EPOXY FC125
WINTER FORMULA CYCLOALIPHATIC CHEMICAL RESISTANT 100% SOLIDS EPOXY

DESCRIPTION:
Smith’s Epoxy FC125 is a Fast Cure, chemical resistant, 100% solids Cycloaliphatic 2-component epoxy engineered to replicate the working properties of Smith’s Epoxy U100 but in cooler installation temperatures of 45°F-65°F. Smith’s Epoxy FC125 is fast curing at normal installation temperatures (<65°F).

Resistant to a broad range of chemicals including caustic, acids, fuels and solvents, Smith’s Epoxy FC125 is a user-friendly low odor, low VOC coating system. This universal epoxy is an excellent choice for use as a primer, solid color, clear coat, metallic, vinyl chip, shop floor or color quartz broadcast systems, applications of epoxy mortars in cooler conditions (Smith’s Epoxy HD-100 system), and patching as well as other seamless floor options.

RECOMMENDED USES:
- Fast Cure applications (Between 65°F to 80°F)
- 3 coat / Thin-Mil coating systems
- Matrix for broadcast systems - Vinyl Chip, Quartz & Shop Floor
- Sealer for Commercial Kitchen floor coating systems
- Acidic Environments such as Battery Charging & Sanitation
- Wash Down bays in food processing facilities
- Vertical Seamless Wall Coating systems
- Matrix for Smith’s Epoxy HD-100 Mortar system (Installation temp. between 45°F to 80°F)
- Patching cracks, gouges, chips, etc. (mixed with Silica Fume and/or sand)

HIGHLIGHTS:
- Accepts heavy forklift traffic overnight at 72°F / 50% Humidity
- Chemical Resistant
- Low Odor & Low VOC
  - Complies with VOC regulations for industrial maintenance coatings in the OTC & SCAQMD
  - FDA Title 21 subparagraph (b) CFR 174.5 – indirect food contact
- No red label required for shipping

STORAGE:
Indoors between 40°F - 90°F

INSTALLATION TEMPERATURE RANGE:
45°F to 65°F (Fast Curing & Short Working Time above 65°F)

SHELF LIFE:
1 Year in original, unopened containers

AVAILABLE KIT SIZES: (**NON-STOCKING PRODUCT – MADE TO ORDER**
SCS-FC125-3Kit 3 gallon kit
SCS-FC125-15Kit 15 gallon kit
SCS-FC125-DRUM** 150 gallon kit**
SCS-FC125-TOTE** 750 gallon kit**

COLORS:
Smith’s Industrial Solid Color Packs – All Standard Solid Colors

POTLIFE & CURE TIMES (TEMP / 50% Relative Humidity):

<table>
<thead>
<tr>
<th>Temperature</th>
<th>50°F</th>
<th>75°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot Life</td>
<td>35 minutes</td>
<td>12 minutes</td>
</tr>
<tr>
<td>Working Time</td>
<td>35 minutes</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Tack Free</td>
<td>4 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td>Recoat (Applied to Epoxy FC125)</td>
<td>4 – 24 hours</td>
<td>2 ½ – 12 hours</td>
</tr>
<tr>
<td>Recoat (Applied to Smith’s Polyaspartic 1000)</td>
<td>3½ – 24 hours</td>
<td>2 ½ – 24 hours</td>
</tr>
<tr>
<td>Foot Traffic</td>
<td>6 – 10 hours</td>
<td>4 – 5 hours</td>
</tr>
<tr>
<td>Heavy Traffic</td>
<td>24 – 36 hours</td>
<td>10 – 14 hours</td>
</tr>
<tr>
<td>Full Cure</td>
<td>6 – 7 days</td>
<td>5 days</td>
</tr>
</tbody>
</table>

CURED COATING PROPERTIES (DRY FILM):

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance, mg/loss *Taber Abraser</td>
<td>ASTM D4060</td>
<td>83.2 mg</td>
</tr>
<tr>
<td>Compressive Strength, psi (MPa)</td>
<td>ASTM D695</td>
<td>13,633 psi (94 MPa)</td>
</tr>
<tr>
<td>Flexural Strength - psi (MPa)</td>
<td>ASTM D790</td>
<td>8,876 psi (61.2 MPa)</td>
</tr>
<tr>
<td>Adhesion to Concrete</td>
<td>ASTM D4541</td>
<td>Concrete Fails</td>
</tr>
<tr>
<td>Adhesion to Steel - Pull Strength, psi (MPa)</td>
<td>ASTM D4541</td>
<td>4,322 psi (29.8 MPa)</td>
</tr>
<tr>
<td>Percent Elongation</td>
<td>ASTM D2370</td>
<td>7%</td>
</tr>
<tr>
<td>Shore D Hardness</td>
<td>ASTM D2240</td>
<td>≥75</td>
</tr>
<tr>
<td>Hardness (Pencil)</td>
<td>ASTM D3362</td>
<td>2H</td>
</tr>
<tr>
<td>VOC's</td>
<td>ASTM D3960</td>
<td>Zero (0) g/L</td>
</tr>
<tr>
<td>Gloss 60°</td>
<td>ASTM 1455</td>
<td>&gt;90°</td>
</tr>
<tr>
<td>Viscosity – Mixed</td>
<td>ASTM 2196</td>
<td>1080 cPs</td>
</tr>
</tbody>
</table>

*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 (NEAT):
Coverage varies due to application thickness, floor profile and absorbency of concrete.
A one gallon mixture of Epoxy FC125 will cover:
Coverage Equation: \( 1604 + \text{milage} = \text{Dry Film Thickness} \)

<table>
<thead>
<tr>
<th>Mil Thickness (inches)</th>
<th>Coverage per mixed gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mils</td>
<td>321 sq.ft.</td>
</tr>
<tr>
<td>7 mils</td>
<td>229 sq.ft.</td>
</tr>
<tr>
<td>10 mils</td>
<td>160 sq.ft.</td>
</tr>
<tr>
<td>12 mils</td>
<td>133 sq.ft.</td>
</tr>
<tr>
<td>15 mils</td>
<td>106 sq.ft.</td>
</tr>
<tr>
<td>20 mils</td>
<td>80 sq.ft.</td>
</tr>
<tr>
<td>35 mils</td>
<td>45 sq.ft.</td>
</tr>
</tbody>
</table>

MIX RATIO:
2 Parts A : 1 Part B by Volume

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TEMPERATURE and HUMIDITY: Substrate temperature and materials must be maintained between 45°F (7°C) and 90°F (32°C) with less than 80% Ambient Humidity for 48 hours prior to an 24 hours after installation. Do not install coatings when the Dew point is within 5° of the temperature.

LIMITATIONS:
• Not UV Stable – All epoxy will amber over time. Ambering will be more noticeable with lighter colors, both solid pigmented and Metallic & Luster, as well as when applied clear over decorative broadcast or color quartz

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.

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, 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.

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

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 CONTOAMINATION: 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.
NECESSARY TOOLS and EQUIPMENT:
- Plastic Sheeting to cover floor for mix station
- 3-Blade or Bird Cage flat ring bottom style mixing paddle
- Low speed ½” drill (Variable Speed 650 rpm or less
- Mixing Buckets or Portable Mix Stations
- Premium, Non-Shed 3/8” Nap Paint Roller Covers
- Paint Roller Frame with Extension Pole
- Spiked shoes or Cleats
- Cleaning Solvent (Acetone, Denatured Alcohol, MEK, or Xylene)
- Magic Trowel, Flat Squeegee or Flex Steel Blade Smoother

NOTE: The Mix station and all application equipment should be ready for immediate use prior to mixing any product due to the epoxy pot life once mixed. Only mix enough Epoxy FC125 to be placed within 20 minutes allowing for proceeding batches to tie into the wet edge for an additional 20 minutes at 55°F or 8-10 minutes at 72°F. 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.

CONCRETE:
Achieve a CSP 2 to 6 (Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute) on concrete to yield an absorbent substrate. Extent of concrete surface profile necessary will be determined based on the ultimate thickness of the floor coating system being applied. Please refer to the individual system application guide or contact Smith Paint Products for recommendations. As a rule thumb, thicker coating systems require more extension surface profile than a thin system that is less than 10 mils.

NON-POURous SUBSTRATES & EXISTING COATINGS:
Always clean the surface prior to mechanical preparation to ensure potential bond breakers and surface contaminates have been thoroughly removed to avoid spreading the contamination across the floor. Once clean, sound and solid substrates should be checked for compatibility with Epoxy FC125 and if compatible, begin mechanically abrading the surface to remove any weak areas and to scratch as well as degloss the entire area desired to be coated. Should verification of proper adhesion be desired 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 coating system and allowed to cure for no less than 1 month prior to performing an in-situ direct tensile bond test to determine adhesion strength values.

If Epoxy FC125 is to be used as part of a system, follow the recommended preparation methods for individual system application:

NOTE: DO NOT USE MURIATIC/HYDROCLORIC ACID TO PREPARE CONCRETE AS CHLORIDE CONTAMINATION CAN OCCUR.

*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.

MIXTURE: Open all Part A’s of Epoxy FC125 and use the low speed drill with a clean mixing paddle to stir. “Stick” mixing is not recommended.

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, pour contents of mixing vessel into a new container, mechanically stir to ensure thorough blending then transport to the floor for application as described below.

Part Measuring using separate paint measuring cups
- 2 Parts by Volume Part A
- 1 Part by Volume Part B
- Optional Color Packs – Use 5% to 10% by Volume of either Smith’s EC Epoxy Colorant or Smith’s ISC Industrial Solid Color Packs

Pour measured contents into a 5 gallon pail and mix using a ½” low speed drill (less than 650 RPM’s) and a paint mixing paddle for 2 minutes. Immediately pour out the mixed Epoxy FC125 in ribbons onto the floor and continue this process tying into the wet edge with freshly mixed Epoxy FC125 until complete.

Mixing full 3 gallon kits:
In an empty 5 gallon pail, pour in the entire contents of Epoxy FC125 Part A and Epoxy FC 125 Part B. If a solid color is desired, add 1 unit of wither Smith’s EC Epoxy Color Packs or Smith’s ISC Industrial Solid Colorant Packs to each kit. Mix using a ½” low speed drill (less than 650 RPM’s) with a paint mixing paddle for 2 minutes. Immediately pour out the mixed Epoxy FC125 in ribbons onto the floor and continue this process tying into the wet edge with freshly mixed Epoxy FC125 until complete.

NOTE: When using Epoxy FC125 Part A’s that had Color Packs added on a previous day, always drill blend the Part A’s again prior to use. Also, it is a good idea to “box” color packs, especially if using color packs from multiple batches, to ensure consistent solids colors.

COVERAGE: *See chart on page 1 of this document

OPTIONAL LAYERS or TOPCOATS: Allow Epoxy FC125 to thoroughly harden before walking on, sanding or applying additional layers and/or topcoats. Cooler temperatures will extend the cure time while hotter temperatures will reduce potlife and cure times.

RECOAT WINDOW:
As Epoxy FC125 is a fast curing epoxy, we highly recommend sanding the surface between coats when using this product in applications above 75°F. *See page 1 for approximate recoat window reference based on typical application temperatures. When in doubt, sand between coats.

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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 regimen.

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. Citric based degreasers will help to remove plasticizer residues from a coating surface and reduce staining risk if used before a stain sets in.

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.

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 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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