



# Product Data Sheet & Application Guide

PCF45-PDS-032620



## FAST-SETTING, 2-COMPONENT SOLVENT-BASED POLYURETHANE PATCH & CRACK FILLER

**DESCRIPTION:** Smith's Poly PCF-45 Patch & Crack Filler is a low viscosity, fast-setting 2-component Polyurethane ideally suited for saturating horizontal cracks (non-moving) and to fill spalls/pop-outs, holes, gouges and other surface imperfections in concrete. Convenient 1:1 mix ratio allows for easy mixing and pouring either neat into fine cracks and smaller voids or over sand in larger voids. No primer is necessary. Diamond grind once hard cured.

Smith's Poly PCF-45 may also be used as a pit grout in concrete polishing process where UV stability is not a concern.

Accepts heavy traffic within an hour (72°F & 50% Ambient Humidity).

### RECOMMENDED USES:

- Bonds to Concrete
- Fills Cracks (static, non-moving), Spalls, Pop-outs & Voids
- Freezer & Chiller floor repairs
- Above, On or Below Grade Applications
- Suspended Deck Repairs (i.e. Parking Decks, Bridge, Catwalks, etc.)
- Rebuilding Control Joint walls
- For Interior & Exterior applications
- May be used for repairs & patching prior to Smith's Epoxy MAC100 or Epoxy MAC125 (surface must be diamond ground prior to applying Smith's MAC products over Smith's Poly PCF-45)

### HIGHLIGHTS:

- Apply from Feather Edge to any depth (with aggregate extension)
- Chemical Resistant
- Tenacious Bond to properly prepared concrete
- Good Impact Resistance & Load Transfer
- Fast Return to Service
  - Pot Life = 4 minutes @ 72°F / 50% Humidity
  - Grind or Wheeled Traffic = When Fully Hard
  - Cures Quickly
  - Accepts subsequent layer once diamond ground smooth
- Pour Grade
- Suppresses Minor Cracks from Telegraphing
- Resists Aging & Fatigue
- Suitable for use over In-floor Radiant Heat systems
- Low Viscosity – Penetrates Hairline Cracks as well as dry sand or pea stone for deep repairs
- No Priming Necessary
- No red label required for shipping
- Compliant with South Coast AQMD [Rule 1168](#) – Sealants – All Other Sealants

### AVAILABLE KIT SIZES:

- 1 Quart kit                   SCS-PCF45-32kit
- 1 Gallon kit                   SCS-PCF45-128kit

### COLORS:

Light Beige; Accepts Smith's ISC colorant at 5% by volume

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

\*Cure time is effected by temperature & humidity. Cooler temperatures will extend the cure rate, High temperatures & Humidity will accelerant the cure rate.

Pot Life	4 minutes
Tack Free	25 to 30 minutes
Diamond Grind (Dry)	Once Cured Hard
Recoat	Once Diamond Ground
Heavy Traffic	60 minutes
Full Chemical Resistance	2 to 3 days

### CURED COATING PROPERTIES (DRY FILM):

Property	Test Method	Results
Adhesion to Concrete	ASTM D4541	650 psi (Concrete Fails)
Elongation	ASTM D638	6 %
Hardness (Shore D)	ASTM D2240	64D
Viscosity – Mixed	ASTM D2196	10 cP
Volume Solids (Mixed)	ASTM D2196	53.9%
Mix Ratio - Volume		1:1
V.O.C.'s (Mixed)	ASTM D3960	414 g/L

### APPROXIMATE COVERAGE (1 mixed gallon):

- **Deep Fill Patching** – When poured over Wedron sand or similar size Quartz sand (ideally 30-100 mesh blend) yields approximately 1 ½ to 2 sq.ft. per lbs. at ¼' average
- **Crack Filling** – coverage varies depending on size of the void/crack being filled as well as overfilling waste
- **Pit Grout for Polished Concrete** – coverage varies depending on the porosity and size of the pits. In most cases, 1 gallon should be able to cover between 600 – 2,000 sq.ft. when applied with a finish trowel or a stand up metal blade steel trowel

### STORAGE:

Indoors between 50°F – 85°F

\*If frozen solid, place sealed container in a warm water bath to thaw or allow to thaw at room temperature

### SHELF LIFE:

- Original, unopened containers = 2 years
- Once Opened = 1 month

### INSTALLATION TEMPERATURE RANGE:

45°F (7.2°C) to 120°F (49°C) with 20% to 90% Ambient Humidity





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**POLY**  
**PCF45**  
Fast Cure, 2-Component Polyurethane  
Patch • Crack Filler • Grout

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### FAST-SETTING, 2-COMPONENT SOLVENT-BASED POLYURETHANE PATCH & CRACK FILLER

#### LIMITATIONS:

- **NOT UV Stable**
  - Finish will yellow and may chalk over time with Ultra Violet Light exposure
- **RECUT TO HONOR MOVING JOINTS**
  - After repairing/rebuilding joint walls, recut the joint to the appropriate width & depth then fill the joint with an appropriate joint filler for the type of joint
- **DEEP REPAIRS WILL REQUIRE SAND OR STONE AGGREGATE EXTENSION**
  - Must extend with a clean, dry aggregate for anything wider and/or deeper than 1/16"

#### NECESSARY TOOLS & EQUIPMENT:

- PPE (i.e. gloves, safety glasses, respirators) recommended while handling
- Paint mixing stick
- Measuring vessels (for equal volume measurement)
- Hard plastic mixing vessel
- Dry Sand for bottom of open cracks and deeper patching
- Joint Saw or angle grinder to chase cracks
- Vacuum Shroud Edge Grinder with segmented diamond cup wheel to grind flush to surrounding surface elevations
- Vacuum
- Cleaning Solvent (Acetone, MEK, or Xylene)

#### PRECAUTIONS / WARNINGS:

*Contains Solvent - Material is combustible.*

- Extinguish all flames, pilot lights & electric motors until all vapors are gone & the coating is hard
- Keep away from sparks, heat & open flame
- Use with adequate ventilation when mixing, applying & curing
- Contains Isocyanate - DO NOT SPRAY APPLY this product

#### CAUTION:

- Avoid dragging or dropping heavy objects across any floor, including coatings as scratching, gouging or chipping may occur to the concrete or the coating itself. Includes the tip of the forks on a forklift, nails protruding from a pallets, etc.
- Avoid spinning tires on a floor surface as the heat created from the friction of a spinning tire will quickly soften the sealer causing permanent damage.
- Tire Staining - Rubber tires are prone to plasticizer migration, especially aviation tires and soft compound tires (i.e. Z Rated, Drag Radials, Snow tires, etc.).
  - *Plasticizer stain that can be permanent.* 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.

#### PERSONAL PROTECTION EQUIPMENT RECOMMENDED:

##### \*SEE SDS

- 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

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

**CHECK FOR MOISTURE:** Follow moisture guidelines for the finished product(s) or system(s) which are to be applied over Smith's Poly PCF-45. When applying a moisture sensitive finish over Smith's Poly PCF-45, test concrete for moisture vapor transmission via both the Calcium Chloride (ASTM F1869) and In-situ Relative Humidity (ASTM F2170) methods.

Smith's Poly PCF-45 may be used for crack filler and patching of voids prior to priming with [Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#) for moisture vapor emission remediation applications.

*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.*

**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.

**SUBSTRATE PREPARATION:** *Carefully read and understand the following directions before beginning project as these directions are general guidelines only and are NOT meant to cover every application or environment. Should any remaining questions or concerns existing after thoroughly reviewing these instructions, please call Smith's for technical assistance at 1-800-466-8781.*

*ACI recommends a new concrete slabs to cure for a minimum of 60 to 90 days or longer at 70°F to allow the slab to shrink. Filling of cracks in a new concrete pour prior to the ACI recommended cure time may cause new cracks to develop.*

*Mechanical preparation method varies depending on application & purpose.*

**Cracks** - Saw cut to clean of any loose debris, dust or foreign contaminants:



**Patching & Repairs** - Saw cut perimeter, chip out loose debris, Thoroughly vacuum to remove dust/debris, then fill with sand or stone, depending on the depth:



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### POLY PCF45

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**MIXING:** Only mix enough product that can be placed and finished in roughly 4 minutes to allow for an appropriate flow time and penetration. Keep a wet edge between batches. Warmer temperatures and high humidity will reduce working time.

**Volume Mixing:** 1 Parts A : 1 Part B

When volume mixing, pour out the appropriate volume of each component into separate measuring cups to ensure a proper volume mix ratio then, in a separate mixing vessel, pour in each measured component then mix for 15 to 60 seconds using a paint stir stick. If a solid color is desired, add 5% by volume of Smith's ISC Color Packs to Poly PCF-45 Part A.



**APPLICATION:** Once mixed, work quickly to pour out the mixed Smith's Poly PCF-45 slightly overfilling the voids with the intent to diamond grind smooth when hard cured. A finishing trowel or drywall tape knife may be used for patching and skim-coating applications. Dependent upon the depth of cracks, holes and voids, may be filled in 1 or 2 pours with 10 to 20 minutes between lifts.



Deep voids should be filled with dry sand to bulk up the depression and reduce product from leaking through cavities. Should any sink holes occur, reapply Smith's Poly PCF-45 as necessary once the crack filler has hardened for approximately 10 to 20 minutes to allow the first layer to begin to gel and begin to seal off the holes causing the leak.



**FINISHING:** Remove excess via diamond grinding to smooth out the surface flush with the surrounding substrate elevation. The optimal cure time prior to grinding will vary due to the temperature and thickness. As a reference point at 72°F and 50% RH test an area to determine if Smith's Poly PCF-45 is ready for finishing:

**Approximate Cure Time after Placement for Finishing:**

- Dry Diamond Grinding: 15 to 60 minutes
- Wet Diamond Grinding: 60 to 90 minutes



**Large Area & Pit Grout Diamond Grinding flush to surrounding concrete surface elevation**

**Over Filled Crack / Diamond Ground flush to surrounding concrete surface elevation**



**Smith' Poly PCF-45 crack repair, diamond ground flush then primed prior to a resinous coating system**



**Smith' Poly PCF-45 used as a pit grout after finish polishing complete**

**CLEAN-UP:** Tools should be cleaned immediately while still fresh with wet product using a solvent such as Acetone, MEK or Xylene. Once the set, Smith's Poly PCF-45 will need to be removed mechanically from floors via grinding or razor shaving. Cured Smith's Poly PCF-45 on tools would require mechanical scraping or possibly the use of a soldering torch (i.e. MAP gas) to overheat the material for easier scraping from metal tools.

**OPTIONAL – SUBSEQUENT LAYERS:** Once Smith's Poly PCF-45 is ground smooth and flush to surrounding surface elevations, subsequent layers/finishes may occur if desired.

**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.

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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