Smith's

Product Data Sheet

Poly JF/FC
Fast-Cure Semi-Rigid 100% Solids

Fast-Cure, 2-Component Moisture-Cured, Semi-Rigid Polyurethane Joint Filler

PJF-FC-PDS-11022022

DESCRIPTION: Smith's Poly JF/FC is a fast curing Heavy-Duty, Self-Leveling, Moisture Tolerant, 2-component Aromatic Semi-Rigid Polyurethane Joint Filler for use to fill and protect joint edges subject to traffic erosion and spalling under industrial forklift, caster and vehicular traffic as well as heavy loads. This pour grade 2-component Polyurethane Joint Filler yields tenacious adhesion to clean, sound and solid substrates such as Concrete, Epoxy Mortars, Cementitious Urethane Mortars, Polymer Modified Concrete Overlays and a variety of industrial coating systems. Also well suited for crack, spall/gouge and joint repairs up to 5" thick.

Smith's Poly JF/FC may be shaved within 1 hour and can be diamond ground within 3 ½ hours at 72°F / 50% Humidity. Final service temperatures should remain between 40°F (4.4°C) to 200°F (93°C) in order to maintain intended properties.

RECOMMENDED USES:

- Bonds to:
  - Asphalt
  - Ceramic, Porcelain, Stone & Quarry Tiles
  - Coatings (Epoxy, Cementitious Urethane, Polyaspartic, Polyurethane)
  - Concrete & Polymer Modified Overlays
  - Metal (Stainless Steel, Iron, Steel, Copper, Treated Aluminum*)

HIGHLIGHTS:

- Heavy-Duty
  - Chemical Resistant
  - Flexible
  - Tenacious Bond
- Fast
  - Shave in 60 minutes @ 72°F
  - Dry Diamond Grind in 2 ½ to 3 ½ hours @ 72°F
  - Foot Traffic in 4 to 6 hours
  - Exposure to steam cleaning and Forklift traffic within 18 hours
- Compatible with traditional floor covering & resinous coating systems
- High Solids Content – 100% solids
- Low Odor & Low VOC's – Non-Tainting
  - Meets Source Specific Standards Rule 1113 established by AQMD in California
- Pour Grade, Self-Leveling
- Suppresses Minor Cracks from Telegraphing
- Resists Aging & Elasticity Fatigue
- Suitable for use over In-floor Radiant Heat systems
- May be topcoated with thin-film Polyaspartics & Polyurethanes (less than 8 mils) once hard
- No red label required for shipping
- Acceptable for use in USDA/FDA/CFIA regulated facilities
  - Meets FDA Food Code - Physical Facilities 6-101.11 Surface Characteristics. *Not tested for CFR 21 Direct food contact.*
  - Non-Tainting

AVAILABLE KIT SIZES: *(NON-STOCKING PRODUCT – MADE TO ORDER)*

Small kit (40 oz.) – SCS-PolyJF-FC-40 (32 oz Part A / 8 oz Part B)
1.25 Gallon kit – SCS-PolyJF-FC-160 (128 oz Part A / 32 oz Part B)

COLORS: Natural Beige
* *Use Smith's ISC Color Packs at 5% by volume to tint Smith's Poly JF/FC*

POT-LIFE & CURE TIMES:

*Cure time is affected by temperature & humidity	55°F @ 50% Humidity	72°F @ 50% Humidity	85°F @ 50% Humidity
Pot-life	20 to 25 min.	12 to 15 min.	6 to 8 min.
Working Time	25 to 30 min.	15 to 20 min.	8 to 12 min.
Shave / Razor Scrape	120 min. ave.	60 min. ave.	50 min. ave.
Tack-Free	4 to 5 hrs	80 to 90 min.	1 to 1½ hrs
Diamond Grind	8 to 12 hrs	2½ to 3½ hrs	1½ to 2½ hrs
Recoat	5 to 24 hrs	2 to 24 hrs	1½ to 16 hrs
Foot Traffic	12 to 14 hrs	4 to 6 hrs	2 to 4 hrs
Heavy Traffic (i.e. forklifts)	36 to 40 hrs	14 to 18 hrs	12 to 14 hrs
Full Chemical Resistance	7 days	6 days	5 days

CURED COATING PROPERTIES (DRY FILM):

Property	Test Method	Results
Elongation at break (Cured for 7 days at 72°F)	ASTM D732	30%
Hardness - Shore D	ASTM D2240	68 (±5)
Tear Resistance, pound-force foot (Torque)	ASTM 1004	18,070 lbf.ft. (24.5 kN m)
Shear Stress, psi (MPa)	ASTM D790	595 psi (4.1 MPa)
Adhesion to Concrete	ASTM D4541	PASS - Concrete Fails
Adhesion to Steel - Pull Strength, psi (MPa)	ASTM D4541	2,320 psi (16.0 MPa)
Conical Mandrel – Resistance to Cracking	ASTM D-522	Pass
Viscosity – Mixed	ASTM 2196	5,730 cP
Volatile Organic Compounds (VOC'S)	ASTM D6886	Zero (0) g/L
Flammability	ASTM E648	Class 1 (Self Extinguishing)
Volume Solids (Mixed)	ASTM D2196	100%
Volume Mix Ratio		4A to 1B
Color		Tan

APPROXIMATE COVERAGE PER GALLON (DRY FILM):

INCHES	¼"	½"	¾"	1"
¼"	**249 lf.**	**138 lf.**	**92 lf.**	**64 lf.**
½"	138 lf.	69 lf.	45 lf.	34 lf.
¾"	**92 lf.**	**45 lf.**	**30 lf.**	**23 lf.**
1"	64 lf.	34 lf.	23 lf.	17 lf.

STORAGE:

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

SHELF LIFE:

- Original, unopened containers = 2 Years
- Once opened = 1 month

Smith's

Product Data Sheet

Poly JF/FC
Fast-Cure Semi-Rigid 100% Solids

Fast-Cure, 2-Component Moisture-Cured, Semi-Rigid Polyurethane Joint Filler

PJF-FC-PDS-11022022

TYPICAL CHEMICAL & STAIN RESISTANCE

Covered Spot Test - 125 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:

- *NOT U.V. Stable* – Finish will dull or chalk over time with U.V. Light exposure
- *When Tinting with Smith's ISC Color Packs, always box colors prior to mixing*
- DO NOT APPLY in direct sunlight exposure at the time of application
- 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. **Substrate temperatures between 32°F to 50°F will significantly slow the cure time before being able to shave or diamond grind.*

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, weld scale, etc.

CHECK FOR MOISTURE: Testing concrete moisture via both 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 not 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. The absence of an effective moisture vapor barrier may create an environment for moisture vapor transmission as well as high levels of alkalinity in concrete slabs.

Smith's Poly JF/FC may be used as a joint filler in conjunction with *Smith's Epoxy MAC100* or *Smith's Epoxy MAC125* with moisture readings up to 95% RH and 18 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 and traditional floor covering needs.

Follow the testing manufacturer's instructions precisely or visit 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.

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.

NECESSARY TOOLS & EQUIPMENT:

- Plastic Sheeting or Ram Board to cover floor for mix station
- Paint mixing paddle attached to a Low speed ½" drill (Variable Speed ≤450 rpm)
- 5 gallon Plastic Mixing Buckets
- 4" wide Razor Scrapper (OPTIONAL – For Shaving)
- Pour Spout Cups
- Dry Sand or Backer Rod for bottom of joints
- Masking Tape
- Measuring Cups (For Part Mixing Applications)
- Diamond Cutting Wheel attached to an appropriate joint saw
- Vacuum Shroud Edge Diamond Grinder with a segmented diamond cup wheel
- Cleaning Solvent (Acetone, MEK, or Xylene)

NOTE: Mix station and all application tools should be ready for immediate use prior to mixing any product. Higher temperatures and humidity will shorten pot-life.

Poly JF/FC
Fast-Cure Semi-Rigid 100% Solids

Fast-Cure, 2-Component Moisture-Cured, Semi-Rigid Polyurethane Joint Filler

PJF-FC-PDS-11022022

SUBSTRATE PREPARATION: Carefully read and understand the following directions before beginning project. These directions are general guidelines only and are NOT meant to cover every application or environmental situation. Should any remaining questions or concerns exist after reviewing these instructions, please call Smith's for technical assistance at 717-233-8781.

NEW CONCRETE - ACI recommends curing a new concrete slab for a minimum of 60 to 90 days or longer to allow the slab to shrink and acclimate to the intended joint width thus reducing the risk of joint wall separation from the joint filler.

COOL TEMPERATURE APPLICATION - Refrigerators, freezers & 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 Smith's Poly JF/FC, ideally longer if possible.

Preparing Joints:

Follow ACI 224.3R-95: Joints in Concrete Construction guidelines for proper filling of construction and control joints. Smith's Poly JF/FC is semi-rigid, not "rubber-like" or elastomeric and therefore is not recommended for use in high shear stress joint movement environments such as expansion joints. Best practice is to honor joints to the surface elevation of the finished system with not more than a 5 mil topcoat being applied directly over Smith's Poly JF/FC.

Always route out existing joints with an appropriate width diamond cutting blade attached to a vacuumized and dust controlled joint saw to flush out debris and freshly clean the side walls of the joint. Ensure that all loose edges and broken pieces of the concrete are removed and repaired prior to filling the joint with 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 appropriate mortar for the depth and application.

Metal should be mechanically cleaned to achieve a lightly profiled surface then cleaned with solvent such as Acetone to remove any residue oils and contaminants that may inhibit adhesion or cause fish eyes in the coating film.

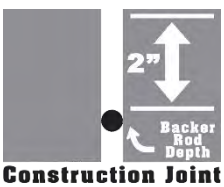
NOTE - Plastic Media, Soda Blasting, etc. do not achieve enough of a profiled surface and will require additional chemical etching to properly adhere the coating to the metal.

Rust scale should be removed with a scraper prior to wire brushing or sand blasting. Once the scale is removed, the surface must be solvent washed or use an automotive Brake Parts Cleaner for small, isolated rinsing. Once clean, paint the corroded metal surface with an anti-corrosion paint with high tensile strength properties prior to joint filling or concrete repairs to protect against further corrosion to the metal.

To support the joint filler and assist in sag reduction, fill the bottom of the joint with a bond breaker. Sand is recommended, especially for use in shallow joints less than 2" depth.

Control Joint

Only use backer rod if the joint filler is to be applied greater than 2" above the backer rod.



Construction Joint

MIXING: Only mix enough product 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.

Volume Mix Ratio **–** Measure the appropriate volume of each component into separate paint measuring cups to ensure a proper volume mix ratio

In a separate mixing vessel, combine 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 and bottom of the mixing vessel have been thoroughly mixed as well as the center of the container. For ease of application, mix in a container with a pour spout.

APPLICATION: Dependent upon the depth of the joint, joints may be filled in 1 or 2 pours. Fill from the bottom of the joint to the top taking care to avoid air entrapment. Pour the mixed Smith's Poly JF/FC into the joint slightly above the surface elevation of the concrete to allow for settling and better leveling. Should any sink holes occur, reapply Smith's Poly JF/FC as necessary once joint filler has hardened for approximately 3 hours or tack free.

FINISHING: The excess Smith's Poly JF/FC may be removed either via shaving off with a 4" wide razor scraper or diamond grinding to smooth out the joint surface flush with the surrounding substrate elevation. The optimal cure time prior to either method will vary due to the temperature.

As a reference point at 72°F and 50% RH test an area to determine if Smith's Poly JF/FC is ready for finishing, see below:

Approximate Cure Time after Placement for Finishing:

*Cure time is affected by temperature & humidity	55°F / 50% Humidity	72°F / 50% Humidity	85°F / 50% Humidity
Shave / Razor Scrape	120 min. ave.	60 min. ave.	50 min. ave.
Diamond Grind	8 to 12 hrs	2½ to 3½ hrs	1½ to 2½ hrs

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

OPTIONAL LAYERS or TOPCOATS: Once Smith's Poly JF/FC is finished, a thin topcoat of Polyurethane or Polyaspartic may be applied if desired. DO NOT APPLY coatings thicker than 5 mils over Smith's Poly JF/FC directly over moving joints.

Smith Paint Products offers a variety of topcoats depending on the desired finish, chemical exposure, etc. Please contact Smith Paints toll free or visit www.smithpaints.com for topcoat options.

Poly JF/FC
Fast-Cure Semi-Rigid 100% Solids

Fast-Cure, 2-Component Moisture-Cured, Semi-Rigid Polyurethane Joint Filler

PJF-FC-PDS-11022022

MAINTENANCE: ***The coating system must be allowed to cure for no less than one week (7 days) 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 mop the first week. If a topcoat of Smith's Polyaspartic was applied, wait a minimum of 3 days before using mechanical cleaning equipment.***

Regular cleaning, to include dust mopping, is crucial to maintain the appearance and to achieve the appropriate longevity of any floor coating system. Cleaning cannot occur too often. Spills should be removed quickly. *Avoid the use of Polypropylene or abrasive bristle* (Tynex®) brushes as these are known to create scratch patterns and lower the sheen of the finish.

Proper maintenance will help to maximize your investment by removing particles that scratch and dull the appearance of a floor coating. The floor should be swept daily and scrubbed once per week or per month depending on the amount and type of soils present. Environments with oils or regulated by health departments will need a more strict cleaning regiment.

DETERGENT: Always use the least aggressive detergent necessary to remove the residue. Typically, coated floors may only need a detergent scrub on a weekly or monthly basis depending on the environment. Daily dust mopping or water only mopping/scrubbing is highly recommended. Environments with exposure to foods, oils, chemicals, ink, etc. should be detergent scrubbed daily, possibly enough after every shift.

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.

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 hangars 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.

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.

Tynex® is a registered trademark of E.I. du Pont de Nemours and Company.
Plexiglas® is a registered trademark of Arkema.
LEXAN® is a registered trademark of Saudi Basic Industries Corporation (SABIC).

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: 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 confirm 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.

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.