy residue or cement slurry
- DO NOT USE on "Green" concrete (less than 30 days old), Hard Trowel 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** - Honor expansion joints at the finish floor elevation. Follow ACI 224.3R-95: Joints in Concrete Construction guidelines for proper filling of construction & control joints. ACI recommends allowing a concrete slab to cure for a minimum of 60 to 90 days or longer to allowing the slab to shrink & acclimate to the intended joint width thus reducing the risk of joint wall separation from the joint filler. Cooler climate applications such as freezer & coolers must be brought up to & 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](#) or [Smith's Poly JF/FC](#), ideally longer if possible.

Always route out joints with an appropriate width diamond cutting blade attached to a vacuumized & dust controlled joint saw to flush out debris & freshly clean the side walls of the joint. Ensure that all loose edges & broken pieces of the concrete are removed & repaired prior to filling the joint with [Smith's Poly JF](#) or [Smith's Poly JF/FC](#). Should joint side walls require extensive repairs, cut out the bad section of concrete back to a sound, solid area then fill with an



**Control Joint**

appropriate mortar for the depth and application.

To support the joint filler and assist in sag



**Construction Joint**

reduction, fill the bottom of the joint with a bond breaker. Sand is recommended, especially for use in shallow joints less than 2" depth. Only use backer rod if the joint filler is to be applied greater than 2" above the backer rod.

**CRACKS, CHIPS & GOUGES:** Repair minor surface defects with [Smith's Epoxy GEL150](#) / [Smith's Epoxy GEL150/FC](#), [Smith's Epoxy U100](#) / [Smith's Epoxy FC125](#) mixed with Silica Fume; [Smith's Poly PCF-45](#), [Smith's SKM](#) or similar. Ensure patch is hard enough to walk on without imprinting or damage before proceeding.

**REPAIRING CRACKS, CHIPS & GOUGES:** Resinous repair products are preferred to correct surface, including but not limited to:

- [Smith's SKM](#)
- [Smith's Epoxy GEL 150](#)
- [Smith's Epoxy GEL150/FC](#)
- [Smith's Epoxy U100](#) mixed with Fumed Silica
- [Smith's Epoxy FC125](#) mixed with Fumed Silica
- [Smith's Poly PCF-45](#)



Ensure patch is hard enough to walk on without the risk of damage before proceeding with subsequent sanding & coatings.

Resinous repair methods are preferred. Should a cementitious repair compound be used for repairs, it *must* be:

- non-water soluble; >5,000 psi; rated for exterior use
- Recommended as a direct traffic bearing surface / topping / overlay
- rated for exterior use
- cement product data sheet states "for use under a resinous coating" or similar
- ≤4% quantitative moisture content prior to installation of resinous floor coating

Full depth concrete repairs (without a layer of existing, cured concrete to adhere) must be pre-filled with either a Type K Concrete or a shrinkage compensated high strength mortar allowing at least 24 hours prior to quantitative moisture content testing to determine if less than 4% MC has been achieved prior to applying Smith's Poly-FLEX.



Smith Paint Products® • 2200 Paxton Street • Harrisburg, PA 17111 • 800-466-8781 • www.smithpaints.com

# Smith's

## POLYURETHANE

# Poly-FLEX

100% Solids

## Product Data Sheet

POLYFLEX-PDS-122922

2-COMPONENT, MOISTURE TOLERANT, 100% SOLIDS, LOW ODOR, SEMI-RIGID POLYURETHANE

**Sanding & Priming Wooden Substrates** – Wooden substrates must meet the correct deflection criteria of L / 360 per ASTM C 627 (i.e. Deflection from 300 lbs. concentrated load standard test method).

Abrade approved wooden substrates, either new or existing, using an appropriate wood floor sander to clean as well as remove existing sealers, paints, wax, etc. until the wood surface is thoroughly clean and absorbent. Vacuum the entire surface, paying particular attention to voids, knots, and seams between boards to remove all sanding dust and debris. Skim coat the joint seams as well as any holes using [Smith's Epoxy GEL150FC](#), [Smith's SKM](#) or [Smith's Poly JFFC](#) to seal off voids than could potentially allow liquid to flow through during the application. Once the seams and holes are filled and hard, sand all patching relatively flush to the surrounding surface, vacuum the entire floor thoroughly then wipe the substrate with a clean microfiber mop to loosen any remaining dust then prime the wood substrate with:

- [Smith's Epoxy FW38](#) – Cures in a few hours at 72°F
- [Smith's Epoxy U100](#) with a full sand broadcast – Cures in 4 to 5 hours at 72°F
- [Smith's Epoxy FC125](#) with a full sand broadcast – Cures in 2 ½ to 3 hours at 72°F

**\*DO NOT INSTALL Smith's Poly-FLEX over oil contaminated, dry-rotten, insect damaged or unsound substrates**

Smith's Poly-FLEX is recommended as a base coat over wooden substrates at ≥50 mils neat prior to a resinous floor coating system to minimize wood seam cracks telegraphing to the finish surface. For cementitious overlays, broadcast clean quartz into the fresh surface of Poly-FLEX to ensure a decent anchor for the overlay.

### **Existing Ceramic / Porcelain Tile or Methyl Methacrylate floor coatings**

– Ensure the existing ceramic / porcelain tile or MMA floor coating system is sound, solid and well bonded to its substrate with no hollow areas, broken sections or delamination present, otherwise, complete removal of the failing floor will need to be removed. After determining suitability, heavily clean the floor to remove all soils from the surface that may act as a bond breaker to include dirt, oils, grease, etc. followed by an adhesion tape test to ensure nothing remains on the surface prior to application. Diamond grinding may be necessary to ensure proper adhesion to the existing tile or MMA substrate, especially if the floor is heavily worn, stained and/or soiled (\*See "Diamond Grind" under "Mechanical Profile" section on page 3).

When in doubt, diamond grind with metal bond diamonds to remove all shiny surfaces, stains, etc. to a uniformly dull, clean surface with a mild scratch pattern then thoroughly vacuum to remove dust and debris, clean heavily with a neutral pH floor detergent followed by a clean, potable water rinse until no soap suds remain and allow to dry overnight if possible. Should oil remain present, such as in ceramic tile grout joints after mechanical preparation, remove the tile in that section down to clean, bare concrete.

Once the substrate is thoroughly clean / prepared, apply enough of Smith's Poly-FLEX to cover the high areas of the floor (at least 30 mils above the highest points of the floor) to yield a smooth, uniform surface. Existing tile floors (due to the crown of the tile, depth / width of grout joints, tile corners checking, etc.) or textured surfaces such as MMA Vinyl Chip systems may require deeper average application thickness to fully cover the topography of the existing floor.

**PRIMER:** Priming may be necessary if the substrate is very porous (readily absorbs water within 60 seconds) or the coating system will be exposed to environments with high static rolling loads (such as hospitals, forklift traffic, automotive service areas, aircraft hangars, etc.), underwater submersion, thermal shock, heavy impact as well as inherently weak and/or brittle substrates (i.e. lightweight concrete, tile mud beds, etc.). After mechanically preparing the substrate, prime the concrete with:

- [Smith's Epoxy FW38](#) – Cures in a few hours at 72°F
- [Smith's Epoxy U100](#) with a full sand broadcast – Cures in 4 to 5 hours at 72°F
- [Smith's Epoxy FC125](#) with a full sand broadcast – Cures in 2 ½ to 3 hours at 72°F

### **Oil Stop priming over concrete:**

- Remove oil with [Smith's Oil Clean](#) then mechanically prepare the substrate to a CSP 4 to 6 prior to installing the 2 coat priming process for [Smith's Epoxy MAC125](#) with a full Quartz broadcast in the second primer coat – Cure time between coats is 2 to 3 hours at 72°F (Click hyperlinks for more detailed instructions)

### **Highly absorbent substrates should be double primed using:**

- [Smith's Epoxy FW38](#) – Cures in a few hours at 72°F

**MIXING:** Only mix enough Smith's Poly-FLEX that can be placed and finished in roughly 15 minutes to allow for an appropriate flow time on the floor. Keep a wet edge between batches. Warmer temperatures and high humidity will reduce working time. Do NOT add solvent.

### **Mixing Paddles**



**Full Kit Mixing** – Premix the Part A using a low-speed drill (≤450 RPM) with an appropriate paint mixing paddle attached then pour the contents of Part B into the Part A container while continuing to mix for 3 minutes ensuring no unmixed Part A remains at the bottle or sides of the pail.

**Tinting Full Kits** – If a color other than natural beige is desired, add 1 unit of [Smith's ISC Industrial Solid Color Packs](#) to an entire kit of Smith's Poly-FLEX while mixing Parts A and B.

**Always box color packs prior to beginning installation.**



### **Parts by Volume Mixing Ratio**

5 Parts A to 1 Part B

When volume mixing, pour out the appropriate volume of each component into separate paint measuring cups to ensure a proper volume mix ratio then, in a separate mixing vessel, pour in each measured component then mix for 2 to 3 minutes using a paint mixing paddle attached to a low-speed drill (≤450 RPM) ensuring that the sides & bottom of the mixing vessel have been thoroughly mixed as well as the center of the container.

**Optional Color Packs** - Add 4% to 8% by volume depending on color of [Smith's ISC Industrial Solid Colorant](#) to Smith's Poly-FLEX.

**APPLICATION:** Once mixed, immediately pour out in a straight bead onto the area to be resurfaced. Spread with an appropriate gauge/squeegee to meter the depth at the desired thickness and evenly cover the area. Pour out a ribbon of freshly mixed Smith's Poly-FLEX into the edge of the previously spread mix & continue spread while walking in the mixture with spiked/cleated shoes. Break the surface tension & bubbles using a Magic Trowel attached to an extension pole immediately following the gauging step. Once the surface tension is relieved, lightly roll the porcupine roller around the surface to break any trapped air bubbles.

Ideally, the mixing, delivery & pouring of mixed Smith's Poly-FLEX, gauging, smoothly and porcupine roller steps should each have a single, dedicated person performing these activities. More laborers are required for larger projects with multiple batches being mixed concurrently.

**NOTE:** Do NOT Mix more Smith's Poly-FLEX than can be mixed, placed, finished, tied into with the next batch within a 15-minute window at 72°F / 50% Humidity. Higher temperatures will reduce working time & pot-life.



Smith Paint Products® • 2200 Paxton Street • Harrisburg, PA 17111 • 800-466-8781 • www.smithpaints.com

# Smith's

## Product Data Sheet

POLYURETHANE

POLYFLEX-PDS-122922

# Poly-FLEX

2-COMPONENT, MOISTURE TOLERANT, 100% SOLIDS, LOW ODOR, SEMI-RIGID POLYURETHANE

**CLEAN-UP:** Cleaning of wet tools, either mixed/uncured or unmixed, Smith's Poly-FLEX may be cleaned up using a solvent such as Acetone, MEK or Xylene. Once hard set, Smith's Poly-FLEX will need to be removed mechanically from floors via grinding or razor shaving. Cured product on tools would require scraping or possibly the use of a soldering torch (MAP gas) to overheat the material for easier scraping from metal tools.



**FINAL LAYERS or TOPCOATS:** Once Smith's Poly-FLEX is cured hard enough to accept foot traffic without imprinting or damaging the surface, subsequent layers may proceed.

Smith Paint Products offers a variety of systems and topcoats depending on the desired finish, chemical exposure, etc. Please contact Smith Paints toll free or visit [www.smithpaints.com](http://www.smithpaints.com) for topcoat options.

**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.

**MAINTENANCE:** *Smith's Poly-FLEX is not intended to be directly exposed to traffic without additional layers or a topcoat. \*Maintenance guidelines apply to the final wear surface, not to Smith's Poly-FLEX. See product data sheet for the exposed wear surface.*

**LIMITED LIABILITY:** 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 reduced to writing.

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 along with the invoice that matches said quantity.

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. DO NOT PURCHASE AND USE THIS PRODUCT IF YOU HAVE NOT AGREED TO THE ABOVE TERMS.



Smith Paint Products® • 2200 Paxton Street • Harrisburg, PA 17111 • 800-466-8781 • [www.smithpaints.com](http://www.smithpaints.com)