



RIO-CRETE HF

Trowel Applied Heavy-Duty 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 HF is a heavy-duty seamless flooring system typically installed at 1/4 - 3/8" in thickness. RIO-CRETE HF is extremely tough and withstands thermal shock, impact, abrasion and chemical exposure. RIO-CRETE HF 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)	7,800 psi
Tensile Strength (ASTM C-307)	975 psi
Flexural Strength (ASTM C-580)	1,900 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 HF is not color stable, expect color change over time.
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 suitable for heavy traffic and fork lift operation
- Low odor, fast installation, fast cure
- Excellent corrosion & chemical resistance
- High temperature resistant to 250°F
- Thermal shock resistant; steam cleanable
- Resistant to moisture vapor transmission (MVT)
- Anti-slip surface, meets ADA recommendations
- Resistant to fungi growth per ASTM G-21

RECOMMENDED USES

- Food & beverage processing facilities
- Chemical process facilities
- Pharmaceutical facilities
- Pulp and paper mills
- Wet processing & packaging areas
- Commercial Kitchens
- Freezers and coolers
- Battery charging areas
- Truck unloading areas

GENERIC DESCRIPTION

Polyurethane Concrete

TYPICAL APPLICATION

1/4" Trowel applied monolithic floor

AVAILABLE COLORS

Regal Blue, Smoke Blue, Ivy Green, Tile Red, Battleship Gray, Medium Gray and Black

PACKAGING & COVERAGE

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

23 sq ft/unit for a 1/4" 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 HF 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 RIO-CRETE 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 RIO-CRETE HF depending on the specification and or the desired result.
4. It is very important to utilize a proper mixer and paddle to ensure a complete mix and to reduce the risk of introducing excessive air into the mixture. Rio Flooring Systems recommends the use of a MAN-U-FAB M-61 (1 HP) mixer with a 10 gallon pail and TR4-10 mixing arm. (www.mixall.com)
5. With the mixer running, pour ½ Gallon Part A into the mixing pail.
6. Add 3 fluid oz. liquid pigment to Part A and mix for about 15 seconds.
7. Add ½ Gallon Part B, mix another 15 seconds.
8. Gradually add all contents of a bag of RIO-CRETE HF filler into the liquid mixture and blend thoroughly until all particles are wetted out, normally about two minutes.
9. Immediately after mixing (within 3 minutes), spread the mixed RIO-CRETE HF onto the floor at a thickness slightly greater than the desired finish, using a screed box or move by hand trowel.
10. Trowel the surface lightly, using a steel finish trowel to smooth the surface. Finish trowel strokes should all be in the same direction. Do not overwork the mortar. The material should be troweled to a finished thickness of at least 1/4" to 3/8", for thicknesses greater than 1" add 25 lbs. of clean, dry 3/8" pea gravel to the mixture to help reduce the heat generated during cure.
11. Immediately roll the surface lightly in no more than two passes with a mohair roller. Excessive rolling or use of loop roller will reduce slip resistance. *NOTE: Late or heavy rolling may induce pinholes.*
12. 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.