POLY-CRETE® MDB

The following information is to be used as a guideline for the installation of the Poly-Crete MDB flooring system. Contact the Sherwin-Williams Technical Service Department for assistance prior to application.

APPLICATION INFORMATION — SURFACE PREP PROFILE CSP 3-5

VOC MIXED	APPLICATION STEP	MATERIAL	MIX RATIO	THEORETICAL COVERAGE PER COAT	PACKAGING
0 g/L	Primer	Poly-Crete TF	A, B & C unit	90 sq ft/unit	0.80 gal/unit
0 g/L 0	Basecoat	Poly-Crete MD Flintshot Quartz	A, B & C unit To Excess	32 sq ft/unit 800 lbs/1000 sq ft	4.3 gal/unit 50 lbs
<50 g/L	Topcoat	Various Options		80-120 sq ft/gal	

For topcoat options, contact your Sherwin-Williams Representative.

IMPORTANT!

Read these instructions carefully several days prior to starting your work. Seek answers to any questions you may have before you begin. Sherwin-Williams HPF 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 MDB is a 100% solids aromatic cementitious urethane system with a broadcast aggregate. This system is installed at ¼" thick. Poly-Crete MDB uses a natural quartz aggregate.

NOTE: Do not apply at a temperature below 60°F (16°C) or above 85°F (29°C). Do not apply to unreinforced sand cement screeds, asphalt or bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper, aluminum, polyesters, metal, or elastomeric membranes.

MOISTURE CONCERNS

Normal limits for moisture vapor transmission for Poly-Crete floor systems are 20 lbs./1,000 sq. ft./24 hours 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 for complete details.

STORAGE CONDITIONS

Poly-Crete MDB 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 date on the label in the original unopened container.

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 perimeter 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 1/4" wide, running 6" away from and parallel to the wall. Never feather edge Poly-Crete MDB, always terminate in keyway groove at doorways and exposed edges. Refer to architectural drawings for details. Do not apply at temperatures below 60°F or above 85°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 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 this product in direct sunlight or when temperatures exceed 85°F. Exposure to high temperatures will greatly reduce the working time of this product. **DO NOT MIX UNTIL READY FOR IMMEDIATE USE.**

PRIMING

Priming or sealing of the substrate is not required. On oily concrete slabs, Hi-Speed Detergent/Degreaser is recommended. Very porous substrates may be pre-primed with Poly-Crete TF Plus (allow to cure a minimum of 6 hours @70°F) to prevent resins from being absorbed prematurely by substrate outgassing. Priming is required when broadcasting F60 sand.

APPLICATION METHOD

Poly-Crete MDB is applied by "Pin Rake" or ½" V-notched trowel or cam rake or "trowel method", and is typically applied at a thickness of 3/16". With broadcast and topcoat, Poly-Crete MDB has a finished nominal system thickness of 1/4". Lay out installation in sections to allow full width to be finished in 15 minutes (@70°F) or less to assure absence of placement lines (Approximately 15 feet for single mixes and 15-30 feet for double batches).

A. Poly-Crete MDB is supplied in pre-measured units consisting of one pail of resin, one pail of hardener and one bag of aggregate (powder) — a mixed kit yields ~32 sq. ft. of coverage. Pour resin into a 5-gallon pail; scrape bottom and sides to assure that all pigment is transferred. The resin and hardener should be pre-blended for approximately 30 seconds. A Bird Cage mixer is **not recommended** for this product, however, a low-speed, < 500 rpm high-torque power drill and a 5" spiral mixing blade may be used. Gradually add aggregate until a homogeneous mix is attained (Approximately 1 minute). **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. Have three mixing buckets that are rotated to assure minimum time between mixes. To avoid irregular curing or blisters, regularly clean the mixing blade and pail to avoid combining fresh material with older batches. Material should be applied directly onto the wet edge immediately after mixing.

B. Pour the entire batch onto the floor and spread with a 24" pin rake set at 1/8" inch higher than the applied thickness of the screed. For a 3/16" thick floor, set rake to ¼". To avoid transition lines between mixes, it is very important that the material is poured directly onto the wet edge.

C. When applying on level or surfaces sloped up to ¼"/foot, the product is used as supplied. For more steeply sloped surfaces such as ramps that are up to ¾"/foot, adding 1 gallon of Q11 (Q-Rok #3) to each mix will prevent sagging while still providing a uniform surface after pinrolling.

D. Check pin rake every 1,000 sq. ft. for pin wear. Adjust or have a new rake ready to avoid interruption in process.

E. 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.

F. Immediately roll and then cross roll with a 15/16" spiked roller to eliminate lines and help release air.

G. 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).

H. The aggregate must be broadcast UP into the air while dispersing evenly and vertically at an approximate rate of 1 pound 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 MDB is broadcast is extremely critical:

- **At 80°-90°F you have 12 minutes in which to complete broadcast.**
- **At 70°-80°F you have 15 minutes in which to complete broadcast.**
- **At 55°-65°F you have 17 minutes in which to complete broadcast.**
- **Too early and the surface may become uneven.**
- **Too late and the aggregate may not penetrate into the matrix surface.**
- **Allow to cure for a minimum of 8 hours (@70°F). Remove excess aggregate by brush (Do not sand).**

JOINT GUIDELINES

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

PREPARATION OF PLYWOOD FOR APPLICATION OF POLY-CRETE MDB

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 vapor 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 excessive 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 RESULFOR EOC 100% solids epoxy and No Sag #1, embedding a minimum of 8" of close weave fiberglass matting into the wet resin.
6. All key ways should be installed by the use of a Skil® 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 2" 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 Skil saw detail as per concrete CAD drawing detail.
9. Plywood should be thoroughly vacuumed prior to installation.

TOPCOAT INSTRUCTIONS

Poly-Crete Color-Fast, Resuflor 3741 or Poly-Crete TF Plus is used to topcoat Poly-Crete MDB systems. Refer to Poly-Crete Color-Fast, Resuflor 3741, or TF Plus Application Instructions.

CURE

Allow a minimum of 8 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 Sherwin-Williams HPF Technical Department for more information.

LIMITATIONS

Exposure to ultraviolet light will change the color of Poly-Crete MDB (blue and grey). Sunlight and metal halide lighting will cause yellowing without affecting the performance.

IMPORTANT!

Before using Sherwin-Williams High Performance Flooring products, read and understand their accompanying Safety Data Sheet.

STANDARD TERMS AND CONDITIONS OF SALE, INCLUDING STANDARD WARRANTY APPLY - VISIT **industrial.sherwin-williams.com/na/us/en/resin-flooring** FOR THE LATEST VERSION.

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 or possible violent rupture of container.

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams High Performance Flooring delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe.

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