104-PumaPOXY MB

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TECHNICAL DATA SHEET

DESCRIPTION

104-PumaPOXY MB is a **MoistureBLOK** system. It is a clear, two component, 100% solids epoxy hybrid for on or below grade concrete slabs. It has been specially designed for faster cure and maximum moisture vapor protection while reducing the risk of outgassing & "fish eyes" typically associated with porous & contaminated concrete. The **104-PumaPOXY MB** primer system can be used under all **PumaCRETE** seamless flooring materials.

104-PumaPOXY MB can be applied to concrete slabs with relative humidity as high as 99% RH and provides protection from sustained exposure to pH 14. **104-PumaPOXY MB** is engineered to reduce moisture vapor emission levels up to 25lbs/1,000s.f./24hrs to 3lbs/1,000s.f./24hrs or less, or 99% RH to ≤75%. **104-PumaPOXY MB** is an excellent and extremely effective, long-term moisture blocker, with good surface contaminant resistance for both resinous and resilient flooring systems. Furthermore, **104-PumaPOXY MB** is compliant with all states and federal VOC regulations. Its VOC content of <5 g/L allows installation in sensitive areas such as hospitals, schools, retail stores, and other occupied spaces.

FEATURES & BENEFITS

- Single Coat Application
- Minimal downtime- 4 hour Tack-Free Cure
- Built-In Adhesion Promoter
- Excellent Inter-Coat Adhesion
- Low Temperature Curable (45°F)
- Zero VOCs
- Green Concrete Primer (min. 7 days old)
- Moisture tolerant system reducing moisture vapor emission levels up to 25 lbs/1000 sq. ft./24 hours to 3 lbs/1000 sq. ft./24 hours or less (or 99% RH to ≤75%)

COLORS

See "Color Guide

TYPICAL USES

- Moisture Mitigation System applied under all **P**umaCRETE seamless flooring materials
- Concrete slabs- on or below-grade without vapor barrier or retarder
- "Green Concrete" slabs 7-days or older
- Industrial, commercial, institutional, and residential applications

OPTIONAL

120-PumaColor Colorants
(on-site pigmenting)

PACKAGING

- 5 gallon white pail - Resin
- 5 gallon black pail - Hardener
- 1 gallon white pail - Resin
- 1 gallon black pail - Hardener

STORAGE

Materials should be stored indoors between 50°F (10°C) and 90°F (32°C).

SHELF LIFE

One (1) year from date of manufacture.

LIMITATIONS

This product is best suited for application in temperatures between 50ºF and 90ºF. It is designed as a moisture mitigation primer system for indoor use. It should only be applied to properly prepared, sound and stable concrete.

COVERAGE RATE

A gallon of **104-PumaPOXY MB** will cover in the following manner, with a **standard spread rate**: 10-16 mils or 100-160 s.f. per gallon. A nominal thickness of 16 mils is required for mitigating moisture vapor emissions greater than 16lbs/1000 sq. ft./24 hours or 92% internal RH.

TYPICAL SLAB TESTING PRIOR TO APPLICATION

It is recommended that the owner of the facility or a certified **PumaCRETE** applicator test the slab(s) with unknown history for contaminants (e.g. hydrocarbons, other organic compounds, water soluble ions, ASR, sulfurous compounds, etc.) to determine suitability for **104-PumaPOXY MB. PumaCRETE** strongly recommends "Anhydrous Calcium Chloride" per ASTM F 1869-11to determine the MVER (moisture vapor emission rate) in lbs/24hrs•\1000 sq. ft or "In-Situ" per ASTM F 2170-11 to determine the internal relative humidity for slabs to be treated. Low permeability flooring finishes like seamless polymer coatings require MVER to be below 3lbs/24hrs/1,000s.f. or 75% internal relative humidity (RH). Internal RH is the test method preferred by most floor covering and coating manufacturers. MVER fluctuates within slab areas, and can have significant seasonal variations. The testing must be carried out before application of the **104-PumaPOXY MB** to obtain the manufacturer's warranty. Contact **PumaCRETE** for additional details and guidelines concerning pre-installation concrete testing.

EXAMINING CONCRETE SUBSTRATES

PumaCRETE recommends taking core samples of older, existing concrete slabs, especially when the building's history is unknown for analysis. The cores should be analyzed by a qualified laboratory for various compounds that may cause floor failures such as soluble salts, ASR (Alkali Silica Reaction), unreacted water soluble silicates, organic substances etc. Water soluble silicates are found in some curing compounds, floor hardeners, and some manufacturers' vapor reduction products.

SURFACE PREPARATION

Concrete substrate must be clean and sound, with a properly abraded surface. Do not apply to surfaces that have been previously treated with any kind of penetrating sealer. Remove existing floor coverings, coatings, adhesives, curing compounds, efflorescence, dust, grease, laitance, etc. down to bare concrete with steel shot blasting, scarifying or aggressive diamond grinding to ensure the concrete surface has been properly prepared. The recommended surface profile using ICRI baseline configurations is between CSP4 -5. Once the prep work has been completed, the concrete surfaces must be vacuumed, be free of all dust, dirt and debris prior to the application of **104-PumaPOXY MB**.

MIXING INSTRUCTIONS

Application Equipment:

- Personal Protective Equipment (PPE) & clothing per SDS (Safety Data Sheet)
- Jiffy® Mixer Blade (ES Model)
- Clean Mixing Container
- Low Speed /High Torque Power Drill
- Shed-Resistant Roller Cover- 3/8" Nap
- Application Squeegee

Mix ratio for **104-PumaPOXY MB** is **2 parts Resin to 1 part Hardener** by volume. **8-14 oz.** of 120-**PumaCOLOR Colorant** is recommended **per gallon** of material. When field pigmenting, it should be added and mixed in homogenously to the resin prior to adding the hardener. When combining, be sure to add the hardener into the clean mixing container first. Then add the resin (clear or pigmented) scraping out the container. Always pour into the **center** of the mixing container. Mix the components thoroughly for **1-2 minutes** with a spiral style mix blade. Mix only enough material at one time that can be applied without exceeding the pot life.

SPECIAL NOTES

Concrete surface voids may arise due to aggressive surface preparation and relative quality of concrete. The **104-PumaPOXY MB** when applied may flow into these voids. As the material flows into these voids, the air is displaced resulting in "outgassing." If there are excessive surface voids, pin holes, or bubbles encountered, STOP, and contact an **PumaCRETE** representative before proceeding. Sanding is not required if applying within the recoat window. If installing coatings over **104-PumaPOXY MB** such as epoxy or polyurethane, the recoat window is between 48-72 hours. If the **104-PumaPOXY MB** system is to remain uncovered for an extended period of time, contact an **PumaCRETE** representative prior to installing subsequent floor coating or covering systems.

JOINT GUIDELINES

Static, nonmoving joints, cracks and voids can be treated by using **104-PumaPOXY MB** with the **ProThickener** aerosil additive. Nonmoving joints and cracks can be reinforced using FibaTape™ 6" fiberglass tape. "Hairline" cracks may be directly flooded with **104-PumaPOXY MB** as applied during installation. Wider/deeper voids and cracks need to be treated after surface preparation has been completed. Clean cracks using a wire brush then vacuum to remove debris. Cracks may be cut 1/8" wide x 1/8 " deep using a thin, diamond-rimmed abrasive blade on an angle grinder. Brush and vacuum to remove dust and debris. Spackle the deep voids and cracks with **104-PumaPOXY MB** thickened with **cabocil** aerosil additive at a mixing ratio that results in a spreadable consistency using a flat spackle knife.

Larger voids, spalls, and wider cracks must be treated first prior to shot-blasting or diamond grinding. Remove all debris, loose particles, dust, contaminants etc. Fill the voids using suitable moisture tolerant repair mortar.

Allow sufficient curing time of the repair mortar before mechanically shotblasting to CSP 4-5.

Dynamic, moving joints and cracks must be honored through the entire flooring system and filled with an elastomeric material that is suited for the general conditions, the use of the facility, and the anticipated type and amount of movement.

If there is any doubt as to the integrity of any existing backing materials, it is always best to remove, clean and re-fill the joint.

Clean the joint completely and remove all remnants of the old elastomeric material from the side walls. Joints or cracks in concrete slabs that have dirt, residue from previous coating, or other contaminants should be cut 1/4" wide x 1/2" deep to remove the contaminants. Clean the joint or crack thoroughly until it is free of dust and debris. Coat the side walls of the joint with **104-PumaPOXY MB** in the area where the joint sealant is intended to bond to the side of the joint. Do not flood the joint. The elastic joint must be installed so that the joint runs through the entire flooring system, including all final floor coatings or coverings. Then the joint is fitted with a backer rod and a suitable elastic joint sealant is installed.

TECHNICAL SUPPORT

For any application questions, please call **P**umaCRETE technical support.

DISPOSAL

Dispose in accordance with federal, state and local regulations.

SDS

PLEASE SEE SAFETY DATA SHEET (SDS) FOR SAFETY AND PRECAUTIONS. USE PRODUCT AS DIRECTED. **KEEP OUT OF THE REACH OF CHILDREN.**

PHYSICAL CHARACTERISTICS	
Percentage solid by wt	100%
Mix Ratio (by volume)	2 parts Resin & 1 part Hardener
Viscosity at 70°F	1600 cps
Pot life at 70°F	15 minutes
Cure Time, Tack-Free at 70°F	4-5 hours foot traffic 12-18 hours for normal operation
Working Time at 70°F	15 minutes
Recoat Window	Maximum of 36 hours
Coverage Rate	16 mils, 100 sq ft/US gal
Volatile Organic Compound	(VOC) nil

PHYSICAL PROPERTY	TEST METHOD	RESULT
Hardness (Shore D)	ASTM D-2240	70-75 D
Compressive Strength	ASTM D-695	15,000 psi
Tensile Strength	ASTM D-638	5,000 psi
Tensile Elongation	ASTM D-638	7.50%
Adhesion to Concrete	ASTM D-7234	>400 psi, substrate fails
Impact Resistance	ASTM D-2794	>160 in/lb
Water Absorption	ASTM D-570	<0.1%
Flame Spread/NFPA 101 (3mils over cement board)	ASTM E-684	Class 1
Abrasion Resistance CS17 Wheel 1000 GM Load 1000 Cycles	ASTM D-4060	30 mg loss
Coefficient of Friction (James Friction Tester)	ASTM D-2047 (ADA 0.6 min. req.)	Wet 0.7 Dry 0.8
Perm Rating- Water Method at 73°F/50% RH	ASTM E-96	0.085 grains/hr/ft²/in.Hg