



**REPAIRS**



**SCREED-BOX**



**POWER-TROWEL**

**EPOXY 5 - COAT HEAVY - DUTY EPOXY MORTAR SYSTEM**

**HD-100**

**AGGREGATE FILLED, TROWEL APPLIED RESURFACER**

- Heavy-Duty Mortar for Resurfacing Moderate to Severe Concrete Erosion
- 3/16" to 1" thick 5 coat system
- Very Low Odor & VOC's
- Excellent Wheeled Traffic durability
  - Forklift Traffic within 24 hours @ 72°F
- Impact Resistant
- Natural or tint with ISC color packs



Smith Paint Products® • 2200 Paxton Street, Harrisburg, PA 17111  
www.smithpaints.com (717) 233-8781



## 100% SOLIDS, CHEMICAL RESISTANT, CYCLOALIPHATIC EPOXY MORTAR SYSTEM

EHD100-122122

**DESCRIPTION:** Smith's Epoxy HD-100 mortar system is a high performance, heavy-duty, 3-component, high build, 100% solids epoxy mortar used to resurface eroded or uneven concrete in heavy traffic, abusive environments needing a durable, new, quick return-to-service floor.

**RECOMMENDED USE:**

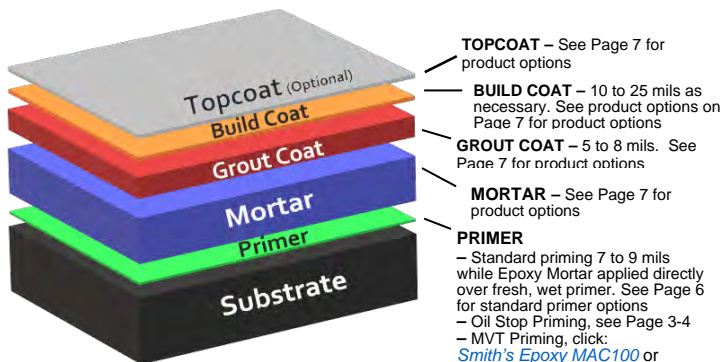
- To resurface slightly to severely eroded concrete floor from 3/16" to 1"
- Accepts heavy forklift traffic within 24 hours at 72°F
- Typical Applications include:
  - Aviation Hangars
  - Heavy Manufacturing Floors
  - Resurfacing eroded factory aisle ways and loading docks
  - Military applications
  - Automotive Manufacturing
  - Commercial and Industrial food processing/production  
\*non-thermal shock prone areas
  - Laboratories

**HIGHLIGHTS:**

- High Impact Resistance
- Excellent rolling load resistance
  - Great for abusive environments with carts and forklift traffic
  - Accepts forklift traffic within 24 hours at 72°F
- Easy to clean
- Stronger than concrete

**COLORS:** Natural color or tint with Smith's ISC Industrial Solid Color Packs adding:

- Mortar = 1/2 can of Smith's ISC per 3 bag of aggregate mix
- Grout Coat or Body Coats = 1 can Smith's ISC per 3 gallon kit of Epoxy GEL-150 (grout coat) & Epoxy U100 / Epoxy FC125 (body coats)



**Recommended PPE:**



**CHEMICAL RESISTANCE:** Refer to the product used as the final wear surface / topcoat for chemical resistance.

**LIMITATIONS:**

- Not Ultra Violet Light Stable - Ambering over time will be more noticeable with lighter colors
- Do NOT Use cleaners, such as simple green or soy based detergents, to clean prior to or for maintaining the coating system

**NECESSARY TOOLS and EQUIPMENT:**

- Plastic Sheeting or Ram Board to cover floor for mix station
- 3-Blade or Bird Cage flat ring bottom style mixing paddle
- Low speed 1/2" drill (Variable Speed ≤450 rpm)
- 5 gallon Mixing Buckets or Portable Mix Stations
- Mortar Mixer
- Stainless steel 3" X 12" Trowel or longer (Rounded corners)
- Premium, Non-Shed 3/8" Nap, solvent resistant paint roller covers
- 18" wide S-550 EasySqueegee Frame
  - [Midwest Tool S-550 Part # 78255](#)
- 18" wide 8-12 mil V-Notch Squeegee for primer
  - [Midwest Tool S-550 EasySqueegee blade Part # 79859](#)
- 1/16" V-Notch Squeegee
- 18" wide Paint Roller Frame with Extension Pole
- Epoxy power trowel with combination blades
- Spiked shoes or Cleats
- Screed box
- Cleaning Solvent (Acetone, MEK, Xylene)
- 18" – 24" wide Flat Rubber Squeegee
- Solvent Resistant Trigger Spray Bottles or pump sprayers
- Denatured Alcohol (for lubricating trowels & misting mortar surface as necessary while power trowel finishing)
- Acetone or Xylene for cleaning tools
- Stucco Tape
- Angle Grinder with 1/8" diamond cutting wheel

**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.

**COATING SYSTEM PROPERTIES (DRY FILM):**

Property	Test Method	Results
Abrasion Resistance, mg/loss* Taber Abraser	ASTM D4060	See product data sheet for the final wear layer / topcoat
Compressive Strength, psi (MPa)	ASTM D695	10,500 psi (72.39 MPa)
Percent Elongation	ASTM D1305	Pass
Shore D Hardness	ASTM D2240	85-90
Adhesion to Concrete	ASTM D4541	Concrete Fails
Water Absorption	ASTM D543	0.2%
Impact Resistance	ASTM D3134	Pass
-Tested on concrete block	ASTM D2794	160 in.lbs.-no delamination/chipping

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# System Application Guide

5-COAT EPOXY  
MORTAR SYSTEM  
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SOLID COLOR CHEMICAL RESISTANT  
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**AREA PREPARATION:** Be sure to mask or cover all areas that are not intended to be coated; including, but not limited to door frames, doors, walls and windows. Use temporary floor protection (i.e. plastic sheeting, [Ram Board®](#), cardboard or similar) to cover the mix station floor from spills during installation.

**TEMPORARY HEAT:** 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 petroleum fueled temporary heat
- Always shut off temporary heat at least 2 to 3 hours prior to application 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

**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.

**SUBSTRATE CONTAMINATION:** 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.

Petrographic core analysis is highly recommended if any of the following, including but not limited to, are thought or known to exist:

- [AAR \(Alkali Aggregate Reaction\)](#)
  - [ACR \(Alkali-Carbonate Reaction\)](#)
  - [ASR \(Alkali-Silica Reaction\)](#)
- Hydrostatic Pressure (*Pressurized Fluid / Liquid*)
- Near Surface ASR (*may occur in certain environments which have been topically treated with Sodium Silicates or Potassium Metasilicates*)
- Substrate contamination (i.e. Oils, Solvents, PERT, PCB's, Silicone, etc.)

Core sample Petrographic Analysis is the best method for testing of concrete for contaminate type and depth as well as for documenting and determining if other risks exist prior to proceeding with quoting and application of a flooring system. It is the contractors' responsibility to determine the substrate suitability and the course of action for remediation.

*Smith Paints is a product manufacturer, NOT a testing or analysis service but can provide references for testing labs. When in doubt, hire a third-party inspector with appropriate certifications and credentials.*

**CHEMICAL CONTAMINATION** – If chemical contaminants exist, additional testing may be required. Once the type of contaminant is determined, contact Smith Paint Products for recommendations. Petrography of concrete cores may be necessary to determine what chemicals are present as well as the depth of penetration.

**OIL CONTAMINATION** – [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.

- 1) Scrape to remove heavy build-up of oil and grease
- 2) Shotblast to a CSP 3 to remove the surface paste of the concrete as well as paint, adhesives, dirt, debris, etc.
- 3) Wet down a 10 ft. x 10 ft. area with water
- 4) Pour ½ gallon of [Smith's Oil Clean](#) on the surface
- 5) Use a low-speed orbital floor machine with a soft bristle brush head to agitate the microbial cleaner across the entire area in multiple passes for approximately 10 to 20 minutes
- 6) DO NOT ALLOW AREA TO DRY - Keep the area wet and reapply water as necessary
- 7) Allow to dwell for a minimum of 30 minutes, longer for heavy contamination
- 8) Use a wet vacuum or an auto scrubber to extract the remaining liquid thoroughly
- 9) Clean water rinse and extract again leaving no puddles nor standing water, including in gouges, chips, cracks or joints
  - a) Repeat process if oil continues to weep out of the concrete
  - b) Excessive oil contamination may require 2 applications with the second application being soaked with water then covered with at least 3 mil plastic overnight then shotblasted again to remove purged contamination
- 10) While the floor remains damp, apply [Smith's Epoxy MAC125](#) at 10 to 12 mils (333 to 400 sq.ft. per kit)
- 11) Allow to cure for a minimum of 5 hours or overnight
- 12) Screen the surface of the primer to thoroughly dull and remove any contamination that may have floated through the primer before it cured
- 13) Vacuum the dust off the primer
- 14) Clean with warm potable water and Dawn dish soap or [Smith's Neutral Detergent](#) (16 parts potable water to 1 part by volume [Smith's Neutral Detergent](#))

\*\*DO NOT USE simple green® or Soy based detergents\*\*
- 15) Rinse then dry mop the floor with clean water until soap residue remains or use an auto scrubber
- 16) Allow to air dry for 60 to 90 minutes using a floor fan to assist in completely drying the surface
- 17) Tack rag the surface with Acetone on a lightly dampened microfiber mop head or cotton rag replacing the rag frequently. Repeat until surface is clean then allow to dry for 40 minutes after solvent wiping

simple green® is registered trademark of Sunshine Maker's Inc.

Ram Board® is a registered trademark of Ram Board, Inc.



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**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 not give all of the necessary information and may not identify other potential risks that may pose a risk for delamination, chemical attack, etc.

Results must be below 3 pounds (ASTM F1869) as well as between 8.5 to 11.5 pH and below 75% relative internal concrete humidity (ASTM F2170). Testing taking place in non-acclimated interior environment(s) will void the results. 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.

[Smith's Epoxy MAC100](#) or [Smith's Epoxy MAC125](#), in conjunction with proper testing and mechanical preparation, will reduce the moisture vapor emission rate to an acceptable level within the tolerance of subsequent coatings when testing determines osmotic moisture vapor levels up to 25 lbs. and between 8.5 to 14 pH (ASTM F1869) and up to 100% RH (ASTM F2170). **NEVER USE SILICATES FOR MOISTURE VAPOR REMEDIATION.**

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.

**TEMPERATURE and HUMIDITY:** Substrate temperature and materials must be maintained between 50°F (4°C) and 90°F (32°C) with less than 80% Ambient Humidity for 48 hours prior to and 24 hours after installation. Do not install coatings when the Dew point is within 5° of the temperature.

**SUBSTRATE CLEANING:** Prior to mechanical preparation, Detergent scrub with [Smith's Neutral Clean](#), 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](#) followed by a thorough clean, potable water rinse using an auto scrubber or orbital floor machine utilizing soft, nylon bristle brushes. Abrasive pads are not effective at agitating low lying areas such as gouges and are not recommended for cleaning or degreasing rough textured surfaces.

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 utilizing an auto scrubber followed by a clean, potable water rinse or a zero degree rotating nozzle attached to a pressure washer to achieve 12,000 work units (water pressure x pressure washer psi = work units).

**SUBSTRATE PREPARATION:** Achieve a CSP 4 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.

*Should verification of proper adhesion be desired, 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.*

Recommended preparation methods below:

- **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, thick build applications and removing high spots in the concrete surface.
- **\*Etching Compound:** [Smith's Green Clean Pro](#) buffered acidic etching compound may be used as follows:
  - Remediation method for removing densifiers/silicates after one of the above-mentioned mechanical preparation methods followed by thoroughly rinsing with clean, potable water.
    - Water should readily absorb into the concrete and evenly darken the appearance of the concrete after treatment with no dissimilar patterns.

NOTE:

- Ensure all [Smith's 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.*

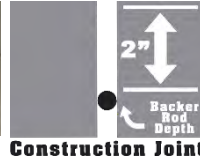
Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.



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## JOINTS:

- 1) Saw cut all joints open with a Diamond cutting blade
- 2) Vacuum out the joint
- 3) Fill the bottom of the joint with sand (*cuts <2" depth*) or backer rod (*cuts no less than 2" depth*), etc. to act as a bond breaker directly beneath the joint fill and for support
  - a) DO NOT use backer rod close to the surface as the foam will compression eventually leaving the joint filler with no support underneath
- 4) If using sand, sweep the excess sand out of the top part of the joint so that the sand surface is roughly two times deeper than the joint is wide (*i.e. 1/4" wide cut = 1/2" joint depth*)
- 5) Fill with an appropriate joint filler
  - a) Control & Construction Joints = Semi-Rigid Joint Filler
    - [Smith's Poly JF](#) regular cure
    - [Smith's Poly JF/FC](#) fast cure
  - b) Expansion Joints
    - 2-Component Elastomeric Expansion Joint filler  
*(joint must be honored at the surface – DO NOT APPLY epoxy mortar floor coating system over expansion joint filler)*
- 6) Allow to hard set then either razor scrape or diamond grind flush to surrounding concrete surface
  - a) Razor Scrape @ 72°F / 50% Humidity
    - [Smith's Poly JF](#) = 1 1/2 to 2 hours
    - [Smith's Poly JF/FC](#) = 50 to 60 minutes
  - b) Diamond Grind @ 72°F / 50% Humidity
    - [Smith's Poly JF](#) = 5 to 7 hours
    - [Smith's Poly JF/FC](#) = 2 1/2 to 3 1/2 hours



**NOTE:** Honoring of the joint at the surface after the resurfacing layer is applied then filling with an appropriate joint filler can lessen joint telegraphing if the concrete has a void beneath, from vibrating equipment, etc. Please contact Smith's for more recommendations for crack repairs, joint wall rebuilding, etc.

- 6) Allow to hard set then either razor scrape or diamond grind flush to surrounding concrete surface
  - a) Razor Scrape @ 72°F / 50% Humidity
    - [Smith's Poly JF](#) = 1 1/2 to 2 hours
    - [Smith's Poly JF/FC](#) = 50 to 60 minutes
  - b) Diamond Grind @ 72°F / 50% Humidity
    - [Smith's Poly JF](#) = 5 to 7 hours
    - [Smith's Poly JF/FC](#) = 2 1/2 to 3 1/2 hours

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

- [Smith's SKM](#)
- [Smith's Epoxy GEL150](#)
- [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 and coatings.

Should a cementitious repair compound be used for repairs, it *must be:*

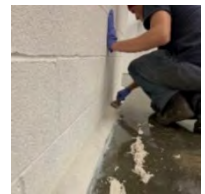
- non-water soluble; >5,000 psi; rated for exterior use
- Recommended as a direct traffic bearing surface / topping / overlay
- rated for exterior use
- cement product data sheet states "for use under a resinous coating" or similar
- ≤4% moisture content prior to installation of resinous floor coating

Any voids or missing sections of concrete without a layer of existing, cured concrete to adhere to must be pre-filled with either a Type K Concrete or a shrinkage compensated high strength mortar allowing for a minimum of 24-hour cure or longer depending on temperatures.

**RESINOUS COVE:** Prime wall surface with [Smith's Epoxy U100](#) with a paint brush or trim roller. Cove must be applied into fresh, wet primer, otherwise, the cove mix will slide across the surface while troweling.

3/4 gallon (2 Quarts Part A with 1 part by volume Part B) [Smith's Epoxy U100](#) or [Smith's Epoxy GEL150](#) to 25 to 37 lbs. (adjust to desired consistency) of 40 Mesh Dry, Washed Quartz or similar

- 1) Prime wall with [Smith's Epoxy U100](#)
  - a) Apply via brush, 4" wide shed resistant cabinet or 3/8" nap trim paint roller on the wall area to receive seamless Cove
    - Primer must remain fresh / wet while applying cove
    - Do not prime more area than can be covered with cove within 30 minutes at 72°F
- 2) For cove, mix [Smith's Epoxy GEL150](#) 2 Parts A to 1 Part B plus 7% by volume of [Smith's ISC Colorant](#) for 2 to 3 minutes
  - a) Slowly begin to add in 12 to 15 Parts 40 Mesh Quartz while continuing to mix for an additional 2 minutes or until thoroughly blended
- 3) Immediately begin troweling the mixture onto the freshly primed wall & trowel finish to compact the cove
  - a) Use a solvent resistant spray bottle filled with Denatured Alcohol to lubricate the trowel & surface of cove as necessary



Do NOT mix more material than can be placed, finished & tied into with subsequent batches within a 15 minute period at 75°F substrate temperature.

## Yield for 3/4 gallon kit of Epoxy GEL150 cove mix

Cove Type & Size	Single Batch Yield	
	Loose Mix (25 lbs. Quartz)	Stiff Mix (37 lbs. Quartz)
45° CANT Cove – 2"	18.5 lin.ft.	22.5 lin.ft.
45° CANT Cove – 4"	9 lin.ft.	11 lin.ft.
2" Radius Cove (1/8" Cove strip top with 1" radius bottom)	26 lin.ft.	32 lin.ft.
2" Radius Cove (Flush troweled top with 1" radius bottom)	52 lin.ft.	64 lin.ft.
4" Radius Cove (1/8" Cove strip top with 1" radius bottom)	13 lin.ft.	16 lin.ft.
4" Radius Flush Cove (Flush troweled top with 1" radius bottom)	26 lin.ft.	32 lin.ft.
6" Radius Cove (1/8" Cove strip top with 1" radius bottom)	8.5 lin.ft.	20.5 lin.ft.
6" Radius Cove (Flush troweled top with 1" radius bottom)	17 lin.ft.	41 lin.ft.
8" Radius Cove (1/8" Cove strip top with 1" radius bottom)	6.5 lin.ft.	8 lin.ft.
8" Radius Cove (Flush troweled top with 1" radius bottom)	13 lin.ft.	16 lin.ft.



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### PRIMING:

- Mix [Smith's Epoxy U100](#) (2 Parts A to 1 Part B by volume) in a clean mixing vessel using a ½" low speed drill with a paint mixing paddle attached
  - Mix for 2 to 3 minutes
- Pour onto the prepared substrate in a straight ribbon
- Using a flat squeegee or flexible blue steel smoother, spread the mixed [Smith's Epoxy U100](#) in a thin, even manner leaving no bare spots
  - Keep a wet edge while placing additional batches working fresh material into the edge of the prior batch
  - The primer layer should be placed at an average of 7 to 9 mils (178 to 225 sq.ft. per mixed gallon) to allow for proper penetration into the substrate
  - Very porous substrates may look blotchy after priming

**NOTE:** If the primed substrate is not uniformly glossy and wet looking, a second coat of primer may be needed to avoid drying out the mortar mix during application of the mortar layer. There is no need to wait for the first coat of primer to dry or become tacky and second coat of primer may begin immediately after the first coat in those circumstances.

- Once sufficiently primed, proceed immediately with the mortar layer application
  - Do not allow the primer to dry beyond tacky while applying epoxy mortar

**NOTE:** Only prime enough area that can be effectively resurfaced while the primer is wet or still tacky to avoid the mortar from dragging or sliding during the finishing process.

**MIXTURE:** To mix a 4 bag batch of Smith's Epoxy HD-100, ADD 1 gallon of epoxy hardener (Part B) to 2 gallons of epoxy resin (Part A) plus 1 unit of [Smith ISC Color Packs](#) (Optional) into the mortar mixing vessel then add 4 bags of Trowel Mortar Aggregate Filler mixing to a damp sand consistency. DO NOT mix more mortar than can be placed and finished within a 15-minute window at 75°F. See epoxy product options below.

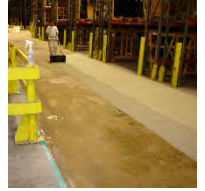
Coverage varies depending on application thickness, floor profile and absorbency of the concrete. Coverage for a single 50 lbs. bag batch of Smith's Epoxy HD-100 mortar system consists of:

- ¾ gallon Epoxy (Select one of the options below):
  - [Smith's Epoxy U100](#) (For installation temperatures between 60°F to 90°F)
  - [Smith's Epoxy FC125](#) (For installation temperatures between 50°F to 65°F)
  - Smith's Epoxy GEL-150 (For 3/16" thick with 40 to 45 lbs. aggregate volume)
  - Smith's Epoxy Thixo'75 Regular Cure (For installation temperatures between 60°F to 90°F with 37 to 50 lbs aggregate volume to ¾" gallons of epoxy)
- 45 to 56.5 lbs. of [Covia Black Lab Blend ¼" Epoxy Trowel Aggregate](#) (4 to 5 parts aggregate to 1 part by volume of mixed epoxy)

Placement Thickness (inches)	Finished Thickness (inches / mils)	Single Batch Yield (5 Parts Aggregate to 1 Part Epoxy)
1/4"	3/16" (187.5 mils)	35 sq.ft.
5/16"	1/4" (250 mils)	28 sq.ft.
7/16"	3/8" (375 mils)	21 sq.ft.
9/16"	1/2" (500 mils)	14 sq.ft.
13/16"	3/4" (750 mils)	9 sq.ft.
1 1/16"	1" (1,000 mils)	7 sq.ft.

### MORTAR PLACEMENT & FINISHING:

- Set the screed box depth 1/16" greater than the desired finished depth as the mortar will compact lightly during when trowel finished. (i.e. set 5/16" deep for 1/4" finished depth)
- Once mixed, immediately pour mortar into the screed box
- Pull the screed box over the still fresh, wet primer (standard priming) to place the mortar at the desired thickness
- Use a margin trowel to place mortar in hard-to-reach areas
- Wearing spiked or cleated shoes, walk into the freshly placed mortar to begin finishing using the power trowel at less than 50 rpm to compact / finish the mortar
- Use a hand trowel to touch-up any imperfections during this process or to finish hard-to-reach areas



**NOTE:** Denatured Alcohol may be sprayed sparingly as a fine mist on the mortar surface to aid in the finishing process as necessary

### CURE TIMES of EPOXY MORTAR LAYER:

	@ 60°F (FC125, GEL-150/FC)	@ 72°F (U100 / GEL-150 / Thixo'75)
Pot-Life	18 minutes	25 minutes
Tack Free	3 ½ to 4 ½ hours	4 ½ to 5 hours
Recoat	4 ½ to 24 hours	4 to 24 hours
*Foot Traffic	10 to 12 hours	12 hours
*Heavy Traffic	24 hours	18 to 24 hours
Full Cure	7 to 10 days	6 to 7 days

\*See product data sheet of the final wear layer / topcoat for traffic cure rate for those products

**GROUT COAT:** Allow the mortar to cure until hard enough to walk on without imprinting marks into the mortar surface before applying the grout coat layer to avoid surface damage to the fresh mortar. Once the mortar is hard enough to walk on without leaving an impression, the epoxy grout coat layer may proceed. Only mix enough of the grout coat that can be spread and finished within 25 minutes at 72°F.

- Add 1 Part Smith's Epoxy GEL-150 Hardener (PART B) to 2 Parts by volume of Smith's Epoxy GEL-150 Resin (PART A) into the mixing vessel using the low speed drill (≤450 RPM) with appropriate mixing paddle for 3 minutes (i.e. 1 gallon PART B to 2 gallons PART A.). Avoid whipping air into the mixture. Thoroughly mix to ensure desired coating properties
  - For pigmented applications, add [Smith's ISC Color Pack](#) as follows to each Smith's Epoxy GEL-150 Part A unit while drill mixing slowly until color is uniformly dispersed in the Part A with no streaks:
    - 3 gallons of Epoxy GEL-150 = 1 ISC Color Pack (3% by volume when part mixing / 7% for White, Ivory White, Yellow, Green, Moegil Green, Safety Red or Orange)

**NOTE:** always remix Part A's previously tinted with ISC using drill again prior to use

- Pour out in a straight line on the mortar layer
- Walk across the mortar wearing cleats to evenly spreading the grout coat at a rate of 200 to 321 sq.ft. (5 to 8 mils) per mixed gallon using a flat blade squeegee
- Back roll using a 3/8" nap roller attached to an extension pole



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Allow [Smith's Epoxy GEL-150](#) grout coat to dry until hard enough to walk on without surface imprinting before applying next layer(s).

### NOTE:

- If sanding of the grout coat is desired, allow the [Smith's Epoxy GEL-150](#) to cure for at least 6 to 7 hours at 72°F before attempting to sand to avoid surface damage may occur
- If diamond grinding is desired, allow overnight cure or a minimum of 12 hours at 72°F. Use Metal Bond Diamonds only as Resin Bond Diamonds may contaminate the surface risking fish eyes in subsequent layers or stick to the epoxy causing smears / burns

### BUILD / BODY COAT (OPTIONAL):

- 1) Mix 2 parts by volume [Smith's Epoxy U100](#) Part A to 1 part by volume [Smith's Epoxy U100](#) Part B adding in 1 unit Smith's ISC Color Packs to a 3 gallon mixture of [Smith's Epoxy U100](#). Mix for 1 to 2 minutes
- 2) Wearing spiked or cleated shoes, walk on the grout coat layer and pour out a straight ribbon of [Smith's Epoxy U100](#) then spread using a 1/16" V-Notched Squeegee
- 3) Immediately back roll [Smith's Epoxy U100](#) build coat work out any puddles, squeegee marks and create an even finish

**TOPCOATS (OPTIONAL):** Use a topcoat to improve chemical and/or abrasion resistance or if a low sheen finish is desired. Please see the individual product data sheet for more details.

- 1) Sanding prior will help even out the surface texture and is required for high gloss topcoats or if the recoat window has exceeded 24 hours. Topcoats may be applied directly to Grout Coats or over a build coat, if desired
  - a) Abrade the grout coat to uniformly dull using 80 grit sandpaper or sanding screens under a green pad using an orbital Low Speed Swing Buffer
    - Using more aggressive grit screens or sandpaper may create burns, scars, scratches, swirls & grooves in the finish that topcoats may not fully fill in and hide
    - wait overnight to avoid damaging the fresh grout with temperatures below 75°F
  - b) Palm sand edges / hard to reach areas
  - c) Surface should be uniformly dull with no deep scratches easily identified
- 2) Clean to remove all dust
  - a) Vacuum entire surface thoroughly
  - b) Solvent wipe with a lightly Acetone dampened microfiber mop until no dust transfers to a fresh microfiber pad
- 3) Mask off transitions, wall edges, drains, etc. with a premium solvent resistant masking tape
- 4) Select a topcoat appropriate for the traffic conditions, chemical exposure and environment. Apply the topcoat at the appropriate rate as stated below via dip & roll method

[Smith's CRU-86](#) High Solids Aliphatic Chemical Resistant Polyurethane

- Gloss ≈ 400 sq.ft. per gallon
- Low Sheen with [Smith's A/O 325](#) ≈ 500 to 600 sq.ft. per mixed gallon

[Smith's Hi-Wear 90S](#) High Traffic Chemical Resistant Polyurethane

- Low Sheen ≈ 535 to 650 sq.ft. per mixed gallon

[Smith's MCU-60](#) Solvent-based Aliphatic Moisture Cured Polyurethane

- Gloss ≈ 400 sq.ft. per gallon
- Low Sheen with [Smith's A/O 325](#) ≈ 500 to 550 sq.ft. per mixed gallon

[Smith's Poly-WB](#) Water-based Polyester Polyurethane

- Semi-Gloss ≈ 200 to 300 sq.ft. per mixed gallon

\* Angular traction additive, such as [Smith's Resin Sand](#), is highly recommended in areas exposed to grease / oil / soap / water / or less than 60°F service temperatures

- 5) Mix the topcoat with the appropriate amount of colorant
- 6) Pour mixed topcoat into a paint tray
- 7) Dip and roll apply then cross roll at appropriate spread rate
  - a) See individual product data sheet for detailed topcoating instructions

### CURE RATE FOR TRAFFIC:

72°F (22.2°C) with 50% Ambient Humidity	Light Foot Traffic	Fork Lift Traffic	Full Chemical Exposure
<a href="#">Smith's CRU-86</a>	24 hours	48 to 72 hours	7 days
<a href="#">Smith's Hi-Wear 90S</a>	12 hours	24 hours	7 days
<a href="#">Smith's MCU-60</a>	12 hours	24 hours	7 days
<a href="#">Smith's Poly WB</a>	16 to 18 hours	48 hours	7 days

**NOTE:** Please refer to individual product data sheet for more specific product information. Click on product name above for hyperlink to website product specific documents.

**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 24 hours before neutral cleaner or water exposure. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust and wet mopping may occur the first week. [Please click here for more in-depth maintenance procedures.](#)

Dust mopping, removal of debris & regular cleaning is crucial to maintaining the aesthetics of the coating & obtaining the maximum life span of the floor coating system. Cleaning cannot occur too often & inefficient cleaning will cause the floor to wear out prematurely, 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 & lessen the sheen.

To maximum your investment with proper floor care & maintenance, remove all particles that may scratch and/or dull the floor coating using the least aggressive method necessary to clean the floor.

It is good practice to develop a floor maintenance schedule to be performed at the end of each shift & a set day per week or month for heavy cleaning:

- Daily = Sweep & dust mop or water only mopping/auto-scrubbing; spot clean spills & oils
- Weekly or Monthly = Scrubbed once per week or month depending on the amount & type of soils present

Health Department or DEA regulations may necessitate more frequent & stringent cleaning practices as will areas prone to oils, inks, chemicals, etc. on the floor surface.

- 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 pallet, etc.
- 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
- Rubber tires are prone to plasticizer migration, especially aviation tires & high-performance car tires. Plasticizer will stain coatings & commercial flooring leaving an amber, yellow-like 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 & some mild agitation using an orbital, low speed floor machine

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