



RIO-CRETE MF

Smooth Finish Flowable Polyurethane Concrete

TECHNOLOGY DESCRIPTION

RIO FLOORING SYSTEMS represent the next generation of polyurethane concrete technology. These Bio-Based flooring systems utilize domestically produced soy bean oil and environmentally friendly packaging.

PRODUCT DESCRIPTION

RIO-CRETE MF is a medium to heavy-duty seamless flooring system typically installed at 3/16" finished thickness. RIO-CRETE MF is tough and withstands thermal shock, impact, abrasion and chemical exposures. RIOCRETE MF provides a smooth cleanable profile with a matte finish. RIOCRETE MF is formulated with a natural additive to be resistant to fungi growth per the industry standard ASTM G-21.

TYPICAL PROPERTIES AT 70°F

Compressive Strength (ASTMC-579)	7,200 psi
Tensile Strength (ASTM C-307)	1,050 psi
Flexural Strength (ASTM C-580)	2,700 psi
Bond Strength (ASTMD-4541)	100% Concrete Failure
Impact Strength, in/lbs (ASTM D-4226)	>160 in-lb
VOC	5 gm/l
Resistance to Fungi Growth (ASTM G-21)	Passes, Rating of 1

The data shown above reflects typical results based on laboratory testing under controlled conditions. Variations from the data shown may result. Test methods are modified where applicable.

INSTALLATION DATA

Application Temperature, ambient	40 – 85°F
Application Temperature, material	50 – 80°F
Shelf Life	6 months
Pot Life, @77°F	15 minutes
Traffic, @77°F	Light: 12 hours / Full: 24 hours
Fully Cured, @77°F	7 days

IMPORTANT INFORMATION

1. RIO-CRETE MF is not color stable unless UV resistant topcoat is used.
2. RIO-CRETE flooring should not be installed on wet concrete.
3. Floors should be sloped to drain to prevent standing water or chemicals.
4. Spills should be removed as soon as possible to prevent a slipping hazard.
5. Confirm product performance in specific chemical environment prior to use.
6. Prepare substrate according to "Surface Preparation" portion of this document.
7. Follow detailed instructions in the "Installation Steps" portion of this document.
8. Always use protective clothing consistent with OSHA regulations during use.
9. Refer to Safety Data Sheet for detailed safety precautions.
10. For industrial/commercial use. Installation by trained personnel only.

BENEFITS

- Seamless, hygienic finish; no grout joints
- Impact & abrasion resistant surface
- Low odor, fast installation, fast cure
- Thermal shock & chemical resistant
- High temperature resistant to 200°F, varies with different topcoat options
- Anti-slip surface, meets ADA recommendations
- Resistant to moisture vapor transmission (MVT)
- Resistant to fungi growth per ASTM G-21

RECOMMENDED USES

- Bakeries
- Pharmaceutical facilities
- Supermarkets & food prep areas
- Food & beverage facilities
- Warehousing
- Laboratories

GENERIC DESCRIPTION

Polyurethane Concrete

TYPICAL APPLICATION

3/16" Slurry applied matte finish

AVAILABLE COLORS

Red, Dark Red, Gray, Dark Gray, Tan, Green, Blue, Light Blue, Safety Yellow

PACKAGING & COVERAGE

1/2 Gallon Part A, 1/2 Gallon Part B
1 MF Filler Bag
3 fluid oz. liquid pigment

21 sq ft/unit for a 3/16" finished floor

SURFACE PREPARATION

Concrete: Apply only to properly prepared clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants.

- New concrete should ideally be cured for a minimum of 14 days to reduce possible shrinkage cracking in the concrete. RIO-CRETE MF can be installed after 7 days or when concrete reaches a minimum 3,500 psi compressive strength, which will allow for proper surface preparation, however, early curing movement, shrinkage or cracking that may occur in the concrete will be reflected through the final RIO-CRETE flooring.
- Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed.
- Remove any laitance or weak surface layers including broom finish surface.
- Concrete should have a minimum surface tensile strength of at least 300 PSI per ASTM D-4541.
- Surface profile shall be CSP-5 or greater meeting ICRI (International Concrete Repair Institute) standard guideline #03732 for coating concrete, producing a profile equal to 40-grit sandpaper or coarser. Prepare surface by mechanical means to achieve this desired profile.
- All concrete surface irregularities, cracks, expansion joints, control joints and terminations should be properly addressed and prepared prior to application of the flooring. Moving joints and cracks will reflect through the final installed RIOCRETE flooring.

INSTALLATION STEPS

IMPORTANT – Follow the detailed application instructions and the safety instructions listed on the product Safety Data Sheets (SDS) copies available upon request. The following installation summary is for reference only and should not be relied upon as all inclusive. RIO-CRETE systems should only be installed by trained persons experienced in polyurethane concrete flooring applications.

1. To prevent lifting or delamination, keyways (minimum 5/16" wide x 5/16" deep) must be cut at all terminations, joints, columns, doorways, and drains.
2. Clean sand and dust from prepared concrete where the floor is to be installed.
3. A cove base material can be used to install a cove and/or base as required. The cove/base can be installed before or after the installation of the RIOCRETE MF depending on the specification and or the desired result.
4. Pour ½ Gallon Part A into a 5 gallon mixing pail.
5. Add 3 fluid oz. liquid pigment to Part A and mix about 15 seconds using a ½" drill and jiffy-type mixing paddle.
6. Add ½ Gallon Part B and mix another 15 seconds.
7. Gradually add all contents of a RIOCRETE MF Filler into the liquid mixture and blend thoroughly until all particles are wetted out, normally about two minutes. **DO NOT BLEND AGGRESSIVELY OR INTRODUCE AIR.**
8. Immediately after mixing (within 3 minutes), spread the mixed RIOCRETE MF onto the floor at the desired thickness, using a cam rake or trowel. Typically 3/16".
9. Lay abutting edges within 10 minutes to ensure a clean edge. A "wet edge" installation is imperative during large placements to avoid lines and ridges in the finished floor.
10. Evenly apply to desired thickness while trying to keep cam rake lines to a minimum. Backroll across slurry with spike roller to help release trapped air and blend cam rake lines. Further roll with loop/texture roller perpendicular to cam rake lines over entire floor to even and settle slurry.
11. Use of a self-leveling cement smoothing toll will aid in the removal of rake marks.