

*Smith's*  
INDUSTRIAL  
COATING SYSTEMS



**EPOXY** 5-COAT COLOR QUARTZ  
EPOXY MORTAR SYSTEM  
**H10Q-100**

COLOR QUARTZ CHEMICAL RESISTANT  
EPOXY POWER-TROWEL MORTAR SYSTEM  
AGGREGATE FILLED, TROWEL APPLIED MORTAR

- Very Low VOC's & Odor
- Accepts Forklift Traffic in 24 hours
- Chemical Resistant
- Impact Resistant
- Decorative yet very Durable
- High Abrasion Resistance -  
**Great Wheeled Traffic durability**



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# System Application Guide

EHDQ100-041922

## EPOXY 5-COAT COLOR QUARTZ EPOXY MORTAR SYSTEM HDQ-100 COLOR QUARTZ CHEMICAL RESISTANT EPOXY POWER-TROWEL MORTAR SYSTEM

### 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

**DESCRIPTION:** Smith's Epoxy HDQ-100 Decorative Color Quartz trowel blend mortar system is a high performance, heavy duty 3-component, trowel applied, highly chemical resistant, 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 with more aesthetic options vs. a solid color epoxy mortar.

**RECOMMENDED USE:**

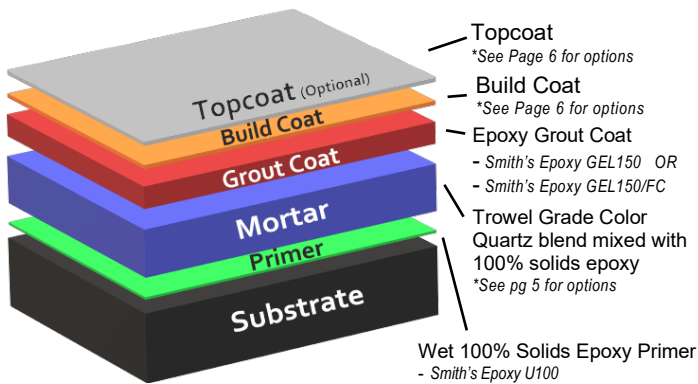
- Resurface mild to severe concrete floor erosion from 3/16" to 1"
- Accepts heavy forklift traffic as soon as the following day (depending on epoxy matrix & topcoat used)
- Typical Applications include:
  - o Hospital & Healthcare environments
  - o Heavy Manufacturing Floors & Production areas
  - o Resurfacing Eroded Factory Aisleways & Loading Docks
  - o Schools & Universities
  - o Showrooms
  - o Office Corridors, Cafeterias, Breakrooms & Restrooms
  - o Laboratories

**HIGHLIGHTS:**

- High Impact Resistance
- Excellent rolling load resistance
  - Great for abusive environments with carts & forklift traffic
- Easy to clean
- Good Chemical Resistance
- Stronger than concrete

**COLOR QUARTZ EPOXY MORTAR SYSTEM**

– Approximately 3/16" to 1" total system thickness



**SUBSTRATE SURFACE TEMPERATURE:** (below 80% Humidity)

- SUMMER – [Smith's Epoxy UCE200](#) = 65°F (18.3°C) to 95°F (35°C)
- STANDARD – [Smith's Epoxy U100](#) = 60°F (15.5°C) to 85°F (29.4°C)
- WINTER – [Smith's Epoxy FC125](#) = 50°F (10°C) to 65°F (18.3°C)

**OPTIONS:**



**CURE TIMES** (based on epoxy used in mortar mixture with 50% Humidity)



STANDARD	60°F	72°F	85°F
Pot-Life	35 min.	25 min.	12 min.
Working Time	45 min.	35 min.	16 min.
Recoat Window	8 to 24 hrs	4 to 24 hrs	3 to 12 hrs
Tack-Free	7 to 9 hrs	4 to 4 ½ hrs	2 to 3 hrs
Foot Traffic	32 hours	24 hours	20 hours
Heavy Traffic (i.e. parked vehicles, etc.)	72 hours	24 to 48 hrs	20 to 24 hrs
Full Chemical Resistance	10 days	7 days	6 days



SUMMER	65°F	72°F	95°F
Pot-Life	60 min.	40 min.	25 min.
Working Time	95 min.	60 min.	30 min.
Recoat Window	24 to 36 hrs	18 to 24 hrs	14 to 24 hrs
Tack-Free	16 hrs	12 hrs	10 hrs
Foot Traffic	48 hours	36 hours	24 hours
Heavy Traffic (i.e. parked vehicles, etc.)	72 hours	48 hrs	36 hrs
Full Chemical Resistance	10 days	7 days	7 days



WINTER	50°F	60°F	72°F
Pot-Life	30 min.	22 min.	10 to 12 min.
Working Time	40 min.	30 min.	15 min.
Recoat Window	9 to 30 hrs	4 to 24 hrs	3 to 12 hrs
Tack-Free	7 to 9 hrs	4 to 4 ½ hrs	2 to 3 hrs
Foot Traffic	32 hours	24 hours	20 hours
Heavy Traffic (i.e. parked vehicles, etc.)	72 hours	24 to 48 hrs	20 to 24 hrs
Full Chemical Resistance	10 days	7 days	6 days

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

Property	Test Method	Results
Abrasion Resistance, mg/loss* Taber Abraser	ASTM D4060	*See Topcoat Data Sheet
Compressive Strength, psi (MPa)	ASTM D695	10,500 psi (72 MPa)
Shore D Hardness	ASTM D2240	85 to 90
Adhesion to Concrete	ASTM D4541	Concrete Fails
Water Absorption	ASTM D543	0.2%
Impact Resistance -Tested on concrete block	ASTM D3134	Pass
	ASTM D2794	160 in.lbs., no delamination / chipping





**EPOXY 5-COAT COLOR QUARTZ  
EPOXY MORTAR SYSTEM**  
**HDQ-100**  
COLOR QUARTZ CHEMICAL RESISTANT  
EPOXY POWER-TROWEL MORTAR SYSTEM

## System Application Guide

EHDQ100-041922

### 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

#### LIMITATIONS:

- *Not U.V. Stable* – All epoxy will amber over time. Ambering will be more noticeable with lighter colors. Applying a solid color pigmented U.V. Stable topcoat is highly recommended over Smith's Epoxy HDQ-100 system
  - U.V. Absorber additives will reduce and slow but not eliminate epoxy ambering
- This system is not recommended for use over wooden substrates as it will crack at the seams between boards

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

**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.

**TEMPERATURE & HUMIDITY:** Substrate temperature and materials must be maintained between 50°F (4°C) to 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.

**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 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 Epoxy MAC100](#) or [Smith's 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](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 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.*

**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. 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.

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.*)

**CHEMICAL CONTAMINATION** – Chemical contamination should be determined & may require additional testing. Once the type of contaminant is determined, contact Smith Paint Products for recommendations while following local regulations regarding contaminant & disposal.

**OIL CONTAMINATION** – [Smith's Oil Clean](#) may be used to remove oils, such as petroleum, synthetic and food oils, from concrete and other mineral based substrates prior to mechanical preparation.

- 1) Scrape surface to remove heavy oil / grease build-up
- 2) Mechanically prepare the concrete to a CSP of 4 to 6
  - a) If any oil "sweating" is noticed after mechanical substrate preparation:
    - i) wet the concrete substrate with clean, potable water
    - ii) Apply [Smith's Oil Clean](#) at 100 to 150 sq.ft. per gallon
    - iii) Agitate using an orbital low speed floor buffer with a white, soft bristle brush head to thoroughly scrub the oil-soaked areas
    - iv) Allow to dwell on the surface for 20 to 30 minutes for moderate oil / grease stains while keeping wet by occasionally misting the surface with additional water
    - v) DO NOT ALLOW SURFACE TO DRY
    - vi) Extract the liquid with a wet/dry vacuum or an auto scrubber with the rinse water at maximum volume
    - vii) Thoroughly rinse with clean, potable water until no soap suds are noticed, utilizing either a wet vacuum or an auto scrubber
  - b) Remove all standing water puddles and use a leaf blower to clear any ponding water from cracks, chips, gouges, etc.
  - c) Immediately apply [Smith's Epoxy MAC125](#) at greater than 10 mils (160 sq.ft. per gallon / 400 sq.ft. per kit) over the water damp dry concrete using a [10 to 12 mil V-Notched squeegee](#)
  - d) Back roll with a 3/8" non-shed solvent resistant paint roller
  - e) Allow [Smith's Epoxy MAC125](#) primer to cure for a minimum of 5 hours at 72°F
  - f) Sand the entire surface with 80 to 120 grit sanding screens or sandpaper under a low-speed floor buffer to ensure any contamination that may have floated to the surface of the primer during application has been removed
  - g) Vacuum thoroughly to remove sanding dust
  - h) Clean with warm potable water and a very small amount of 1/3 cup Dawn dish detergent to 1 gallon water or 1 part [Smith's Neutral Detergent](#) to 16 parts by volume of water
    - i) Extract soap with a wet vacuum or auto scrubber
    - j) Thoroughly rinse with water until no soap suds remain
    - k) Allow to dry for 1 hour
    - l) Solvent wipe with Acetone on a lightly dampened micro fiber mop head
      - i) frequently replace with a fresh, clean microfiber pad until no dust/debris can be seen on the pad after cleaning
  - m) Allow solvent to flash off for 1 hour to allow the surface to acclimate to the air temperature prior to proceeding
  - n) Apply 7 to 10 mils (160 to 225 sq.ft. per gallon) of either [Smith's Epoxy U100](#) or [Smith's Epoxy FC125](#) with a full broadcast to rejection of Quartz sand (broadcast at 100 sq.ft. per 50 lbs. bag)
  - o) Once dry, sweep then vacuum off any loose sand prior to epoxy mortar application



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**EPOXY 5-COAT COLOR QUARTZ EPOXY MORTAR SYSTEM**  
**HQ-100**  
 COLOR QUARTZ CHEMICAL RESISTANT EPOXY POWER-TROWEL MORTAR SYSTEM

### 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

**SILICATE CONTAMINATION** – Substrates which may have been previously treated with silicates (Potassium or Sodium Silicates) such as polished or burnished concrete as well as certain surface hardeners such as Ashford Formula or similar may skew moisture testing results.

If a densifier or dissipative curing compound is believed to have been present, use [Smith's Green Clean Pro](#) biodegradable etching solution 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*).

Concrete contaminated with silicate densifiers/hardeners of these types must be:

- 1) Mechanically prepare to a CSP 4 to 6
- 2) Use [Smith's Green Clean Pro](#) in conjunction with an auto scrubber with a soft bristle, white nylon brush head attached to agitate while double scrubbing for at least 20 minutes
- 3) Extract the waste water
- 4) Scrub with clean water only to ensure no residue remains
- 5) Allow 24 hours prior to moisture vapor and pH testing in order to obtain accurate readings, otherwise, all testing and subsequent moisture vapor emission warranties are null and void
  - a) Please note that moisture testing must be conducted in a climate controlled environment which has been properly acclimated to the service temperature in which the floor will be utilized for no less than 10 days prior to moisture testing

**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 Green Clean Pro 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

**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 (Low Speed <450 rpm, preferably with high torque)
- 5 gallon Mixing Buckets or Portable Mix Stations
- Stainless steel 3" X 12" Trowel or longer (Rounded corners)
- Premium, Non-Shed 3/8" Nap Paint Roller Covers
- 18" wide 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" or 24" wide Flat Rubber Squeegee
- Solvent Resistant Trigger Spray Bottle
- Solvent resistant sprayer
- Denatured Alcohol for misting epoxy mortar surface
- Acetone or Xylene for cleaning tools
- Stucco Tape or Duct 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.

**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. For more details, see previous page under "Oil Contamination" section.

Substrate must be allowed to fully dry with no dark looking damp spots to include cracks, divots, gouges, etc. prior to mechanical preparation (*except when otherwise stated when using Smith's MAC series primers*).

**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.*

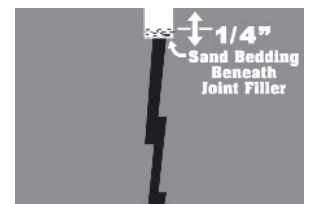
Recommended preparation methods below:

- **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

*\*Key in all termination points using a diamond cutting blade prior to any above preparation method.*

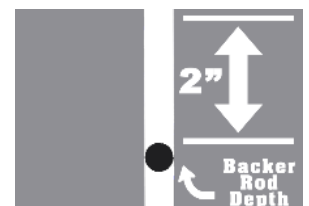
Please refer to ICRI Guideline 310.2R2013 for more in-depth preparation details and recommendations.

**JOINTS:** Cut all joints open with a Diamond cutting blade then fill bottom of the joint with sand prior to installing an appropriate semi-rigid joint filler, such as [Smith's Poly JF](#) or [Smith's Poly JF/FC](#). Use a dry fine grade washed sand to prefill joints to provide a bond break at the bottom and to support the joint filler. Use a broom to remove any excess sand leaving the recess twice the width of joint.



**Control Joint**

Epoxy mortar is not as flexible as a moving joint, honoring of the joint at the surface after the resurfacing layer is applied then fill will an appropriate joint filler can lessen joint telegraphing. Please contact Smith's for more recommendations for crack repairs, joint wall rebuilding, etc.



**Construction Joint**

**EPOXY 5-COAT COLOR QUARTZ EPOXY MORTAR SYSTEM**  
**HDQ-100**  
 COLOR QUARTZ CHEMICAL RESISTANT EPOXY POWER-TROWEL MORTAR SYSTEM

### 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

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

Cove Type & Size	Single Batch Yield	
	Loose Mix (37 lbs. Quartz)	Stiff Mix (45 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.

**PATCHING:** 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 yielding less than 12% moisture content in a few days allowing for a minimum of 24 hour cure or longer depending on temperatures. As Smith's Epoxy HDQ-100 is a mortar system, most patching isn't necessary prior to resurfacing. However, should patching less than 1" deep repair be necessary and have existing concrete to bond to, clean and mechanically prepare the concrete for the entire phase then prime the desired deep repair area with [Smith's Epoxy U100](#). Immediately patch the desired area with Smith's Epoxy HDQ-100 mixture into the wet primer. Then proceed with resurfacing within 24 hours. Patching may also occur using

[Smith's PCF-45](#) poured over dry sand or [Smith's SKM](#) for fast curing applications.

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

3/4 gallon [Smith's Epoxy U100](#) or [Smith's Epoxy GEL150](#) to 25 to 36 lbs. of 25 Mesh Trowel Grade Color Quartz Blend

#### Volume Mixture for Cove:

- Prime wall with [Smith's Epoxy U100](#)
  - Mix 2 Parts A to 1 Part B by volume mechanically mixed with a paint mixing paddle attached to a low speed drill for 2 to 3 minutes
  - Apply with a brush or 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 in 30 minutes at 72°F

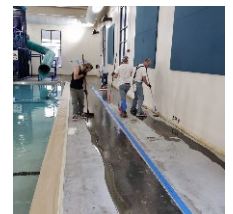
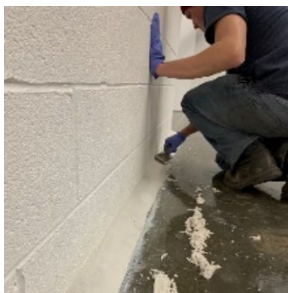
#### Cove Mixture

- 2 Parts Smith's Epoxy GEL150 Part A
- 1 Part Smith's Epoxy GEL150 Part B
- Mix for 2 minutes then continue mixing while adding the following while the drill is running
- 12 to 15 Parts 25 Mesh Color Quartz Blend while mixing for an additional 1 to 2 minutes or until thoroughly blended
  - slowly to avoid dry pockets of sand in the mixture
- Immediately begin troweling the mixture onto the freshly primed wall and finish
- Use a spray bottle with Denatured Alcohol as necessary to lubricate the trowel

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.

**2A TO 1B**  
VOLUME MIX RATIO

**12 TO 15 PARTS QUARTZ**  
VOLUME MIX RATIO



#### SUBSTRATE PRIMING:

- 1) Mix [Smith's Epoxy U100](#) in a clean mixing vessel
- 2) Pour onto the prepared substrate in a straight ribbon
- 3) Spread epoxy primer using a [5 to 7 mil V notched Squeegee](#) (160 to 225 sq.ft. per mixed gallon) attached to an extension pole to gauge the primer thickness in a thin, even manner leaving no bare spots
  - a) Keep a wet edge while placing additional batches working fresh material into the edge of the prior batch.
  - b) Very porous substrates may look blotchy after priming
    - i) 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.
    - ii) There is no need to wait for the first coat of primer to dry or become tacky and may begin immediately after the first coat in those circumstances.
  - c) 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
- 4) Back roller primer using a 3/8" nap shed resistant paint roller
- 5) Immediately begin application of the epoxy mortar

### 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

**MORTAR APPROXIMATE COVERAGE:** Coverage will vary depending on the application thickness, floor profile & absorbency of the concrete. Yield per mixed mortar batch:

Mil Thickness (inches)	Single Batch Yield (5 Parts Aggregate to 1 Part Mixed Epoxy)
187.5 mils (3/16")	35 sq.ft.
250 mils (1/4")	28 sq.ft.
375 mils (3/8")	21 sq.ft.
500 mils (1/2")	14 sq.ft.

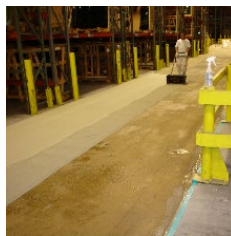
**MIX:**

- 1/2 gallon Part A Epoxy Resin
- 1/4 gallon Part B Epoxy Hardener Epoxy  
Options below:
  - o SUMMER – [Smith's Epoxy UCE200](#) with [Smith's Epoxy U.V. Absorber](#) additive (Optional)  
-For installation temperatures between 65°F (18.3°C) to 95°F (35°C)
  - o HEAVY-DUTY – [Smith's Epoxy U100](#)  
-For installation temperatures between 60°F (15.5°C) to 85°F (29.4°C)
  - o WINTER / HEAVY-DUTY – [Smith's Epoxy FC125](#)  
-For installation temperatures between 50°F (10°C) to 65°F (18.3°C)
- Mix for approximately 1 to 2 minutes at low speed continuing to mix, slowly add in 37 to 45 lbs. of 25-A Grade [25 Mesh, Angular Color Quartz Blend] for an additional 1 to 2 minutes

\*DO NOT mix more mortar than can be placed and finished within a 15 minute window.

**MORTAR PLACEMENT:** Once mixed:

- Always set the screed box depth 1/16" greater than the desired finished depth of the mortar as it will compact slightly while finishing with the hover trowel
  - Example - Set 5/16" depth if 1/4" finished depth is desired
- Immediately fill mortar screed box with the mixed Smith's Epoxy HDQ-100 mortar
  - Do not allow the primer to dry beyond tacky
- Pull the mortar box to spread the mortar at the desired depth on the floor
  - Use hand trowel to place and finish Smith's Epoxy HDQ-100 mortar in hard-to-reach area
  - Continue mixing mortar and refilling mortar box while spreading
- Wear spiked shoes, walk into the freshly placed mortar and begin using the power trowel at less than 50 rpm to compact to finish the mortar.
  - Denatured Alcohol may be lightly sprayed onto tools, both while in use & clean-up
- Use a hand trowel to touch-up any imperfections during this process.



**GROUT COAT:** Allow mortar to cure until hard enough to walk on without imprinting marks into the surface before applying the grout coat to avoid surface damage to the fresh mortar.

- Mix [Smith's Epoxy GEL150](#) with (optional) [Smith's U.V. Absorber additive](#)
- Pour out in a ribbon on the mortar surface
- Using a flat blade rubber squeegee, Magic Trowel or similar, walk across the mortar while wearing spiked shoes to evenly spreading the [Smith's Epoxy GEL150](#) grout coat at a rate of 200 to 321 sq.ft. (5 to 8 mils) per mixed gallon
- Using a 3/8" nap roller shed resistant roller attached to an extension pole, immediately back roll the grout coat while wet to finish
  - Only mix enough of grout coat which can be spread and finished while keeping a wet edge within the products working time.
    - [Smith's Epoxy GEL150](#) ≈ 20 minutes at 72°F
- Allow the [Smith's Epoxy GEL150](#) to cure for at least 5 to 7 hours at 72°F before attempting to sand otherwise surface damage may occur
  - If diamond grinding is desired, allow overnight cure or a minimum of 12 hours at 72°F

\*Metal Bond Diamonds only as Resin Bond Diamonds may contaminate the surface risking fish eyes in subsequent layers and stick to the epoxy causing smears / burns

**BUILD COAT:**

- Sand the grout coat with 80 grit sandpaper or sanding screens under a white pad with a low-speed orbital floor machine to smooth out any peaks in the surface
- Vacuum thoroughly to remove dust
- Solvent tack rag the surface using micro fiber mop with Denatured Alcohol until clean to remove any remaining dust  
\*Do NOT Soak the micro fiber head with solvent – should be lightly damp with Acetone
- Pour a ribbon of desired Build Coat then evenly spread at a rate of 80 to 160 sq.ft. per gallon followed by back rolling with a 3/8" nap shed resistant paint roller attached to an extension pole. Build Coat options below:
  - [Smith's Epoxy UCE200](#) with [Smith's Epoxy U.V. Absorber Additive](#)
  - [Smith's Polyaspartic 1000](#)      ▪ [Smith's Polyaspartic 2000](#)
  - [Smith's Polyaspartic 5000](#)

\* Angular traction additive (i.e. [Smith's Resin Sand](#)) may be added to build coat

**TOPCOATS (OPTIONAL):**

- Sanding prior will help even out the surface texture and is required for high gloss topcoats. Topcoats may be applied directly to Grout Coats or after optional Build Coat as the final wear surface.
  - Using more aggressive grit screens or sandpaper may create scratches, swirls & grooves in the finish that topcoats may not hide at 3 to 5 mils
- Select a topcoat appropriate for the traffic, chemical exposure and environment. Apply the topcoat at the appropriate rate 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
    - Low Sheen ≈ 500 to 550 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



## EPOXY 5-COAT COLOR QUARTZ EPOXY MORTAR SYSTEM **HDQ-100** COLOR QUARTZ CHEMICAL RESISTANT EPOXY POWER-TROWEL MORTAR SYSTEM

## 100% SOLIDS, DECORATIVE COLOR QUARTZ TROWEL BLEND. EPOXY MORTAR SYSTEM

**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 & end users' responsibility to determine the appropriate traction needs & 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.

Powder Low Sheen fillers, such as [Smith's A/O 325 Mesh Aluminum Oxide](#), are too fine to be considered "Non-skid". Instead use [Smith's Resin Sand](#) or similar 20 to 60 mesh when using a traction additive.

### 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
<a href="#">Smith's Polyaspartic 1000</a>	4 hours (@ 8 mils)	24 hours (@ 8 mils)	≤3 days (@ 8 mils)
<a href="#">Smith's Polyaspartic 2000</a>	8 hours (@ 8 mils)	36 hours (@ 8 mils)	≤4 days (@ 8 mils)
<a href="#">Smith's Polyaspartic 5000</a>	10 hours (@ 8 mils)	36 hours (@ 8 mils)	≤3 days (@ 8 mils)

**NOTE:** Polyaspartic products cure rate will extend when applied greater than 8 mils. 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 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 more prone to oils, inks, chemicals, etc. on the floor surface.

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- 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

