

## **POLY-CRETE MDQ**

**IMPORTANT!** Read these instructions carefully several days prior to starting your work. Seek answers to any questions you may have before you begin. DUR-A-FLEX, Inc. maintains a Technical Staff that will be glad to answer your questions and give you advice pertaining to your particular installation. Large areas will require two or more mixers.

POLY-CRETE MDQ is a 100% solids aromatic cementitious urethane system with a broadcast aggregate. This system is installed at 1/4". This should be determined by service and cleaning temperatures, severity of traffic, point impact and loadings. POLY-CRETE MDQ uses colored or decorative quartz and clear seal coats to yield a textured surface.

### **SURFACE PREPARATION**

Surface should be profiled, clean, dry, oil free and sound. Shot Blasting or grit blasting are the preferred preparation methods. Please refer to the master Surface Preparation Guide on our website for more information.

It is essential that the edges of the floor area adjoining the walls, drains adjacent to any doorways, machinery pedestals and either side of day work joints, be keyed to produce a cross section 1/4" deep by 3/16" wide running 6" away from, and parallel to the wall. Refer to architectural drawings for details. Never feather edge POLY-CRETE MDQ, always terminate in keyway groove at doorways and exposed edges. Do not apply at temperatures below 40°F or above 95°F.

NOTE: For each application of material and before mixing, mark your batches to ensure you achieve your spread rate targets. This is best accomplished by dividing your target spread rate by the width of the area being coated (or your planned wet edge). Example: If your spread rate is 100 square feet and your area is 20 feet wide you would make a mark every 5 feet (100 divided by 20 = 5).

### **MIXING AREA**

Select a convenient mix area and protect the surface from spillage by covering with a layer of cardboard and/or a sheet of plastic. Be generous with the amount of space allocated for this function. The more comfortably your mixer works, the less likely you are to have a "mix error". DO NOT MIX UNTIL READY FOR IMMEDIATE USE.

### **PRIMING**

No priming or sealing of the substrate is required. On oily concrete slabs, HI-SPEED Detergent/Degreaser is recommended. Very porous substrates may be pre-primed with POLY-CRETE TF (allow to cure a minimum of 6 hours @70°F) to prevent resins from prematurely being absorbed by substrate.

### **STORAGE CONDITIONS**

POLY-CRETE MDQ must be stored dry. Exposure of the aggregate to moisture for an extended period will cause lumps.

Do not allow resins to freeze. The shelf life is 6 months from the ship date in the original unopened container.

### **MOISTURE CONCERNS**

Normal limits for moisture vapor transmission for Poly-Crete floor systems are 20 lbs./1,000 sq. ft./24 hour using the calcium chloride test per ASTM F-1869 or 99% relative humidity using in-situ Relative Humidity Testing per ASTM F-2170. Please refer to the Floor Evaluation Guidelines at [www.dur-a-flex.com](http://www.dur-a-flex.com) for complete details.

### **JOINT GUIDELINES**

Refer to the Joint Guidelines on our website for details.

### **APPLICATION METHOD**

POLY-CRETE MDQ is applied by "Pin Rake" or "trowel method". POLY-CRETE MDQ is typically applied at a thickness ranging from 1/8 to 3/16, (use T.C. aggregates if less than 3/16) yielding 3/16 to 1/4 inches including broadcast and seal coats. Proper planning is essential for satisfactory appearance of the finished floor. Lay out installation in sections to allow full width to be finished in 12 minutes (@70°F) or less to assure absence of placement lines. Prepare the surface as outlined in the DUR-A-FLEX Surface Preparation Guide.

A. POLY-CRETE MDQ is supplied in pre-measured units consisting of one pail of resin, one container of hardener and one bag of aggregate (powder). Pour resin into power mixer pail; scrape bottom and sides to assure all pigment is transferred. The resin and hardener should be added to a 6-gallon pail and pre-blended for approximately 30 seconds. A Jiffler or Bird Cage mixer is not recommended for this product, however a low speed <500rpm high torque power drill and spiral mixing blade may be used. Gradually add aggregate until a homogenous mix is attained. (Approximately 1 minute) Move the paddle back and forth and scrape the bottom and sides of the pail while mixing. Thorough Blending Is Mandatory.

Incomplete mixing will cause an inconsistent finish or possible blistering. Have two mixing buckets that are rotated to assure minimum time between mixes. Clean mixing paddle and pail regularly to avoid mixing fresh material with older batches. Apply material immediately after mixing.

B. Pour the entire batch onto the floor and spread with a 24" pin rake set at 1/4 of an inch.  
C. Check pin rake every 1000 sq feet for pin wear. Adjust or have new rake ready to avoid interruption in the process.

- D. Trowel edges, drains and around equipment supports with an even pressure and a low angle trowel in a sweeping motion to complete troweling. This ensures that new batches of material are blended together with no transition lines for continuity of finish.
- E. Immediately roll with a spiked roller with 15/16" pins to eliminate lines and help release air.
- F. Spike Rolling must be completed immediately after leveling of material to eliminate any residual roller marks in the finished surface (Within 12 minutes of mixing @ 70° F).
- G. Broadcast the aggregate UP into the air, dispersing evenly and vertically at an approximate rate of 1lb. per sq ft into the wet surface. Apply at a rate of two mixes behind the wet edge, ensuring that the surface is completely covered. Broadcasting should be completed within 15 minutes of mixing each batch.
- Do not spike roller areas that have been broadcast. The time window at which MDQ is broadcast is extremely critical:
- Too early and the surface may become uneven.
  - Too late and the aggregate may not penetrate into the matrix surface.
- H. Allow to cure for a minimum of 8hrs (@70°F). Remove excess aggregate by brush.
- I. A second broadcast may be required if uneven broadcasting has caused a non-uniform finish. Refer to topcoat instructions for mixing and application. Upon completion of back roll, broadcast the aggregate into the wet resin at 1lb. per sq.ft. Allow to cure a minimum of 8 hours before sweeping off excess aggregate, and before applying topcoat.

#### **CURE**

Allow a minimum of 8 hours cure before light foot traffic at 75°F; a minimum of 24 hours is required at 50°F. Additional time must be allowed for heavier loads or lower temperatures. Contact the DUR-A-FLEX Technical Department for more information.

#### **TOPCOAT INSTRUCTIONS**

Appearance, aggregate size, texture and the type of traffic or chemical abuse the floor receives will determine what type of topcoat should be applied. Consult DUR-A-FLEX Inc. for technical assistance to determine whether DUR-A-GLAZE #5 or DUR-A-GLAZE NOVOLAC is to be used as the top coat.

#### **(Option 1 - DUR-A-GLAZE NOVOLAC)**

Use a Jiffler type mixer to combine 1 part DUR-A-GLAZE hardener with 2 parts DUR-A-GLAZE NOVOLAC. Mix thoroughly for 3 minutes. Mix only what can be used within 5 - 10 minutes. Apply combined epoxy with a 12" flat squeegee. Pour a 4"- 6" ribbon of blended epoxy on the floor. Spread the epoxy by moving the squeegee in a continuous semi-circular movement from left to right while moving backward slowly and pulling the epoxy with you. Move squeegee slowly and apply sufficient pressure to obtain a uniform appearance. Avoid leaving puddles and squeegee marks. Walk on the surface with spiked golf shoes and back-roll the area with a 3/8" non-shed roller.

#### **(Option 2 - DUR-A-GLAZE #5)**

#### **DUR-A-GLAZE #5 SQUEEGEE & ROLL METHOD**

- A. Prepare the surface as outlined in the DUR-A-FLEX Surface Preparation Guide.
- B. Add hardener to resin container. Mix thoroughly with a Jiffler type mixer on a slow speed (450 rpm) 1/2" electric drill for 1 minute. Always scrape the sides and bottom of resin container to assure thorough blending. Keep hardener

and resin containers covered to prevent moisture from entering. THOROUGH BLENDING IS MANDATORY. Use blended material without delay. Pot life and working time is shorter at higher temperatures.

- C. Topcoat for cove and floor should be done at the same time to avoid roller or squeegee marks.
- D. Pour entire batch in a long "ribbon", 4 to 6 inches wide, along a wall or a joint at your starting point. Watch your spread rate! The blended hardener and resin can be spread with a flat or fine serrated squeegee and then immediately back-rolled with a short nap, Non-Shed paint roller (*mohair type rollers typically work best*). Do not re-roll material after 3 minutes. Complete all procedures within a 10 minute working time window. Remove all masking tape as you proceed before it gets out of reach.
- E. Allow first coat to cure until dry, 4-6 hours depending on temperature of floor and surrounding air. On grade or below grade concrete floors are usually considerably cooler than surrounding air, so drying time may be extended.

Apply optional second coat to obtain a more uniform appearance and more durability. Apply with a short nap, non-shed roller at appropriate spread rate and preferably at a 90-degree angle to first coat application. Follow mixing instructions outlined in previous section and apply succeeding coats as soon as possible after previous coat dries. (within 24 hours) **NOTE: This product is best suited for application in temperatures between 55°F and 85°F. Full chemical and abrasion resistance occurs in 7 days at 77°F.** At lower temperatures these properties will be attained more slowly. Protect floor from chemical exposure and abrasive wear during this time.

#### **CAUTION**

**As with all chemical products, individuals may have different reactions to exposure to specific products. This is dependent upon many factors, including the individual's personal characteristics, the size of the installation, the ventilation available, the intensity of the exposure or the length of the exposure. Individuals may experience discomfort during the installation process of one product, but not another.**

**In some cases this is experienced as a skin irritation and in others it is experienced as an inhalant irritation. Typically, it disappears once the exposure is eliminated. In some cases people can become "sensitized" to a product and experience the**

**To protect yourself from various exposures or discomfort during the mixing and application of our products, we recommend covering exposed skin including, using gloves, long sleeves, safety glasses and a respirator such as the 3M 8577 P95 Universal Disposable Carbon Respirator or a cartridge respirator.**

Use only as directed. KEEP OUT OF REACH OF CHILDREN.

Do not reseal moisture-contaminated hardener. This will result in carbon dioxide generation or possible violent rupture of containers.