

POLY-CRETE MD

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 MD is a 100% solids aromatic cementitious urethane system, blended with graded silica and fine fillers to produce a self-leveling matte finish of uniform color.

SURFACE PREPARATION

Concrete surface should be profiled, clean, dry, oil free and sound. Shot Blasting is the preferred preparation method for concrete. It is recommended that the edges of the floor area adjoining the perimeter walls, drains adjacent to any doorways, machinery pedestals, and either side of cold joints, be keyed to produce a cross section 1/4" deep by 3/16" wide running at 6" from and parallel to the wall. Never feather edge POLY-CRETE MD; always turn into a keyway groove.

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 for complete details.

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 as close as possible to the application 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. **DO NOT MIX UNTIL READY FOR IMMEDIATE USE.** Do not mix this product in direct sunlight or when temperatures exceed 85°F. Exposure to high temperatures will greatly reduce the working time of this product.

PRIMING

Prime with POLY-CRETE TF for POLY-CRETE MD applications without broadcast. On oily concrete slabs, HI-SPEED Detergent/Degreaser is recommended. Be sure to

apply primer **before** oil has a chance to "wick" up to the top of the slab and migrate across the surface. Allow to fully cure before over coating. Depending on the porosity of the concrete, apply primer

with a flat squeegee at 80-90 sq.ft. or 1/8" per kit. Ensure primer is tack free prior to application of POLY-CRETE MD.

JOINT GUIDELINES

Refer to the Joint Guidelines for complete details on our website.

APPLICATION METHOD

POLY-CRETE MD is applied by "Pin Rake", 1/2" V-notched trowel or cam rake. POLY-CRETE MD is typically applied at 3/16"-1/4" thickness. Please note that joint lines will show in the finished floor. Lay out installation in sections to allow full width to be finished in 15 minutes or less (@70°F) from the time aggregate is added to the mix to assure absence of placement lines. (Approx. 15 ft. for single mixes; 15-30 ft. for double batches.)

- A. Prepare the surface as outlined above.
- B. POLY-CRETE MD is supplied in pre-measured units consisting of one pail of resin, one pail of hardener and one bag of aggregate (powder). Pour resin into a 6-gallon pail; scrape bottom and sides to assure all pigment is transferred. **A 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 mixer back and forth and scrape the bottom and sides of the pail while mixing. **This is very important!** THOROUGH BLENDING IS MANDATORY. A properly mixed batch applies easier and has a uniform surface appearance. Incomplete mixing will cause an inconsistent finish or possible blistering.
- C. Have three mixing buckets that are rotated to assure minimum time between mixes. Clean mixing blade and pail regularly to avoid combining fresh material with older batches. Material should be applied directly onto the wet edge immediately after mixing.
- D. Pour the entire mixture onto the floor and spread with a 24" pin rake set at 1/8" higher than the applied thickness of the screed. For 3/16" thickness set rake 1/4". Each unit should cover 32 square feet. To avoid transition lines between mixes, it is very important that the material is poured directly onto the wet edge.
- E. When applying on level or surfaces sloped up to 1/4"/foot, the product is used as supplied. For more steeply sloped surfaces such as ramps that are up to 3/4"/foot, adding 1 gallon of Q-11 (Q-rock #3) to each mix will prevent sagging while still providing a uniform surface after pin-rolling.

- F. Check pin rake every 1000 sq feet for pin wear. Adjust or have new rake ready to avoid interruption in process.
- G. 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.
- H. Immediately roll and cross roll with a spiked roller with minimum 15/16" pins to eliminate lines and help release air.
- I. Spike Rolling must be completed immediately after leveling of material to eliminate any residual roller marks in the finished surface (Within 15 minutes of mixing @ 70° F).

PREPARATION OF PLYWOOD FOR APPLICATION OF POLY-CRETE MD

1. Plywood should be new and free of contamination (clean and dry). Marine grade plywood is recommended.
2. Installations over existing concrete or substrates with a possible chance of moisture contamination transfer should be isolated using a polyethylene vapour barrier; all joints should be taped according to manufacturer's instructions. Raised platforms should have consideration for airbricks in outside walls to reduce the risk of dampness.
3. It is recommended that 2 layers of plywood be installed offset at joints to reduce flexing between joists. Plywood should be at least ¾" thick.
4. Plywood should be positively fastened with high quality construction adhesive and recessed screws at 6" on center screw pattern.
5. Bandage joints using a mixture of ELAST-O-COAT 100% solids epoxy and NO SAG #1, embedding a minimum of 8" of Close weave fibreglass matting into the wet resin.
6. All key ways should be installed by using a Skill type saw with a ¼" wide blade set to ¼" deep. (Concrete diamond cutting blades will burn and not cut wood)
7. Any drain detail must be keyed a minimum of 2 inches away from the drain edge with the outside exposed edge removed to a slope using a wood chisel. Doorway thresholds should be treated in a similar way to allow a smooth transition for the termination of the material.
8. Detail such as cold joints should also be cut using a Skill saw detail as per concrete CAD drawing detail.
9. Plywood should be thoroughly vacuumed prior to installation.

CURE

Allow a minimum of 10 hours cure before light foot traffic at 70 ° F, and a minimum of 24 hours is required at 60°F. Additional time must be allowed for heavier loads or lower temperatures. Contact the DUR-A-FLEX Technical Department for more information regarding cure times at different temperatures.

LIMITATIONS

Exposure to ultraviolet light will change the color of POLY-CRETE MD (grey and blue). Sunlight and metal halide lighting will cause yellowing without affecting the performance. As an option, a coat of POLY-CRETE COLOR-FAST can be applied to prevent ambering. Many acids will cause a bleaching of pigment without affecting performance.

NOTE

Do not apply at temperatures below 60°F (16°C) or above 85°F (29°C). POLY-CRETE MD will be slippery when oily. Do not apply to unreinforced sand cement screeds, asphalt or bitumen substrates, glazed tile, magnasite, copper, aluminum, polyesters, metal, or elastomeric membranes.

STORAGE CONDITIONS

POLY-CRETE MD must be stored dry. Exposure of the aggregate to moisture for an extended period will cause lumps. Do not allow resins to freeze. Frozen (crystallized) hardener must be heated above 100°F to melt crystals. The shelf life is 6 months from the ship date in the original unopened containers.

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 discomfort every time there is exposure without Personal Protective Equipment ("PPE").

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 and possible violent rupture of containers.

Before using any DUR-A-FLEX, Inc. product, be sure the Safety Data Sheet is read and understood.