TECHNICAL DATA SHEET

RIO-COAT ETM

Power-Trowel Epoxy Overlay Resurfacer

PRODUCT DESCRIPTION

RIO-COAT ETM is a three-component filled, high-solids epoxy system for resurfacing eroded interior concrete floors. Topcoats (RIO-COAT EMP, RIO-COAT EHB AND RIO-COAT EPT) are two-component, high-solids epoxies for sealing the overlay.

Applications include repairing large eroded areas such as main traffic aisles, loading docks and other spaces subject to heavy traffic and abuse.

BENEFITS

- Safe to use around solvent sensitive products such as food, beverages, pharmaceuticals and cosmetic products
- Less costly than concrete replacement or capping
- Cleans easily, saving detergent, labor and water
- Low VOC (6 g/L). (Complies with SCAQMD VOC regulations. LEED credits available.)

PACKAGING & COVERAGE

- 15 gallon kit 2 Part A Pails 1 Part B Pail 20 bags of RIO-COAT Mortar Sand 50#
- 150 gallon kit 2 Part A Drums 1 Part B Drum 200 bags of RIO-COAT Mortar Sand 50#
- 1 mix of RIO-COAT ETM would consist of 3 gallons of mixed epoxy, with 4 50# bags of RIO-COAT Mortar sand will yield 125 Square Feet at 1/4" or 140 Square Feet at 3/16"

Cured Physical Properties		
Property	**Test Method**	**Results**
Compressive Strength	ASTM C-579	11,600 PSI
Tensile Strength	ASTM C-307	2,000 PS
Flexural Strength	ASTM C-580	5,100 PSI
Flexural Modulus of Elasticity	ASTM C-580	2.0x10E6 PS
Indentation	MIL-D-3134F	No Indent
Impact Resistance	ASTM D-2794	>160 in/lbs
Shore D Hardness	ASTM D2240	90
Water Absorption	ASTM C-413	0.2%
Bond Strength	ACI Comm. #503 Pg. 1139-411	>400 PSI
Heat Resistance Limitation	Continuous Intermittent	140°F / 60°C 200°F / 93°C
Coefficient of Friction	ASTM F-1679 Or ASTM F-2508	0.84 (dry) 0.68 (wet)
Flammability	ASTM D-648	Class I
Thermal Coefficient of Linear Expansion	ASTM C-531	2.0x10-5 in/in/°C

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.

IMPORTANT *Please read and follow all precautions and instructions before proceeding.*

PRELIMINARY FLOOR INSPECTIONS

Check the Concrete

Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call RIO Flooring Systems, technical support for further instructions.

Check for Moisture

Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or in-situ relative humidity testing is recommended. Readings must be below 3 pounds per 1,000 square feet (1.5 kg per 150m2) over a 24-hour period on the calcium chloride test or below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see ASTM F1869 or F2170, respectively or follow manufacturer's instructions.

NOTE: *Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.*

Check the Temperature and Humidity

Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 80%. DO NOT coat unless floor temperature is more than five degrees over the dew point.

Application Equipment

- Protective Clothing
- Jiffy® Mixer Blade
- Mortar Mixer
- Roller Assembly
- Screed Box
- Spiked Shoes
- 18-24" (457.2-609.6mm) Flat Rubber Squeegee
- Slow speed drill (500 rpm or less)
- Trowel (stainless steel, 3" x 12" (76.2 x 304.8 mm)
- Shed Resistant, 3/8" (10mm) Nap Rollers
- Epoxy Power Trowel with combination blades

Assemble Equipment

Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use.

INSTALLATION STEPS

Preparation

Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants. Steel Shot Blast (minimum shot size of 330): Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust. Scarify: Sweep to remove large debris and vacuum to remove fine dust. Key in all termination points.

Joints

Cracking of the resurfacer will occur over joints that are overlayed and later move. Because resurfacers are not flexible, joints that might move should be honored (cut) after the installation and filled with an appropriate material.

Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened, high-solids epoxy or with a semi-rigid joint filler. Consult a RIO technical support for RIO product infomation. Isolation or expansion joints must be filled with a flexible material designed for this purpose. Coating applied over filled joints will crack if there is concrete movement.

Application - Primer

RIO-COAT ETM is applied over RIO primer that is still wet or sticky--within 4 hours. It is critical that all concrete is covered to ensure proper adhesion of the overlay.

Application Overlay

RIO Colors
Add one pint of Rio Color to RIO-COAT Part A and mix using a Jiffy® mixer blade and slow speed drill. POUR 4 bags of PART C into the mortar mixer. Begin mixing. ADD PART B (1 gallon) TO PART A (2 gal).

Potlife
Mix only enough material which can be screeded and troweled in a 20 minute period. MIX FOR 1 MINUTE or until thoroughly mixed using the Jiffy® mixer blade and slow speed drill.

Pour the Mixed Parts A & B into the mortar mixer. Mix until uniform (approximately one minute). The resin needs to only wet out the sand.

Pour the Mixed Material into the screed box. To achieve a 1/4" (6.35 mm) finished floor, set the screed box at 5/16" (7.94 mm). For a 3/16" (4.76 mm) floor, set the screed box at 1/4" (6.35 mm). If the material is too thick, it will be more difficult to level.

Screed material over desired area. The use of spiked shoes will allow movement on the unfinished overlay.

Use Hand Trowels for edges and touch up.

Power Trowel Material to compact and achieve finished texture as soon as possible with an epoxy power trowel (<50 rpm).

Allow Resurfacer to Cure 6-8 hours [at 75°F (24°C)], before topcoating. Allow more time at low temperatures.

Use of Surface Grinder to remove high spots and ensure a continuous surface is highly recommended. Vacuum up the loose material.

Application - Topcoat

Topcoats
RIO-COAT ETM must be sealed with one coat of RIO-COAT EHB Topcoat. A second coat of RIO-COAT EHB or any other RIO coatings is highly recommended to achieve maximum performance.

RIO Colors
Premix RIO Color before adding to RIO-COAT EHB Topcoat to ensure uniform color. Add colorant to RIO-COAT EHB Topcoat Part A and mix using a Jiffy® mixer blade and slow speed drill.

Add RIO-COAT EHB Topcoat Part B To RIO-COAT Topcoat Part A and mix well using a Jiffy® mixer blade and slow speed drill.

Mix for 2-3 minutes using a Jiffy® mixer blade.

Potlife
Mix only enough material which can be applied within 20 minutes.

Pour the Mixture in a Bead over the cured RIO-COAT ETM mortar. WITH A SQUEEGEE, SPREAD THE RIO-COAT TOPCOAT at 12-15 mills (100-220 sq. ft. per gallon and BACKROLL WITH A 3/8" (10 mm) NAP ROLLER for a uniform finish. The use of spiked epoxy shoes will allow freedom of movement on the wet floor.

Allow Coating to Cure 24 hours at 75°F (24°C) before opening to traffic. Allow more time at low temperatures.

Sanding Required
RIO-COAT Topcoat must be thoroughly sanded (see chart below).

APPROXIMATE SAND TIME (hours) - °F (°C)

- 65°F (18.3°C) = **24 hrs**
- 70°F (21.1°C) = **20 hrs**
- 75°F (23.9°C) = **16 hrs**
- 80°F (26.7°C) = **12 hrs**
- 90°F (32.2°C) = **8 hrs**

RIO-COAT Topcoat must also be sanded if applying other Rio urethanes after 24 hours.

The use of more aggressive paper will introduce deep grooves that will not be covered by a single, thin coat of urethane; swirl marks will be particularly evident if the topcoat is glossy. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating and tack rag to remove fine dust.

IMPORTANT *Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).*

STORAGE
Materials should be stored indoors between 65°F (18°C) and 90°F (32°C).

SHELF LIFE
Two years from date of manufacture.

DISPOSAL
Dispose in accordance with federal, state and local regulations.

LIMITATIONS
UV/Light Stability: This product is not light stable and will yellow/amber over time.

MAINTENANCE
Proper maintenance will increase the life and help maintain the appearance of your new RIO floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish. Use soft nylon brushes or white pads on your new floor coating. Polypropylene or abrasive bristle (Tynex®) brushes can cause premature loss of gloss.

Detergent
RIO has a full range of detergents (general purpose to heavy duty) for your cleaning needs. For assistance in determining which detergent is right for your facility or for additional technical information call.

Caution
Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.
Do not drop heavy or pointed items on the floor as this may causing chipping or concrete popouts in the case of a weak cap. Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration.
Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair
Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.
Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.
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